

# Union Pacific Rules

Includes Updates as of February 27, 2012

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# General Code of Operating Rules

**Sixth Edition**  
**Effective April 7, 2010**

Includes Updates as of February 8, 2012

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GCOR-2010

**List of Rules deployed since 04/07/2010.**

<b>RULE</b>	<b>WEB BOOK UPDATED</b>
1.10	03/28/11
1.37	09/02/10 *
1.47	07/29/11
1.6.1	01/20/12
2.1	10/22/10
2.10	10/22/10
2.21	03/28/11
5.2.1	04/13/10 *
5.2.2	04/13/10 *
5.3.4	10/21/11 *
5.3.7	10/22/10
5.9.1	11/09/11 *
5.13	07/23/10
6.3.1	04/29/11 *

6.5	07/29/11
6.5.1	07/29/11
6.6	05/11/11 (1)
6.15	01/28/11 *
6.21	05/11/11 (1)
6.21.3	10/24/11 *
6.32.1	10/21/11
6.32.2	07/29/11
6.32.3	05/11/11 (1)
<b>7.4</b>	<b>02/08/12</b>
7.4.1	08/09/10 *
7.7	04/27/10 *
8.2	05/11/11 (1)
9.9	07/23/10
9.12.4	07/23/10
9.13.2	04/13/10 *
9.17.1	04/13/10 *
9.23.1	04/13/10 *
10.1	09/02/10 *
14.7	01/20/12
14.11	01/28/11
14.13	10/21/11
15.0	04/29/11 *
15.1	07/23/10
15.1.1	04/13/10 *
15.2	10/21/11
15.4	04/13/10 *
15.12	10/21/11
15.12.1	10/24/11 *

17.5.1	04/13/10 *
17.5.2	04/13/10 *
17.6.1	04/27/10 *
Glossary	07/29/11

**Note:** A rule can be changed and redeployed for a number of reasons including; System General Order, correct a typo, modify page formatting.

\* Correction for typo, no system general order issued.

(1) System General Order issued 05/10/11

- [1.0: GENERAL RESPONSIBILITIES](#)
- [2.0: RAILROAD RADIO AND COMMUNICATION RULES](#)
- [3.0: Section Reserved](#)
- [4.0: TIMETABLES](#)
- [5.0: SIGNALS AND THEIR USE](#)
- [6.0: MOVEMENT OF TRAINS AND ENGINES](#)
- [7.0: SWITCHING](#)
- [8.0: SWITCHES](#)
- [9.0: BLOCK SYSTEM RULES](#)
- [10.0: RULES APPLICABLE ONLY IN CENTRALIZED TRAFFIC CONTROL \(CTC\)](#)
- [11.0: RULES APPLICABLE IN ACS, ATC AND ATS TERRITORIES](#)
- [12.0: RULES APPLICABLE ONLY IN AUTOMATIC TRAIN STOP SYSTEM \(ATS\) TERRITORY](#)
- [13.0: RULES APPLICABLE ONLY IN AUTOMATIC CAB SIGNAL SYSTEM \(ACS\) TERRITORY](#)
- [14.0: RULES APPLICABLE ONLY WITHIN TRACK WARRANT CONTROL \(TWC\) LIMITS](#)
- [15.0: TRACK BULLETIN RULES](#)
- [16.0: RULES APPLICABLE ONLY IN DIRECT TRAFFIC CONTROL \(DTC\) LIMITS](#)
- [17.0: RULES APPLICABLE ONLY IN AUTOMATIC TRAIN CONTROL \(ATC\) TERRITORY](#)
- [Glossary](#)



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# Train Dispatcher Rules

Includes Updates as of January 20, 2012

PB-20319

**List of Rules deployed since 08/01/2008.**

<b>RULE</b>	<b>WEB BOOK UPDATED</b>
20.6	04/29/11
20.8	01/26/09
<b>20.21</b>	<b>01/20/12</b>
20.24	12/20/10
20.25	12/20/10
20.26	06/10/11
20.27	10/21/11
20.28	12/20/10
22.4.1	10/23/09
22.4.2	10/23/09
22.4.4	10/23/09
22.5	12/20/10
22.5.1	12/20/10
22.5.2	12/20/10
22.5.4	08/05/11
22.5.5	10/21/11
22.9	04/29/11

22.9.1	04/29/11
22.10	04/29/11
22.11	04/29/11
23.9	04/29/11
23.10	04/29/11
23.11	04/29/11
23.12	04/29/11
23.13	04/29/11
23.13.1	04/29/11
23.14	12/20/10
23.15	05/05/09
23.16	05/05/09
23.22	07/26/10 *
24.1	04/29/11
24.2.1	07/23/10
24.2.6	04/29/11
26.6	10/27/11
27.1.3	07/23/10
27.4	04/29/11
27.5	04/29/11

**Note:** A rule can be changed and redeployed for a number of reasons including; System General Order, correct a typo, modify page formatting.

\* Reference to 23.22 added to chapter file

- [20.0: GENERAL DUTIES OF THE TRAIN DISPATCHER](#)
- [21.0: SIGNALS AND THEIR USE](#)
- [22.0: MOVEMENT OF TRAINS AND ENGINES](#)
- [23.0: SWITCHES AND BLOCK SYSTEM RULES](#)
- [24.0: CTC RULES](#)
- [25.0: CAB SIGNAL TERRITORIES](#)
- [26.0: TWC RULES](#)
- [27.0: TRACK BULLETIN RULES](#)



## [Union Pacific Rules](#)

# Union Pacific Railroad - Air Brake and Train Handling Rules

Effective Date: January 20, 2012

PB-20329

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Includes updates as of February 27, 2012

These rules become effective at 0001, Friday, January 20, 2012. At that time, all previous rules and instructions that are inconsistent with these rules become void.

### List of Rules deployed since 01/20/2012.

RULE	WEB BOOK UPDATED
30.4	01/23/12 (1)
<b>31.8.3</b>	<b>02/27/12</b>
31.8.4.1	01/23/12 (2)
32.1.2	01/25/12
32.1.3	01/25/12
32.1.6	01/20/12

(1) Removed reference to SSI - system general order not issued

(2) Link/title correction - system general order not issued

- [30: Train Air Brake Tests / Inspections - Chapter 30](#)
- [Locomotive Requirements - Chapter 31](#)
- [Securement/Train Operations - Chapter 32](#)
- [Distributed Power and Manned Helper - Chapter 33](#)
- [Train Handling - Chapter 34](#)
- [Remote Control Operations - Chapter 35](#)
- [Positive Train Control - Chapter 36](#)
- [Reserved for Future Use - Chapter 37](#)

- [Commuter/Business Train Operations - Chapter 38](#)
- [Equipment Charts/Diagrams - Brakes - Chapter 39](#)
- [Glossary](#)





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# Safety Rules

**Effective 0900 Monday July 30, 2007**

Includes Updates as of November 9, 2011.

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**These rules supersede all previous rules and instructions inconsistent therewith. Employees whose duties are in anyway affected must comply with and provide themselves with a copy.**

PB-20369

**List of Rules deployed since 10/15/2007.**

<b>RULE</b>	<b>WEB BOOK UPDATED</b>
70.1	06/21/09
70.3	11/17/08
70.8	07/23/10
70.19	11/17/08
70.22	06/21/09
71.2.3	06/21/09
71.5.2	01/28/11
71.6	04/07/10
71.8	11/17/08
74.2.1	04/29/11
74.3	11/17/08
74.11	04/07/10
74.12	07/29/11

76.11	04/07/10
76.13	04/07/10
76.24	11/17/08
<b>76.36</b>	<b>11/09/11</b>
79.2.3	11/17/08
79.3.1	08/09/10 #
80.6	04/29/11
81.1.2	04/07/10
81.2.1	06/21/09
81.2.2	04/07/10
81.5.4	07/29/11
81.5.5	10/22/10 *
81.7	10/22/10 #
81.7.1	11/17/08
81.7.4	11/17/08
81.7.4.1	11/17/08
81.7.5	11/17/08
81.7.7	11/17/08
81.8.1	11/17/08
81.8.3	11/17/08
81.10	04/29/11
81.11	11/17/08
81.11.3	10/21/11
81.13	11/17/08
81.13.1	11/17/08
81.13.3	11/17/08
81.13.8	04/07/10
81.15	11/17/08
81.19	04/07/10
81.23	11/17/08

83.1.2	07/29/11
83.1.3	06/21/09
83.1.11	07/29/11
90.3	03/01/11*
90.4	03/01/11*
Glossary	04/07/10

**Note:** A rule can be changed and redeployed for a number of reasons including; System General Order, correct a typo, modify page formatting.

\* No system general order issued

# Corrected chapter file deployment issue

- [Statement of Safety Policy](#)
- [70.0: GENERAL SAFETY INSTRUCTIONS](#)
- [71.0: PERSONAL PROTECTIVE EQUIPMENT](#)
- [72.0: FIRE PREVENTION](#)
- [73.0: EXPLOSIVES](#)
- [74.0: AUTOMOTIVE EQUIPMENT](#)
- [75.0: MATERIAL HANDLING](#)
- [76.0: TOOLS AND MACHINERY](#)
- [77.0: MECHANICAL LIFTING/PULLING OPERATIONS](#)
- [78.0: ELECTRICAL](#)
- [79.0: WELDING](#)
- [80.0: WALKING/WORKING SURFACES](#)
- [81.0: WORKING AROUND TRACKS OR BEING ON EQUIPMENT](#)
- [82.0: HANDLING SWITCHES AND DERAILS](#)
- [83.0: INTERMODAL RAMP RULES](#)
- [90.0: POLICIES AND PROGRAMS](#)
- [Glossary](#)
- [Index](#)



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# System Special Instructions

Effective Wednesday, April 7, 2010

Includes Updates as of January 20, 2012

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PB-27015

## List of Rules deployed since 04/07/2010

ITEM	WEB BOOK UPDATED
SHL	04/29/11
1	07/29/11
2-A	07/29/11 *
2-B	07/29/11 *
2-D	07/23/10
2-E	12/20/10 *
2-F	04/29/11
2-G	07/23/10
5-A	07/23/10
5-B	10/21/11
5-C	10/21/11
<b>7-A</b>	<b>01/20/12</b>
10	10/21/11
<b>10-A</b>	<b>01/20/12</b>
<b>10-B</b>	<b>01/20/12</b>

<b>10-C</b>	<b>01/20/12</b>
10-D	10/22/10
10-E	07/29/11
10-I	01/28/11
10-J	07/29/11
12	10/22/10
13	08/05/11
<b>19</b>	<b>01/20/12</b>
22	10/22/10 *

\* Corrected/typo, no system general order issued.

- [Cover Page](#)
- [Safety Hot Lines](#)
- [Table of Contents](#)
- [Introduction to Special Instructions](#)
- [ITEM 1: Time Comparison](#)
- [ITEM 2: Speed Restrictions](#)
- [ITEM 3: Trains Handling - Company Equipment](#)
- [ITEM 4: Locomotive Information](#)
- [ITEM 5: Car Placement and Train Make-Up Restrictions](#)
- [ITEM 6: Maximum Gross Weight Limitations](#)
- [ITEM 7: Employee Information](#)
- [ITEM 8: Heavy and Mountain Grade Operations](#)
- [ITEM 9: Use of Engine Horns](#)
- [ITEM 10: Rule Supplements & Amendments](#)
- [ITEM 11: Moveable Point Frogs](#)
- [ITEM 12: Track Breach Protection](#)
- [ITEM 13: Train Defect Detectors](#)
- [ITEM 14: Operating With Foreign Railroads](#)
- [ITEM 15: Work Orders](#)
- [ITEM 16: Tornado Watch and Warning Instructions](#)
- [ITEM 17: Accessing General Orders and Bulletins Electronically](#)
- [ITEM 18: Distant Signals](#)
- [ITEM 19: Block and Interlocking Signals](#)
- [ITEM 20: Automatic Cab Signals](#)
- [ITEM 21: Slide Warning Indicator](#)
- [ITEM 22: Roadway Signs](#)
- [ITEM 23: Security Alert Instructions](#)
- [ITEM 24: California Proposition 65 Warning](#)
- [ITEM 25: Instructions for Electronically Controlled Pneumatic Brakes](#)
- [Explanation of Characters](#)
- [Other Available Reference Material](#)



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# Instructions for Handling Hazardous Materials

## Form 8620 • (PB 20800)

Union Pacific Railroad  
Effective 0900 CDT Monday, September 22, 2008

Includes Updates as of April 7, 2010

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List of Rules deployed after 09/26/2008.

RULE	RULE DEPLOY DATE
<b>I-6</b>	<b>04/07/10</b>
VII-1	06/21/09
VII-2	06/21/09
<b>Appendix</b>	<b>04/07/10</b>
<b>Glossary</b>	<b>04/07/10</b>

**Note:** A rule can be changed and redeployed for a number of reasons including: System General Order, correct a typo, modify page formatting.

- [Introduction](#)
- [Table of Contents](#)
- [Section I - General Information](#)
- [Section II - Required Documentation](#)
- [Section III - Inspection](#)
- [Section IV - Placards and Markings](#)
- [Section V - Switching](#)
- [Section VI - Train Placement](#)

- [Section VII - Train Operations](#)
- [Section VIII - Emergency Response](#)
- [Appendix](#)
- [Glossary](#)

## 1.0: GENERAL RESPONSIBILITIES

- [1.1: Safety](#)
- [1.1.1: Maintaining a Safe Course](#)
- [1.1.2: Alert and Attentive](#)
- [1.1.3: Accidents, Injuries, and Defects](#)
- [1.1.4: Condition of Equipment and Tools](#)
- [1.2: Personal Injuries and Accidents](#)
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- [1.3.1: Rules, Regulations, and Instructions](#)
- [1.3.2: General Orders](#)
- [1.3.3: Circulars, Instructions, and Notices](#)
- [1.4: Carrying out Rules and Reporting Violations](#)
- [1.4.1: Good Faith Challenge](#)
- [1.5: Drugs and Alcohol](#)
- [1.6: Conduct](#)
- [1.6.1: Motor Vehicle Driving Records](#)
- [1.6.2: Notification of Felony Convictions](#)
- [1.6.3: Notification of Deteriorating Vision or Hearing](#)
- [1.7: Altercations](#)
- [1.8: Appearance](#)
- [1.9: Railroad Company](#)
- [1.10: Games, Reading, or other Media](#)
- [1.11: Sleeping](#)
- [1.11.1: Napping](#)
- [1.12: Weapons](#)
- [1.13: Reporting and Complying with Instructions](#)
- [1.14: Employee Jurisdiction](#)
- [1.15: Duty - Reporting or Absence](#)
- [1.16: Subject to Call](#)
- [1.17: Hours of Service Law](#)
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- [1.20: Alert to Train Movement](#)
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- [1.31: Repairs to Foreign Cars](#)
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- [1.34: Flat Spots](#)
- [1.35: Dump Doors](#)
- [1.36: Excessive Dimension Loads](#)
- [1.37: Open Top Loads](#)
- [1.38: Shipments Susceptible to Damage](#)
- [1.39: Accuracy of Speed Indicator](#)
- [1.40: Reporting Engine Defects](#)
- [1.41: Engines Coupled to Occupied Passenger Cars](#)
- [1.42: Trains Detoured](#)
- [1.43: Stopped in Tunnels](#)
- [1.44: Duties of Train Dispatchers](#)
- [1.45: Duties of Control Operators and Operators](#)
- [1.46: Duties of Yardmasters](#)
- [1.47: Duties of Crew Members](#)
- [1.47.1: Cab Red Zone](#)
- [1.47.2: Training and Familiarization](#)
- [1.48: Time](#)

## 1.1: Safety

Safety is the most important element in performing duties. Obeying the rules is essential to job safety and continued employment.

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### 1.1.1: Maintaining a Safe Course

In case of doubt or uncertainty, take the safe course.

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### 1.1.2: Alert and Attentive

Employees must be careful to prevent injuring themselves or others. They must be alert and attentive when performing their duties and plan their work to avoid injury.

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### **1.1.3: Accidents, Injuries, and Defects**

Report by the first means of communication any accidents; personal injuries; defects in tracks, bridges or signals; or any unusual condition that may affect the safe and efficient operation of the railroad. Where required, furnish a written report promptly after reporting the incident.

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### **1.1.4: Condition of Equipment and Tools**

Employees must check the condition of equipment and tools they use to perform their duties. Employees must not use defective equipment or tools until they are safe to use. Employees must report any defects to the proper authority.

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## **1.2: Personal Injuries and Accidents**

[^Top](#)

### **1.2.1: Care for Injured**

When passengers or employees are injured, do everything reasonable to care for them.

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### **1.2.2: Witnesses**

If equipment is involved in personal injury, loss of life, or damage to property, the employee in charge must immediately secure the names, addresses and occupations of all persons involved, including all persons at the scene when the accident occurred and those that arrived soon after. The employee in charge must secure the names regardless of whether these persons admit knowing anything about the accident.

The employee in charge must also obtain the license number of nearby automobiles. When necessary, other employees can assist in obtaining this information, which must be included in reports covering the incident.

Where signaling devices are provided or a flagman is on duty, the employee in charge and assisting employees must try to determine whom, among the witnesses, can testify whether the signaling devices were functioning properly or if the flagman was performing his duties properly.

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### **1.2.3: Equipment Inspection**

If an accident results in personal injury or death, all tools, machinery, and other equipment involved, including the accident site, must be inspected promptly by the foreman, another person in charge of the work, or other competent inspectors. The inspector must promptly forward to his manager a report of the inspection. The report must include the condition of the equipment and the names of those making the inspection.

The equipment inspected must be marked for identification and placed in custody of the responsible manager or employee until the claims department is contacted and determines disposition.

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## 1.2.4: Mechanical Inspection

When engines, cars or other equipment are involved in an accident that results in personal injury or death, the equipment must be inspected before it leaves the accident site.

A mechanical department employee must further inspect the equipment at the first terminal. This employee must promptly report inspection results to the proper manager.

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## 1.2.5: Reporting

All cases of personal injury, while on duty or on company property, must be immediately reported to the proper manager and the prescribed form completed.

A personal injury that occurs while off duty that will in any way affect employee performance of duties must be reported to the proper manager as soon as possible. The injured employee must also complete the prescribed written form before returning to service.

All cases of occupational illness must be immediately reported to the proper manager and the prescribed form completed.

~~If an employee receives a medical diagnosis of occupational illness, he or she must report it immediately to the proper manager.~~

Because railroads are required by Federal regulations to report injuries and occupational illnesses that meet certain medical treatment criteria, employees must report to their manager any medical treatment they receive that was directly related to their injury or illness, including any follow-up visits. Below are examples of the types of medical treatments and instructions that employee's must report to their manager if they were given in relation to an injury or occupational illness:

- Medical treatments provided or recommended
- Physical therapy or chiropractic treatments
- Prescriptions and other medications issued or recommended, including dosages
- Lost time instructions
- Work restriction instructions

## System Special Instruction

### Change rule to read:

All cases of personal injury, while on duty or on company property, must be immediately reported to the proper manager and the prescribed written form completed.

A personal injury that occurs while off duty that will in any way affect employee performance of duties must be reported to the proper manager as soon as possible. The injured employee must also complete the prescribed written form before returning to service.

All cases of occupational illnesses must be immediately reported to the proper manager and the prescribed written form completed.

Because railroads are required by Federal regulations to report injuries and occupational illnesses that meet certain medical treatment criteria, employees must report to their manager any medical treatment they receive that was directly related to their injury or illness, including any follow-up visits. Below are examples of the types of medical treatments and instructions that employee's must report to their manager if they were given in relation to an injury or occupational illness:

- Medical treatments provided or recommended
- Physical therapy or chiropractic treatments
- Prescriptions and other medications issued or recommended, including dosages
- Lost time instructions
- Work restriction instructions

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## 1.2.6: Statements

Except when authorized by the proper manager:

- Information concerning accidents or personal injuries that occur to persons other than employees may be given only to an authorized representative of the railroad or an officer of the law.
- Information about the facts concerning the injury or death of an employee may be given only to a person in interest such as the injured employee, an immediate relative of the injured or deceased employee, an authorized representative of the railroad, or an officer of the law.
- Information in the files or in other privileged or confidential reports of the railroad concerning accidents or personal injuries may be given only to an authorized representative of the railroad.

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## 1.2.7: Furnishing Information

Employees must not withhold information, or fail to give all the facts to those authorized to receive information regarding unusual events, accidents, personal injuries, or rule violation.

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## 1.3: Rules

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### 1.3.1: Rules, Regulations, and Instructions

**Safety Rules.** Employees must have a copy of, be familiar with, and comply with all safety rules issued in a separate book or in another form.

**General Code of Operating Rules.** Employees governed by these rules must have a current copy they can refer to while on duty.

**Hazardous Materials.** Employees who in any way handle hazardous materials must have a copy of the instructions or regulations for handling these materials. Employees must be familiar with and comply with these instructions or regulations.

**Air Brakes.** Employees whose duties are affected by air brake operation must have a copy of the files and instructions for operating air brakes and train handling. Employees must know and obey these rules and instructions.

**Timetable and Special Instructions.** Employees whose duties are affected by the timetable and special instructions must have a current copy they can refer to while on duty.

**Train Dispatchers and Control Operators.** The train dispatchers and control operators must have a copy of rules and instructions for train dispatchers and control operators. They must be familiar with and obey those rules and instructions.

**Rules, Regulations and Instructions.** Employees must be familiar with and obey all rules, regulations, and instructions and must attend required classes. They must pass the required examinations. Examinations are required to be passed biennially or more often when necessary to insure employees are familiar with all rules, regulations and instructions.

**Explanation.** Employees must ask their supervisor for an explanation of any rule, regulation, or instruction they are unsure of.

**Issued, Cancelled, or Modified.** Rules may be issued, canceled, or modified by track bulletin, general order, or special instructions. When there is a conflict, Subdivision Special Instructions takes precedence over System Special Instructions.

## System Special Instruction

### Application:

#### Rules, Regulations and Instructions

Examinations are required to be passed biennially or more often when necessary to insure employees are familiar with all rules, regulations and instructions.

#### Issued, Canceled, or Modified

When there is a conflict, Subdivision Special Instructions takes precedence over System Special Instructions.

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## 1.3.2: General Orders

General Orders:

- Are numbered consecutively.
- Are issued and cancelled by the designated manager.
- Contain only information and instructions related to rules or operating practices.
- Replace any rule, special instruction, or regulation that conflicts with the general order.

Before beginning each day's work or trip, crew members and any others whose duties require, must review general orders that apply to the territory they will work on. Employees must each have a current copy of system general orders and subdivision general orders they can refer to while on duty.

## System Special Instruction

### Add a sentence to last paragraph:

Employees must each have a current copy of system general orders and subdivision general orders they can refer to while on duty.

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### 1.3.3: Circulars, Instructions, and Notices

Circulars, instructions, notices, and other information are issued and canceled by the designated manager. Before beginning each day's work or trip, crew members and any others whose duties require, must review those that apply to the territory they will work on.

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## 1.4: Carrying out Rules and Reporting Violations

Employees must cooperate and assist in carrying out the rules and instructions. They must promptly report any violations to the proper supervisor. They must also report any condition or practice that may threaten the safety of trains, passengers, or employees, and any misconduct or negligence that may affect the interest of the railroad.

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### 1.4.1: Good Faith Challenge

#### A. Right to Challenge

Federal Regulations have provisions that allow an employee the right to challenge a directive which, based upon the employee's good faith determination, would violate a railroad operating rule relating to:

- Shoving movements.
- Leaving equipment foul of an adjacent track.  
or
- Handling of hand-operated switches or fixed derails.

#### B. Good Faith Challenge Procedure

1. An employee may inform a supervisor issuing a directive that a good faith determination has been made that the directive would violate a railroad operating rule relating to:

- Shoving movements.
- Leaving equipment foul of an adjacent track.  
or
- Handling of hand-operated switches or fixed derails.

2. The supervisor will not require the employee to comply with the directive until the challenge is resolved. The supervisor may:

- Require the challenging employee to perform other tasks not related to the challenge until the challenge is resolved.  
or
- Direct an employee, other than the challenging employee, to perform the challenged task before the challenge is resolved. Employee so directed will be informed of the challenge, and determine that the challenged task does not violate the rules.

### **C. Resolving Good Faith Challenge**

1. A challenge may be resolved by one of the following:

- The supervisor's acceptance of the employee's request.
- An employee's acceptance of the directive.
- An employee's agreement to a compromise solution acceptable to the person issuing the directive.

2. If the challenge cannot be resolved because the supervisor issuing the directive has determined that the employee's challenge has not been made in good faith or there is no alternative to the direct order, the railroad will:

- Provide immediate review by at least one manager, which must not be conducted by the supervisor issuing the challenged directive or that supervisor's subordinate.
- Resolve the challenge using the same options available for resolving the challenge as the initial supervisor.

3. If the manager making the final decision concludes that the challenged directive would not cause the employee to violate any requirement of the involved rules, the reviewing manager's decision shall be final and not subject to further immediate review.

- The manager will inform the employee that Federal law may protect the employee from retaliation, if the employee's refusal to do the work is a lawful, good faith act.
- The employee making the challenge will be afforded an opportunity to document, in writing or electronically, any protest to the manager making the final decision before the employee's tour of duty is complete. The employee will be afforded the opportunity to retain a copy of the protest.

### **D. Request for Review and Verification of Decision**

Upon written request, at the time of the challenge, the employee has the right for further review by the Designated Review Manager. Within 30 days after the expiration of the month during which the challenge occurred, the Designated Review Manager will verify the proper application of the rule in question. The verification decision shall be made in writing to the employee.

### **E. Employee Rights and Remedies**

The Good Faith Challenge is not intended to abridge any rights or remedies available to the employee under a collective bargaining agreement or any Federal law.

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## **1.5: Drugs and Alcohol**

The use or possession of alcoholic beverages while on duty or on company property is prohibited. Employees must not have any measurable alcohol in their breath or in the bodily fluids when reporting for duty, while on duty or while on company property.

The use or possession of intoxicants, over-the-counter or prescription drugs, narcotics, controlled substances, or medication that may adversely affect safe performance is prohibited while on duty or on company property, except medication that is permitted by a medical practitioner and used as prescribed. Employees must not have any prohibited substances in their bodily fluids when reporting for duty, while on duty, or while on company property.

## **System Special Instruction**

**Application:**

Also refer to the UPRR Drug and Alcohol Policy which governs all employees, excerpts of which are stated in Item 10-F and Safety Rule 90.1.

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## 1.6: Conduct

Employees must not be:

1. Careless of the safety of themselves or others
2. Negligent
3. Insubordinate
4. Dishonest
5. Immoral
6. Quarrelsome  
or
7. Discourteous

Any act of hostility, misconduct, or willful disregard or negligence affecting the interest of the company or its employees is cause for dismissal and must be reported. Indifference to duty or to the performance of duty will not be tolerated.

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### 1.6.1: Motor Vehicle Driving Records

~~Certified employees, and employees that are qualified to drive commercial motor vehicles, certified as locomotive engineers, whatever class of service, must report any arrest, citation or convictions to an employee assistance representative within 48 hours~~ convictions for:

- Operating a motor vehicle while under the influence of or impaired by alcohol or a controlled substance.
- Refusal to undergo such testing when a law enforcement official seeks to find out whether a person is operating under the influence of alcohol or a controlled substance.

State-sponsored diversion programs, guilty pleas, and completed state actions to cancel, revoke, suspend, or deny a driver's license are considered convictions as applied to this rule.

~~An employee must report any arrest, citation or conviction to employee's manager and an employee assistance representative within 48 hours after the employee receives notice of the conviction.~~

## General Order

### Rule 1.6.1 Motor Vehicle Driving Records

Change rule to read:

Certified employees, and employees that are qualified to drive commercial motor vehicles, must report any arrest, citation or conviction to an employee assistance representative within 48 hours for:

- Operating a motor vehicle while under the influence of or impaired by alcohol or a controlled substance.
- Refusal to undergo such testing when a law enforcement official seeks to find out whether a person is operating under the



influence of alcohol or a controlled substance.

State sponsored diversion programs, guilty pleas, and completed state actions to cancel, revoke, suspend, or deny a driver's license are considered convictions as applied to this rule.

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## 1.6.2: Notification of Felony Convictions

The conduct of any employee leading to conviction of any felony is prohibited. Any employee convicted of a felony must notify the proper authority of that fact within 48 hours after the employee receives notice of the conviction.

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## 1.6.3: Notification of Deteriorating Vision or Hearing

Any engineer who has knowledge that their hearing or vision has deteriorated and cannot be corrected to the minimum acceptable requirement as outlined in federal regulations (20/40 distant visual acuity, 70 degree field of vision, ability to recognize/distinguish between railroad color signals, hearing loss no greater than 40 decibels) must report that fact immediately to the proper authority or the medical department.

### **Note:**

An engineer who has knowledge that a restriction listed on their "Certificate to Operate Locomotives" card has been corrected or improved to meet the minimum acceptable requirement as outlined in federal regulations must report that fact immediately to the proper authority or the medical department (402-544-4219).

## System Special Instruction

### **Add Note:**

An engineer who has knowledge that a restriction listed on their "Certificate to Operate Locomotives" card has been corrected or improved to meet the minimum acceptable requirement as outlined in federal regulations must report that fact immediately to the proper authority or the medical department (402-544-4219).

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## 1.7: Altercations

Employees must not enter into altercations with each other, play practical jokes, or wrestle while on duty or on railroad property.

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## 1.8: Appearance

Employees reporting for duty must be clean and neat. They must wear the prescribed uniform when required.

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## 1.9: Railroad Company

Employees must behave in such a way that the railroad will not be criticized for their actions.

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## 1.10: Games, Reading, or other Media

Employees on duty must not:

- Play games.
- Read magazines, newspapers, or other literature not related to their duties when:
  - On a train or engine.
  - Performing safety related activities.

or

- It would delay or interfere with required duties.

This does not prohibit employees from having such material enclosed in their personal luggage.

### ~~Personal Electronic or Electrical Devices~~

~~Employees are prohibited from using personal electronic or electrical devices such as cell phones, electronic games, TV's, computers, media players (including wearing associated earpieces) or from having such devices turned on while on duty. However, a personal wireless communication device, (cell phone) may only be used for voice communication as a redundant means of communication in the event of railroad-supplied radio failure and in accordance with railroad rules or instructions.~~

### ~~Exceptions~~

~~Employees may use a personal cell phone only during a recognized period of break time, meal period or after a job briefing with all crew members specifying that all railroad operations for that crew and employee have been stopped and suspended and the employee is not foul of any track. Such use must not interfere with any safety related duty.~~

~~Employees may use any means of communication necessary to respond to an emergency situation involving the operation of the railroad or encountered while performing a duty for the railroad.~~

~~In addition to compliance with all railroad radio rules and instructions, the following applies to the use of railroad authorized electronic devices:~~

~~1. Except in an emergency, employees must not use a railroad authorized electronic device for purposes other than which it was intended or while:~~

~~—• Operating the controls of a moving locomotive:~~

~~—• Standing on the ground in a position foul (within 4 feet of the nearest rail) of any track:~~

- ~~—• On the ground and engaged in an active switching operation.~~
- ~~—• Any crew member is riding on any piece of equipment outside the cab of the locomotive.~~
- ~~—• Any other employee is assisting in the preparation of the train or testing of railroad equipment or brakes.~~
- ~~—• Inside the controlling cab of a locomotive or train unless there has been a job briefing and all crew members agree that it is safe to do so.~~

~~— or~~

- ~~—• Obtaining or releasing mandatory directives when railroad radio communication is available.~~

~~2. Railroad authorized electronic devices may be used for railroad business when it will not interfere with safety related duties:~~

- ~~—• In the body of a business car or passenger train.~~
- ~~—• For voice communication as a redundant means of communication in the event of radio failure.~~

~~— or~~

- ~~—• To access stored electronic rule book files. When doing so, the wireless capability of the device must be disabled.~~

~~3. Railroad provided wireless devices with "Push-To-Talk" or "Direct Connect" type features may be used in lieu of a railroad radio to conduct train or switching operations when authorized by the railroad.~~

## **System Special Instruction**

### **1.10 Games, Reading, or Electronic Devices Other Media Application:**

- Texting is prohibited.
- Crew members of Amtrak trains may use cell phones in accordance with the current Amtrak System General Order instructions.
- When authorized by track bulletin, a railroad operating employee other than a locomotive engineer operating the controls of a moving train, may use a cell phone or electronic device in the cab of a moving locomotive for a business purpose, after a safety briefing, provided that all assigned personnel on the crew agree that it is safe to do so. Any other use is prohibited in the cab of a moving train.
- Crew members may use electronic control systems and informational displays presented within the locomotive cab or on a remote control transmitter to operate a train or conduct a switching operation, including functions associated with controlling switches.
- A digital timepiece is not considered an electronic device.

## General Order

Delete Rule 1.10 "Application" contained in SSI.

Change rule title and rule to read:

### **1.10 Games, Reading or other Media**

Employees on duty must not:

- Play games.
  
- Read magazines, newspapers, or other literature not related to their duties when:
  - On a train or engine.
  
  - Performing safety related activities.
  
  - or
  
  - It would delay or interfere with required duties.

This does not prohibit employees from having such material enclosed in their personal luggage.

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## **1.11: Sleeping**

Employees must not sleep while on duty, except as outlined under Rule 1.11.1(Napping). Employees reclined with their eyes closed will be in violation of this rule.

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### **1.11.1: Napping**

Napping is permitted by train crews, except crews in passenger, commuter or yard service, under the following conditions:

- The crew is waiting for departure of their train.  
or
- The train is stopped enroute waiting to be met or passed by a train, waiting for track work, waiting for helper locomotive, or similar conditions.

#### **Restrictions are as follows:**

- A job briefing must be conducted, with agreement reached as to who will nap and who must remain awake. Each crew member has the right and responsibility to refuse to allow another crew member to take a nap if doing so could jeopardize the personal safety of employees, the train, or the public.
- One crew member must remain awake at all times.
- The nap period must not exceed 45 minutes, which includes the time needed to fall asleep. The napping employee is relieved of all duties.

- Train must not be delayed for an employee to take a nap. When conditions allow the train to move, the employee who is to remain awake must immediately waken the napping employee.
- Before napping, waiting for the arrival of their train, employees must ensure all other duties have been completed. These duties include reviewing all general orders and general notices; securing and reviewing track warrants, track bulletins, and other paperwork, if available.
- Before napping is allowed enroute, the employee in charge of the locomotive controls must:

1. Make at least a 10 pound brake pipe reduction.
2. Place generator field switch in the "OFF" position.
3. Center and remove the reverser, if removable.
  - The employee who is to remain awake must remain on the locomotive while others on the locomotive are napping, except when inspecting passing trains.
  - If waiting for the arrival of or make-up of train, one crew member must remain awake while waiting for their train's arrival or make-up at their initial terminal unless arrangements have been made with a third party to wake up all crew members.

Crews that are deadheading or otherwise relieved of duties may nap.

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## 1.12: Weapons

While on duty or on railroad property, employees must not have firearms or other deadly weapons, including knives with a blade longer than 3 inches. However, railroad police are authorized to possess firearms in the course of their work.

### System Special Instruction

#### Application:

Also refer to the UPRR Weapons Policy which governs all employees.

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## 1.13: Reporting and Complying with Instructions

Employees will report to and comply with instructions from supervisors who have the proper jurisdiction. Employees will comply with instructions issued by managers of various departments when the instructions apply to their duties.

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## 1.14: Employee Jurisdiction

Employees are under the jurisdiction of the supervisors of the railroad they are operating on. When operating on another railroad, unless otherwise instructed, employees will be governed by:

- Safety rules, air brake and train handling rules and hazardous materials instructions of the railroad they are employed by.
- The operating rules, timetable and special instructions of the railroad they are operating on.

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## 1.15: Duty - Reporting or Absence

Employees must report for duty at the designated time and place with the necessary equipment to perform their duties. They must spend their time on duty working only for the railroad. Employees must not leave their assignment, exchange duties, or allow others to fill their assignment without proper authority.

Continued failure by employees to protect their employment will be cause for dismissal.

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## 1.16: Subject to Call

Employees subject to call must indicate where they can be reached and must not be absent from their calling place without notifying those required to call them.

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## 1.17: Hours of Service Law

Employees must be familiar and comply with the requirements of the federal hours of service law. Employees are expected to use off-duty time so they are prepared for work.

If an employee is called to report for duty before legal off-duty time has expired, before accepting the call to work the employee must notify the individual making the call that off-duty time has not expired.

### A. Notification

When communication is available, employees must notify the train dispatcher or another authority of the time the law requires them to be off duty. Employees must provide notification early enough that they may be relieved, or transportation provided, before they exceed the hours of service.

### B. Exceeding the Law

Employees must not exceed the hours of service law without proper authority. However, they must not leave trains, engines, or cars on the main track without proper protection. Employees must secure trains properly and, if possible, before they exceed the hours of service. Except as provided by this paragraph, employees are then relieved of all duties.

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## 1.18: Unauthorized Employment

Employees must not engage in another business or occupation that would create a conflict of interest with their employment on the railroad or would interfere with their availability for service or the proper performance of their duties.

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## 1.19: Care of Property

Employees are responsible for properly using and caring for railroad property. Employees must return the property when the proper authority requests them to do so. Employees must not use railroad property for their personal use.

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## 1.20: Alert to Train Movement

Employees must expect the movement of trains, engines, cars or other movable equipment at any time, on any track and in either direction.

Employees must not stand on the track in front of an approaching engine, car or other moving equipment.

Employees must be aware of the location of structures or obstructions where clearances are close.

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## 1.21: Occupying Roof

Employees whose duties require them to occupy the roof of a car or engine must do so only with proper authority and when the equipment is standing.

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## 1.22: Not Permitted on Equipment

Unauthorized persons must not be permitted on equipment.

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## 1.23: Altering Equipment

Without proper authority, employees must not alter, nullify, change the design of, or in any manner restrict or interfere with the normal function of any device or equipment on engines, cars, or other railroad property, except in the case of an emergency. Employees must report to the proper supervisor changes made in an emergency.

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### 1.23.1: Locomotive-Mounted Safety Devices

#### A. Tampering with or Disabling Locomotive-mounted Safety Devices

- Employees are prohibited from tampering with or disabling any locomotive mounted safety device.
- Employees are prohibited from knowingly operating a train when the controlling locomotive of that train is equipped with a

disabled safety device, except as provided in part C of this rule.

Safety devices include crew alertness devices, automatic cab signal devices, automatic train control/train stop devices, and audio, video and other recording devices concerning operations.

### **B. Inspection of Locomotive-Mounted Safety Devices**

The engineer must make a visual inspection of accessible safety devices in the controlling locomotive cab, nose or vestibule, or in the cab control car when taking charge of a locomotive or train to ensure that:

- Nothing interferes with their intended function.
- Switches and breakers controlling the devices are in proper position.
- Seals, as appropriate, are properly applied.
- There is no apparent damage to the device.

If any exceptions are detected, immediately report them to the train dispatcher.

### **C. Operation of Trains with Defective or Disabled Locomotive-mounted Safety Devices**

Locomotives or cab control cars with defective or disabled safety devices must not be operated as the controlling unit unless:

- Provided for in the operating rules,  
or
- Authorized by the train dispatcher.

## **System Special Instruction**

### **Add New Rule:**

#### **A. Tampering with or Disabling Locomotive-mounted Safety Devices**

- Employees are prohibited from tampering with or disabling any locomotive mounted safety device.
- Employees are prohibited from knowingly operating a train when the controlling locomotive of that train is equipped with a disabled safety device, except as provided in part C of this rule.

Safety devices include crew alertness devices, automatic cab signal devices, automatic train control/train stop devices, and audio, video and other recording devices concerning operations.

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- There is no apparent damage to the device.

If any exceptions are detected, immediately report them to the train dispatcher.

### **C. Operation of Trains with Defective or Disabled Locomotive-mounted Safety Devices**

Locomotives or cab control cars with defective or disabled safety devices must not be operated as the controlling unit unless:



- Provided for in the operating rules,  
or
- Authorized by the train dispatcher.

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## 1.24: Clean Property

Railroad property must be kept in a clean, orderly, and safe condition. Railroad buildings, facilities, or equipment must not be damaged or defaced. Only information authorized by the proper manager or required by law may be posted on railroad property.

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## 1.25: Credit or Property

Unless specifically authorized, employees must not use the railroad's credit and must not receive or pay out money on the railroad account. Employees must not sell or in any way get rid of railroad property without proper authority. Employees must care for all articles of value found on railroad property and promptly report the articles to the proper authority.

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## 1.26: Gratuities

Employees must not discriminate among railroad customers. Employees must not accept gifts or rewards from customers, suppliers, or contractors of the railroad unless authorized by the proper authority.

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## 1.27: Divulging Information

Employees who make up, handle, or care for any of the following must not allow an unauthorized person to access them or disclose any information contained in them:

- Correspondence
- Reports
- Books
- Bills of lading
- Waybills
- Tickets
- Statistics

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## 1.28: Fire

Employees must take every precaution to prevent loss and damage by fire.

Employees must report promptly to the train dispatcher any fires seen on or near the right of way, unless the fires are being controlled. If there is danger of the fire spreading to a bridge or other structure, crew members must stop their train and help extinguish the fire.

Cause of fire, if known, must be promptly reported.

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## **1.29: Avoiding Delays**

Crew members must operate trains and engines safely and efficiently. All employees must avoid unnecessary delays.

When possible, train or engine crews wanting to stop the train to eat must ask the train dispatcher at least one hour and thirty minutes before the desired stop.

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## **1.30: Riding Engine**

When possible, crew members on the head end of freight trains must ride in the control compartment of the engine.

When riding on the head end, the conductor will ride in the control compartment.

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## **1.31: Repairs to Foreign Cars**

Crew members who repair foreign cars must report the repairs on the prescribed form.

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## **1.32: Overheated Wheels**

When overheated wheels are found on a train, the train must be stopped and held a minimum of 10 minutes to allow the heat to equalize through the wheel.

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## **1.33: Inspection of Freight Cars**

When personnel are not on duty primarily to inspect freight cars, each car placed in the train may be moved after it receives a safety inspection as follows:

- Cars must be checked for:
  - Leaning.
  - Sagging.
  - Improper position on the truck.
  - Objects hanging or dragging from the car or extending from the side.
  - Insecurely attached doors.
  - Broken or missing safety appliances.
  - Contents leaking from placarded hazardous material car.
  - Insecure coupling device.
  - Overheated wheel or journal.
  - Broken or cracked wheel.
  - Brake that fails to release.
  - Staff type brake not in fully raised position.
  - Any apparent hazard that could cause an accident
  
- Open top loads, including trailers and containers on flat cars, must be loaded safely.
- If width or height approaches clearance restrictions, movement must be cleared with the proper authority.

A freight car with any defect that makes movement unsafe must be corrected or set out of the train. When a defect is discovered enroute, note the type of defect on proper tag and attach a tag on each side of the car.

A freight car with three bad order tags indicating that the car is safe to move may be moved to the nearest car repair point. The conductor will remove one bad order tag from the side with two tags. The conductor will use the written information from the tag to inform other crew members of the restrictions.

## System Special Instruction

### Application:

1. When a defect is discovered, note the type of defect on proper tag and attach a tag on each side of the car.
2. Open top rail equipment loaded with wood chips or bark must be covered with approved netting.
3. When applicable, inspections required by Hazardous Materials Instructions must be completed.

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## 1.34: Flat Spots

If a wheel on a piece of equipment has a flat spot more than 2-1/2 inches long, or if the wheel has adjoining flat spots that are each at least 2 inches long, the equipment must not be moved faster than 10 MPH. Such equipment in a train must be set out at the first available point.

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## 1.35: Dump Doors

Be sure dump doors on cars are closed after a load is dumped. If cars must be moved short distances with the dump doors open, make sure the doors and chains will clear tracks and crossings.

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## 1.36: Excessive Dimension Loads

Place excessive dimension loads on or near the head end of trains.

Instructions will be issued to trains handling excessive dimension loads. If no instructions have been issued regarding handling the car, the conductor will immediately notify the train dispatcher.

Crew members handling excessive dimension equipment must ensure that the equipment will clear nearby objects, including equipment on adjacent tracks. If the train cannot reach a point with enough clearance, crew members must make sure protection is provided against movements on adjacent tracks.

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## 1.37: Open Top Loads

Flat cars, open top cars, and open top TOFCs/COFCs with loads that are likely to shift must not be placed in trains next to the following if train length and makeup permit:

- Occupied outfit car
- Passenger car
- Occupied control cab of an engine or occupied caboose.
- ~~Caboose~~
- Shipment of automotive vehicles and machinery that is not fully enclosed

This restriction does not apply to cars with permanent tie-downs.

### System Special Instruction

**Combine third and fourth bullet and add occupied as below.**

- Occupied control cab of an engine or occupied caboose.

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## 1.38: Shipments Susceptible to Damage

Shipments with painted or finished surfaces susceptible to damage, such as automobiles, trucks, tractors, combines, and other similar equipment or machinery, must not be placed closer than the fifth car behind open top cars loaded with commodities such as coal, sand, gravel, lime, soda ash, etc. subject to wind, vapor or fume action on adjacent cars. Exceptions include shipments susceptible to damage that are:

- Loaded in cars that fully enclose the shipments.  
or
- Fully protected by a covering.

An open top car loaded with sand, gravel, lime, soda ash, etc., subject to wind, vapor, or fume action in other than a solid unit train must not be placed immediately ahead of an occupied caboose.

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## **1.39: Accuracy of Speed Indicator**

The engineer must verify speed indicator accuracy as soon as possible after taking charge of the engine. If the speed indicator is not accurate to within 3 MPH plus or minus at speeds of 10 to 30 MPH and to within 5 MPH plus or minus at speeds above 30 MPH, the engineer must immediately report the variance to the train dispatcher.

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## **1.40: Reporting Engine Defects**

The engineer will report any engine defect on the proper form and notify the relieving engineer, when needed.

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## **1.41: Engines Coupled to Occupied Passenger Cars**

Engines coupled to equipment that includes occupied passenger cars must not be left without an authorized employee in charge.

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## **1.42: Trains Detoured**

When trains are detoured over another railroad, the engineer of the detoured train will operate the engine, unless otherwise approved by a manager of the railroad the train is being detoured over.

The pilot will inform the engineer of speed restrictions, signals, sidings, etc. to make sure the train detours over the railroad safely.

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## **1.43: Stopped in Tunnels**

### **A. Engine or Train Stopped in Tunnel**

When an engine is stopped in a tunnel and cannot move promptly, crew members must:

1. Shut down diesel engine at once.
2. Shut down Waukesha or similar type engine.
3. Make a full service air brake application.
4. Apply hand brakes to prevent movement in case the air brakes leak off.

### **B. Passenger Train Stopped in Tunnel or Deep Snow**

Crew members of a passenger train stopped in a tunnel or deep snow must:

1. Shut off any air circulating systems including:
  1. Air conditioning
  2. Ice Machines
  3. Generators
2. Shut air intake shutters.
3. Turn off blower fans.

### **C. Notification if Stopped in Tunnel or Deep Snow**

The train dispatcher should be notified immediately so that proper arrangements can be made to protect persons and equipment.

### **D. When These Requirements Will Not Apply**

These requirements will not apply if air currents carry the exhaust gases away from the train. Safety of passengers and crew members must be the first consideration.

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## **1.44: Duties of Train Dispatchers**

Train dispatchers supervise train movement and any employees connected with that movement.

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## **1.45: Duties of Control Operators and Operators**

Control Operators and operators are under the direction of the train dispatcher when their duties concern handling track warrants, track bulletins, lineups, the movement of trains, and any other instructions issued by the train dispatcher.

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## **1.46: Duties of Yardmasters**

The yardmaster is responsible for and shall directly supervise yard crews, clerks, and all other employees working in the yard. The yardmaster must see that they work in a safe, efficient, and economical manner, according to the rules, regulations, and instructions of the railroad. Yardmasters must ensure the prompt and regular movement of cars, especially the proper makeup of trains and their movement into and out of the yard.

At locations where yardmasters are on duty, employees in train, engine, and yard service must comply with the yardmaster's instructions. At locations where no yardmaster is on duty, these employees will work according to the instructions of designated employees.

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## 1.47: Duties of Crew Members

The conductor and the engineer are responsible for the safety and protection of their train and observance of the rules. They must ensure that their subordinates are familiar with their duties, determine the extent of their experience and knowledge of the rules, and instruct them, when necessary, on how to perform their work properly and safely. If any conditions are not covered by the rules, they must take precautions to provide protection.

When the conductor is not present, other crew members must obey the instructions of the engineer concerning rules, safety, and protection of the train.

### A. Conductor Responsibilities

#### 1. Supervises the Operation

The conductor supervises the operation and administration of the train (if trains are combined with more than one conductor on board, the conductor with the most seniority takes charge). All persons employed on the train must obey the conductor's instructions, unless the instructions endanger the train's safety or violate the rules. If any doubts arise concerning the authority for proceeding or safety, the conductor must consult with the engineer who will be equally responsible for the safety and proper handling of the train.

#### 2. Restrictions on Equipment

The conductor must advise the engineer and train dispatcher of any restriction placed on equipment being handled.

#### 3. Calling Attention to Restrictions

The conductor must remind the engineer that the train is approaching an area restricted by:

- Limits of authority.
- Track warrant.
- Track bulletin.
- or
- Radio speed restriction.

The conductor must inform the engineer after the train passes the last station, but at least 2 miles from the restriction.

#### ~~5.~~ 4. Freight Conductors

Freight conductors are responsible for the freight carried by their train. They are also responsible for ensuring that the freight is delivered with any accompanying documents to its destination or terminals. Freight conductors must maintain any required records.

~~4. When the conductor is not present, other crew members must obey the instructions of the engineer concerning rules, safety, and the protection of the train.~~

#### 5. Conductor Report Form

UPRR crews operating on a foreign railroad are required to properly complete a UPRR form or a foreign railroad form as required by UPRR rules. Foreign railroad crews operating on the UPRR are governed by that railroad's rule concerning awareness forms.

"Conductor Report Form" (FORM 20849) must be maintained as follows(**also see Item 10-K**):

a. Road freight conductors, including locals and switchers but not including yard or passenger conductors, are required to complete the Conductors Report. However, yard conductors performing road service on the main track (transfer, relief service, etc.) will be required to complete the Conductors Report Form. Remote control operators are not required to maintain a Conductor Report Form except when required by Item 10-K.

The report will include:

- The name of other than Clear signals, speed of the train as head end passes and, as appropriate, a "Z" or "X". However, after passing an Approach or Diverging Approach signal the next signal must be entered regardless of signal indication including the speed of the train (even if the signal is clear).
- Train defect detector results from all detectors (except "%" detectors) and mile post. "X" will identify in cab communication of results.
- Approaching radio speed restrictions.
- Approaching the end of authority unless additional authority has been granted to continue on the main track. If the additional authority contains a Box 7 (after arrival) it must be included on the form.
  
- Train delays.
- Restricted Speed documentation. Every 2 miles that the train is operating at Restricted Speed, enter mile post location, time, train speed, a "Z" to indicate that the information was communicated between crew members and amount of air brake application if any, (None, Minimum, 10#, etc.).

Entries will be made when head end of train is at or about the mile post location of required entry. Entries will be sequential.

**EXAMPLES:**

<u>Location</u>	<u>SIGNAL NAME OR TDD Announcement</u>	<u>TIME</u>	<u>COMMENTS &amp; DELAYS</u>
<u>87.3</u>	<u>A/A</u>	<u>0535</u>	<u>X - 52 MPH</u>
<u>89.1</u>	<u>A</u>	<u>0543</u>	<u>Z - 33 MPH</u>
<u>Y091</u>	<u>S</u>	<u>0558</u>	<u>X - Stop - 8" delay</u>
<u>92.5</u>	<u>RP</u>	<u>0617</u>	<u>Z - 12 MPH</u>
<u>94.5</u>	<u>RS</u>	<u>0625</u>	<u>Z - 8 MPH - None</u>
<u>101.3</u>	<u>RSR</u>	<u>0643</u>	<u>Z - 30 MPH</u>
<u>103.3</u>	<u>ND</u>	<u>0657</u>	<u>X</u>
<u>115.0</u>	<u>XH</u>	<u>0715</u>	<u>Z - 15 MPH</u>
<u>129.0</u>		<u>0755</u>	<u>PU - 8 cars - 30"</u>
<u>135.0</u>	<u>EA</u>	<u>0840</u>	<u>Z</u>

**Note :**

1. Abbreviations may be used. e.g. (Advance Approach = AA; Diverging Clear = DC; Diverging Approach = DA; Approach = A; Approach Diverging = AD; Restricting = R; Restricted Proceed = RP; Restricted Speed = RS; Stop = S; Speed Restriction (received enroute) = RSR; End of Authority = E/A; Crossing Restrictions (received



enroute) = XG, XH, XS; Cab Red Zone = Z; In-Cab Communication = X; ND = No Defects.

2. Enter MP location where cab red zone begins and/or in-cab communication takes place when other entries are required. However, entry may be made with signal entry when passing signal.

3. Enter delays.

b. The conductor's report must be completed (and signed to signify report is complete and accurate) on each trip or tour of duty. If the form is not available, record the information as required. Reports of the last 5 round trips (a minimum of 5 days) must be kept in your possession while on duty, and presented to a Manager upon request.

c. Do not erase information entered on the form. If an error is made, cross out the entry and write the correct entry.

d. Conductors with a valid Class 1 "Certificate to Operate Locomotives": When conductors with a valid Class 1 "Certificate to Operate Locomotives" are allowed to operate the engine the time and location (beginning and ending) will be noted on the conductors report form. Entries on the form will not be required during this time period except entries required by Item 10 K.

## **B. Engineer Responsibilities**

### **1. Operating the Engine**

The engineer is responsible for safely and efficiently operating the engine. Crew members must obey the engineer's instructions that concern operating the engine. A student engineer or other qualified employee may operate the engine ~~under close supervision of the engineer~~ only under the direct and immediate supervision of the engineer. The engineer must closely monitor the employee's performance. The engineer must be in a position to take immediate action as necessary. Employee that operates an engine must have a current certificate in their possession.

### **2. Special Handling**

The engineer must check with the conductor to determine if any cars or units in the train require special handling.

## **C. All Crew Members' Responsibilities**

### **1. Crew Members in Control Compartment**

Crew members in the control compartment must communicate to each other any restrictions or other known conditions and required actions that affect the safe operation of their train sufficiently in advance of such condition to allow the engineer to take proper action. If proper action is not being taken, crew members must remind engineer of such condition and required action.

Crew members in the control compartment must be alert for signals. Crew members must:

- Communicate clearly to each other the name of signals affecting their train as soon as signals become visible or audible.
- Continue to observe signals and announce any change of aspect until the train passes the signal.
- Communicate clearly to each other the speed of the train as it passes a signal with an indication other than Clear.
- Immediately remind the engineer of the rule requirement if the signal is not complied with.

### **2. Radio Transmission**

Except when switching a crew member must transmit the engine number, direction, location and signal name (include track number in multiple main track CTC) when the head end of the train:

A. Passes a signal that requires:

- Being prepared to Stop at the next signal.
- Being prepared to pass next signal at Restricted Speed.

- \_\_\_\_\_ or
- Restricted speed.

\_\_\_\_\_ or

B. Stops for a signal that requires stopping.

However, instructions may be issued to identify locations where this radio transmission is not required.

### **3. Proper Action**

If engineer and/or conductor fail to comply with a signal indication or take proper action to comply with a restriction or rule, crew members must immediately take action to ensure safety, using the emergency brake valve to stop the train, if necessary.

### **4. Performing Work**

Before work is performed at a location, the crew must discuss how the work will be performed, which switches/derails will be used, what method will be used to pass signals, close clearances and any other safety related concerns. When work is completed, the crew will confirm that work was completed as planned, switches and derails are in proper position and any unforeseen safety concerns are properly reported.

### **C. All Crew Members' Responsibilities**

~~1. To ensure the train is operated safely and rules are observed, all crew members must act responsibly to prevent accidents or rule violations. Crew members in the engine control compartment must communicate to each other any restrictions or other known conditions that affect the safe operation of their train sufficiently in advance of such condition to allow the engineer to take proper action. If proper action is not being taken, crew members must remind engineer of such condition and required action.~~

~~2. Crew members in the engine control compartment must be alert for signals. As soon as signals become visible or audible, crew members must communicate clearly to each other the name of signals affecting their train. They must continue to observe signals and announce any change of aspect until the train passes the signal. If the signal is not complied with promptly, crew members must remind the engineer and/or conductor of the rule requirement. If crew members do not agree on the signal indication, regard the signal as the most restrictive indication observed.~~

~~3. When the engineer and/or conductor fail to comply with a signal indication or take proper action to comply with a restriction or rule, crew members must immediately take action to ensure safety, using the emergency valve to stop the train if necessary.~~

## **System Special Instruction**

### **1.47 Duties of Crew Members**

#### **Change rule to read:**

The conductor and the engineer are responsible for the safety and protection of their train and observance of the rules. They must ensure that their subordinates are familiar with their duties, determine the extent of their experience and knowledge of the rules, and instruct them, when necessary, on how to perform their work properly and safely. If any conditions are not covered by the rules, they must take precautions to provide protection.

When the conductor is not present, other crew members must obey the instructions of the engineer concerning rules, safety, and protection of the train.

### **A. Conductor Responsibilities**

#### **1. Supervises the Operation**

The conductor supervises the operation and administration of the train (if trains are combined with more than one conductor on

board, the conductor with the most seniority takes charge). All persons employed on the train must obey the conductor's instructions, unless the instructions endanger the train's safety or violate the rules. If any doubts arise concerning the authority for proceeding or safety, the conductor must consult with the engineer who will be equally responsible for the safety and proper handling of the train.

## 2. Restrictions on Equipment

The conductor must advise the engineer and train dispatcher of any restriction placed on equipment being handled.

## 3. Calling Attention to Restrictions

The conductor must remind the engineer that the train is approaching an area restricted by:

- Limits of authority
- Track warrant
- Radio speed restriction  
or
- Track bulletin.

The conductor must inform the engineer after the train passes the last station, but at least 2 miles from the restriction.

## 4. Freight Conductors

Freight conductors are responsible for the freight carried by their train. They are also responsible for ensuring that the freight is delivered with any accompanying documents to its destination or terminals. Freight conductors must maintain any required records.

## 5. Conductor Report Form

UPRR crews operating on a foreign railroad are required to properly complete a UPRR form or a foreign railroad form as required by UPRR rules. Foreign railroad crews operating on the UPRR are governed by that railroad's rule concerning awareness forms.

"Conductor Report Form" (FORM 20849) must be maintained as follows (**also see Item 10-K**):

a. Road freight conductors, including locals and switchers but not including yard or passenger conductors, are required to complete the Conductors Report. However, yard conductors performing road service on the main track (transfer, relief service, etc.) will be required to complete the Conductors Report Form. Remote control operators are not required to maintain a Conductor Report Form except when required by Item 10-K.

The report will include:

- The name of other than Clear signals, speed of the train as head end passes and, as appropriate, a "Z" or "X". However, after passing an Approach or Diverging Approach signal the next signal must be entered regardless of signal indication including the speed of the train (even if the signal is clear).
- Train defect detector results from all detectors (except "%" detectors) and mile post. "X" will identify in cab communication of results.
- Approaching radio speed restrictions.
- Approaching the end of authority unless additional authority has been granted to continue on the main track. If the additional authority contains a Box 7 (after arrival) it must be included on the form.
- Train delays.
- Restricted Speed documentation. Every 2 miles that the train is operating at Restricted Speed, enter mile post location, time, train speed, a "Z" to indicate that the information was communicated between crew members and amount of air brake application if any, (None, Minimum, 10#, etc.).

Entries will be made when head end of train is at or about the mile post location of required entry. Entries will be sequential.

**EXAMPLES:**

Location	SIGNAL NAME OR TDD Announcement	TIME	COMMENTS & DELAYS
87.3	A/A	0535	X - 52 MPH
89.1	A	0543	Z - 33 MPH
Y091	S	0558	X - Stop - 8" delay
92.5	RP	0617	Z-12 MPH
94.5	RS	0625	Z - 8 MPH - None
101.3	RSR	0643	Z-30 MPH
103.3	ND	0657	X
115.0	XH	0715	Z-15 MPH
129.0		0755	PU-8 cars - 30"
135.0	EA	0840	Z

Note :

1. Abbreviations may be used. e.g. (Advance Approach = AA; Diverging Approach = DA; Approach = A; Approach Diverging = AD; Restricting = R; Restricted Proceed = RP; Restricted Speed = RS; Stop = S; Speed Restriction (received enroute) = RSR; End of Authority = E/A; Crossing Restrictions (received enroute) = XG, XH, XS; Cab Red Zone = Z; In-Cab Communication = X; ND = No Defects.

2. Enter MP location where cab red zone begins and/or in-cab communication takes place when other entries are required. However, entry may be made with a signal entry when passing signal.

3. Enter delays.

b. The conductor's report must be completed (and signed to signify report is complete and accurate) on each trip or tour of duty. If the form is not available, record the information as required. Reports of the last 5 round trips (a minimum of 5 days) must be kept in your possession while on duty, and presented to a Manager upon request.

c. Do not erase information entered on the form. If an error is made, cross out the entry and write the correct entry.

d. Conductors with a valid Class 1 "Certificate to Operate Locomotives": When conductors with a valid Class 1 "Certificate to Operate Locomotives" are allowed to operate the engine the time and location (beginning and ending) will be noted on the conductors report form. Entries on the form will not be required during this time period except entries required by Item 10 K.

**B. Engineer Responsibilities****1. Operating the Engine**

The engineer is responsible for safely and efficiently operating the engine. Crew members must obey the engineer's instructions that concern operating the engine. A student engineer or other qualified employee may operate the engine only under the direct and immediate supervision of the engineer. The engineer must closely monitor the employee's performance. The engineer must be in a position to take immediate action as necessary. Employee that operates an engine must have a current certificate in their possession.

**2. Special Handling**

The engineer must check with the conductor to determine if any cars or units in the train require special handling.

## **C. All Crew Members Responsibilities**

### **1. Crew Members in Control Compartment**

Crew members in the control compartment must communicate to each other any restrictions or other known conditions and required actions that affect the safe operation of their train sufficiently in advance of such condition to allow the engineer to take proper action. If proper action is not being taken, crew members must remind engineer of such condition and required action.

Crew members in the control compartment must be alert for signals. Crew members must:

- Communicate clearly to each other the name of signals affecting their train as soon as signals become visible or audible.
- Continue to observe signals and announce any change of aspect until the train passes the signal.
- Communicate clearly to each other the speed of the train as it passes a signal with an indication other than Clear.
- Immediately remind the engineer of the rule requirement if the signal is not complied with.

### **2. Radio Transmission**

Except when switching a crew member must transmit the engine number, direction, location and signal name (include track number in multiple main track CTC) when the head end of the train:

A. Passes a signal that requires:

- Being prepared to Stop at the next signal.
  - Being prepared to pass next signal at Restricted Speed.
- or
- Restricted speed.

or

B. Stops for a signal that requires stopping.

However, instructions may be issued to identify locations where this radio transmission is not required.

### **3. Proper Action**

If engineer and/or conductor fail to comply with a signal indication or take proper action to comply with a restriction or rule, crew members must immediately take action to ensure safety, using the emergency brake valve to stop the train, if necessary.

### **4. Performing Work**

Before work is performed at a location, the crew must discuss how the work will be performed, which switches/derails will be used, what method will be used to pass signals, close clearances and any other safety related concerns. When work is completed, the crew will confirm that work was completed as planned, switches and derails are in proper position and any unforeseen safety concerns are properly reported

## **General Order**

### **1.47 Duties of Crew Members**

Add new last bullet to Part 5:

- Restricted Speed documentation. Every 2 miles that the train is operating at Restricted Speed, enter mile post location, time, train speed, a "Z" to indicate that the information was communicated between crew members and amount of air brake application if any, (None, Minimum, 10#, etc.).

Under "Examples", add new example row (Restricted Speed) between Restricted Proceed and Radio Speed Restriction examples and change Radio Speed Restriction mile post and time as shown below:

94.5	RS	0625	Z - 8 MPH - None
101.3	RSR	0643	Z-30 MPH

Under "Note", part 1, add:  
Restricted Speed = RS

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## 1.47.1: Cab Red Zone

To ensure the train is operated safely and rules are observed, all crew members must act responsibly to prevent accidents or rule violations. A "Cab Red Zone" (CRZ) exists during critical times when multiple tasks are occurring such as:

- Copying mandatory directives.
- Approaching a Form B restriction.
- Approaching a radio speed restriction.
- Approaching the end of the train's authority.
- Except when switching, operating at restricted speed  
or
- Except when switching, operating on signals that require the train to be prepared:

- To stop at next signal. Cab Red Zone requirements continue to apply until leading end of train passes or stops at the next signal even if the next signal is Clear.

- To pass next signal at restricted speed.

During a cab red zone, an environment must be created in the control compartment that focuses exclusively on controlling the train and complying with the rules. The conductor must be in the control compartment unless required by other duties to leave (i.e. to operate switches, be at a road crossing, passenger train duties, etc). The following restrictions or conditions must be met:

- Cab communication is restricted to immediate responsibilities for train operation.
- A crew member other than the employee operating the controls will be required to handle radio communications when another crew member is in the control compartment except when operating with manned helper(s), Rule 32.12.5 (Operating Responsibilities with Manned Helper). Radio communication must be limited to the train's immediate movement and complying with the rules (road crossing protection, Form B instructions, etc).
- If proper action is not being taken, crew members must remind each other of the cab red zone condition.

## System Special Instruction

### 1.47.1 Cab Red Zone

## Add new rule

To ensure the train is operated safely and rules are observed, all crew members must act responsibly to prevent accidents or rule violations. A "Cab Red Zone" (CRZ) exists during critical times when multiple tasks are occurring such as:

- Copying mandatory directives.
  - Approaching a Form B restriction.
  - Approaching a radio speed restriction.
  - Approaching the end of the train's authority.
  - Except when switching, operating at restricted speed  
or
  - Except when switching, operating on signals that require the train to be prepared:
- To stop at next signal. Cab Red Zone requirements continue to apply until leading end of train passes or stops at the next signal even if the next signal is Clear.
- To pass next signal at restricted speed.

During a cab red zone, an environment must be created in the control compartment that focuses exclusively on controlling the train and complying with the rules. The conductor must be in the control compartment unless required by other duties to leave (i.e. to operate switches, be at a road crossing, passenger train duties, etc). The following restrictions or conditions must be met:

- Cab communication is restricted to immediate responsibilities for train operation.
- A crew member other than the employee operating the controls will be required to handle radio communications when another crew member is in the control compartment except when operating with manned helper(s), Rule 32.12.5 (Operating Responsibilities with Manned Helper). Radio communication must be limited to the train's immediate movement and complying with the rules (road crossing protection, Form B instructions, etc).
- If proper action is not being taken, crew members must remind each other of the cab red zone condition.

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## 1.47.2: Training and Familiarization

Employees assigned to a position for the purpose of training or familiarization must be under the direct and immediate supervision of a qualified employee at all times. The qualified employee must closely monitor the employee's performance and must be in a position to take immediate action as necessary. Any employee requiring certification must have a current certificate in his possession.

### System Special Instruction

#### Add new rule:

Employees assigned to a position for the purpose of training or familiarization must be under the direct and immediate supervision of a qualified employee at all times. The qualified employee must closely monitor the employee's performance and must be in a position to take immediate action as necessary. Any employee requiring certification must have a current certificate in his possession.

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## 1.48: Time

While on duty, crew members must have a watch. Other employees must have access to a watch or clock.

The watch or clock must:

- Be in good working condition and reliable.
- Display hours, minutes, and seconds.
- Not vary from the correct time by more than 30 seconds.
- Be compared with the time source designated in special instructions.

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Updated: 1/20/2012



## 2.0: RAILROAD RADIO AND COMMUNICATION RULES

- [2.1: Transmitting](#)
- [2.2: Required Identification](#)
- [2.3: Repetition](#)
- [2.4: Ending Transmission](#)
- [2.5: Communication Redundancy](#)
- [2.6: Communication Not Understood or Incomplete](#)
- [2.7: Monitoring Radio Transmissions](#)
- [2.8: Acknowledgment](#)
- [2.9: Misuse of Radio Communications](#)
- [2.10: Emergency Calls](#)
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- [2.12: Fixed Signal Information](#)
- [2.14: Transmission of Mandatory Directives](#)
- [2.14.1: Verbally Transmitting and Repeating Mandatory Directives](#)
- [2.15: Phonetic Alphabet](#)
- [2.16: Assigned Frequencies](#)
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- [2.18: Malfunctioning Radio](#)
- [2.19: Blasting Operations](#)
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- [2.21: Electronic Devices](#)

### 2.1: Transmitting

Any employee operating a radio must do the following:

- Before transmitting, listen long enough to make sure the channel is not being used.
- Give the required identification
- Not proceed with further transmission until acknowledgment is received .

### System Special Instruction

#### Application:

#### Normal Dispatcher Call-in Procedure

To contact the train dispatcher from the field:

1. Ensure that you are on the correct dispatcher radio channel for the area you are in. ~~The radio channel is indicated by a 4-digit number displayed on the radio, such as (2424).~~ The radio channel is identified in timetable subdivision instructions under Radio Display (SI-RD).

2. On the radio key pad, dial "\*" plus the 2-digit code for the dispatcher you wish to call. For example, "\*20").

**Note:** After dialing the "\*XX" digits, you should receive an acknowledgment tone on your radio indicating the call-in has been detected and processed. If you do not hear the acknowledgment tone you will need to re-dial the code.

## General Order

### 2.1 Transmitting

Change application to read:

#### Normal Dispatcher Call-in Procedure

To contact the train dispatcher from the field:

1. Ensure that you are on the correct dispatcher radio channel for the area you are in. The radio channel is identified in timetable subdivision instructions under Radio Display (SI-RD).

2. On the radio key pad, dial "\*" plus the 2-digit code for the dispatcher you wish to call. (For example, "\*20").

**Note:** After dialing the "\*XX" digits, you should receive an acknowledgment tone on your radio indicating the call-in has been detected and processed. If you do not hear the acknowledgment tone you will need to re-dial the code.

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## 2.2: Required Identification

Employees transmitting or acknowledging a radio communication must begin with the required identification. The identification must include the following in this order:

- For base or wayside stations:
  - Name or initials of the railroad
  - Name and location or other unique designation
- For mobile units:
  - Name or initials of the railroad
  - Train name (number), engine number, or words that identify the precise mobile unit.

If communication continues without interruption, repeat the identification every 15 minutes.

### Short Identification

After making a positive identification for switching, classification, and similar operations within a yard, fixed and mobile units may use a short identification after the initial transmission and acknowledgment.

### System Special Instruction

#### Application:

During switching operations, short identification must be unique enough to ensure no misunderstanding as to whom the communication is intended for or could be misinterpreted. Job numbers alone could be misinterpreted as car counts, track number or other equipment etc. "10 back up 5" must not be used. Instead use "Job 10 back up 5 cars; Yard Job 10 back up 5 cars" or "DY10

back up 5 cars".

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## 2.3: Repetition

An employee who receives a transmission must repeat it to the person transmitting the message, except when the communication:

- Concerns yard switching operations.
- Is a recorded message from an automatic alarm device.  
or
- Is general and does not contain any information, instruction, or advice that could affect the safety of a railroad operation.

When a mandatory directive or instruction concerning train movement has been repeated correctly, the repeat must be acknowledged as correct.

## System Special Instruction

### **Add as last paragraph:**

When a mandatory directive or instruction concerning train movement has been repeated correctly, the repeat must be acknowledged as correct.

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## 2.4: Ending Transmission

Employees using a radio for transmissions must state to the employee receiving the transmission the following as it applies to indicate the communication has ended or is completed:

"OVER" - when a response is expected

or

"OUT" preceded by required identification - when no response is expected.

However, these requirements do not apply to yard switching operations.

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## 2.5: Communication Redundancy

The controlling unit of any train that requires an air brake test must be equipped with an operative radio, unless relieved by Rule 2.18 (Malfunctioning Radio). In addition, these trains must have a second means of communication, which may include:

- An operative radio on any unit in the consist.
- A portable radio  
or
- Other wireless communication device.

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## 2.6: Communication Not Understood or Incomplete

An employee who does not understand a radio communication or who receives a communication that is incomplete must not act upon the communication and must treat it as if it was not sent.

**EXCEPTION:** An employee who receives information that may affect the safety of employees or the public or cause damage to property must take the safe course. When necessary, stop movement until the communication is understood.

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## 2.7: Monitoring Radio Transmissions

Radios in attended base stations or mobile units must be turned on to the appropriate channel with the volume loud enough to receive communications. Employees attending base stations or mobile units must acknowledge all transmissions directed to the station or unit.

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## 2.8: Acknowledgment

An employee receiving a radio call must acknowledge the call immediately unless doing so would interfere with safety.

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## 2.9: Misuse of Radio Communications

**Employees must not use radio communication to avoid complying with any rule.**

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## 2.10: Emergency Calls

Emergency calls will begin with the words "Emergency, Emergency, Emergency". These calls will be used to cover initial reports of hazardous conditions which could result in death or injury, damage to property or serious disruption of railroad operations such as:

- Derailments
  - Collisions
  - Storms
  - Washouts
  - Fires
  - Track obstructions
- or

- Emergency brake applications.

In addition, emergency calls must be made for the following:

- Overrunning limits of authority  
or
- Overrunning Stop indications.

Emergency calls must contain as much complete information on the incident as possible.

All employees must give absolute priority to an emergency communication. Unless they are answering or aiding the emergency call, employees must not transmit until they are certain no interference will result.

## System Special Instruction

### Application:

### Emergency Call-in Procedure

The Emergency call-in code is "911" throughout the entire UPRR system.

To contact the train dispatcher in case of an emergency:

1. Ensure that you are on the dispatcher's radio channel for the area you are in. ~~The dispatcher's radio channel is indicated by a 4-digit number displayed on the radio that is specific to the road channel, such as (2424).~~ The radio channel is identified in timetable subdivision instructions under Radio Display (SI-RD).

2. Dial DTMF digits "911" on the radio key pad.

**Note:** After dialing the "911" digits, you should receive an acknowledgment tone on your radio indicating the emergency call-in has been detected and processed. If you do not hear the acknowledgment tone you will need to resend the "911" code.

## General Order

### 2.10 Emergency Calls

Change application to read:

#### Emergency Call-in Procedure

The Emergency call-in code is "911" throughout the entire UPRR system.

To contact the train dispatcher in case of an emergency:

1. Ensure that you are on the correct dispatcher radio channel for the area you are in. The radio channel is identified in timetable subdivision instructions under Radio Display (SI-RD).

2. Dial DTMF digits "911" on the radio key pad.

**Note:** After dialing the "911" digits, you should receive an acknowledgment tone on your radio indicating the emergency call-in has been detected and processed. If you do not hear the acknowledgment tone you will need to resend the "911" code.

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## 2.11: Prohibited Transmissions

Employees must not transmit a false emergency or an unnecessary or unidentified communication. Employees must not use indecent language over the radio. Employees must not reveal the existence, contents, or meaning of any communication (except emergency communications) to persons other than those it is intended for, or those whose duties may require knowing about it.

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## 2.12: Fixed Signal Information

Employees must not use the radio to give information to a train or engine crew about the name, position, aspect, or indication displayed by a fixed signal, unless the information is given between members of the same crew or the information is needed to warn of an emergency.

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## 2.14: Transmission of Mandatory Directives

When transmitted by radio, mandatory directives must conform to applicable operating rules and the following:

- The train dispatcher must state which mandatory directive will be transmitted.
- The employee must inform the train dispatcher when ready to copy stating the employee's occupation (ex. conductor, engineer, foreman, maintainer), name and location on the main track or where the main track will be entered. An employee operating the controls of a moving engine may not copy mandatory directives. In addition, mandatory directives must not be transmitted to the crew of a moving train if the conductor, engineer or train dispatcher feels that the transmission could adversely affect the safe operation of the train.
- The employee receiving a mandatory directive must copy it in writing using the format outlined in the operating rules.
- Before a mandatory directive is acted upon, the conductor and engineer must each have a written copy and each crew member must read and understand it.
- When transmitting a track restriction directly to a train, the restriction will be issued using the following format: (Train ID) do not exceed (speed) between (location) and (location). If no flags are displayed, the words "No flags are displayed" will be added to the format.

### System Special Instruction

Add a bullet reading:

- When transmitting a track restriction directly to a train, the restriction will be issued using the following format: (Train ID) do not exceed (speed) between (location) and (location). If no flags are displayed, the words "No flags are displayed" will be added to the format.

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### 2.14.1: Verbally Transmitting and Repeating Mandatory Directives

~~When transmitting and repeating mandatory directives:~~

- State and spell single digit numbers by number and digit.
- State multiple digit numbers by number and digit.
- Identify decimal points as "point", "dot", or "decimal".
- State and spell directions.

When transmitting and repeating mandatory directives, numbers must be spoken by digit (zero, one, two, three, etc.). However, exact multiples of hundreds and thousands may be stated as such (600 = six hundred). A decimal point must be spoken as "point", "dot", or "decimal".

## System Special Instruction

### Change rule to read:

When transmitting and repeating mandatory directives, numbers must be spoken by digit (zero, one, two, three, etc.). However, exact multiples of hundreds and thousands may be stated as such (600 = six hundred). A decimal point must be spoken as "point", "dot", or "decimal".

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## 2.15: Phonetic Alphabet

If necessary, a phonetic alphabet (Alpha, Bravo, Charlie, etc.) will be used to pronounce clearly any letter used as an initial, except initial letters of the railroads.

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## 2.16: Assigned Frequencies

The railroad must authorize any radio transmitters used in railroad service. Radio transmitter must operate on frequencies the Federal Communications Commission assigned the railroad. Employees are prohibited from using other transmitters or railroad frequencies not assigned to that particular territory.

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## 2.17: Radio Testing

Test radios to be used as soon as possible before beginning of work assignment.

The radio test must include an exchange of voice transmissions with another radio. The test must confirm the quality of the radio's transmission.

[^Top](#)

## 2.18: Malfunctioning Radio

Malfunctioning radios must not be used. As soon as possible, notify each crew member and the train dispatcher or other affected employees that the radio is not working.

If a radio fails on the controlling locomotive enroute, the train may continue until:

- The next calendar day inspection  
**OR**
- The nearest forward point where the radio can be repaired or replaced, whichever occurs first.

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## 2.19: Blasting Operations

Employees must not operate radio transmitter located less than 250 feet from blasting operations.

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## 2.20: Internal Adjustments

Employees are prohibited from making internal adjustments to a railroad radio unless they are specifically authorized by the FCC or hold a current Certified Technicians Certificate. Employees authorized to make adjustments must carry their FCC operator license, Certified Technicians Certificate, or verification card while on duty.

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## 2.21: Electronic Devices

### 2.21 Electronic Devices

This rule outlines the requirements for use of electronic devices. As used in this rule, the following definitions apply:

Electronic Device - means an electronic or electrical device used to conduct oral, written, or visual communication; place or receive a telephone call; send or read an electronic mail message or text message; look at pictures; read a book or other written material; play a game; navigate the Internet; navigate the physical world; play, view, or listen to a video; play, view or listen to a television broadcast; play or listen to music; execute a computational function; or, perform any other function that is not necessary for the health or safety of the person and that entails the risk of distracting the employee or another employee from a safety related task.

Railroad operating employee - means an individual who is:

- engaged in or connected with the movement of a train including a hostler,
- a train employee providing commuter or intercity rail passenger transportation,

or

- subject to hours of service governing train service employees.

The use of any electronic device is prohibited if that use would interfere with an employee's performance of safety-related duties.

### A. Personal or Railroad Supplied Electronic Devices



Personal or railroad supplied electronic devices may be used as necessary:

- To respond to an emergency situation involving the operation of the railroad.
- To respond to an emergency encountered while on-duty.
- As a communication device in the event of radio malfunction.

#### B. Personal Electronic Devices

Except when deadheading in other than a controlling locomotive, railroad operating employees on duty (including supervisors) must have each electronic device turned off and stowed out of sight with any earpiece removed from the ear when:

- On moving rolling equipment or on track equipment.
- Any member of the crew is on the ground performing safety related duties.

or

- Any employee is assisting in preparation of the train, engine(s) or on-track equipment.

A railroad operating employee may use a personal cell phone only for voice communication when:

- Rolling and on track equipment is stopped,
- A safety briefing is conducted with all crew members to confirm that it will not interfere with any safety related or required duty,
- No member of crew will foul any track.

#### **CELL PHONE MUST BE TURNED OFF WHEN CALL HAS BEEN COMPLETED.**

Railroad operating employees may use a digital storage and display function of an electronic device to refer to a railroad rule, special instruction, timetable, or other directive provided it does not interfere with any employee's performance of safety related duties and all other crew members have been briefed on its limited use. When not in use it must be turned off and stowed.

A personal stand alone camera may be used to take a photograph of a safety hazard or a violation of a rail safety law, regulation, order, or standard, provided that:

- A job briefing is conducted among all crewmembers and any other individuals in the controlling cab of moving equipment,
- It is turned off immediately after the photograph has been made;
- It is not used by an employee at the controls of moving equipment.

A personal stand-alone calculator, digital watch whose only purpose is as a timepiece and medical devices that are consistent with the railroad's standards may be used as necessary in the performance of duties.

#### C. Railroad Supplied Electronic Devices

Railroad operating employees may use railroad supplied electronic devices to send or receive work related information with:

- Railroad supervisors.
- Railroad customers.
- Railroad dispatchers.
- Railroad customer service employees.

or

- Other railroad employees as necessary in the performance of their duties.

Railroad operating employees must not use a railroad supplied electronic device for purposes other than which it was intended or while:

- Operating the controls of a moving locomotive.
- On the ground within 4 feet of any track.
- On the ground and engaged in an active switching operation.
- Riding rolling equipment during a switching operation.
- At the controls of the locomotive and any other employee is assisting in the preparation of the train, engine(s), or on-track equipment, including testing of railroad equipment or brakes.
- Inside the controlling cab of a locomotive, train or on-track equipment, unless there has been a safety briefing and all crew members agree that it is safe to do so.
- Verbally obtaining or releasing mandatory directives when railroad radio communication is available.

Railroad authorized electronic devices may be used in the body of a business car or passenger train for railroad business when it will not interfere with an employee's performance of safety related duties.

## **General Order**

### **2.21 Electronic Devices**

Add new rule:

This rule outlines the requirements for use of electronic devices. As used in this rule, the following definitions apply:

Electronic Device - means an electronic or electrical device used to conduct oral, written, or visual communication; place or receive a telephone call; send or read an electronic mail message or text message; look at pictures; read a book or other written material; play a game; navigate the Internet; navigate the physical world; play, view, or listen to a video; play, view or listen to a television broadcast; play or listen to music; execute a computational function; or, perform any other function that is not necessary for the health or safety of the person and that entails the risk of distracting the employee or another employee from a safety related task.

Railroad operating employee - means an individual who is:

- engaged in or connected with the movement of a train including a hostler,
- a train employee providing commuter or intercity rail passenger transportation,

or

- subject to hours of service governing train service employees.

The use of any electronic device is prohibited if that use would interfere with an employee's performance of safety-related duties.

#### **A. Personal or Railroad Supplied Electronic Devices**

Personal or railroad supplied electronic devices may be used as necessary:

- To respond to an emergency situation involving the operation of the railroad,

- To respond to an emergency encountered while on-duty,
- As a communication device in the event of radio malfunction.

## B. Personal Electronic Devices

Except when deadheading in other than a controlling locomotive, railroad operating employees on duty (including supervisors) must have each electronic device turned off and stowed out of sight with any earpiece removed from the ear when:

- On moving rolling equipment or on track equipment.
- Any member of the crew is on the ground performing safety related duties.

or

- Any employee is assisting in preparation of the train, engine(s) or on-track equipment.

A railroad operating employee may use a personal cell phone only for voice communication when:

- Rolling and on track equipment is stopped,
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- No member of crew will foul any track.

## **CELL PHONE MUST BE TURNED OFF WHEN CALL HAS BEEN COMPLETED.**

Railroad operating employees may use a digital storage and display function of an electronic device to refer to a railroad rule, special instruction, timetable, or other directive provided it does not interfere with any employee's performance of safety related duties and all other crew members have been briefed on its limited use. When not in use it must be turned off and stowed.

A personal stand alone camera may be used to take a photograph of a safety hazard or a violation of a rail safety law, regulation, order, or standard, provided that:

- A job briefing is conducted among all crewmembers and any other individuals in the controlling cab of moving equipment,
- It is turned off immediately after the photograph has been made;
- It is not used by an employee at the controls of moving equipment.

A personal stand-alone calculator, digital watch whose only purpose is as a timepiece and medical devices that are consistent with the railroad's standards may be used as necessary in the performance of duties.

## C. Railroad Supplied Electronic Devices

Railroad operating employees may use railroad supplied electronic devices to send or receive work related information with:

- Railroad supervisors.
- Railroad customers.
- Railroad dispatchers.
- Railroad customer service employees.

or

- Other railroad employees as necessary in the performance of their duties.

Railroad operating employees must not use a railroad supplied electronic device for purposes other than which it was intended or while:

- Operating the controls of a moving locomotive.
- On the ground within 4 feet of any track.
- On the ground and engaged in an active switching operation.
- Riding rolling equipment during a switching operation.
- At the controls of the locomotive and any other employee is assisting in the preparation of the train, engine(s), or on-track equipment, including testing of railroad equipment or brakes.
- Inside the controlling cab of a locomotive, train or on-track equipment, unless there has been a safety briefing and all crew members agree that it is safe to do so.
- Verbally obtaining or releasing mandatory directives when railroad radio communication is available.

Railroad authorized electronic devices may be used in the body of a business car or passenger train for railroad business when it will not interfere with an employee's performance of safety related duties.

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Updated: 3/29/2011

[Union Pacific Rules](#)

[General Code of Operating Rules](#)

## 3.0: Section Reserved

- [Section Reserved](#)

### Section Reserved

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Updated: 5/04/2010

## 4.0: TIMETABLES

- [4.1: New Timetable](#)
- [4.1.1: Notice of New Timetable](#)
- [4.2: Special Instructions](#)
- [4.3: Timetable Characters](#)

### 4.1: New Timetable

The moment a new timetable goes into effect, it will replace the previous one.

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#### 4.1.1: Notice of New Timetable

At least 24 hours before a new timetable goes into effect, notification will be made by general order. A track bulletin will also be issued at least 24 hours before the new timetable goes into effect and continue for 6 days after the effective date.

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### 4.2: Special Instructions

Special instructions will replace any rule or regulation with which they conflict.

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### 4.3: Timetable Characters

Timetable characters are letters and symbols located in the timetable station column. These letters and symbols indicate the special conditions at specific locations (such as yard limits and manual interlockings). A timetable station column may also include information on the method of operation (such as TWC, ABS, CTC, or DTC). Explanation of characters will be shown in the timetable.

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Updated: 4/05/2010

## 5.0: SIGNALS AND THEIR USE

- [5.1: Signal Equipment](#)
- [5.2: Receiving and Giving Signals](#)
  - [5.2.1: Looking for Signals](#)
  - [5.2.2: Signals Used by Employees](#)
- [5.3: Hand and Radio Signals](#)
  - [5.3.1: Hand Signals](#)
  - [5.3.2: Giving Signals](#)
  - [5.3.3: Signal Disappearance](#)
  - [5.3.4: Signal to Stop](#)
  - [5.3.5: Acknowledge Stop Signal](#)
  - [5.3.6: Radio and Voice Communication](#)
  - [5.3.7: Radio Response](#)
- [5.4: Flags for Temporary Track Conditions](#)
  - [5.4.1: Temporary Restrictions](#)
  - [5.4.2: Display of Yellow Flag](#)
  - [5.4.3: Display of Yellow-Red Flag](#)
  - [5.4.4: Authorized Protection by Yellow or Yellow-Red Flag](#)
  - [5.4.5: Display of Green Flag](#)
  - [5.4.6: Display of Flags Within Current of Traffic](#)
  - [5.4.7: Display of Red Flag or Red Light](#)
  - [5.4.8: Flag Location](#)
- [5.5: Permanent Speed Signs](#)
- [5.6: Unattended Fusee](#)
- [5.8: Bell and Whistle Signals](#)
  - [5.8.1: Ringing Engine Bell](#)
  - [5.8.2: Sounding Whistle](#)
  - [5.8.3: Whistle Failure](#)
  - [5.8.4: Whistle Quiet Zone](#)
- [5.9: Headlight Display](#)
  - [5.9.1: Dimming Headlight](#)
  - [5.9.2: Headlight Off](#)
  - [5.9.3: Headlight Failure](#)
  - [5.9.4: Displaying Headlights Front and Rear](#)
  - [5.9.5: Displaying Ditch Lights](#)
  - [5.9.6: Displaying Oscillating White Headlight](#)
  - [5.9.7: Displaying Oscillating or Flashing Red Light](#)
  - [5.9.8: Displaying Cab Roof Light](#)
- [5.10: Markers](#)
  - [5.10.1: Highly Visible Markers](#)
  - [5.10.2: Alternative Markers](#)
- [5.11: Engine Identifying Number](#)
- [5.12: Protection of Occupied Outfit Cars](#)
- [5.13: Blue Signal Protection of Workmen](#)

- [5.13.1: Utility Employees](#)
- [5.14: Signs Protecting Equipment](#)
- [5.15: Improperly Displayed Signals](#)

## 5.1: Signal Equipment

Employees who give or display signals must have the proper appliances. Appliances must be in good condition and ready to use.

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## 5.2: Receiving and Giving Signals

[^Top](#)

### 5.2.1: Looking for Signals

To recognize and follow signals correctly, employees must:

- Always be on the lookout for signals.
- Comply with the intent of the signal.
- Not act on any signal that they do not understand or that may be intended for other trains or engines

## System Special Instruction

### Application:

Engineering department employees performing lookout duties (wearing a yellow/green vest with orange reflectorized striping, with "Lookout" printed on the vest) may be communicating with their work group with a white flag. This white flag is not a signal to the train, rather a signal to the work group that an approaching train has been spotted.

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### 5.2.2: Signals Used by Employees

To give clear signals during the day and night, employees must:

#### A. During the Day

1. Use the correct color of flags or lights.
2. Use day signals from sunrise to sunset.
3. Flagmen providing protection as outlined in Rule 6.19 must have a red flag and six red fuses.

#### B. At Night

1. Use the correct color of reflectorized flags or lights.
2. Use night signals from sunset to sunrise or when day signals cannot be seen clearly.
3. Flagmen providing protection as outlined in Rule 6.19 must have a white light and six red fuses.



Flags may be made from cloth, metal or other suitable material.


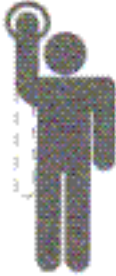

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### 5.3: Hand and Radio Signals

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#### 5.3.1: Hand Signals

The following diagram illustrates the hand signals for a train or engine to stop, proceed, or backup.

Description of Signal	Indication	Movement
1. Swung at a right angle to the track	STOP	
2. Raised and lowered vertically	PROCEED	
3. Swung slowly in a circle at a right angle to the track	BACK UP	

[Diagram A]

Employees may use other hand signals only if all crew members understand the signals. When employees are not giving hand signals, they must not make any gestures or movements that may resemble a hand signal.

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## 5.3.2: Giving Signals

Employees who give signals must:

- Make sure signals can be plainly seen.
- Give signals clearly so they can be understood.
- Give signals on the engineer's side of the track when practical.

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## 5.3.3: Signal Disappearance

If a person disappears who is giving the signal to back or shove a train, engine, or car, or the light being used disappears, employees must:

- Stop movement, unless employee on leading car controls the air brakes.

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## 5.3.4: Signal to Stop

**ANY OBJECT WAVED VIOLENTLY BY ANY PERSON ON OR NEAR THE TRACK IS A SIGNAL TO STOP.**

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## 5.3.5: Acknowledge Stop Signal

Except when switching, acknowledge hand signal to stop a train. When flagged, the engineer must obtain a thorough explanation from the flagman before proceeding.

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## 5.3.6: Radio and Voice Communication

Employees may use radio and other means of voice communication to give information when using hand signals is not practical.

Employees must make sure crew members:

- Know which moves will be made by radio communication.
- Understand that while using the radio, the engineer will not accept any hand signals, unless they are Stop signals.

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## 5.3.7: Radio Response

When radio communication is used to make movements, crew members must respond to specific instructions given for each movement. Radio communications for shoving movements must specify the direction and distance and must be acknowledged when distance specified is more than four cars.

**Movement must stop within half the distance specified unless additional instructions are received.**

## General Order

### 5.3.7 Radio Response

Delete entire rule.

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## 5.4: Flags for Temporary Track Conditions

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### 5.4.1: Temporary Restrictions

Track bulletins, track warrants, or general orders may restrict or stop train movements because of track conditions, structures or men or equipment. Yellow flags are used to indicate temporary speed restrictions. Yellow-red flags are used to indicate when a train may be required to stop. When flags are not displayed, that information will be included in the track bulletin, track warrant, or general order.

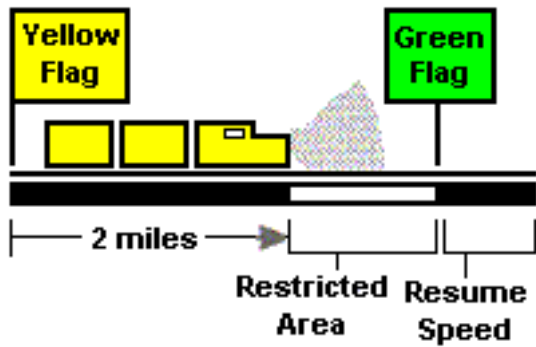
When a restriction spans adjoining subdivisions, separate temporary restrictions may be issued on each subdivision. Only one set of flags may be displayed in advance of the entire restriction in each direction.

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### 5.4.2: Display of Yellow Flag

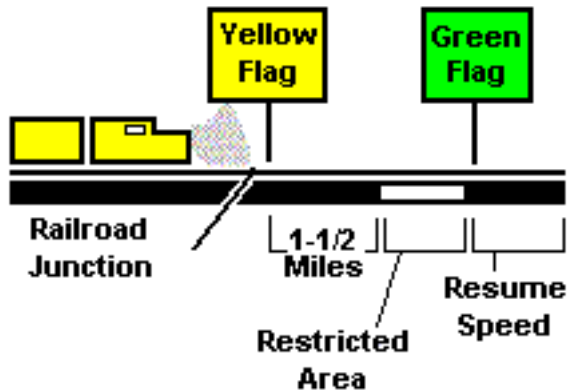
#### A. Restriction Specified in Writing

**Two Miles Ahead of Restricted Area.** Yellow flags warn trains to restrict movement because of track conditions or structures. To make sure train movement is restricted at the right location, employees must display a yellow flag 2 miles before the restricted area.



[Diagram A]

**Less than Two Miles Ahead of Restricted Area.** When the restricted area is close to a terminal, junction or another area, employees will display the yellow flag less than 2 miles before the restricted area. This information will also be included in the track bulletin, track warrant, or general order.



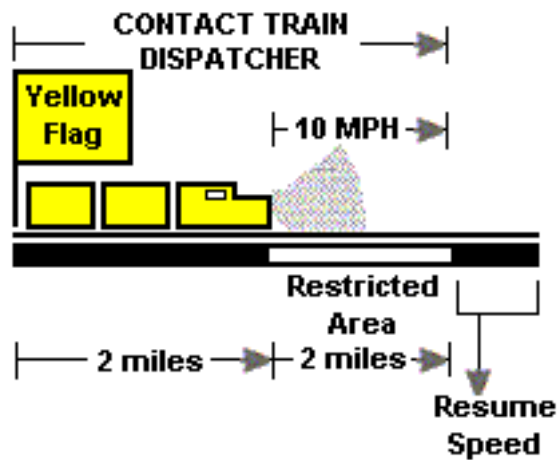
[Diagram B]

**Once the Train Reaches the Restricted Area.** The speed specified by track warrant, track bulletin, general order, or radio speed restriction must not be exceeded until the rear of the train clears the restricted area.

## B. Restriction Is Not Specified in Writing

When a yellow flag is displayed and the restriction is not specified by a track bulletin, track warrant or general order, once the train is 2 miles beyond the yellow flag, crew members must:

1. Continue moving the train but at a speed not exceeding 10 MPH.
2. Resume speed only after the rear of the train has:
  1. Passed a green flag.  
or
  2. Traveled 4 miles beyond the yellow flag and the train dispatcher has verified that no track bulletin or track warrant is in effect specifying a temporary speed restriction at that location.



[Diagram C]

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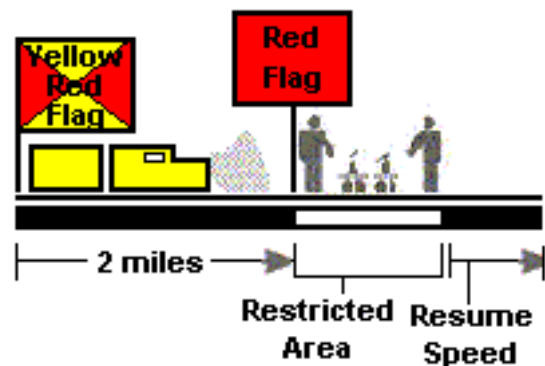
### 5.4.3: Display of Yellow-Red Flag

Maintenance of Way employees may display yellow-red flags from one hour before the track bulletin Form B takes effect until one hour after it expires. During that time, trains may accept instructions from the employee in charge as outlined in Rule 15.2 (Protection by Track Bulletin Form B).

The display of yellow-red flags as described does not extend the authorized working time beyond the times listed on the track bulletin Form B.

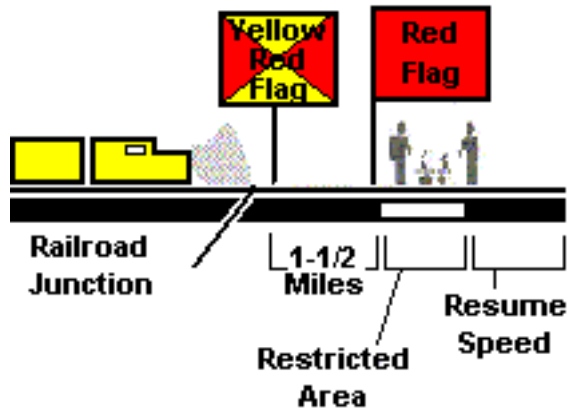
#### A. Restriction Specified in Writing

**Two Miles Ahead of Restricted Area.** Yellow-red flags warn a train to be prepared to stop because of men or equipment. To make sure the train is prepared to stop at the right location, employees must display a yellow-red flag 2 miles before the restricted area.



[Diagram A]

**Less Than Two Miles Ahead of Restricted Area.** When the restricted area is close to a terminal, junction, or another area, employees will display the yellow-red flag less than 2 miles before the restricted area. This information will also be included in the track bulletin, track warrant or general order.



[Diagram B]

## B. Restriction Is Not Specified in Writing

When a yellow-red flag is displayed and the restriction is not specified by a track bulletin, track warrant, or general order, crew members must be prepared to stop short of a red flag 2 miles beyond the yellow-red flag. If a red flag is displayed, proceed as outlined in Rule 5.4.7 (Display of Red Flag or Red Light). If no red flag is displayed:

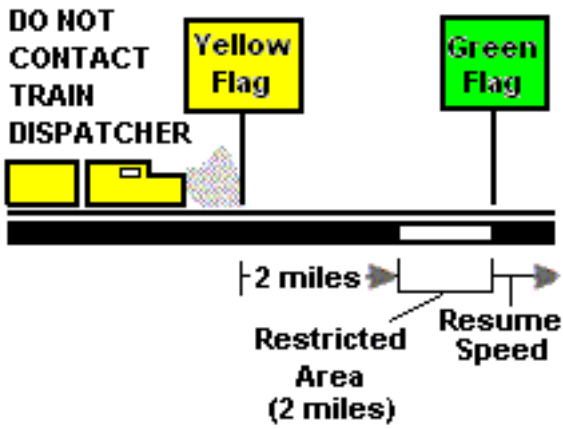
1. Move at restricted speed.
2. Increase speed only after:
  1. A crew member has received instructions from the employee in charge.  
or
  2. The leading wheels of movement are 4 miles beyond the yellow-red flag, and the train dispatcher has verified that no track bulletin or track warrant protecting men or equipment is in effect at that location.

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## 5.4.4: Authorized Protection by Yellow or Yellow-Red Flag

On subdivisions where maximum speed does not exceed 40 MPH, and it is authorized by special instructions, yellow ~~or yellow-red~~ flags may be displayed without the use of track bulletins, track warrants or flagmen. Yellow ~~or yellow-red~~ flags must be displayed 2 miles before the restricted area. Protection will begin at a point 2 miles beyond the yellow ~~or yellow-red~~ flag and continue for 2 more miles, as outlined in Rule 5.4.2 (Display of Yellow Flag). ~~and Rule 5.4.3 (Display of Yellow-Red Flag).~~

**Note:** Crew members do not need to receive verification from the train dispatcher when this rule is in effect.



[Diagram A]

## System Special Instruction

### 5.4.4 "Authorized Protection by Yellow or Yellow-Red Flag":

Change rule as follows:

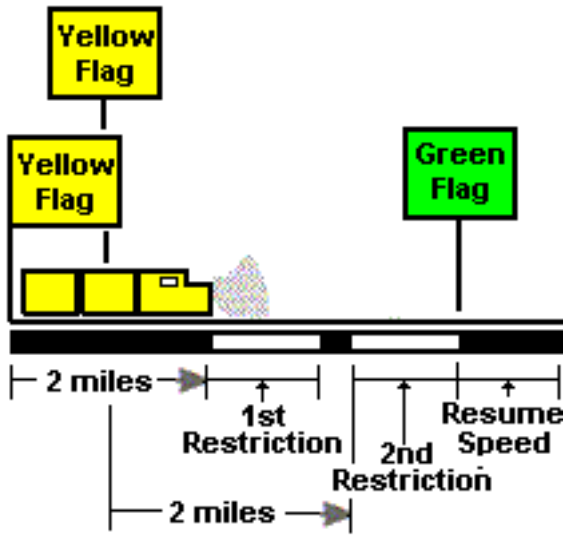
Delete all references to Yellow-Red flags. Rule only applies to use of Yellow flag.

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### 5.4.5: Display of Green Flag

A green flag indicates the end of a temporary speed restriction. If a series of locations require reduced speeds, the green flags could overlap yellow flags. When this is the case, employees must:

- Place a yellow flag before each speed restriction
- Place a green flag at the end of the last speed restriction.



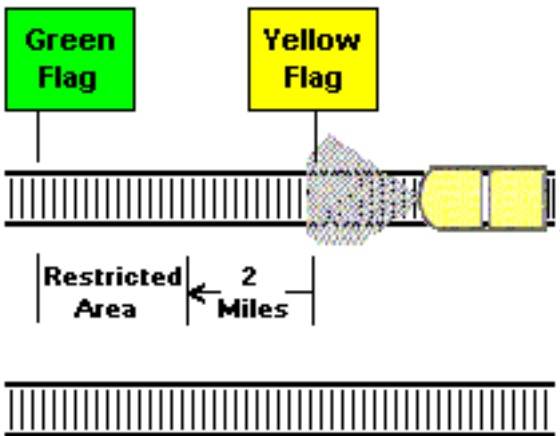
[Diagram A]

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### 5.4.6: Display of Flags Within Current of Traffic

#### A. Yellow and Green Flags

Flags for temporary speed restrictions will only be placed for trains moving with the current of traffic.

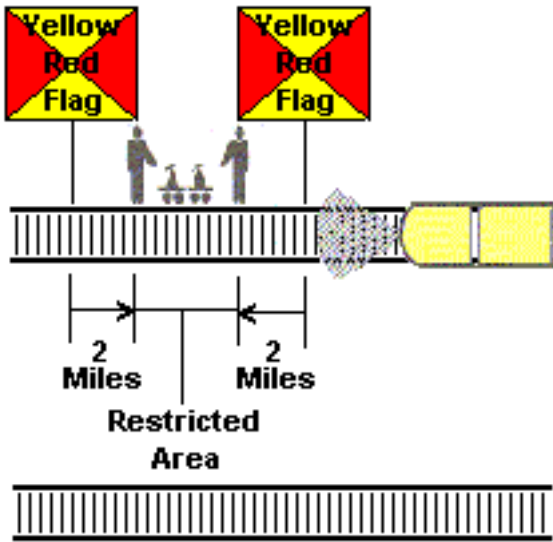


[Diagram A]

#### B. Yellow-Red Flags

Flags protecting men or equipment must be placed in both directions on each track affected.





[Diagram B]

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### 5.4.7: Display of Red Flag or Red Light

A red flag or red light is displayed where trains must stop. When approaching a red flag or red light, the train must stop short of the red flag or red light and not proceed unless the employee in charge gives instructions, including the milepost location of the red flag or red light. A crew member must attempt to contact the employee in charge to avoid delay, giving the location of the red flag or red light and the track being used. If instructions to proceed are received before the train stops, the train may pass the red flag or red light without stopping.

If track bulletin Form B is not in effect, instructions must include speed and distance. This speed must not be exceeded until the rear of the train has passed the specified distance from the red flag or red light, unless otherwise instructed by the employee in charge.

**Displayed Between Rails.** When a red flag or red light is displayed between the rails of a track, the train must stop and not proceed until the flag or light has been removed by an employee of the class that placed it.

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### 5.4.8: Flag Location

Flags will be displayed only on the track affected. However, when yellow, yellow-red, or red flags or red lights are used for protection without a track bulletin, track warrant, or general order, these flags must be placed to protect all possible access to the restricted area.

Flags or red lights must be displayed to the right of the track as viewed from an approaching train. In multiple main track territory or where sidings are adjacent to main track(s), they will be placed on the field side of outside tracks. Red flags or red lights may be displayed between the rails as outlined in Rule 5.4.7 (Display of Red Flag or Red Light). Flags or red lights will be placed in this manner unless otherwise specified by track bulletin, track warrant, special instructions, or general order.

When flags are displayed beyond the first rail of an adjacent track, the flags will not apply to the track on which the train is moving.

## System Special Instruction

### 5.4.8 Flag Location

#### Application:

In three or more main track territory, flags will be displayed to the right of center tracks (inside tracks) where clearance allows.

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## 5.5: Permanent Speed Signs

Permanent speed restriction signs will be placed in advance of permanent speed restrictions. Numbers on the face of these signs indicate the highest speed permitted over the limits of the restriction.

### Two Sets of Numbers

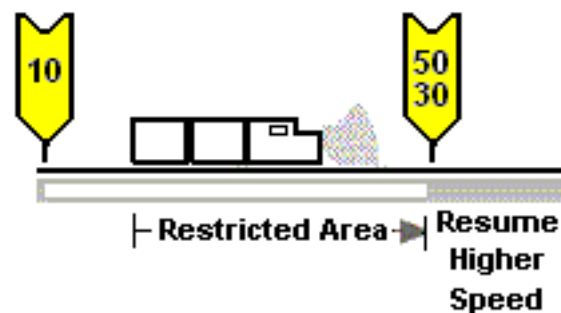
When two sets of numbers are shown, the greater number governs trains consisting entirely of passenger equipment. The lesser number governs all other trains.

### Resume Speed Signs

A permanent resume speed sign or a speed sign showing a higher speed will be placed at the end of each restriction.

Crew members must not exceed the speed shown on each permanent speed restriction sign until the rear of the train:

- Has passed a permanent resume speed sign or a sign showing a higher speed.  
or
- Has cleared the limits of the restriction.



[Diagram A]

## System Special Instruction

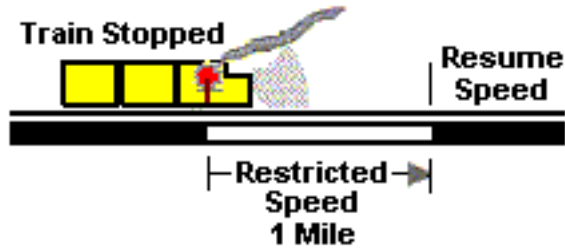
#### Application:

The location of permanent speed signs are:

- 2500 feet ahead of the restriction (Arrow-shaped signs).
- 2 miles ahead of the restriction (Square or rectangular signs).

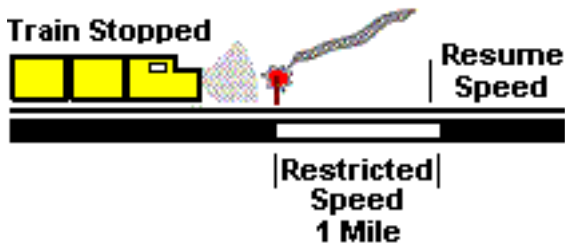
## 5.6: Unattended Fusee

If a train approaches an unattended fusee burning on or near its track, the train must stop consistent with good train handling.



[Diagram A]

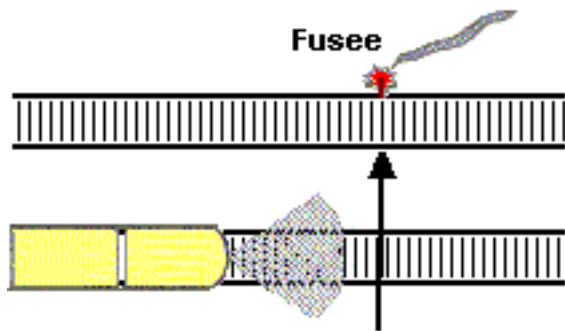
A train moving at restricted speed must stop before passing the fusee.



[Diagram B]

After stopping, the train must proceed at restricted speed for 1 mile beyond the fusee.

If the unattended burning fusee is beyond the first rail of an adjacent track, the fusee does not apply to the track on which the train is moving.



**Fusee does not apply when it is beyond the first rail of an adjacent track**

[Diagram C]

Do not place fusees where they may cause fires.

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## 5.8: Bell and Whistle Signals

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### 5.8.1: Ringing Engine Bell

Ring the engine bell under any of the following conditions:

- Before moving, except when making momentary stop and start switching movements.
- As a warning signal anytime it is necessary.
- When approaching men or equipment on or near the track.
- When moving on the main track or siding, ring bell continuously while passing standing equipment on an adjacent track.
- Approaching public crossings at grade with the engine in front start signal at the crossing sign. If no sign, or if movement begins between sign and crossing, start signal soon enough before crossing to provide warning. Continue ringing bell until the crossing is occupied.

### System Special Instruction

Add bullet:

- When moving on the main track or siding, ring bell continuously while passing standing equipment on an adjacent track.

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### 5.8.2: Sounding Whistle

The whistle may be used at anytime as a warning regardless of any whistle prohibitions. When approaching areas where it is known employees are working or seen on a track adjacent to a main track or siding, sound warning.

When other employees are working in the immediate area, sound the required whistle signal before moving.

Other forms of communications may be used in place of whistle signals, except signals (1), (7) and (8). See following chart.

The required whistle signals are illustrated by "o" for short sounds and "-" for longer sounds.

Sound	Indication
[1] <del>Succession of short sounds</del> Sound whistle to <u>attempt to attract attention to the train.</u>	Use when persons or livestock are on the track at other than road crossings at grade. <u>Use when within quiet zones when engineer believes such action is appropriate. When unable to determine an employees work group, sound signal 5.8.2 (8).</u> <del>In addition, use to warn railroad employees when an emergency exists, such as a derailment. When crews on other trains hear this signal, they must stop until it is safe to proceed.</del>

[2] -	When stopped: air brakes are applied, pressure equalized.
[3] - -	Release brakes. Proceed
[4] o o	Acknowledgement of any signal not otherwise provided for.
[5] o o o	When stopped: back up. Acknowledgment of hand signal to back up.
[6] o o o o	Request for signal to be given or repeated if not understood.
[7]- - o -	<p>When approaching public crossings at grade, with engine in front, sound signal as follows:</p> <p>A. At speeds in excess of 45 MPH, start signal at or about the crossing sign but not more than 1/4 mile before the crossing.</p> <p>B. At speeds of 45 MPH or less, start signal at least 15 seconds, but not more than 20 seconds, before entering the crossing.</p> <p>C. If no crossing sign, start signal at least 15 seconds, but not more than 20 seconds, before entering crossing, but not more than 1/4 mile before the crossing.</p> <p>D. If movement starts less than 1/4 mile from a crossing, signal may be sounded less than 15 seconds before entering the crossing when it is clearly seen traffic is not approaching the crossing, traffic is not stopped at the crossing or when crossing gates are fully lowered.</p> <p>Prolong or repeat signal until the engine completely occupies the crossing(s).</p> <p><u>At locations where crossing signs are displayed sound whistle as required above regardless of the type of crossing train is approaching.</u></p> <p><u>In the states of California and Montana sound whistle signal at all crossings, public and private.</u></p>
[8] - o	<p>Approaching men or equipment on or near the track, regardless of any whistle prohibitions.</p> <p>After this initial warning, sound whistle signal (4) intermittently until the head end of train has passed the men or equipment.</p>

## System Special Instruction

### Add second sentence to first paragraph. First paragraph now reads:

The whistle may be used at anytime as a warning regardless of any whistle prohibitions. When approaching areas where it is known employees are working or seen on a track adjacent to a main track or siding, sound warning.

### Change (1) and add to (7) to read:

Sound	Indication
(1) Sound whistle to attempt to attract attention to the train.	Use when persons or livestock are on the track at other than road crossings at grade. Use when within quiet zones when engineer believes such action is appropriate. When unable to determine an employees work group, sound signal 5.8.2 (8).

Addition:

At locations where crossing signs are displayed sound whistle as required above regardless of the type of crossing train is approaching.

(7) - - o -

In the states of California and Montana sound whistle signal at all crossings, public and private.

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### 5.8.3: Whistle Failure

If the whistle fails to operate and no other unit can be used as the lead unit, continue movement with the bell ringing continuously. Stop the train before each public crossing, so a crew member on the ground can provide warning until the crossing is occupied, unless:

- Crossing gates are in the fully lowered position.  
or
- No traffic is approaching or stopped at the crossing.

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### 5.8.4: Whistle Quiet Zone

Within designated whistle quiet zones, whistle signal (7) must not be sounded approaching public crossing at grade except when:

- Necessary to provide warning in an emergency.
- Notified automatic warning devices are malfunctioning.
- Notified automatic warning devices are out of service.  
or
- The whistle quiet zone is not in effect during specified hours.

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## 5.9: Headlight Display

Turn the headlight on bright to the front of every train, except when the light must be dimmed as outlined in Rule 5.9.1 (Dimming Headlight) or turned off as outlined in Rule 5.9.2 (Headlight Off).

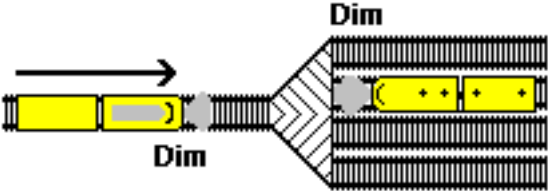
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### 5.9.1: Dimming Headlight

Approaching public crossings at grade with engine in front, the headlight must be on bright at the crossing sign. If no sign, or if movement begins between sign and crossing, the headlight must be on bright soon enough before the crossing to provide warning.

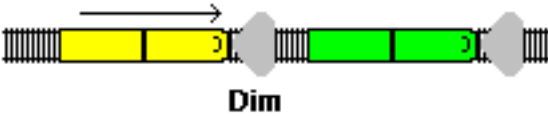
Except when the engine is approaching and passing over a public crossing at grade, dim the headlight during any of the following conditions:

- 1. At stations and yards where switching is being done.



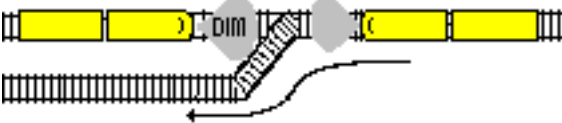
[Diagram A]

- 2. When stopped close behind another train.



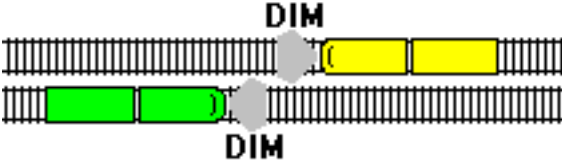
[Diagram B]

- 3. When stopped on the main track waiting for an approaching train. However, when stopped in block system limits, turn the headlight off at the radio request of the crew of an approaching train, until the head end of the train passes.



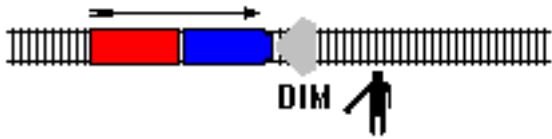
[Diagram C]

- 4. When approaching and passing the head end of a train at night.



[Diagram D]

- 5. At other times to permit passing of hand signals or when the safety of employees requires.



[Diagram E]

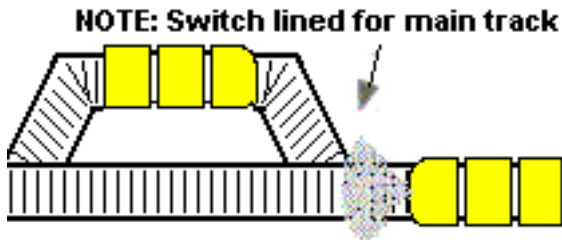
6. When left unattended on a main track in non-signaled territory.

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## 5.9.2: Headlight Off

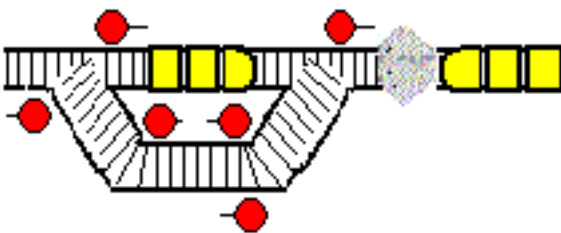
Turn the headlight off under either of the following conditions:

1. The train is stopped clear of the main track.



[Diagram A]

2. The train is left unattended on the main track in block system limits.



[Diagram B]

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## 5.9.3: Headlight Failure

If the headlight on the train fails, ditch lights must be on, when so equipped. Headlight failure must be reported to the train dispatcher.

At night, if the headlight and ditch lights fail to operate and no other unit can be used as the lead unit, continue movement with a white light displayed on the lead unit. Stop the train before each public crossing, so a crew member on the ground can provide



warning until the crossing is occupied, unless:

- Crossing gates are in the fully lowered position.  
or
- No traffic is approaching or stopped at the crossing.

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### **5.9.4: Displaying Headlights Front and Rear**

When engines are moving, crew members must turn on the headlight to the front and rear, but may dim or extinguish it on the end coupled to cars.

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### **5.9.5: Displaying Ditch Lights**

Display ditch lights, if equipped, to the front of the train when the headlight is on bright.

Locomotives must not be operated as the lead unit on trains out of the trains' initial terminal unless both ditch lights are operating. However, if no units are equipped with ditch lights, do not exceed 20 MPH over public crossings until occupied.

If one ditch light fails enroute, the train may proceed, but repairs must be made by the next daily inspection. If two ditch lights fail enroute, the train may proceed, but not exceeding 20 MPH over public crossings until occupied, but must not travel beyond the first point where repairs may be made or until the next daily inspection, whichever occurs first.

### **System Special Instruction**

#### **Application:**

The term "ditch lights" includes oscillating white headlights or strobe lights located on the front of the locomotive. Ditch lights on some foreign locomotives are configured to operate only when the horn is activated. Ditch lights which operate in this manner will be considered as meeting the requirements of this rule. When a remote control locomotive is being controlled with a remote control transmitter the ditch lights need not be displayed if speed does not exceed 20 MPH. Ditch lights are not required on steam locomotives. Failure of two ditch lights includes employee failure to turn on the ditch lights.

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### **5.9.6: Displaying Oscillating White Headlight**

If the leading engine is equipped with an oscillating white headlight, turn the light on when the engine is moving. However, turn the light off when meeting trains, passing trains, or during switching operations, unless movement involves public crossings at grade.

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### **5.9.7: Displaying Oscillating or Flashing Red Light**

If the leading engine is equipped with an oscillating or flashing red light, turn the light on under any of the following conditions:

- Train is stopped suddenly where adjacent tracks may be fouled.
- Head-end protection is required.  
or
- Condition exists that endangers movement.

The red light signals an approaching train on the same or adjacent track to stop at once and to proceed only after the track is safe for train passage. Extinguish red flashing lights when they are no longer needed.

Displaying these lights does not modify the requirements of Rule 6.19 (Flag Protection) or Rule 6.23 (Emergency Stop or Severe Slack Action).

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## 5.9.8: Displaying Cab Roof Light

If engine is equipped with an amber or white cab roof light that revolves or flashes, display the light on the occupied controlling unit.

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## 5.10: Markers

A marker of prescribed type must be displayed on the trailing end of the rear car to indicate the rear of the train.

### System Special Instruction

#### Application:

Before departing the initial terminal, the conductor must know the initials and number of the car that has the marker applied or unit number, when the engine at rear of the train is used as the marker. This can be done verbally by the employee making the initial terminal air brake test, or included on the written notification of the test. If the rear car changes, an employee must report to the conductor the initials and number of the car having the marker applied before the train departs.

When a train is set out clear of the main track at other than a crew change location. A crew member must remove the end of train telemetry device, if so equipped. Transport the device on the engine to the destination where the crew is relieved.

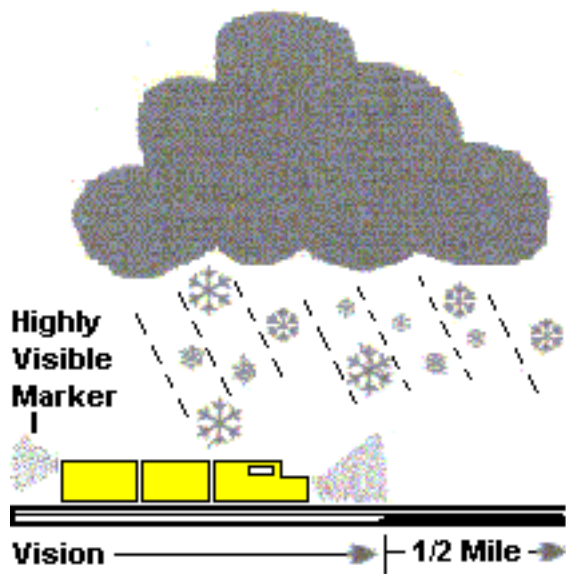
If the engine remains with the train, a crew member must deliver the end of train telemetry device to the proper authority at the tie-up point. However, proper authority may advise the crew to leave the device with the train. Always notify the train dispatcher of the location of the telemetry device.

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### 5.10.1: Highly Visible Markers

Display a highly visible marker at the rear of every train as follows:

- From 1 hour before sunset to 1 hour after sunrise
- When weather conditions restrict visibility to less than 1/2 mile



[Diagram A]

A marker equipped with a functioning photo-electric cell will automatically illuminate at the appropriate time.

When an engine is operating without cars or is at the rear of the train, the trailing headlight illuminated on dim may be used as a marker.

### Inspection of Marker

When a highly visible marker is required, a qualified employee must inspect it at the initial terminal and at each crew change point. To determine if the marker is functioning properly, the employee will inspect it by observation or by telemetry display in the cab of the engine. The engineer must be informed of the results of the inspection.

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## 5.10.2: Alternative Markers

Display a reflector, red flag, or light fixture at the rear of the train as the marker when any of the following conditions exists:

- A highly visible marker is not required.
- A defective car must be placed at the rear for movement to a repair point.
- The rear portion of the train is disabled and cannot be moved, and a highly visible marker cannot be displayed on the rear of the portion to be moved.  
or
- The highly visible marker becomes inoperative enroute. If this occurs, notify the train dispatcher and move the train to the next forward location where the highly visible marker can be repaired or replaced.

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## 5.11: Engine Identifying Number

Trains will be identified by initials and engine number, adding the direction when required. When an engine consists of more than one unit or when two or more engines are coupled, the number of one unit only will be illuminated as the identifying number. The identifying number will be the number of the lead unit, unless changing direction during a trip or tour of duty when that unit is no longer the lead unit.

**Exceptions:**

- On track bulletins that advise about excessive dimension equipment, trains may be identified by train symbol.
- On track bulletins and on track warrants that do not convey movement authority, passenger trains may be identified by schedule number.

**Note:** Engines with the following initials stenciled on the side of the locomotive will be identified as NS engines: SOU, NW, PRR, CG, INT, GSF, AGS, CRCX and CR (ConRail).

~~Trains will be identified by engine number, adding the direction when required. When an engine consists of more than one unit or when two or more engines are coupled, the number of one unit only will be illuminated as the identifying number. When practical, use the number of the leading unit.~~

## **System Special Instruction**

**Changed rule to read:**

Trains will be identified by initials and engine number, adding the direction when required. When an engine consists of more than one unit or when two or more engines are coupled, the number of one unit only will be illuminated as the identifying number. The identifying number will be the number of the lead unit, unless changing direction during a trip or tour of duty when that unit is no longer the lead unit.

**Exceptions:**

- On track bulletins that advise about excessive dimension equipment, trains may be identified by train symbol.
- On track bulletins and on track warrants that do not convey movement authority, passenger trains may be identified by schedule number.

**Note:** Engines with the following initials stenciled on the side of the locomotive will be identified as NS engines: SOU, NW, PRR, CG, INT, GSF, AGS, CRCX and CR (ConRail).

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## **5.12: Protection of Occupied Outfit Cars**

This rule outlines the requirements for protecting occupied outfit cars. As used in this rule, the following definitions apply:

**Outfit Car.** Any on-track vehicle, including outfit, camp, or bunk car or modular home mounted on a flat car to house railroad employees. Such equipment is not considered an outfit car when placed in a wreck train.

**Effective Locking Device.** When used in relation to a manually operated switch or a derail, a lock that can be locked or unlocked only by the craft or group of workmen applying the lock.

**Rolling Equipment.** Engines, cars and one or more engines coupled to one or more cars.

**Switch Providing Direct Access.** A switch that if used by rolling equipment could permit the rolling equipment to couple to the equipment being protected.

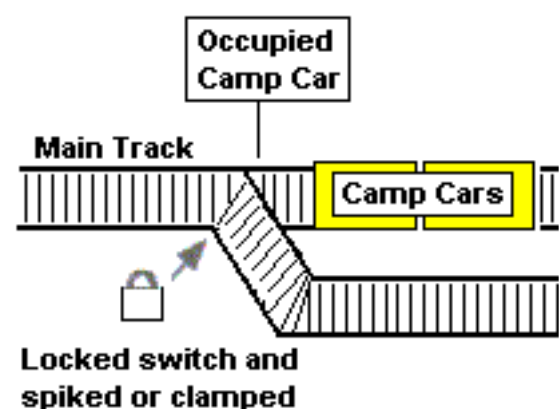
**Warning Signal.** A white sign that reads, "OCCUPIED CAMP CAR" in black lettering. At night, an illuminated white light must also be used.

When occupied outfit cars are placed on a track, the employee in charge of the outfit cars occupants (or a designated representative) must provide or request protection using one of the following methods:

### A. On a Main Track

One of these two methods or a combination of these methods must be provided:

1. Each manually operated switch that provides direct access to that portion of the main track where occupied outfit cars are located must be lined against movement to that track, secured with an effective locking device, and spiked or clamped. Warning signals must be displayed at or near each switch.



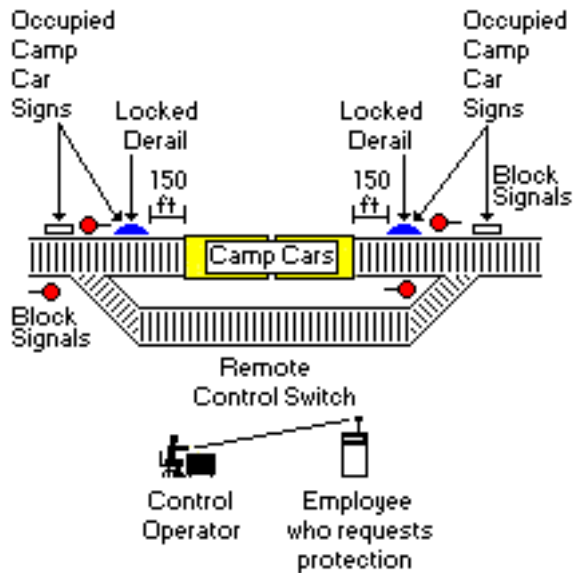
[Diagram A]

2. If remote control switches provide direct access to the main track where occupied outfit cars are located, the control operator will line the switch against movement to that track and apply blocking devices to the control machine to prevent movement onto that track. The control operator must complete the above tasks before informing the employee requesting protection that protection is provided.

**Blocking devices must not be removed until the employee in charge of the outfit car occupants (or a designated representative) informs the control operator that protection is no longer required.**

1. Warning signals must be displayed at or near each remote control switch.
2. In addition, a derail capable of restricting access to the portion of main track where occupied outfit cars are located must be placed at least 150 feet from the end of the occupied outfit cars. The derail must be locked in derailing position with an effective locking device. Warning signals must be displayed at each derail.
3. The control operator must maintain for 15 days a written record of each notification. The record must contain the following information.

- Name and craft of employee requesting protection.
- Identification of track protected.
- Date and time employee in charge of outfit car occupants is notified that protection was provided.
- Date, time, name and craft of employee authorizing removal of protection.

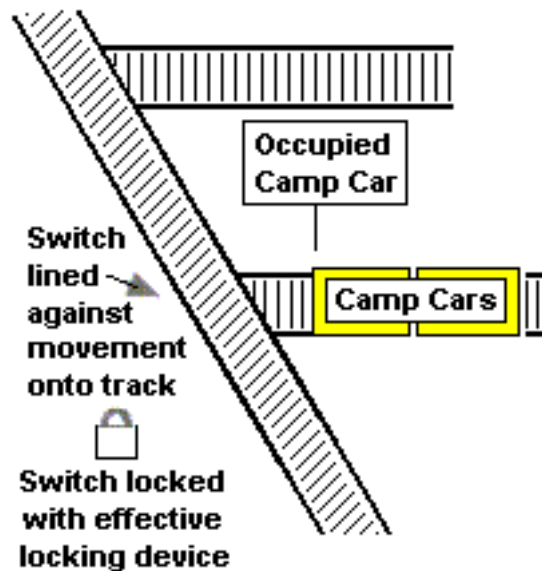


[Diagram B]

## B. On other than a Main Track

One of these three methods of protection or a combination of these methods must be provided

1. Each manually operated switch that provides direct access to the track where occupied outfit cars are located must be lined against movement to that track and secured with an effective locking device. Warning signals must be displayed at or near each switch.

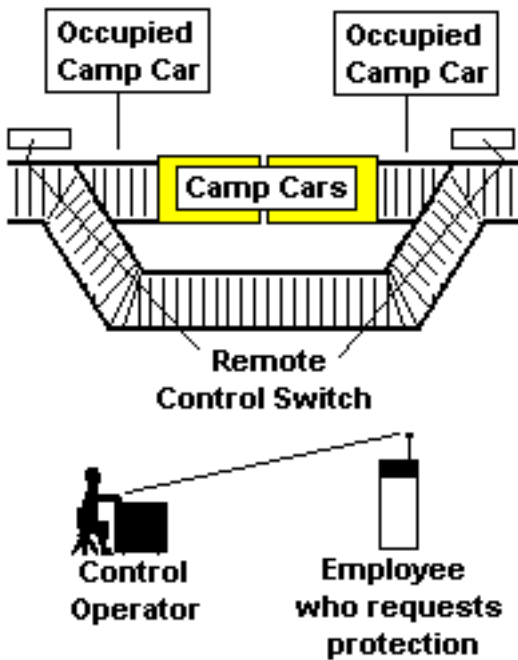


[Diagram C]

2. If remote control switches provide direct access to the track where occupied outfit cars are located, the control operator will line the switch against movement to that track and apply blocking devices to the control machine to prevent movement onto that track. The control operator must complete the above tasks before informing the employee requesting protection that protection is provided.

**Blocking devices must not be removed until the employee in charge of the outfit car occupants (or a designated representative) informs the control operator that protection is no longer required.**

1. Warning signals must be displayed at or near each remote control switch.



[Diagram D]

2. The control operator must maintain for 15 days a written record of each notification. The record must contain the following information:

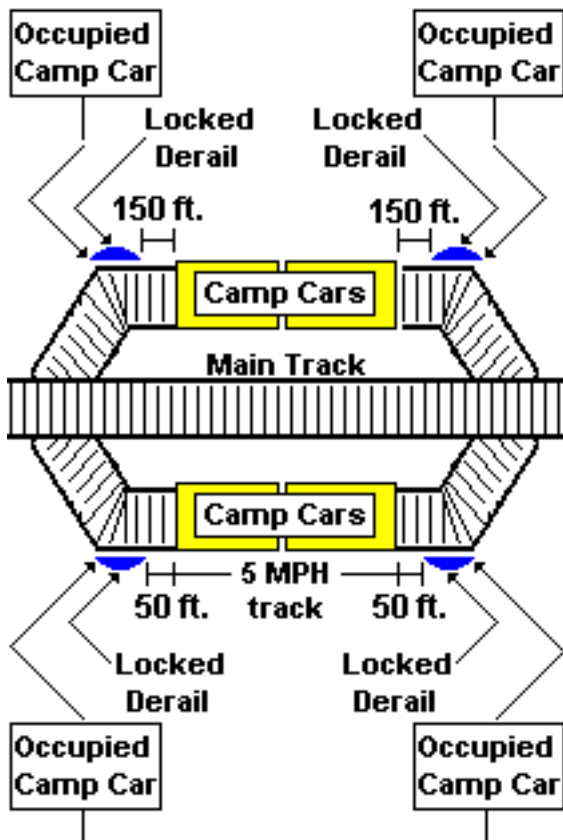
- Name and craft of employee requesting protection
- Identification of track protected
- Date and time employee in charge of outfit cars occupants is notified that protection was provided.
- Date, time, name and craft of employee authorizing removal of protection.

3. A derail capable of restricting access to that portion of the track where occupied outfit cars are located will fulfill the requirements of protection when the derail is:

1. Positioned at least 150 feet from the end of the occupied outfit cars.  
or
2. Positioned at least 50 feet from the end of the occupied outfit cars where the maximum speed on that track is 5 MPH.

Warning signals must be displayed at each derail.

**Warning signals must be displayed at each derail.**



[Diagram E]

### C. Warning Signals

When a warning signal is displayed to protect occupied outfit cars:

1. Occupied outfit cars must not be coupled to or moved.
2. Rolling equipment must not pass the warning signal.
3. Rolling equipment must not be placed on the same track in a manner that would block or reduce the crew's view of the warning signal.

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## 5.13: Blue Signal Protection of Workmen

This rule outlines the requirements for protecting railroad workmen who are inspecting, testing, repairing, and servicing rolling equipment. In particular, because these tasks require the workmen to work on, under or between rolling equipment, workmen are exposed to potential injury from moving equipment.

As used in this rule, the following definitions apply:



**WORKMEN.** Railroad employees assigned to inspect, test, repair, or service railroad equipment or components, including brake systems. Train and yard crews are excluded, except when they perform the above work on rolling equipment not part of the train or yard movement they are handling or will handle.

- "Servicing" does not include supplying cabooses, engines, or passenger cars with items such as ice, drinking water, tools, sanitary supplies, stationery, or flagging equipment.
- "Testing" does not include an employee making visual observations while on or alongside a caboose, engine, or passenger car. Also, testing does not include repositioning the activation switch or covering the photo-electric cell of the marker when the rear of the train is on the main track. The employee inspecting the marker must contact the employee controlling the engine to confirm that the train will remain secure against movement until the inspection is complete.

**GROUP OF WORKMEN.** Two or more workmen of the same or different crafts who work as a unit under a common authority and communicate with each other while working.

**ROLLING EQUIPMENT.** Engines, cars, and one or more engines coupled to one or more cars.

**BLUE SIGNAL.** During the day, a clearly distinguishable blue flag, or light, and at night, a blue light. The blue light may be steady or flashing.

The blue signal does not need to be lighted when it is attached to the operating controls of an engine and the inside of the engine cab area is lighted enough to make the blue signal clearly distinguishable.

**EFFECTIVE LOCKING DEVICE.** When used in relation to a manually operated switch or derail, a lock that can be locked or unlocked only by the craft or group of workmen applying the lock.

**CAR SHOP REPAIR AREA.** One or more tracks within an area where rolling equipment testing, servicing, repairing, inspecting, or rebuilding is controlled exclusively by mechanical department personnel.

**ENGINE SERVICING AREA.** One or more tracks within an area where engine testing, servicing, repairing, inspecting, or rebuilding is controlled exclusively by mechanical department personnel.

**SWITCH PROVIDING DIRECT ACCESS.** A switch that if used by rolling equipment could permit the rolling equipment to couple to the equipment being protected.

## A. What a Blue Signal Signifies

A blue signal signifies that workmen are on , under, or between rolling equipment and requires that:

1. Rolling equipment must not be coupled to or moved, except as provided in "Movement in Engine Servicing Area" and "Movement in Car Shop Repair Area" of this rule.
2. Rolling equipment must not pass a blue signal on a track protected by the signal.
3. Other rolling equipment must not be placed on the same track so as to block or reduce the view of the blue signal.
  1. However, rolling equipment may be placed on the same track when it is placed on designated engine servicing area tracks or car shop repair area tracks, or when a derail divides a track into separate working areas.
4. Rolling equipment must not enter a track when a blue signal is displayed at the entrance to the track.

Blue signals or remote control blue signals must be displayed for each craft or group of workmen who will work on, under, or between rolling equipment.

**Protection Removed.** Blue signals may be removed only by the craft or group who placed them. Remote control display may be discontinued when directed by the craft or group that requested the protection. When blue signal protection has been removed from

one entrance of a double-ended track or from either end of rolling equipment on a main track, that track is no longer under blue signal protection.

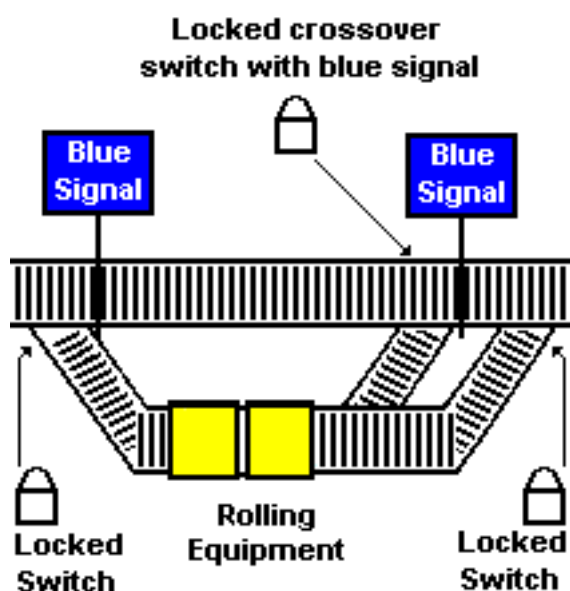
## B. How to Provide Protection

When workmen are on, under, or between rolling equipment and exposed to potential injury, protection must be provided as follows:

**On a Main Track.** A blue signal must be displayed at each end of the rolling equipment.

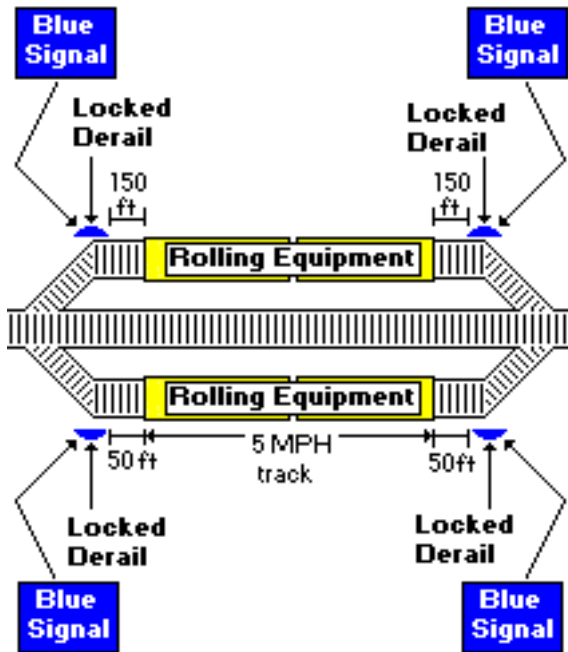
**On Other than a Main Track.** One of these three methods of protection or a combination of these methods must be provided:

1. Each manually operated switch, including any facing point crossover switch that provides direct access must be lined against movement onto the track and secured by an effective locking device. A blue signal must be placed at or near each such switch.



[Diagram A]

2. A derail capable of restricting access to the track where work will occur must be locked in derailing position with an effective locking device and:
  1. Positioned at least 150 feet from the rolling equipment to be protected.  
or
  2. Positioned at least 50 feet from the end of rolling equipment on a designated engine servicing track or car shop repair track where speed is limited to not more than 5 mph. A blue signal must be displayed at each derail.

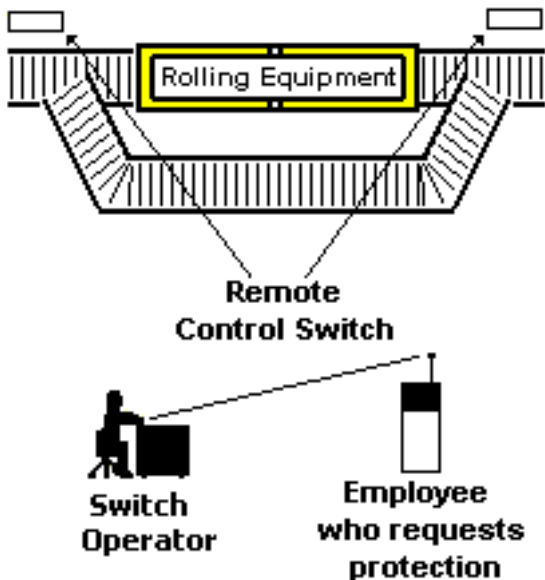


[Diagram B]

3. Where remote control switches provide direct access, the employee in charge of the workmen must tell the switch operator what work will be done. The switch operator must then:

1. Inform the employee in charge of the workmen that the switches have been lined against movement onto the track and devices controlling the switches have been secured.
2. Not remove the locking devices unless the employee in charge of the workmen says it is safe to do so.
3. Maintain for 15 days a written record of each notification that includes:

- o Name and craft of the employee in charge of the workmen requesting protection
- o Identification of track involved
- o Date and time the employee in charge of workmen is notified that protection was provided
- o Date, time, name, and craft of the employee in charge of workmen who authorized removal of the protection



[Diagram C]

## C. Blue Signal Readily Visible to Engineer

In addition to providing protection as required in On a Main Track and On Other than a Main Track, when workmen are on, under, or between an engine or rolling equipment coupled to an engine.

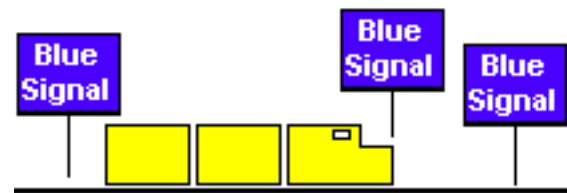
1. A blue signal must be attached to the controlling engine and be visible to the engineer or employee controlling the engine.
2. Engines equipped for remote control operations must be in manual. A blue tag must be placed on the switch governing remote/manual operation.
3. The engine must not be moved.

### Note:

Remote control locomotives may be in remote mode while under blue signal protection to service remote control locomotive equipment/functions when the following requirements are met:

1. The employee placing the locomotive in remote mode has been trained to repair and operate remote control equipment.
2. All employees involved on the unit and/or tracks are job briefed and warned against possible inadvertent movement of the locomotive.

When a blue signal is attached to an engine, unless directed by the craft who place the blue signal, changing controls, brake settings, turning on or off switches (except overhead cab lights) or circuit breakers or starting or shutting down the engine is prohibited.



[Diagram D]

## D. Protection for Workmen Inspecting Markers

Blue signal protection must be provided for workmen when they are:

1. Replacing, repositioning, or repairing a marker, and the rear of the train is on any track.  
or
2. Inspecting a marker by repositioning the activation switch or covering the photo-electric cell, and the rear of the train is on other than a main track.

## E. Protection for Emergency Repair Work on a Main Track

If a blue signal is not available for employees performing emergency repairs on, under, or between an engine or rolling equipment coupled to an engine, the employee controlling the engine must be notified and appropriate measures taken to provide protection for the employees.

## F. Movement in Engine Servicing Area

An engine must not enter a designated engine servicing area until the blue signal protection is removed from the entrance. The engine must stop short of coupling to another engine.

An engine must not leave a designated engine servicing area unless the blue signal is removed from the engine and the track in the direction of movement.

Blue signal protection removed to let engines enter or leave the engine servicing area must be restored immediately after the engine enters or clears the area.

An engine protected by blue signals may be moved on a designated engine servicing area track when:

1. An authorized employee operates the engine under the direction of the employee in charge of workmen.
2. The blue signal has been removed from the controlling engine to be repositioned.
3. Workmen have been warned of the movement.

## **G. Movement in Car Shop Repair Area**

When rolling equipment on car shop repair tracks is protected by blue signals, a car mover may reposition the equipment if:

1. Workmen have been warned of the movement.
2. An authorized employee operates the car mover under the direction of the employee in charge of workmen.

## **System Special Instruction**

### **Part C:**

#### **Part C., Step 2, add second sentence to read:**

A blue tag must be placed on the switch governing remote/manual operation.

#### **Add last paragraph to Part C. to read:**

When a blue signal is attached to an engine, unless directed by the craft who placed the blue signal, changing any controls, brake settings, switches (except overhead cab lights), circuit breakers, etc. or starting or shutting down the engine is prohibited.

## **General Order**

### **Add note to part C:**

#### **Note:**

Remote control locomotives may be in remote mode while under blue signal protection to service remote control locomotive equipment/functions when the following requirements are met:

1. The employee placing the locomotive in remote mode has been trained to repair and operate remote control equipment.
2. All employees involved on the unit and/or tracks are job briefed and warned against possible inadvertent movement of the locomotive.

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## **5.13.1: Utility Employees**

This rule outlines the requirements for allowing utility employees to work without blue signal protection. As used in this rule, a Utility Employee is a railroad employee assigned as a temporary member of a train or yard crew.

## A. Requirements to Start Work

A utility employee may work as a member of only one train or yard crew at a time. No more than three utility employees may work with one train or yard crew at the same time.

A utility employee may become a member of a train or yard crew under the following conditions:

- The utility employee communicates with the designated crew member of the train or yard crew before starting work. Communication may be conducted verbally or by radio.
- The designated crew member identifies the utility employee to each member of the crew, and each crew member acknowledges the utility employees presence.
- The designated crew member authorizes the utility employee to work as a temporary member of the crew.

## B. Requirements While Working On, Under, or Between

Before a utility employee may work on, under, or between rolling equipment, the following applies:

- All members of the crew must communicate with each other to understand the work to be done.
- The engineer must be in the cab of the assigned controlling locomotive. However, another member of the same crew may replace the engineer when the locomotive is stationary.

## C. Requirements When Work Ends

A utility employee is released from a train or yard crew when:

- The utility employee notifies the designated crew member that the work is completed.
- The designated crew member notifies each crew member that the utility employee is being released.
- The designated crew member releases the utility employee from the train or yard crew, after each crew member acknowledges this notice.

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## 5.14: Signs Protecting Equipment

When a sign reading:

**STOP -- TANK CAR CONNECTED**

**STOP -- MEN WORKING**

**EMPLOYEES WORKING**

**SERVICE CONNECTIONS**

or a similar warning is displayed on a track or car, the car must not be coupled to or moved. Other equipment must not be placed on the same track in a manner that would block or reduce the view of the sign.

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## **5.15: Improperly Displayed Signals**

If a signal is improperly displayed, or a signal, flag, or sign is absent from the place it is usually shown, regard the signal as displaying the most restrictive indication it can give. However, if a semaphore arm is visible, it will govern.

Promptly report improperly displayed signals or absent fixed signals, flags, or signs to the train dispatcher.

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Updated: 11/09/2011

## 6.0: MOVEMENT OF TRAINS AND ENGINES

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- [6.2: Initiating Movement](#)
- [6.2.1: Train Location](#)
- [6.3: Main Track Authorization](#)
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## 6.1: Repeat Instructions

An employee who verbally receives instructions or information about train or engine movements must repeat them.

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## 6.2: Initiating Movement

Before initiating movement on a main track, a crew member must:

- Receive a track warrant.
- or
- Determine from the train dispatcher or yardmaster if any track bulletins are needed.

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### 6.2.1: Train Location

~~Trains or maintenance-of-way employees~~ who receive authority to occupy the main track after the arrival of a train or to follow a train must ascertain the train's location by one of the following methods:

- ~~Visual identification of the train.~~
- Direct communication with a crew member of the train.
- or
- Receiving information about the train from the train dispatcher or control operator.

## System Special Instruction

### 6.2.1: Train Location

**Change rule to read:**

Trains who receive authority to occupy the main track after the arrival of a train or to follow a train must ascertain the train's location by one of the following methods:

- Direct communication with a crew member of the train.

or

- Receiving information about the train from the train dispatcher or control operator.

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## 6.3: Main Track Authorization

Do not occupy main tracks unless authorized by one of the following:

- Rule 6.13 (Yard Limits)
- Rule 6.14 (Restricted Limits)
- Rule 6.15 (Block Register Territory)
- Rule 9.14 (Movement with the Current of Traffic)
- Rule 9.14.2 (Controlled Block System CBS)
- Rule 9.15 (Track Permits)
- Rule 10.1 (Authority to Enter CTC)
- Rule 14.1 (Authority to Enter TWC)
- Rule 14.6 (Movement Against the Current of Traffic)
- Rule 15.3 (Authorizing Movement Against the Current of Traffic)
- Rule 15.4 (Protection When Tracks Removed from Service)
- Rule 16.1 (Authority to Enter DTC)
- At manual interlockings, verbal authority from the control operator or a controlled signal that indicates proceed
- Special instructions or general order

When unable to obtain authority and it is necessary to foul or occupy a main track, protection must be provided in both directions as outlined under Rule 9.17.1 (Signal Protection in ABS by Lining Switch).

Written authorities that are no longer in effect must be retained until the end of tour of duty, unless otherwise instructed by the train dispatcher.

### Joint Authority

When a train or employee receives authority joint with an employee(s), the train or employee must not occupy the overlapping limits until:

- Working limits are described and permission is received to enter the overlapping limits from the employee(s) listed on the authority.
- or
- Advice is received from the train dispatcher or control operator that the employee(s) have reported clear of the limits.

When a train receives joint authority, movements must be made at restricted speed.

### System Special Instruction

#### Add A New Bullet Reading:

- Rule 9.14.2 Controlled Block System (CBS)

#### Add the following paragraph under Joint Authority

When a train receives joint authority, movements must be made at restricted speed.

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### **6.3.1: Train Coordination**

Train Coordination provides for men or equipment to use a train's authority to establish working limits. The employee must contact the train's engineer to request use of Train Coordination.

To establish working limits:

- The train must be in view and stopped.
- The employee in charge of working limits will communicate with the engineer who will notify other crew members that working limits are to be established.
- The engineer will make movements only as permitted by the employee in charge until the working limits have been released to the engineer.
- The train will not release its authority within the limits until those working limits have been released by the employee in charge.

#### **Establish Working Limits**

Working limits may be established within a train's authority limits as follows:

##### **A. DTC or TWC Territory**

1. With a train having authority to move in either direction that is not joint.  
or
2. With a train having authority to move in one direction only, working limits must not be established:
  - Behind the train.
  - More than one block in advance of the train or beyond any location that a train or engine could enter the track between the employee in charge of the working limits and the train.

##### **B. Rule 9.15 (Track Permit)**

With a train having the only track permit authority within the limits.

##### **C. Rule 9.14 (Current of Traffic)**

With a train having authority to move with the current of traffic, working limits must not be established:

- Behind the train.
- More than one block in advance of the train or beyond any location that a train or engine could enter the track between the employee in charge of the working limits and the train.

##### **D. CTC Territory**

1. With a train having track and time authority that is not joint.  
or
2. With a train having authority to move in one direction only, working limits must not be established:

- Behind the train.
- More than one block in advance of the train or beyond any location that a train or engine could enter the track between the employee in charge of the working limits and the train.

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## 6.4: Reverse Movements

Make reverse movements on any main track, controlled siding, or on any track where a block system is in effect at restricted speed and only within the limits a train has authority to occupy the track.

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### 6.4.1: Permission for Reverse Movement

Obtain permission from the train dispatcher or control operator before making a reverse movement, unless the movement is within the same signaled block.

When a train or engine is advised that working limits have been established behind their train, obtain permission from the employee in charge to make any reverse movements, including within the same signaled block.

### System Special Instruction

#### Application:

In ATC territory "within same signaled block" only applies where continuous block signal territory is designated.

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### 6.4.2: Movements Within Control Points or Interlockings

#### A. Control Points or Manual Interlockings

##### Control Points Outside Manual Interlockings.

Except within track and time limits, if movement stops while the trailing end is between the outer opposing absolute signals of a control point, the movement must not change direction without permission from the control operator. However, after a job briefing has been conducted and the control operator has a clear understanding of all movements to be made and tracks to be used, the control operator may grant permission for all movements.

##### Manual Interlockings

If movement stops while the trailing end is between the outer opposing absolute signals of a manual interlocking, the movement must not change direction without permission from the control operator.

~~Except within track and time limits, if movement stops while the trailing end of the train is between the outer opposing absolute signals of a control point or manual interlocking, the movement must not change direction without permission from the control operator.~~

#### B. Automatic Interlockings

At an automatic interlocking, the train movement may change direction within the limits of the interlocking if it continuously occupies at least one car length of the limits.

## System Special Instruction

**Change Part A (Control Point or Manual Interlockings) to read:**

### **Control Points Outside Manual Interlockings.**

Except within track and time limits, if movement stops while the trailing end is between the outer opposing absolute signals of a control point, the movement must not change direction without permission from the control operator. However, after a job briefing has been conducted and the control operator has a clear understanding of all movements to be made and tracks to be used, the control operator may grant permission for all movements.

### **Manual Interlockings**

If movement stops while the trailing end is between the outer opposing absolute signals of a manual interlocking, the movement must not change direction without permission from the control operator.

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## 6.5: Shoving Movements

Equipment must not be shoved until the engineer and the employee protecting the movement have completed a job briefing concerning how protection will be provided. Employee must be in position, provide visual protection of the equipment being shoved and must not engage in unrelated tasks while providing protection.

When taking a position ahead of the movement, employee must continuously observe the movement until the movement is stopped. Employee protecting the shove must not turn their back on the movement or walk backwards ahead of the movement.

Radio communications for shoving movements must specify the direction and distance and must be acknowledged when distance specified is more than four cars.

### **MOVEMENT MUST STOP WITHIN HALF THE DISTANCE SPECIFIED UNLESS ADDITIONAL INSTRUCTIONS ARE RECEIVED.**

Equipment must not be shoved until it is visually determined that:

- Portion of track to be used is clear of equipment or conflicting movements.
- The track will remain clear to the location where movement will be stopped.
- Switches and derails are properly lined.

Employees may be relieved from providing visual protection when:

- Local instructions specify tracks involved and how shoving movement will be protected, such as shove light or monitored cameras.
- A track has been pulled and equipment will be immediately shoved back into that track and that track has remained clear to location where movement will be stopped.

- Immediately prior to shoving, a movement is made on the adjacent track providing the employee the ability to visually determine the track to be shoved is clear and route is properly lined.
- Authority on main track or controlled siding allows for movement in direction of shove, provided route is properly lined, road crossings will not be fouled and movement at restricted speed is not required.

or

- Picking up a crew member in accordance with Rule 6.6 (Back Up Movements ~~Picking Up Crew Member~~).

Shoving movements over road crossings must be made in accordance with Rule 6.32.1 (Providing Warning Over Road Crossings).

### **Speeds when Shoving**

When cars are shoved on a main track or controlled siding in the direction authorized, movement must not exceed:

- 20 MPH for freight trains.
- 30 MPH for passenger trains.
- Maximum timetable speed for snow service unless the employee in charge authorizes a higher speed.

### **General Order**

#### **6.5 Shoving Movements**

**With this and previous changes, entire rule changed to read:**

Equipment must not be shoved until the engineer and the employee protecting the movement have completed a job briefing concerning how protection will be provided. Employee must be in position, provide visual protection of the equipment being shoved and must not engage in unrelated tasks while providing protection.

When taking a position ahead of the movement, employee must continuously observe the movement until the movement is stopped. Employee protecting the shove must not turn their back on the movement or walk backwards ahead of the movement.

Radio communications for shoving movements must specify the direction and distance and must be acknowledged when distance specified is more than four cars.

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- The track will remain clear to the location where movement will be stopped.
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- Local instructions specify tracks involved and how shoving movement will be protected, such as shove light or monitored cameras.
- A track has been pulled and equipment will be immediately shoved back into that track and that track has remained clear to location where movement will be stopped.
- Immediately prior to shoving, a movement is made on the adjacent track providing the employee the ability to visually determine the track to be shoved is clear and route is properly lined.
- Authority on main track or controlled siding allows for movement in direction of shove, provided route is properly lined, road crossings will not be fouled and movement at restricted speed is not required.

or

- Picking up a crew member in accordance with Rule 6.6 (Back Up Movements).

Shoving movements over road crossings must be made in accordance with Rule 6.32.1 (Providing Warning Over Road Crossings).

### **Speeds when Shoving**

When cars are shoved on a main track or controlled siding in the direction authorized, movement must not exceed:

- 20 MPH for freight trains.
- 30 MPH for passenger trains.
- Maximum timetable speed for snow service unless the employee in charge authorizes a higher speed.

### **Add application:**

Job briefing must include the following:

- Who will protect the shove.
- Which track is being shoved.
- How the shove will be protected.  
Examples:
  - Riding the point of the equipment.
  - In a position where they can observe the movement to the point where it will stop.
- Distance to be shoved.
- Position of switches and derails.  
Examples:
  - Switches and derails are lined for the movement.
  - Be prepared to stop short of a switch or derail improperly lined.

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## **6.5.1: Remote Control Movements**

Remote control movements are considered shoving movements, except when the remote control operator controlling the movement is riding the leading locomotive in the direction of movement. Before initiating movement, the remote control operator or a crew member must be in position to visually observe the direction the equipment moves.

When approaching within 200 feet of a fouling point, switch or derail, employee controlling the movement must be on the point of the movement outside the cab when riding the locomotive. However, movement may be controlled from inside the cab of the lead locomotive when:

- Operating in severe weather conditions.
- It is necessary to sound the whistle.

## **Relief of Providing Protection**

### **Relief of Providing Protection**

The remote control operator is relieved from providing protection and the requirement to stop within half the range of vision for movements with engine on leading end when:

1. The remote control zone has been activated.
  2. Switches/derails are known to be properly lined.
- and
3. Track(s) within the zone are known to be clear of other trains, engines, railroad cars, and men or equipment fouling track.

When Remote Control Zone is equipped with pull back / stop protection (PSP), the operator must verify that PSP is operational. Pull back and stop protection must again be verified if PSP is overridden or disabled.

Note: These steps must be repeated each time the remote control zone is activated.

When operating in pitch and catch mode and making a shoving movement, the primary operator must be in position to protect point of movement.

The primary operator at the coupling may stretch the slack to ensure couplings are made or separate equipment to make coupler adjustments after a job briefing with the employee who will be protecting the point.

~~When making shoving movements the primary operator must be in position to protect the point of movement. However, the primary operator at the coupling may, after completing a job briefing with employee protecting point:~~

- Stretch the slack to ensure couplings are made.

~~—or~~

- Separate equipment to make coupler adjustments.

## **System Special Instruction**

**Under Relief of Providing Protection add:**



4. Remote Control Zone is equipped with operative pull back and stop protection (PSP) and:

- o Operator must verify the PSP is operating properly.
- o If PSP is overridden for any reason protection must be provided until it is again verified the PSP is operating properly.

#### **Add new paragraph:**

~~When using a remote control locomotive in "pitch and catch" operation and protection is being provided by a remote control operator, it must be by the primary operator. However, the primary operator at a coupling may stretch the slack to ensure couplings are made (Rule 7.4.1 Remote Control Couplings).~~

~~Change last paragraph (added by SSI) to read:-~~

~~When making shoving movements the primary operator must be in position to protect the point of movement. However, the primary operator at the coupling may, after completing a job briefing with employee protecting point:~~

- Stretch the slack to ensure couplings are made.

~~or~~

- Separate equipment to make coupler adjustments.

## **General Order**

### **Rule 6.5.1 Remote Control Movements**

Change entire rule to read:

Remote control movements are considered shoving movements, except when the remote control operator controlling the movement is riding the leading locomotive in the direction of movement. Before initiating movement, the remote control operator or a crew member must be in position to visually observe the direction the equipment moves.

When approaching within 200 feet of a fouling point, switch or derail, employee controlling the movement must be on the point of the movement outside the cab when riding the locomotive. However, movement may be controlled from inside the cab of the lead locomotive when:

- Operating in severe weather conditions.  
or
- It is necessary to sound the whistle.

### **Relief of Providing Protection**

The remote control operator is relieved from providing protection and the requirement to stop within half the range of vision for movements with engine on leading end when:

1. The remote control zone has been activated.
2. Switches/derails are known to be properly lined.  
and
3. Track(s) within the zone are known to be clear of other trains, engines, railroad cars, and men or equipment fouling track.

When Remote Control Zone is equipped with pull back / stop protection (PSP), the operator must verify that PSP is operational. Pull

back and stop protection must again be verified if PSP is overridden or disabled.

Note: These steps must be repeated each time the remote control zone is activated.

When operating in pitch and catch mode and making a shoving movement, the primary operator must be in position to protect point of movement.

The primary operator at the coupling may stretch the slack to ensure couplings are made or separate equipment to make coupler adjustments after a job briefing with the employee who will be protecting the point.

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## 6.5.2: Movement of Light Remote Control Locomotive

Unless relieved of providing protection the primary operator must take a position on the leading end of a light remote control locomotive consist or be positioned on the ground clear of the movement and able to observe the entire movement before initiating the movement.

### System Special Instruction

#### Movement of Light Remote Control Locomotive

##### Add new rule:

Unless relieved of providing protection the primary operator must take a position on the leading end of a light remote control locomotive consist or be positioned on the ground clear of the movement and able to observe the entire movement before initiating the movement.

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## 6.6: Back Up Movements

After obtaining permission from the train dispatcher, a train may back up on any main track or on any track where CTC is in effect under the following conditions:

1. The train dispatcher grants permission to make the movement after verifying the following within the same or overlapping limits:
  - a) Another authority is not in effect unless conflicting movements are protected.
  - b) A track bulletin Form B is not in effect.
  - c) A main track is not removed from service by a track bulletin.
  - d) Track Breach Protection is not in effect.
  - e) Permission to leave a switch in the reverse position has not been granted.
2. The crew ensures movement will not:
  - a) Exceed the limit of the train's authority.
  - b) Exceed the train's length.
  - c) Enter or foul a private or public crossing except as provided by Rule 6.32.1 (Providing Warning Over Road Crossings).
  - d) Be made into or within yard limits, restricted limits, interlocking limits, drawbridges, railroad crossings at grade, or track bulletin Form B limits.

When movement is made under these conditions, restricted speed does not apply. Trains backing up under the provisions of this rule may pass signals indicating Stop and Proceed, without stopping.

Before a crew requests and makes a move under this rule, a job safety briefing between crew members must be conducted that includes:

- Confirmation of authority limits.
- Location of nearest affected road crossings in direction of movement.
- Distance to be shoved.
- Confirmation that train is intact, verified either visually or by determining that brake pipe continuity exists using EOT device or distributed power telemetry.

~~A train may back up on any main track or on any track where CTC is in effect to pick up a crew member under the following conditions:~~

- ~~1. The train dispatcher gives permission to make the movement and verifies the following:-
  - ~~a. Another authority is not in effect within the same or overlapping limits unless—  
—conflicting movements are protected.~~
  - ~~b. A track bulletin Form B is not in effect within the same or overlapping limits.~~
  - ~~c. A main track is not removed from service by a track bulletin within the same—  
—or overlapping limits.~~~~
- ~~2. Movement is limited to the trains authority.~~
- ~~3. Movement does not enter or foul a private or public crossing except as provided by Rule 6.32.1 (Providing Warning Over Road Crossings).~~
- ~~4. Movement will not be made into or within yard limits, restricted limits, interlocking limits, drawbridges, railroad crossings at grade, or track bulletin Form B limits.~~
- ~~5. Movement does not exceed the trains length.~~

## General Order

### 6.6 Back Up Movements

Change rule title and entire rule to read:

After obtaining permission from the train dispatcher, a train may back up on any main track or on any track where CTC is in effect under the following conditions:

- The train dispatcher grants permission to make the movement after verifying the following within the same or overlapping limits:
  - Another authority is not in effect unless conflicting movements are protected.
  - A track bulletin Form B is not in effect.
  - A main track is not removed from service by a track bulletin.
  - Track Breach Protection is not in effect.
  - Permission to leave a switch in the reverse position has not been granted.
- The crew ensures movement will not:
  - Exceed the limit of the train's authority.
  - Exceed the train's length.
  - Enter or foul a private or public crossing except as provided by Rule 6.32.1 (Providing Warning Over Road Crossings).
  - Be made into or within yard limits, restricted limits, interlocking limits, drawbridges, railroad crossings at grade, or track bulletin Form B limits.

When movement is made under these conditions, restricted speed does not apply. Trains backing up under the provisions of this rule may pass signals indicating Stop and Proceed, without stopping.

Before a crew requests and makes a move under this rule, a job safety briefing between crew members must be conducted that includes:

- Confirmation of authority limits.
- Location of nearest affected road crossings in direction of movement.
- Distance to be shoved.
- Confirmation that train is intact, verified either visually or by determining that

brake pipe continuity exists using EOT device or distributed power telemetry.

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## 6.7: Remote Control Zone

### A. Entering Remote Control Zone

Before entering a remote control zone, all employees that are not part of the remote control crew must determine whether the zone is activated. Employees may receive this information from the remote control operator, other authorized employee, or special instructions.

When the remote control zone is activated, track(s) within the zone must not be fouled with equipment, occupied, or switches operated until the remote control zone has been deactivated or permission is granted by the remote control operator to enter the remote control zone.

Protection must be provided while other employees are in the remote control zone. The remote control operator must know the track is clear and switches are properly lined after other employees are clear of the remote control zone.

#### **Application:**

Timetable special instructions will designate limits of remote control zones. Signs will be posted at access locations to remote control zones. Remote control zone limits do not include tracks within CTC or interlocking limits (CTC or interlocking rules apply). Only the remote control operator may activate a zone. However, timetable special instructions may designate the hours a zone is active.

Proper records must be maintained concerning activation, deactivation and transfer of the zones at locations where a designated supervisor may be contacted to determine if a zone is active.

Record must include:

- Job designation.
- Zone number.
- Date and time zone activate.
- If applicable, time zone transferred and job designation of other remote control job. Transfers from one job to another do not need to be recorded unless the transfer involves a job that is going off duty or will not again control the active zone. All active zones must be transferred to a new zone log.
- Date and time zone deactivated.

Remote control operators may allow only one other train or engine movement to occupy the limits of their active zone at one time. When that train or engine is clear of the zone with switches properly lined, it must report directly to the remote control operator. If it is necessary for other train or engine movements to enter the limits of the active zone during that time, the zone must be deactivated.

Engineering or mechanical department employees, with equipment, must not enter or foul the track within an active zone. If necessary to enter the zone limits, the zone must be deactivated.

### B. Transfer of an Active Remote Control Zone

An active remote control zone may be transferred to other remote control operators. A job briefing must be conducted each time the zone is transferred between remote control operators and, if applicable, other authorized employee.

### C. Deactivating Remote Control Zone

When the remote control operator ends the tour of duty, the remote control zone must be deactivated except the remote control zone may remain active if:

- Transferred.  
or
- Special instructions specify the hours the remote control zone is active.

## System Special Instruction

### Application of part A. Entering Remote Control Zone:

Timetable special instructions will designate limits of remote control zones. Signs will be posted at access locations to remote control zones. Remote control zone limits do not include tracks within CTC or interlocking limits (CTC or interlocking rules apply). Only the remote control operator may activate a zone. However, timetable special instructions may designate the hours a zone is active.

Proper records must be maintained concerning activation, deactivation and transfer of the zones at locations where a designated supervisor may be contacted to determine if a zone is active.

Record must include:

- Job designation.
- Zone number.
- Date and time zone activate.
- If applicable, time zone transferred and job designation of other remote control job. Transfers from one job to another do not need to be recorded unless the transfer involves a job that is going off duty or will not again control the active zone. All active zones must be transferred to a new zone log.
- Date and time zone deactivated.

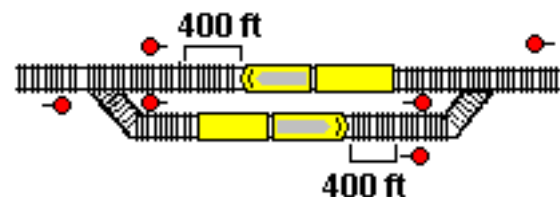
Remote control operators may allow only one other train or engine movement to occupy the limits of their active zone at one time. When that train or engine is clear of the zone with switches properly lined, it must report directly to the remote control operator. If it is necessary for other train or engine movements to enter the limits of the active zone during that time, the zone must be deactivated.

Engineering or mechanical department employees, with equipment, must not enter or foul the track within an active zone. If necessary to enter the zone limits, the zone must be deactivated.

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## 6.8: Stopping Clear for Meeting or Passing

A train that may be met or passed must stop at least 400 feet from the signal or clearance point of the facing point switch the other train will pass over, if length of train permits.



[Diagram A]

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## 6.9: Meeting or Passing Precautions

A train required to take siding must stop clear of the switch, unless the switch is properly lined to leave the main track.

A train standing on the main track to meet an opposing train must, if possible, line the switch for the opposing train to leave the main track. However, within ABS, do not line the switch until the opposing train has entered the block in advance.

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## 6.10: Instructions to Clear a Following Train

If the train dispatcher instructs a train within block system limits to clear a following train, the train must be in the clear before the following train could receive a restrictive signal indication.

Determine the location of the following train by radio or other means of communication.

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## 6.11: Mandatory Directive

Mandatory directives are written, printed, or displayed authorities or speed restrictions issued by the train dispatcher or control operator. Mandatory directives are:

- Track warrants.
- Track bulletins.
- DTC authority.
- Track and time.
- Track permits.
- Radio speed restrictions.

A mandatory directive restricting a train's movement will not be issued near a point where the restriction applies until the engineer or conductor confirms that the train can comply with the restriction.

Indicate "VOID" on mandatory directive form when:

- Employee reports clear of authority limits,

or

- Mandatory directive is made void

Crew must retain mandatory directives for continuous tour of duty.

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## 6.12: FRA Excepted Track

On a track designated as "FRA Excepted Track" the following will govern:

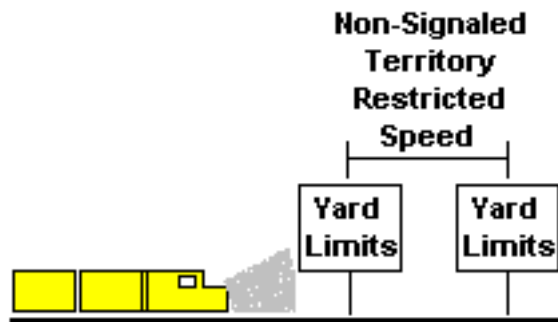
- Maximum speed must not exceed 10 MPH.
- No occupied passenger train will be operated.
- No movement will be operated that contains more than five cars placarded according to Hazardous Material Regulations.

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## 6.13: Yard Limits

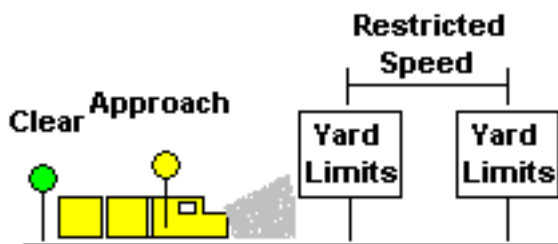
Within yard limits, trains or engines are authorized to use the main track not protecting against other trains or engines, only after obtaining a track warrant, listing all track bulletins that affect their movement. Engines must give way as soon as possible to trains as they approach. Engines must keep posted as to the arrival of passenger trains and must not delay them.

All movements entering or moving within yard limits must be made at restricted speed unless operating under a block signal indication that is more favorable than Approach.

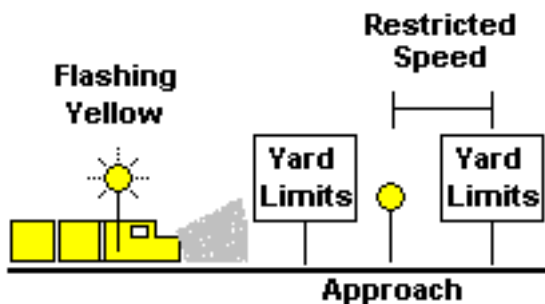


[Diagram A]

Upon observing or having advance knowledge that a block signal may require restricted speed due to yard limits, if entering or within yard limits, the movement must be at restricted speed at that block signal, or as soon as possible thereafter, consistent with good train handling.



[Diagram B]



[Diagram C]

Yard limits remain in effect continuously unless otherwise specified by special instructions or track bulletin.

### Against the Current of Traffic

Movements against the current of traffic must not be made unless authorized or protected by track warrant, track bulletin, yardmaster, or other authorized employee.

### In CTC Territory

Where yard limits are in effect in CTC territory, the control operator must authorize any movement on the main track. Reverse movements within the same block may be made as outlined in Rule 6.4.1 (Permission for Reverse Movements).

### In Track Permit Territory

Where yard limits are in effect in Rule 9.15 (Track Permit) territory, all movements must receive permission from the control operator to enter the main track or to cross over from one main track to another as follows:

- A controlled signal displays a proceed indication;
- A track permit is issued; or,
- Verbal permission is granted if no track permit is in effect. Rule 9.17 (Entering Main Track at Hand Operated or Spring Switch) applies.

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## 6.14: Restricted Limits

Between designated points specified by signs and in the special instructions, trains and engines are authorized to use the main track not protecting against other trains or engines, only after obtaining a track warrant, listing all track bulletins that affect their movement. All movements must be made at restricted speed.

Movements against the current of traffic must not be made unless authorized or protected by track warrant, track bulletin, yardmaster, or other authorized employee.

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## 6.15: Block Register Territory

Block register territory will be designated in the special instructions. A register labeled "Block Register Territory" will apply only on that designated territory. A train or employee in charge of men or equipment is authorized to occupy block register territory under the following conditions:

- The following information is in the register on the first blank line:

Train, gang, or equipment identification	Conductor or employee in charge of men or equipment	Date	Time territory occupied	Time territory cleared
A	B	C	D	E
COLUMN	REQUIRED ENTRY			
A.....	Enter the train, gang, or equipment identification.			
B.....	Enter last name of conductor or employee in charge of men or equipment.			
C.....	Enter current date.			
D.....	Enter time entry is made in register.			
E.....	Enter time the territory was cleared. Then, draw a line through the entire entry. The required exit entry may be completed by any authorized employee.			

- If the register indicates the territory is occupied, entry cannot be made on the register until the employee in charge or engineer of each preceding entry has been contacted. When the territory is jointly occupied, movements must be made at restricted speed.

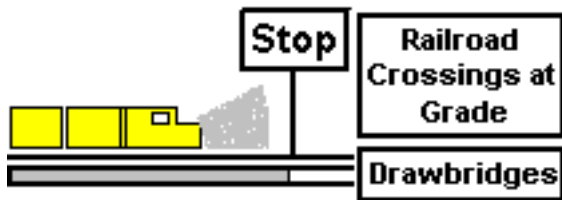
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## 6.16: Approaching Railroad Crossings, Drawbridges, and End of Multiple Main Track

Trains and engines must be prepared to stop when they approach railroad crossings at grade, drawbridges, and the end of multiple main track, unless these areas are protected by block or interlocking signals.

### Protected by Stop Signs

If stop signs protect these areas, the train must stop before any part of the train or engine passes the stop sign. The train cannot proceed until the route is clear or drawbridge position permits movement.



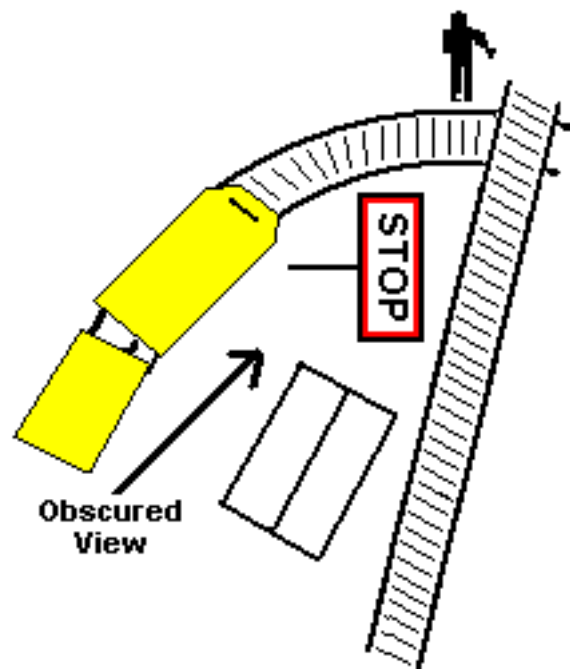
[Diagram A]

### Protected by Gate

If a gate is lined against the intended route, trains and engines must stop and remain at least 50 feet from fouling the track on the conflicting route until the gate is changed to the stop position on the conflicting route. Where required, restore gate to its normal position after movement is complete.

### Obscured View of Conflicting Route

If a train must stop before entering a railroad crossing at grade and the view on the conflicting route is obscured, a crew member must go ahead of the train and signal from the crossing when it is safe to proceed.

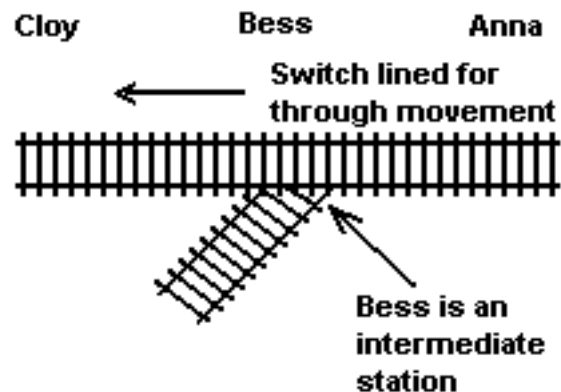


[Diagram B]

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### 6.17: Switches at Junctions

The normal position for a junction switch is for through movement on the main track where the junction is an intermediate station.



[Diagram A]

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## 6.18: Stopping Clear of Crossings and Junctions

At a railroad crossing or junction, a train or engine must not stop, if possible, where it could interfere with train movement on the other track.

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## 6.19: Flag Protection

### A. Flag Protection Not Required

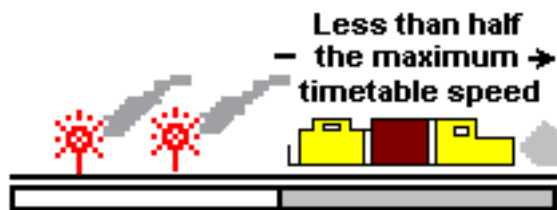
Flag protection is not required against following trains on the same track if:

1. Train is within ABS limits and the rear of the train is protected by at least two block signals or one block signal and one distant signal.
2. Rear of the train is within BRT, CTC, DTC, TWC or interlocking limits.  
or
3. General Order or special instructions specify that flag protection is not required.

### B. Flag Protection is Required

When flag protection is required against following trains:

1. More than Half the Maximum Timetable Speed  
When a train is moving on a main track at or more than half the maximum authorized timetable speed for any train at that location, and the train may be overtaken by a following train, a flagman must decide whether to drop lighted fuseses by considering the following:
  - o Grade of the track
  - o Curvature of the track
  - o Weather conditions
  - o Sight distance
  - o Speed of the train relative to a following train
2. Less than Half the Maximum Timetable Speed  
When a train is moving on a main track at less than half the maximum authorized timetable speed for any train at that location, a flagman must provide flag protection against following trains on the same track. The flagman must drop off single lighted fusees at close enough intervals to ensure full protection and not exceed the burning time of the fusee.



[Diagram A]

3. Stopped on a Main Track

When a train stops on a main track, a flagman must immediately go back at least  $\pm 2$  miles. Flagman must remain there until stopping a following train or until recalled.

If the flagman is recalled and safety will permit, the flagman must leave a lighted fusee and return to the train. If recalled before reaching the prescribed distance, the flagman must leave a lighted fusee. While returning to the train, the flagman must also place single lighted fusees at intervals shorter than the burning time of the fusee.

When the train departs, a crew member must leave one lighted fusee. In addition, until the train is moving at least half the maximum authorized timetable speed for any train at that location, a crew member must drop off single lighted fusees at intervals shorter than the burning time of the fusee.

## System Special Instruction

### 6.19 Flag Protection

#### Application:

Flagging distance is 2 miles.

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## 6.20: Equipment Left on Main Track

### A. Portion of Train Left on Main Track

When necessary to leave a portion of a train temporarily on the main track, follow this procedure:

- Set a sufficient number of hand brakes to keep the detached portion from moving.
- Provide protection against movements that may enter the main track between the detached portion and the returning front portion unless:
  - The train dispatcher verbally relieves the protection.
  - or
  - The return movement is otherwise authorized.
- Make return movement at restricted speed. However, an engine without cars may return at a higher speed when governed by block signal indication.

### B. Other Equipment Left on Main Track

Crews that leave equipment on the main track do not need to provide protection for the equipment if the train dispatcher gives verbal relief.

The train dispatcher may request a crew to report clear of their authority and leave equipment on a main track. Crews that leave equipment on a main track do not need to provide protection for the equipment if the train dispatcher provides relief. The train dispatcher must provide protection for the equipment.

All crews that use the main track at that point must be notified of the equipment location and must move at restricted speed when approaching that location.

#### Application:

A train must not be left on the main track in non signaled territory unless protected by one of the following:

- Yard Limits
- Track Warrants
  1. The train dispatcher may request the release of the crew's track warrant and inform crew that protection has been provided.

2. After being informed that protection has been provided, the following procedure must be followed.

- Crew will state: "(Train ID) is stopped between MP\_\_\_ and MP\_\_\_ on main track (Subdivision). Protection has been provided."

- Dispatcher will state: "( Train ID) that is correct."

- The crew will then release their track warrant.

## **System Special Instruction**

### **Application:**

A train must not be left on the main track in non signaled territory unless protected by one of the following:

- Yard Limits
- Track Warrants
  1. The train dispatcher may request the release of the crew's track warrant and inform crew that protection has been provided.

2. After being informed that protection has been provided, the following procedure must be followed.

- Crew will state: "(Train ID) is stopped between MP\_\_\_ and MP\_\_\_ on main track (Subdivision). Protection has been provided."

- Dispatcher will state: "( Train ID) that is correct."

- The crew will then release their track warrant.

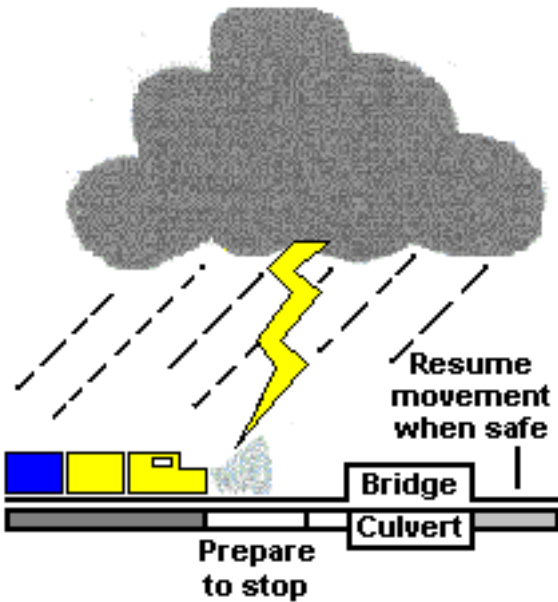
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## **6.21: Precautions Against Unusual Conditions**

Protect trains and engines against any known condition that may interfere with their safety.

When conditions restrict visibility, regulate speed to ensure that crew members can observe and comply with signal indications.

In unusually heavy rain, storm, or high water, trains and engines must approach bridges, culverts, and other potentially hazardous points prepared to stop. If they cannot proceed safely, they must stop until it is safe to resume movement.



[Diagram A]

Advise the train dispatcher of such conditions by the first available means of communication.

**General Order**

**6.21 Precautions Against Unusual Conditions**

Add the following application to rule.

When notified of a flash flood warning comply with the following:

VERBALLY NOTIFIED	BULLETIN OR TRACK WARRANT	PROCEDURE
"FF" in effect between _____ and _____, or at location _____ .	Flash Flood warning in effect between _____ and _____. Within these limits or specified location be governed by Rule 6.21 and 6.21.2.	Be governed by Rules 6.21 and 6.21.2.

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**6.21.1: Protection Against Defects**

If any defect or condition that might cause an accident is discovered on tracks, bridges, or culverts, or if any crew member believes that the train or engine has passed over a dangerous defect, the crew member must immediately notify the train dispatcher and provide protection if necessary.

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**6.21.2: Water Above Rail**

Do not operate trains and engines over tracks submerged in water until the track has been inspected and verified as safe.

Operate engines at 5 MPH or less when water is above the top of the rail. If water is more than 3 inches above the top of the rail, a mechanical department supervisor must authorize the movement.

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### **6.21.3: Stop Within Range of Vision**

When a train is instructed by the Train Dispatcher in the words, "BETWEEN (location) AND (location) BE GOVERNED BY RULE 6.21.3", within specified limits, train must proceed at a speed which will permit stopping short of slide, rock, washout or debris on track.

#### **General Order**

**Add new rule:**

#### **6.21.3 Stop Within Range of Vision**

When a train is instructed by the Train Dispatcher in the words, "BETWEEN (location) AND (location) BE GOVERNED BY RULE 6.21.3", within specified limits, train must proceed at a speed which will permit stopping short of slide, rock, washout or debris on track.

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### **6.22: Maintaining Control of Train or Engine**

Crew members must consider train or engine speed, grade conditions, and air gauge indications to determine that the train or engine is being handled safely and is under control. If necessary, take immediate action to bring the train or engine under control.

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### **6.23: Emergency Stop or Severe Slack Action**

When a train or engine is stopped by an emergency application of the brakes or severe slack action occurs while stopping, take the following actions:

#### **Obstruction of Main Track or Controlled Siding**

If an adjacent main track or controlled siding may be obstructed, immediately:

- Warn other trains by radio, stating the exact location and status of the train and repeat as necessary.
- Place lighted fusee on adjacent tracks.
- Notify the train dispatcher or control operator and, when possible, foreign line railroads if necessary.

Warning to other movements is no longer necessary when:

- It is known that adjacent tracks are not obstructed.  
or
- The train dispatcher or control operator advises the crew that protection is provided on adjacent tracks.

## Inspection of Cars and Units

- All cars, units, equipment, and track must be inspected as outlined in the:

- Special Instructions.
- Air Brake and Train Handling Rules.

## Train on Adjacent Track

A train on an adjacent track that receives radio notification must pass the location specified at restricted speed and stop short of any portion of the stopped train fouling their track. When advised that the track is clear and it is safe to proceed, this restriction no longer applies.

## System Special Instruction

### 6.23 Emergency Stop or Severe Slack Action

#### Obstruction of a Main Track or Controlled Siding - Application:

To notify the train dispatcher or control operator, use the emergency call-in feature if available.

#### Inspection of Cars and Units:

Inspect the train on each side of all cars, units, equipment, and track to ensure they are in a safe condition. Make sure the marker is attached to the designated rear car. Before proceeding check the proper positioning of all wheels on the rail. If physical characteristics prevent a complete visual inspection, inspect as much of the train as possible. The train may then be moved, but may not exceed 5 MPH for the distance necessary to complete the inspection, and must be stopped immediately if excessive power is required to start or keep the train moving. When an inspection is required, the entire train must be inspected.

When any of the following conditions are met, crews are relieved of visual inspection required by an emergency application when device located at rear of train immediately indicates that brake pipe pressure has been restored.

- Solid loaded bulk commodity trains.
- Train is made up entirely of double stack well cars and/or five-platform articulated single-level spine cars.
- Train speed is above 20 MPH. \_  
or
- Train is 5000 tons or less.

An inspection on any train must be made if:

- Train is a key train.
- Severe slack action was experienced.

Train must be stopped immediately and inspected, if excessive power is required to start or keep the train moving.

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## 6.24: Movement on Double Track



On double track, trains must keep to the right unless otherwise instructed.

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## 6.25: Movement Against the Current of Traffic

Movements against the current of traffic must be authorized by track bulletin or track warrant, except as provided by:

- Rule 6.13 (Yard Limits)
  - Rule 6.14 (Restricted Limits)
  - Rule 9.15 (Track Permits)
  - Rule 9.17.1 (Signal Protection in ABS by Lining Switch).
- OR
- Rule 16.1 (Authority to Enter DTC Limits)

Movements must approach block and interlocking signals prepared to stop unless signals indicate proceed.

When a facing point movement will be made over a spring switch, comply with Rule 8.9.1 (Testing Spring Switch).

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## 6.26: Use of Multiple Main Tracks

Multiple main tracks will be designated by name or number. When necessary, track use will be indicated in the special instructions.

### System Special Instruction

#### Application:

Multiple main tracks are numbered as follows:

- On east-west subdivisions, track numbers increase from north to south, and the northern most track is No. 1, and
- On north-south subdivisions, track numbers increase from west to east, and the western most track is No. 1.

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## 6.27: Movement at Restricted Speed

When required to move at restricted speed, movement must be made at a speed that allows stopping within half the range of vision short of:

- Train
  - Engine
  - Railroad car
  - Men or equipment fouling the track
  - Stop signal
- or
- Derail or switch lined improperly

When a train or engine is required to move at restricted speed, the crew must keep a lookout for broken rail and not exceed 20 MPH.

Comply with these requirements until the leading wheels reach a point where movement at restricted speed is no longer required.

## **System Special Instruction**

### **6.27 Movement at Restricted Speed**

#### **Application:**

Movement must stop short of obstructions listed when required.

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## **6.28: Movement on Other than Main Track**

Except when moving on a main track or on a track where a block system is in effect, trains or engines must move at a speed that allows them to stop within half the range of vision short of:

- Train.
- Engine.
- Railroad car.
- Men or equipment fouling the track.
- Stop signal.
- or
- Derail or switch lined improperly.

## **System Special Instruction**

### **6.28 Movement on Other than Main Track**

#### **Application:**

Movement must stop short of obstructions listed when required.

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## **6.28.1: Sidings of Assigned Direction**

Do not use sidings of an assigned direction in the opposite direction unless authorized by the train dispatcher.

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## **6.28.2: Stopping Clear in Siding**

When possible, a train entering a siding must not stop until the entire train is clear of the main track.

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## **6.28.3: Cars or Equipment Left on Siding**

Avoid leaving cars or equipment on sidings unless authorized by the train dispatcher, except in an emergency. In this case, notify the train dispatcher immediately.

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## 6.29: Inspecting Trains

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### 6.29.1: Inspecting Passing Trains

Employees must inspect passing trains. If they detect any of the following conditions, they must notify crew members on the passing train by any available means:

- Overheated journals
- Sticking brakes
- Sliding wheels
- Wheels not properly positioned on the rail
- Dragging equipment
- Insecure contents
- Signs of smoke or fire
- Headlight or marker improperly displayed
- Any other dangerous condition

When possible, employees inspecting the passing train must advise crew members of the condition of their train.

When possible, a crew member on the engine of the train being inspected must notify a crew member on the rear of the train when the train is being inspected by other employees.

### Ground Inspections

~~When a train is stopped and is met or passed by another train, crew members must inspect the passing train. The trainman's inspection must be made from the ground if there is a safe location. If safe to do so, a trainman must cross the track and inspect the side of the passing train opposite the stopped train. However, during snow and ice conditions, that may cause slippery conditions underfoot when getting on or off, crew may remain in the locomotive cab when inspecting passing trains.~~

When a train is stopped and is met or passed by another train, crew members must inspect the passing train. The trainman's inspection will be made from the ground if there is a safe location. When stopped on an outside track or in two main track territory, the crew member must detrain on the field side, the side away from the adjacent main track. Inspection will be made from the cab of the locomotive:

- During snow and ice conditions that may cause slippery conditions underfoot when getting on or off.  
\_\_\_\_\_ or
- When stopped at a location where there is an adjacent main track on each side of the train (i.e. on track 2 in 3 main track territory).

### Trackside Warning Detectors and Inspections

Crew members must be aware of trackside warning detectors and signals from persons inspecting their train. Stop the train immediately for an inspection when any of the following conditions exist:

- A crew member receives a stop signal.
- A trackside warning detector indicates a train defect.
- or
- A crew member is notified of a dangerous condition.

Movement must not proceed until it is safe.

## System Special Instruction

**Change part of rule concerning Ground Inspections as follows:**

### Ground Inspections

When a train is stopped and is met or passed by another train, crew members must inspect the passing train. The trainman's inspection will be made from the ground if there is a safe location. When stopped on an outside track or in two main track territory, the crew member must detrain on the field side, the side away from the adjacent main track. Inspection will be made from the cab of the locomotive:

- During snow and ice conditions that may cause slippery conditions underfoot when getting on or off.
- or
- When stopped at a location where there is an adjacent main track on each side of the train (i.e. on track 2 in 3 main track territory).

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## 6.29.2: Train Inspections by Crew Members

When a walking inspection of the train is required, and physical characteristics prevent a complete train inspection, inspect as much of the train as possible. The train may then be moved, but may not exceed 5 MPH for the distance necessary to complete the inspection.

While their train is moving, crew members must inspect it frequently and look for indications of defects in the train, especially when rounding curves.

When inspecting their train, crew members must observe the train closely for any of the following:

- Overheated journals
- Sticking brakes
- Sliding wheels
- Wheels not properly positioned on the rail
- Dragging equipment
- Insecure contents
- Signs of smoke or fire
- Any other dangerous condition

Crew members who discover defects while the train is moving must stop the train promptly and correct any defects, if possible. If the defective car must be set out, they must not attempt to move the car to the setout point unless it is safe to do so.

When a car is set out because of an overheated journal, any fire must be completely extinguished and precautions taken to prevent

further ignition.

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## **6.30: Receiving or Discharging Passengers**

### **A. Passenger Crew Responsibilities**

When approaching a station to receive or discharge passengers, determine if the train is routed on the track nearest the station platform. If other trains could pass on a main track or controlled siding between the passenger train and the station platform:

- Communicate with the train dispatcher to determine whether any trains are approaching between the train and the station platform.
- Do not make the station stop until assured that trains will not pass between the train and the station platform.

If unable to communicate with the train dispatcher, the station stop may be made after the crew determines that no trains are approaching on the track between the train and the station platform. Before making the station stop, the conductor must assign crewmember responsibilities to ensure passenger safety. If during the station stop a train is seen or heard approaching, crewmembers must take immediate action to keep passengers from fouling the affected track.

### **B. Responsibilities of Approaching Movements**

When notified that a passenger train will be at a station, do not pass between station platform and a passenger train until assured that all passengers and employees have cleared the track between the passenger train and the station platform. Movement may then pass when preceded by an employee walking ahead of the movement.

### **C. Other than Main Track Movements**

A movement must not pass between a passenger train and the station platform being used unless safeguards are provided.

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## **6.31: Maximum Authorized Speed**

Conductors and engineers are jointly responsible for knowing and not exceeding the maximum authorized speed for their train. Passenger speed is applicable only to trains consisting entirely of passenger equipment.

When possible, crew members must notify the train dispatcher promptly of any condition that will delay or prevent their train from making the usual speed.

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### **6.31.1: Permanent Speed Restrictions**

Permanent speed restrictions must not be exceeded until the rear of the train clears the limits of the restriction, unless otherwise specified.

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## 6.32: Road Crossings

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### 6.32.1: Providing Warning Over Road Crossings

When cars are shoved or kicked over road crossings at grade (except those used exclusively by railroad employees), a crew member must be on the ground at the crossing to warn traffic until the crossing is occupied. Make any movement over the crossing as directed from that crew member. Such warning is not required when gates are known to be in the fully lowered position.

~~When cars are shoved, kicked or a gravity switch move is made over road crossings at grade an employee must be on the ground at the crossing to warn traffic until crossing is occupied. Make any movement over the crossing only on the employee's signal.~~

~~Warning is not required when crossing is equipped with:~~

- ~~• Gates that are fully lowered.~~
  - ~~• Flashing lights or passive warning devices when it is clearly seen that no traffic is approaching or stopped at the crossing.~~
- ~~Shoving movements must not exceed 15 MPH over crossing until occupied.~~

## System Special Instruction

### 6.32.1 Providing Warning Over Road Crossings

Change rule to read:

When cars are shoved or kicked over road crossings at grade (except those used exclusively by railroad employees), a crew member must be on the ground at the crossing to warn traffic until the crossing is occupied. Make any movement over the crossing as directed from that crew member. Such warning is not required when gates are known to be in the fully lowered position.

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### 6.32.2: Automatic Warning Devices

Under any of the following conditions, a movement must not foul a crossing equipped with automatic warning devices until the device has been operating long enough to provide warning and the crossing gates, if equipped, are fully lowered:

- Train, engine, and other such movements consisting of less than 12 physical axles. However, Engineering Department Track Geometry cars will be governed by Engineering Department instructions.
- Movement has stopped within 3,000 feet of the crossing.
- Movement is within 3,000 feet of the crossing and speed has increased by more than 5 MPH.
- Movement is closely following another movement.
- Movement is on other than the main track or siding.
- or
- Movement enters a main track or siding within 3,000 feet of the crossing.

**Employees must observe all automatic warning devices and report any that are malfunctioning to the train dispatcher or proper authority by the first available means of communication. Notify all affected trains as soon as possible.**

**A. Automatic Warning Devices Malfunctioning**

Use the following procedures to properly complete movement over the crossing:

MOVEMENT WHEN NOTIFIED THAT AUTOMATIC WARNING DEVICES HAVE AN ACTIVATION FAILURE, ARE DISABLED, OR MALFUNCTIONING	
IF ...	THEN ...
The crew is notified that the crossing warning system has an activation failure or that the crossing warning system has been disabled, and an equipped flagger is not at the crossing to provide warning.	Stop before occupying the crossing. After a crew member is on the ground at the crossing to warn highway traffic, proceed over the crossing on hand signals from as directed by that crew member. Then proceed at normal speed.
The crew is notified that the crossing warning system is malfunctioning, and an equipped flagger is not at the crossing to provide warning.	Stop before occupying the crossing. After a crew member is on the ground at the crossing to warn highway traffic, proceed over the crossing as directed by that crew member, or If devices are seen to be working or when instructed by the train dispatcher or proper authority, proceed over the crossing at 15 MPH without stopping until the head end of the train completely occupied the crossing. Then proceed at normal speed.
The crew communicates with a flagger prior to fouling the crossing and receives confirmation that warning is being provided by at least one equipped flagger who is unable to provide warning in all directions of approaching traffic.	Proceed over the crossing at 15 MPH without stopping until the head end of the train completely occupies the crossing. Then proceed at normal speed.
The crew communicates with a flagger prior to fouling the crossing and receives confirmation that warning is being provided by one or more equipped flaggers who are able to provide warning in all directions of approaching traffic.	Proceed over the crossing at normal speed without stopping.
NOTE: An equipped flagger is a person other than a crew member who is equipped with an orange vest, orange shirt or orange jacket. At night, the vest, shirt or jacket must be fluorescent. The flagger must have a red flag or stop paddle by day and a light at night.	

When advised by the train dispatcher or proper authority that the automatic warning devices are repaired or returned to service, these restrictions no longer apply.

**A. Automatic Warning Devices Malfunctioning**

Use the following procedures to properly complete movement over the crossing:

**Procedure 1:**

Unless otherwise instructed by signal employee in charge, train must stop before occupying the crossing. A crew member must be on the ground at the crossing to warn highway traffic. The train may proceed over the crossing as directed from that crew member. When leading end of movement completely occupies the crossing, proceed at maximum authorized speed.

**Procedure 2:**

Unless otherwise instructed by signal employee in charge, train must approach road crossing prepared to stop. If automatic warning devices are not working comply with Procedure 1.

The train may proceed over the crossing at 15 MPH without stopping if:

- The devices are seen working.
- or
- Instructed by the train dispatcher or track bulletin to proceed at 15 mph.

When leading end of equipment completely occupies the crossing, proceed at maximum authorized speed.

<b><u>Movement when Verbally Notified that Warning Devices have an Activation Failure, are Disabled or Malfunctioning or when Track Bulletin is Issued</u></b>		
<b><u>Verbally Notified</u></b>	<b><u>Track Bulletin or Track Warrant</u></b>	<b><u>Procedure to follow</u></b>
<u>"XG" in effect at (location)</u>	<u>AUTOMATIC CROSSING DEVICE HAS AN ACTIVATION FAILURE AT ( ) RULE 6.32.2 PROCEDURE 1 APPLIES.</u>	<b><u>Comply with Procedure 1 .</u></b>
<u>"XH" in effect at (location)</u>	<u>AUTOMATIC CROSSING NOT WORKING PROPERLY AT ( ) RULE 6.32.2 PROCEDURE 2 APPLIES.</u>	<b><u>Comply with Procedure 2.</u></b> <u>A crossing having a broken gate(s) is considered as having working devices when the balance of the automatic warning devices are seen to be working.</u>
<u>"XS" in effect at (location)</u>	<u>AUTOMATIC CROSSING DEVICE HAS BEEN DISABLED AT ( ) RULE 6.32.2 PROCEDURE 1 APPLIES.</u>	<b><u>Comply with Procedure 1.</u></b>

When advised by the train dispatcher or proper authority that the warning devices have been repaired, these restrictions no longer apply.

Note: When a crew is notified (e.g. from another train crew) that a crossing has an activation failure or a malfunction, the appropriate procedure must be followed.

## **B. Whistle for Crossing**

When notified that automatic warning devices are malfunctioning, sound whistle signal 5.8.2(7) regardless of any prohibition.

## **System Special Instruction**

### **6.32.2 Automatic Warning Devices**

#### **Application:**

Report malfunctioning automatic crossing warning devices by the first available means of communication to the:

- Train dispatcher
- or
- Grade Crossing Safety Hot Line (800-848-8715).



If equipped, when the white power-on light on the exterior of the signal house is not lit or when a strobe light on the exterior of the signal house is flashing, immediately notify the train dispatcher or Grade Crossing Safety Hot Line.

**Crossing Warning Device Malfunction Sign**

Where a Crossing Warning Device Malfunction sign (System Special Instructions Item 22) is located next to a road crossing, movement must stop at the sign and **Procedure 1** applies.

**"STOP" sign**

Where a STOP sign is located next to a road crossing, movement must stop at the STOP sign. Movement may proceed only after automatic crossing warning devices have been operating long enough to provide warning and crossing gates, if equipped, are fully lowered. If automatic crossing warning devices fail to operate, **Procedure 1** applies.

**A. Automatic Warning Devices Malfunctioning**

**Change Part A. to read:**

Use the following procedures to properly complete movement over the crossing:

**Procedure 1:**

Unless otherwise instructed by signal employee in charge, train must stop before occupying the crossing. A crew member must be on the ground at the crossing to warn highway traffic. The train may proceed over the crossing as directed from that crew member. When leading end of movement completely occupies the crossing, proceed at maximum authorized speed.

**Procedure 2:**

Unless otherwise instructed by signal employee in charge, train must approach road crossing prepared to stop. If automatic warning devices are not working comply with Procedure 1.

The train may proceed over the crossing at 15 MPH without stopping if:

- The devices are seen working.  
or
- Instructed by the train dispatcher or track bulletin to proceed at 15 MPH.

When leading end of movement completely occupies the crossing, proceed at maximum authorized speed.

<b>Movement when Verbally Notified that Warning Devices have an Activation Failure, are Disabled or Malfunctioning or when Track Bulletin is Issued</b>		
<b>Verbally Notified</b>	<b>Track Bulletin or Track Warrant</b>	<b>Procedure to follow</b>
"XG" in effect at (location)	AUTOMATIC CROSSING DEVICE HAS AN ACTIVATION FAILURE AT (____) RULE 6.32.2 PROCEDURE 1 APPLIES.	<b>Comply with Procedure 1 .</b>
"XH" in effect at (location)	AUTOMATIC CROSSING NOT WORKING PROPERLY AT (____) RULE 6.32.2 PROCEDURE 2 APPLIES.	<b>Comply with Procedure 2.</b> A crossing having a broken gate(s) is considered as having working devices when the balance of the automatic warning devices are seen to be working.

"XS" in effect at (location)	AUTOMATIC CROSSING DEVICE HAS BEEN DISABLED AT (____) RULE 6.32.2 PROCEDURE 1 APPLIES.	<b>Comply with Procedure 1.</b>
------------------------------	--	---------------------------------

When advised by the train dispatcher or proper authority at the crossing that the warning devices have been repaired, these restrictions no longer apply.

Note: When a crew is notified (e.g. from another train crew) that a crossing has an activation failure or a malfunction, the appropriate procedure must be followed.

## General Order

### 6.32.2 Automatic Warning Devices

Add new first bullet to list under first paragraph:

- Train, engine, and other such movements consisting of less than 12 physical axles. However, Engineering Department Track Geometry cars will be governed by Engineering Department instructions.

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### 6.32.3: Providing Warning for Adjacent Tracks

When practical, position an employee on the ground to warn traffic against movements approaching on adjacent tracks, under either of the following conditions:

- A train or cut of cars is parted closer than 250 feet from a road crossing.
- The head-end of a train is stopped, other than a passenger station stop, closer than 250 feet from a road crossing.

## System Special Instruction

~~Change rule title and rule to read:-~~

### ~~6.32.3 Providing Warning for Adjacent Tracks-~~

~~When practical, position an employee on the ground to warn traffic against movements approaching on adjacent tracks, under either of the following conditions:-~~

- ~~• A train or cut of cars is parted closer than 250 feet from a road crossing.-~~
- ~~• The head-end of a train is stopped, other than a passenger station stop, closer than 250 feet from a road crossing.-~~

## General Order

### 6.32.3 Providing Warning for Adjacent Tracks

Delete entry from SSI.

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## 6.32.4: Clear of Crossings and Signal Circuits

Leave cars, engines, or equipment clear of road crossings and crossing signal circuits.

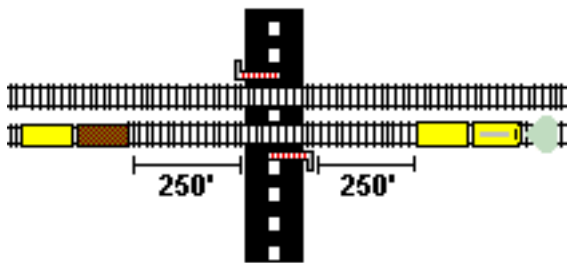
When practical, avoid leaving cars, engines, or equipment standing closer than 250 feet from the road crossing when there is an adjacent track.

When cars, engines, or equipment are left on a siding or a main track closer than the required distance the train dispatcher must be notified.

### **Application:**

Referring to the second paragraph: In the State of Illinois, the distance is 500 feet; in the State of Wisconsin, the distance is 330 feet; and, in the States of Arkansas and Louisiana the distance is 300 feet.

When cars, engines, or equipment are left on a siding or a main track closer than the required distance the train dispatcher must be notified.



[Diagram A]

## System Special Instruction

### **Add as last paragraph:**

When cars, engines, or equipment are left on a siding or a main track closer than the required distance the train dispatcher must be notified.

### **Application:**

Referring to the second paragraph:

- In the State of **Illinois**, the distance is 500 feet.
- In the State of **Wisconsin**, the distance is 330 feet.
- In the States of **Arkansas** and **Louisiana** the distance is 300 feet.

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## 6.32.5: Actuating Automatic Warning Devices Unnecessarily

Avoid actuating automatic warning devices unnecessarily by leaving switches open or permitting equipment to stand within the controlling circuit. If this cannot be avoided and if the signals are equipped for manual operation, a crew member must manually

operate the signal for movement of traffic. A crew member must restore signals to automatic operation before a train or engine occupies the crossing or before it leaves the crossing.

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### 6.32.6: Blocking Public Crossings

When practical, a standing train or switching movement must avoid blocking a public crossing longer than 10 minutes.

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### 6.32.7: Crossings Requiring Additional Precautions

Use the following procedures to properly complete movement over the crossing when notified by the train dispatcher or track bulletin.

Verbally Notified	Track Bulletin or Track Warrant	Procedure to follow
"XC" in effect at (location)	DO NOT EXCEED 15 MPH BETWEEN MP ___ AND MP ___ APPROACHING CROSSING (S) ___ UNTIL CROSSING(S) ___ ARE OCCUPIED	The train may proceed over the crossing at 15 MPH without stopping. When leading end of movement completely occupies the crossing, proceed at maximum authorized speed. ("XC" due to cars left closer than the required distance from crossing.)
"XI" in effect at (location)	DO NOT EXCEED 15 MPH UNTIL CROSSING IS OCCUPIED	The train may proceed over the crossing at 15 MPH without stopping. When leading end of movement completely occupies the crossing, proceed at maximum authorized speed. ("XI" due to broken crossbucks, stop sign, etc.)

When advised by the train dispatcher or proper authority at the crossing that corrections have been made, these restrictions no longer apply.

### System Special Instruction

#### 6.32.7 Crossings Requiring Additional Precautions

**Add new rule:**

Use the following procedures to properly complete movement over the crossing when notified by the train dispatcher or track bulletin.

Verbally Notified	Track Bulletin or Track Warrant	Procedure to follow
"XC" in effect at (location)	DO NOT EXCEED 15 MPH BETWEEN MP ___ AND MP ___ APPROACHING CROSSING (S) ___ UNTIL CROSSING(S) ___ ARE OCCUPIED	The train may proceed over the crossing at 15 MPH without stopping. When leading end of movement completely occupies the crossing, proceed at maximum authorized speed. ("XC" due to cars left closer than the required distance from crossing.)
"XI" in effect at (location)	DO NOT EXCEED 15 MPH UNTIL CROSSING IS OCCUPIED	The train may proceed over the crossing at 15 MPH without stopping. When leading end of movement completely occupies the crossing, proceed at maximum authorized speed. ("XI" due to broken crossbucks, stop sign, etc.)

When advised by the train dispatcher or proper authority at the crossing that corrections have been made, these restrictions no longer apply.

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## 6.32.8: Road Crossings within Intermodal and Automotive Facilities

### Add new rule:

Movements over crossings within intermodal and vehicle loading/unloading facilities will be made as follows:

- Shoving movements and locomotive consist movements, when not controlled from the cab nearest the direction of travel, must be protected by an employee in position at the crossing to warn traffic until the crossing is occupied. Make movement over the crossing only after warning has been provided.
- Movements with the engine in the lead, when controlled from the cab nearest the direction of travel, must ring the engine bell when approaching crossing. In addition, sound whistle as a warning when vehicles are stopped, closely approaching or crossing view is obstructed.

## System Special Instruction

### 6.32.8 Road Crossings within Intermodal and Automotive Facilities

#### Add new rule:

Movements over crossings within intermodal and vehicle loading/unloading facilities will be made as follows:

- Shoving movements and locomotive consist movements, when not controlled from the cab nearest the direction of travel, must be protected by an employee in position at the crossing to warn traffic until the crossing is occupied. Make movement over the crossing only after warning has been provided.
- Movements with the engine in the lead, when controlled from the cab nearest the direction of travel, must ring the engine bell when approaching crossing. In addition, sound whistle as a warning when vehicles are stopped, closely approaching or crossing view is obstructed.

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Updated: 10/24/2011

## 7.0: SWITCHING

- [7.1: Switching Safely and Efficiently](#)
- [7.2: Communication Between Crews Switching](#)
- [7.3: Additional Switching Precautions](#)
- [7.4: Precautions for Coupling or Moving Cars or Engines](#)
- [7.4.1: Remote Control Couplings](#)
- [7.5: Testing Hand Brakes](#)
- [7.6: Securing Cars or Engines](#)
- [7.7: Kicking or Dropping Cars](#)
- [7.7.1: Gravity Switch Moves](#)
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- [7.9: Switching Passenger or Occupied Outfit Cars](#)
- [7.10: Movement Through Gates or Doorways](#)
- [7.11: Charging Necessary Air Brakes](#)
- [7.12: Movements Into Spur Tracks](#)
- [7.13: Protection of Employees in Bowl Tracks](#)

### 7.1: Switching Safely and Efficiently

While switching, employees must work safely and efficiently and avoid damage to contents of cars, equipment, structures, or other property.

Do not leave equipment standing where it will foul equipment on adjacent tracks or cause injury to employees riding on the side of a car or engine.

On tracks where clearance point is indicated, leave equipment beyond the clearance point.

If clearance point is not indicated or visible, determine the clearance point by standing outside the rail of adjacent track and extend arm towards the equipment. When unable to touch the equipment, leave equipment at least an additional 50 feet into the track to ensure equipment is beyond the clearance point.

Equipment may be left on a:

- Main track, fouling a siding track switch, when the switch is lined for the main track.
- Siding, fouling a main track switch, when the switch is lined for the siding.
- Yard switching lead, fouling a yard track switch when the switch is lined for the yard switching lead.  
or
- Industry track beyond the clearance point of the switch leading to the industry.

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### 7.2: Communication Between Crews Switching

To avoid injury or damage where engines may be working at both ends of a track or tracks, crews switching must have a clear understanding of movements to be made.

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## 7.3: Additional Switching Precautions

The following equipment must not be unnecessarily switched or couplings made so as to damage the equipment or load:

- Passenger or outfit cars
- Intermodal or TOFC cars
- Cabooses
- Multi-level loads
- Cars containing livestock
- Open top loads subject to shifting

The following equipment must not be cut off in motion or struck by any car moving under its own momentum:

- Passenger cars
- Outfit cars
- High-value loads
- Engines
- Loaded-depressed-center flat cars
- Cars loaded with modular housing units
- Articulated and solid drawbar-connected cars with more than two car bodies. However, when empty, these cars may be kicked but not humped.
- Scale test cars.
- Roadway equipment.

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## 7.4: Precautions for Coupling or Moving Cars or Engines

Before coupling to or moving cars or engines, verify that the cars or engines are properly secured and can be coupled and moved safely.

~~Make couplings at a speed of not more than 4 MPH. Stretch the slack to ensure that all couplings are made.~~

Make couplings at a speed of not more than 4 MPH. After coupling, engine direction must be changed to stretch slack to ensure that coupling(s) have been made. Before beginning shoving movement, ensure that all couplings have been stretched.

### General Order

#### 7.4 Precautions for Coupling or Moving Cars or Engines

**Change rule to read:**

Before coupling to or moving cars or engines, verify that the cars or engines are properly secured and can be coupled and moved safely.

Make couplings at a speed of not more than 4 MPH. After coupling, engine direction must be changed to stretch slack to ensure that

coupling(s) have been made. Before beginning shoving movement, ensure that all couplings have been stretched.

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## 7.4.1: Remote Control Couplings

When using a remote control locomotive in "pitch and catch" operations to make a coupling, the RCO located at the coupling must be the primary operator. This does not prevent a utility employee, not equipped as a RCO, from making the coupling.

Make couplings at a speed of not more than 2 MPH. Remote Control Operator must use speed selection of not greater than "Couple". Do not use "Coast" and independent brake override to make car couplings.

**Note:** When spotting cars at an industry that requires precision spotting of the cars the independent brake override may be used.

### System Special Instruction

#### Add new rule:

When using a remote control locomotive in "pitch and catch" operations to make a coupling, the RCO located at the coupling must be the primary operator. This does not prevent a utility employee, not equipped as a RCO, from making the coupling.

Make couplings at a speed of not more than 2 MPH. Remote Control Operator must use speed selection of not greater than "Couple". Do not use "Coast" and independent brake override to make car couplings.

**Note:** When spotting cars at an industry that requires precision spotting of the cars the independent brake override may be used.

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## 7.5: Testing Hand Brakes

Employees must know how to operate the type of brakes they are using. When hand brakes must control or prevent car movement, test the brakes to ensure that they are operating properly before using them. If hand brake is not operational, attach a bad order tag to hand brake wheel or lever.

### System Special Instruction

#### Add sentence:

If hand brake is not operational, attach a bad order tag to hand brake wheel or lever.

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## 7.6: Securing Cars or Engines

Do not depend on air brakes to hold a train, engine, or cars in place when left unattended. Apply a sufficient number of hand brakes to prevent movement. If hand brakes are not adequate, block the wheels.



When the engine is coupled to a train or cars standing on a grade, do not release the hand brakes until the air brake system is fully charged.

When cars are moved from any track, apply enough hand brakes to prevent any remaining cars from moving.

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## 7.7: Kicking or Dropping Cars

Kicking cars is permitted only when it will not endanger employees, equipment, or contents of cars.

Dropping cars is prohibited.

When kicking cars, crew member must ensure that cars kicked are clear of and will remain clear of next track to be entered before track is fouled.

### System Special Instruction

#### Change rule to read:

Kicking cars is permitted only when it will not endanger employees, equipment, or contents of cars. Dropping cars is prohibited.

When kicking cars, crew member must ensure that cars kicked are clear of and will remain clear of next track to be entered before track is fouled.

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### 7.7.1: Gravity Switch Moves

Unless otherwise restricted, a gravity switch move may be utilized where cars must be repositioned on the opposite end of the engine. Not more than five cars may be handled at one time.

When making a gravity switch move:

- Hand brakes must be tested to insure proper operation.
- Sufficient hand brakes must be manned by crew members to insure that the movement can be controlled and stopped.
- Using the hand brake on cars with shiftable loads must be avoided when practicable.
- Cars must not be allowed to couple to other equipment.

A gravity switch may only be made where authorized by "Superintendent Bulletin" and manned hand brake must be located on the trailing end of the trailing car in the direction of movement.

### System Special Instruction

#### Add:

A gravity switch may only be made where authorized by "Superintendent Bulletin" and manned hand brake must be located on the trailing end of the trailing car in the direction of movement.

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## 7.8: Coupling or Moving Cars on Tracks Where Cars are Being Loaded or Unloaded

Before coupling to or moving cars on tracks where cars are being loaded or unloaded, crew members must be sure that all of the following have been removed or cleared:

- Persons in, on, or about cars
- Platforms
- Boards
- Tank car couplings and connections
- Conveyors
- Loading or unloading spouts and similar appliances or connections
- Vehicles
- Other obstructions

In addition:

- Be careful to avoid damage to freight of partly loaded cars.
- Do not handle cars that are improperly or unevenly loaded if load could shift or fall from the car, or if the car could derail or overturn.
- Return any car placed for loading or unloading to the location it was found if it has not been released for movement.
- Do not pull empty cars from an unloading facility until any major accumulation of debris is removed.
- Ensure that plug-type and swinging doors on cars are closed or secured. However, crew members must not attempt to close those doors. If plug door is found open enroute, car may continue in the train to the next location where mechanical forces are available to close door.

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## 7.9: Switching Passenger or Occupied Outfit Cars

Before switching passenger equipment or occupied outfit cars:

- Couple the air hoses.
- Fully charge the brake system.
- Use the automatic brake valve when switching.

When coupling passenger or outfit cars:

- Stop the movement approximately 50 feet before the coupling is made.
- Have an employee on the ground direct the coupling.
- Ensure couplers are fully compressed and stretched to ensure that knuckles are locked before making:
  - Air connections
  - Steam connections
  - Electrical connections

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## 7.10: Movement Through Gates or Doorways

Before moving engines, cars, or other equipment through gates, doorways, or similar openings, stop to ensure that the gates, doorways, or openings are completely open and secure. When overhead or side clearances are close, make sure movement is safe. Do not ride on the side of a car, engine or other equipment when moving through gates, doorways or similar openings.

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## 7.11: Charging Necessary Air Brakes

Do not handle cars without charging the air brake system, unless the cars can be handled safely and stopped within the required distance. If necessary, couple the air hoses and charge the brake systems on a sufficient number of cars to control movement.

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## 7.12: Movements Into Spur Tracks

When shoving cars into a spur track, control movement to prevent damage at the end of the track, and do the following:

- Stop movement 150 feet from the end of the track.
- Apply hand brakes, when necessary, to control slack.
- Have a crew member precede any further movement when it can be done safely.
- Move only on the crew member's signal.
- Stop movement short of end of track, bumper, chock, etc., unless it is necessary to shove cars to the end of the track to properly spot cars for the industry. When necessary, use extreme caution to avoid damage to equipment, track or structures.

### System Special Instruction

**Add a bullet as follows:**

- Stop movement short of end of track, bumper, chock, etc., unless it is necessary to shove cars to the end of the track to properly spot cars for the industry. When necessary, use extreme caution to avoid damage to equipment, track or structures.

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## 7.13: Protection of Employees in Bowl Tracks

During humping operations, before a train or yard crew member performs any work activities ~~goes between engines or cars on a bowl tracks to couple air hoses or adjust coupling devices, or before an employee performs maintenance on a bowl track~~, protection must be provided against cars released from the hump into the bowl tracks that may be fouled as follows:

- The employee requesting protection must notify the employee controlling the switches that provide access from the hump to the track where the work will occur.
- After being notified, the switch controller must line any remote control switch against movement to the affected bowl tracks and apply a locking or blocking device to the control for that switch.
- The switch controller must then notify the employee that protection is provided. Protection will be maintained until the switch controller is advised that work is complete and employee is clear of the bowl tracks and protection is no longer

required.

## **System Special Instruction**

### **Change rule to read:**

During humping operations, before a train or yard crew member performs any work activities between bowl tracks protection must be provided against cars released from the hump into the bowl tracks that may be breached as follows:

- The employee requesting protection must notify the employee controlling the switches that provide access from the hump to the bowl track(s) where work will occur.
- After being notified, the switch controller must line any remote control switch against movement to the affected bowl tracks and locking or blocking device must be applied to the switch control.
- The switch controller must then notify the employee that protection is provided. Protection will be maintained until the switch controller is advised that work is complete and employee is clear of the bowl tracks and protection is no longer required.

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Updated: 2/08/2012

## 8.0: SWITCHES

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- [8.2: Position of Switches](#)
- [8.3: Main Track Switches](#)
- [8.4: Lining Main Track Switch](#)
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- [8.8: Switches Equipped with Locks, Hooks, or Latches](#)
- [8.9: Movement Over Spring Switches](#)
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  - [8.19.1: Radio Controlled Switches](#)
- [8.20: Derail Location and Position](#)

### 8.1: Hand Operation of Switches

Spring or dual control switches operated by hand are considered hand-operated switches, and all rules governing hand-operated switches apply.

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### 8.2: Position of Switches

The employee ~~handling~~ operating the switch or derail is responsible for the position of the switch or derail in use. The employee must not allow movement to foul an adjacent track until the hand-operated switch is properly lined.

Do not operate a switch that is tagged. If the switch is spiked, do not remove the spike unless authorized by the same craft or group that placed it.

Employees handling operating switches and derails must make sure:

- The switches and derails are properly lined for the intended route.
- The points fit properly and the target, if so equipped, corresponds with the switch's position.
- After locking a switch or derail, they test the lock to ensure it is secured.
- When the operating lever is equipped with a latch, they do not step on the latch to release the lever except when throwing the switch.
- The switch is not operated while equipment is fouling, standing on, or moving over the switch.
- When equipment has entered a track, the switch to that track is not lined away until the equipment has passed the clearance point of the track.

When possible, crew members on the engine must see that the switches and derails near the engine are properly lined.

## General Order

### 8.2 Position of Switches

Change the word "handling" to read "operating" in first and third paragraphs:

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### 8.3: Main Track Switches

The normal position of a main track switch is for main track movement, and it must be lined and locked in that position. At points where double track begins, the normal position of a spring switch is for movement with the current of traffic.

However, the main track switch may be left open:

- In CTC territory within track and time limits.
- When attended by a crew member or switch tender.
- During switching operations when it is certain that no other train or engine will pass over the switch.
- For another train or engine when the switch is attended by a member of that crew.
- Within ABS limits when instructed by the train dispatcher at:
  - The entering switch of a siding in Rule 9.14 (Movement with the Current of Traffic) territory.
  - Either switch of a siding in Rule 16.1 (Authority to Enter DTC Limits) territory.
- Within TWC territory when authorized by track warrant. Track warrant protection must be provided for this condition. The switch must not be considered restored to normal position until the train dispatcher is notified by an employee at that location.  
or
- Within ABS-TWC, ABS-DTC, or Rule 9.14 (Movement with the Current of Traffic) territory at the entering switch of a siding after the following has been done:
  1. Communication has been established between crews of trains meeting or passing.
  2. An understanding has been reached that the train on the main track will stop and restore the switch to the normal position. A crew member must not report clear of the limits until it is known the switch is lined and locked in the normal position.

On main track switches (if equipped), the target will be red if the switch is lined in other than its normal position.

Before leaving the location where a hand-operated main track switch was operated:

- Crew members must confirm the position of the switch with each other.
- Engineering Department employees granted authority to enter working limits must confirm the position of the switch with the employee in charge or a designated employee who will notify the employee in charge.

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## 8.4: Lining Main Track Switch

When an employee lines the switch to let a train enter or leave the main track, the employee must then go to the opposite side of the main track and not return to the switch stand until movement is complete. If unable to go to the opposite side of the track, the employee must stand at least 20 feet from the switch stand.

[^Top](#)

## 8.5: Clearing Main Track Before Restoring Switch

Do not return a main track switch to the normal position until movement is clear of the main track.

[^Top](#)

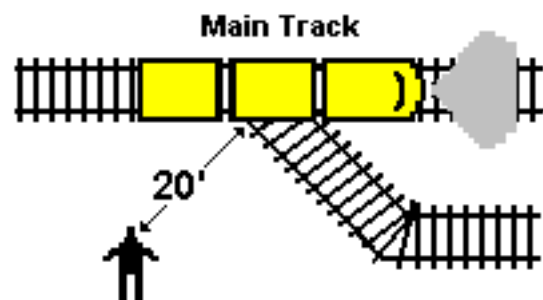
## 8.6: Restoring Switch to Normal Position

An employee getting off moving equipment to return the main track switch to normal position must, when possible, get off the equipment on the opposite side from the switch stand.

[^Top](#)

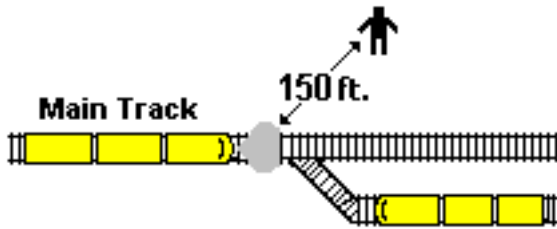
## 8.7: Clear of Main Track Switches

Except in switching movements, when a train or engine is approaching or passing on a main track, employees must not go nearer than 20 feet to any main track switch.



[Diagram A]

When a train or engine that will be met or passed is on a siding or other track, the employee attending the switch must be in a safe location. The employee must not be nearer than 150 feet, if possible, from the switch when the train is closely approaching and passing.



[Diagram B]

## Inspecting Hand-Operated Switches in Non-Signaled Territory

In non-signaled territory, if the expected train is not closely approaching, a crew member will inspect facing point, hand-operated switches the train will pass over to determine that the:

- Switches are lined for the intended route.
- Switch points fit properly.
- Switch lever is secured.

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## 8.8: Switches Equipped with Locks, Hooks, or Latches

When not in use, switches must be locked, hooked, or latched if so equipped. Before making movements in either direction over these switches, make sure the switch is latched or secured by placing the lock or hook in the hasp. However, when making train movements in facing point direction, lock the switches equipped with a lock.

Replace any missing or defective switch locks. If they cannot be replaced, report the condition at once to the train dispatcher, yardmaster, or supervisor in charge, and spike the switch if possible.

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## 8.9: Movement Over Spring Switches

Spring switches are identified by the letters S or SS, special targets, signs, and/or lights.

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### 8.9.1: Testing Spring Switch

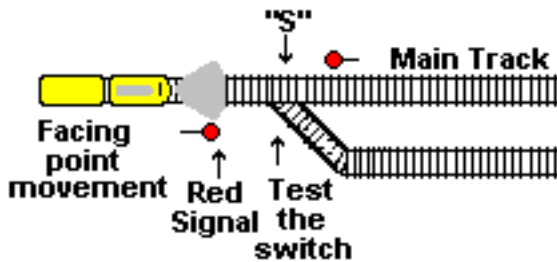
A crew member tests the switch by lining the switch over and back by hand and examining the switch points to see that they fit properly.

Before a train or engine makes a facing point movement over a spring switch, the switch must be tested when any of the following conditions exist:

1. A block signal governing movement over the switch indicates:
  - Stop.



- Stop and Proceed.  
or
- Restricted Proceed.



[Diagram A]

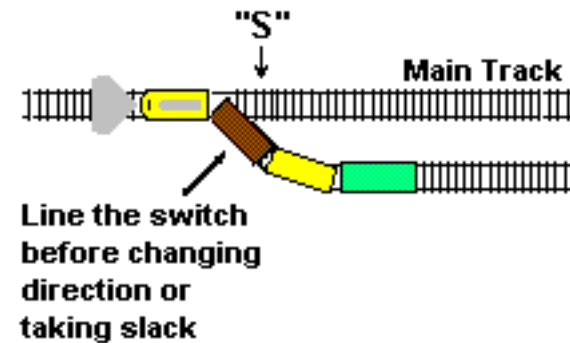
2. A switch point indicator protecting the switch indicates Stop and Inspect Switch.  
or
3. The switch is not protected by a block signal or switch point indicator.

The switch does not need to be tested if it has been lined for the diverging route or written instructions advise the crew that the spring switch has been spiked.

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### 8.9.2: Trailing Through and Stopping on a Spring Switch

A train or engine trailing through and stopping on a spring switch must control the slack. A crew member must line the switch by hand before the train or engine can change direction or take slack.



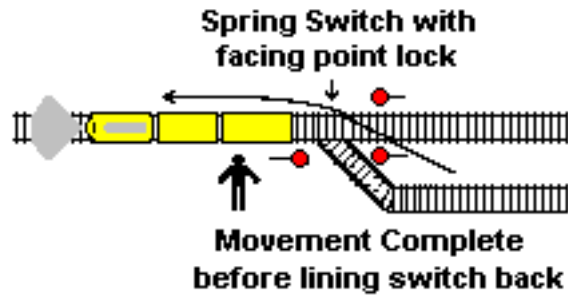
[Diagram A]

[^Top](#)

### 8.9.3: Hand Operating a Spring Switch Before Making a Trailing Movement

#### A. With Facing Point Lock

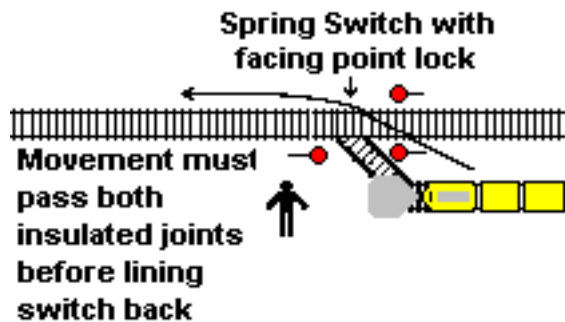
When a train is stopped by a signal governing trailing movement through a spring switch and the switch is equipped with a facing point lock, operate the switch by hand. Do not return the switch to normal position until after movement is complete.



[Diagram A]

## B. Without Facing Point Lock

Before a train makes a trailing movement through a spring switch not equipped with a facing point lock, and only hand operation can establish block signal protection, line the switch for the intended route. Return the switch to normal position after leading wheels have passed both insulated joints.



[Diagram B]

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## 8.9.4: During Snow or Ice Storms

During snow storms, ice storms, or other conditions that may prevent a spring switch from functioning properly, avoid making a trailing movement through the spring switch until the switch has been lined by hand for the movement.

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## 8.9.5: Spiking Spring Switch

A spring switch that is spiked must be protected.

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## 8.9.6: Approaching a Spring Switch in Non-Signaled Territory

A train in non-signaled territory must approach the facing points of a spring switch prepared to stop until:

- A switch point indicator shows that the switch is properly lined.

or

- A distant signal displays clear.

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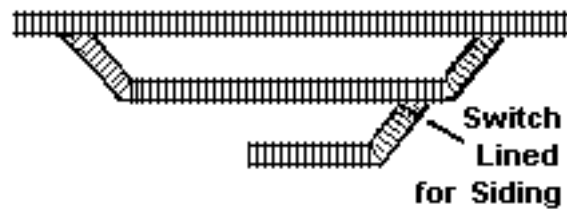
## 8.10: Switch Point Indicator

Aspect	Indication
Green	Switch points fit properly in normal position.
Yellow	Switch points fit properly in reverse position.
Red or Dark	Stop and inspect switch.

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## 8.11: Switches in Sidings

The normal position of switches connecting any track, except the main track, to a siding is lined and locked or secured for movement on the siding.



[Diagram A]

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## 8.12: Hand-Operated Crossover Switches

The normal position of crossover switches is for other than crossover movement. The crossover switches must be left lined in normal position, except when they are in use for crossover movements. Both switches of a crossover shall be properly lined before equipment begins a crossover movement. A crossover movement shall be completed before either switch is restored to normal position, except when one crew is using both tracks connected by the crossover during continuous switching operations.

In Rule 6.14 (Restricted Limits), Rule 6.28 (Movement on Other than Main Track) or non-signalized Rule 6.13 (Yard Limits) territory, crossover switches may be left out of correspondence while providing blue signal or inaccessible track protection. When protection is no longer required, the crossover switches connected to a main track or siding must be left lined for other than crossover movement. Crossover switches not connected to a main track or siding must be left in a corresponding position.

In signaled territory, crossover switches may be out of correspondence while performing maintenance, testing or inspection.

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## **8.13: Scale Track Switches**

When scales are not in use, line switches for dead rails where provided.

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## **8.14: Conflicting Movements Approaching Switch**

When conflicting movement is closely approaching a switch, the track must not be fouled or the switch operated. Except at a spring switch, trains must not foul a main track or signaled track or pass beyond an insulated joint at the clearance point until the switch connected with the movement is properly lined.

Crossover switches must not be unlocked or lined for crossover movement when another movement is approaching or passing over either switch.

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## **8.15: Switches Run Through**

Do not run through switches, other than spring switches or variable switches. If a rigid type switch is run through, it is unsafe and must be protected by spiking the switch, unless a trackman or other competent employee takes charge.

An engine or car that partially runs through a switch must continue movement over the switch. The engine or car must not change direction over a damaged switch until it has been spiked or repaired.

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## **8.16: Damaged or Defective Switches**

Report a switch that is damaged or defective to the train dispatcher, yardmaster, or supervisor in charge. Tag the switch, spike it if necessary, unless trackman or other employee takes charge. If the switch cannot be made safe, provide protection at once.

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## **8.17: Avoid Sanding over Movable Parts**

When possible, avoid using sand over movable parts of an interlocking, retarders, spring switches, variable switches, or power-operated switches.

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## 8.18: Variable Switches

Trailing point movements may be made over a variable switch from either track, regardless of the position of the switch points.

When making a trailing point movement and the switch is not lined for such movement, make sure all wheels of the leading car or unit clear the switch points before changing direction.

During snow storms, ice storms, or other conditions that may prevent a variable switch from functioning properly, avoid making a trailing point movement through a variable switch until it has been lined by hand for movement.

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## 8.19: Automatic Switches

The location of automatic switches will be designated in the timetable. When movement authority requires a train to stop at an Automatic Switch location, stop must be made before any part of a train passes the signal governing movement over the Automatic Switch. To operate an automatic switch to enter the siding, a crew member must do the following:

- Stop the leading end of movement within 200 feet of the absolute signal that governs movement over the switch.
- Operate the push button on the signal mast.

After 40 seconds, the signal will display a restricting indication when the switch is lined for movement into the siding.

When the signal that governs movement over an automatic switch displays a Stop indication, the switch must be operated by hand before proceeding.

### Operating an Automatic Switch by Hand

To operate an automatic switch by hand, the crew member must stop the train for the signal that governs movement over the switch and then do the following:

- Unlock the switch lock.
- Place the selector lever in the HAND position.
- Operate the hand throw lever until the switch points move when the lever is moved.
- Line the switch for the intended route.
- Do not return the selector lever to the POWER position until at least one unit or car has passed over the switch.

After switch is placed in hand position, signal governing movement over the switch will display Stop indication and movements will be governed by hand signals.

When the switch is returned to the POWER position and movement over the switch is complete, the switch will automatically return to its normal position.

**Entering Main Track.** A train that is about to enter the main track and is authorized to proceed must move past the overlap sign. Further movement must not be made until the signal governing movement over the switch displays a proceed indication. If the signal does not display a proceed indication within 5 minutes, a crew member must operate the switch by hand as specified in Rule 9.17 (Entering Main Track at Hand-Operated or Spring Switch), waiting an additional 5 minutes, if necessary.

**When automatic switches are operated by hand, all rules governing hand-operated switches apply, except cars must not be dropped over the switches.**

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## 8.19.1: Radio Controlled Switches

The location of radio controlled switches and operating instructions will be designated in the timetable and special instructions. When movement authority requires a train to stop at an Automatic Switch location, stop must be made before any part of a train passes the signal governing movement over the Automatic Switch.

At locations (designated in the timetable) where radio controlled Power Assisted Switches (PAS) are installed, the following applies:

PAS locations are equipped with:

- Dual control switch machines.
- Bidirectional switch point indicators per Rule 8.10.
- Occupancy (OS) circuits with limits marked by signs reading "Begin OS" and "End OS".

Signs reading "Switch Control" are located approximately 2 miles from the PAS locations.

### **Operating Instructions:**

1. Upon passing a "Switch Control" sign use the radio keypad to transmit the proper sequence (designated in the timetable) to request the desired switch position and receive radio transmitted verbal confirmation of switch alignment at that location.
2. Once radio confirmation of proper switch alignment has been received, movement through the PAS location must be made within 10 minutes of confirmation or the movement must approach the PAS location prepared to stop.
3. If radio confirmation of proper switch alignment is not received, movement must approach the PAS location prepared to stop until the switch point indicator can be clearly seen to indicate proper switch alignment. Notify the train dispatcher that radio confirmation was not received.

### **Stop and Inspect Switch**

If the radio message received is "Switch Not Lined" or no radio message is received and the switch point indicator continues to display an indication to stop and inspect switch:

1. Movement must stop before entering the OS circuit limits.
2. After stopping, the PAS may be operated by unlocking the box on the side of the signal bungalow and using the push-button.
3. After push-button operation is attempted, if the switch point indicator continues to display an indication to stop and inspect switch, employee must operate the switch by hand as outlined in Rule 9.13.1 (Hand Operation of Dual Control Switches).

**Note:** If the switch point indicator can be clearly seen to indicate proper switch alignment, the movement may proceed without stopping. Notify the train dispatcher of malfunction.

### **Movement Completely Through a PAS Location**

After movement has been made through a PAS location, the switch point indicator will display an indication to stop and inspect switch and the switch will remain in the normal position. If switch was reversed, it will return to the normal position.

## **Route Change**

If necessary to change the route that was originally requested, movement must stop outside the OS circuit limits and:

- Wait 15 minutes and then enter the proper sequence to line the switch for the desired route.
- Wait 15 minutes and then operate the push-button on the signal bungalow to line the switch for the desired route.  
or
- Operate the switch by hand as outlined in Rule 9.13.1 (Hand Operation of Dual Control Switches) to line the switch for the desired route.

## **Additional Instructions**

The PAS will not operate if the OS circuit at the PAS location is occupied. A proper sequence or push-button request must be made and confirmation of proper switch alignment must be received before movement enters the OS circuit limits at the PAS location.

## **System Special Instruction**

### **8.19.1 Radio Controlled Switches**

#### **Add new second sentence to first paragraph:**

When movement authority requires a train to stop at an Automatic Switch location, stop must be made before any part of a train passes the signal governing movement over the Automatic Switch.

#### **Addition:**

At locations (designated in the timetable) where radio controlled Power Assisted Switches (PAS) are installed, the following applies:

PAS locations are equipped with:

- Dual control switch machines.
- Bidirectional switch point indicators per Rule 8.10.
- Occupancy (OS) circuits with limits marked by signs reading "Begin OS" and "End OS".

Signs reading "Switch Control" are located approximately 2 miles from the PAS locations.

#### **Operating Instructions:**

1. Upon passing a "Switch Control" sign use the radio keypad to transmit the proper sequence (designated in the timetable) to request the desired switch position and receive radio transmitted verbal confirmation of switch alignment at that location.
2. Once radio confirmation of proper switch alignment has been received, movement through the PAS location must be made within 10 minutes of confirmation or the movement must approach the PAS location prepared to stop.
3. If radio confirmation of proper switch alignment is not received, movement must approach the PAS location prepared to stop until the switch point indicator can be clearly seen to indicate proper switch alignment. Notify the train dispatcher that radio confirmation was not received.

#### **Stop and Inspect Switch**

If the radio message received is "Switch Not Lined" or no radio message is received and the switch point indicator continues to display an indication to stop and inspect switch:

1. Movement must stop before entering the OS circuit limits.
2. After stopping, the PAS may be operated by unlocking the box on the side of the signal bungalow and using the push-button.

3. After push-button operation is attempted, if the switch point indicator continues to display an indication to stop and inspect switch, employee must operate the switch by hand as outlined in Rule 9.13.1 (Hand Operation of Dual Control Switches).

**Note:** If the switch point indicator can be clearly seen to indicate proper switch alignment, the movement may proceed without stopping. Notify the train dispatcher of malfunction.

### **Movement Completely Through a PAS Location**

After movement has been made through a PAS location, the switch point indicator will display an indication to stop and inspect switch and the switch will remain in the normal position. If switch was reversed, it will return to the normal position.

### **Route Change**

If necessary to change the route that was originally requested, movement must stop outside the OS circuit limits and:

- Wait 15 minutes and then enter the proper sequence to line the switch for the desired route.
- Wait 15 minutes and then operate the push-button on the signal bungalow to line the switch for the desired route.  
or
- Operate the switch by hand as outlined in Rule 9.13.1 (Hand Operation of Dual Control Switches) to line the switch for the desired route.

### **Additional Instructions**

The PAS will not operate if the OS circuit at the PAS location is occupied. A proper sequence or push-button request must be made and confirmation of proper switch alignment must be received before movement enters the OS circuit limits at the PAS location.

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## **8.20: Derail Location and Position**

Employees in train, engine, and yard service must know the location of all fixed derails. Train or engine moving on or entering tracks where fixed derails are located, must stop at least 100 feet from derail in derailing position. Movement must not continue until the derail is placed in the non-derailing position. However, the distance restriction will not apply in engine servicing areas.

Do not make a movement over a derail in derailing position.

Siding having hand-thrown derails will have derail locked in the non-derailing position, except when engines or cars are left unattended on siding. On auxiliary tracks other than siding, except when derails are placed in non-derailing position to permit movement, make sure they are always in derailing position regardless of whether cars are on the track they are protecting. Lock all derails equipped with a lock.

Derails that are used in conjunction with worker protection ~~Rule 5.12 (Protection of Occupied Outfit Cars), Rule 5.13 (Blue Signal Protection of Workmen), or roadway worker protection~~ must be in the derailing position with proper flag displayed only when their use is required for such protection. When their use is not required for protection:

- Remove portable derails, then remove flag.  
or
- Lock fixed derails in non-derailing position with an effective locking device, then remove (take down) flag.

## **System Special Instruction**

### **8.20 Derail Location and Position**

#### **Change last paragraph to read:**

Derails that are used in conjunction with worker protection must be in the derailing position with proper flag displayed only when



their use is required for such protection. When their use is not required for protection:

- Remove portable derails, then remove flag.  
or
- Lock fixed derails in non-derailing position with an effective locking device, then remove (take down) flag.

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Updated: 4/29/2011

## 9.0: BLOCK SYSTEM RULES

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- [9.2: Location of Signals](#)
- [9.3: What Signals Govern](#)
- [9.4: Improperly Displayed Signals or Absent Lights](#)
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- [9.24: Call Lights](#)

## 9.1: Signal Aspects and Indications

Distant, block, and interlocking signal aspects and indications are shown in the special instructions.

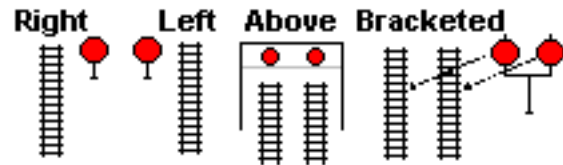
Signal aspects are identified by the position of semaphore arms, color of lights, flashing of lights, position of lights, or any combination. Aspects may be qualified by marker plate, number plate, letter plate, or marker light.

Signals may display color light aspects or semaphore arms and color lights.

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## 9.2: Location of Signals

When viewed from the train, block and interlocking signals are generally to the right of the track. However, they may be located to the left or above the track. To display indications for two tracks, two bracketed signals may be located on a supporting mast. The signal to the right governs the track to the right, and the signal to the left governs the track to the left.



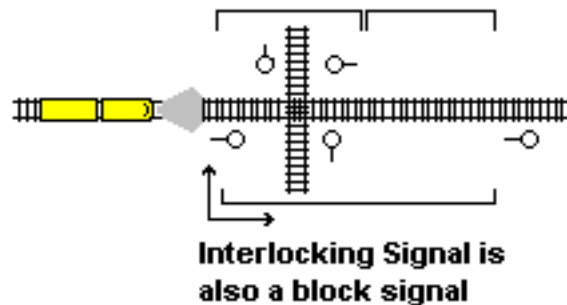
[Diagram A]

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## 9.3: What Signals Govern

Block signals, cab signals, or both govern the use of blocks.

Interlocking signals govern the use of interlocking routes. Where a track is signaled beyond the interlocking limits in the direction of movement, the interlocking signal is also a block signal.



[Diagram A]

All other rules, where required, remain in effect when complying with the indication of block and interlocking signals.

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## 9.4: Improperly Displayed Signals or Absent Lights

Except as shown in block, cab, and interlocking signal aspects in the special instructions, if a light is absent, a white light is displayed where a colored or lunar light should be, or additional colored or lunar lights are displayed, regard a block or interlocking signal as displaying the most restrictive indication it can give. However, when the semaphore arm position is plainly seen, that aspect will govern.

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## 9.5: Where Stop Must Be Made

When movement is being made beyond a block signal requiring a train to be prepared to stop at the next signal, the stop must be made before any part of a train passes the block signal requiring the train to stop.

If a train overruns any block signal that requires it to stop, the crew must:

- Warn other trains at once by radio.
- Stop the train immediately.
- Report it to the train dispatcher.

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### 9.5.1: Changing Established Route

Except to avoid an accident, after a controlled signal has been cleared for a closely approaching train, the control operator must not change the signal before the approaching train's engineer has assured the control operator that he can comply with the signal change. Do not establish or authorize a conflicting route until communicating with the approaching train's crew and ensuring that the train has stopped clear of the conflicting route.

The control operator must not establish a conflicting route into an occupied block or interlocking limits, or authorize a conflicting movement, unless it is safe to do so.

The control operator must avoid operating the device controlling a switch, derail, movable point frog, or lock when any portion of a train is on or closely approaching the equipment.

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### 9.5.2: Protection If Signal Appliance or Track Is Damaged

If a signal or signal appliance functions improperly or the track is damaged, signals that govern movements on affected routes must display a Stop indication. No movements on such routes may be permitted until track and signal appliances are examined and movement can occur safely.

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### 9.5.3: Protection During Repairs

Within CTC limits or within manual interlocking limits (unless track bulletin Form B is in effect), when a switch, movable point frog, derail, or signal is under repair or is disconnected, or when the track is obstructed or removed from service, display Stop indications for all affected routes. In addition, block or mark any controls to prevent their operation.

Maintenance forces must contact the control operator before beginning repairs, disconnecting equipment, obstructing the track, or removing the track from service. Switches, movable point frogs, and derails must be spiked or secured in the required position if any movement over them occurs before repairs are complete.

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### **9.5.4: Authority to Proceed**

Except when a signal is used to provide protection within CTC limits or at manual interlockings, control operators must not give hand signals or verbally authorize movement beyond a Stop indication when a proceed indication can be displayed for the movement.

At manual interlockings, control operators must give hand signals so that crew members can understand the signals and know which train they are intended for.

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### **9.5.5: Reporting Delays**

When a controlled signal displays a proceed indication, notify the control operator immediately if movement cannot occur promptly.

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### **9.5.6: Track Occupancy Indicator**

Where track occupancy indicators are located, employees must observe the indication before fouling a circuit or changing the derail or a main track switch.

When an occupied indication is displayed, trains or equipment must not foul the main track unless movement is properly protected.

Track occupancy indications do not authorize movement or relieve employees from protecting movements as required by the rules.

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## **9.6: Change of Signal Indication**

If a signal displaying a proceed indication changes to an indication requiring a train to stop, the train must stop at once. Report such a signal change to the train dispatcher.

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## **9.7: Failure to Display Most Restrictive Indication**

When a block is occupied, or when a switch protected by a signal is changed from its normal position and that signal fails to display its most restrictive indication, regard the signal as displaying Stop. The train must stop immediately, and employees must warn others by radio of the exact location and status of the train. Contact the train dispatcher or control operator and do not move the train without permission.

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## 9.8: Next Governing Signal

A train may comply with the next signal's indication when its aspect can be clearly seen and the signal governs the track where movement is occurring or will be made. This does not apply when a rule or previous signal indication requires movement at restricted speed.

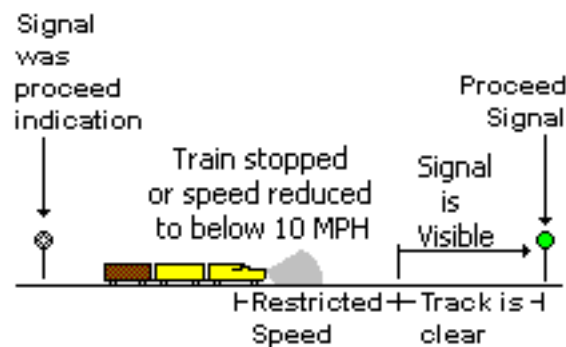
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## 9.9: Train Delayed Within a Block

If a train has entered a block on a proceed indication that does not require restricted speed, and the train stops or its speed is reduced below 10 MPH, the train must:

### A. ABS

Proceed at restricted speed. The train must maintain this speed until the next signal is visible, that signal displays a proceed indication, and the track to that signal is clear.



[Diagram A]

### B. CTC or Manual Interlocking Limits

Proceed prepared to stop at the next signal until the next signal is visible and that signal displays a proceed indication.

Passenger trains operating in push/pull service must not exceed 40 MPH until the next signal is visible and that signal displays a proceed indication.

### C. ACS

Operate according to cab signal indication.

## System Special Instruction

### Add to Part B:

Passenger trains operating in Push/Pull service must not exceed 40 MPH until the next signal is visible and that signal displays a proceed indication.

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### 9.9.1: Approach to Automatic Interlocking

A train must proceed prepared to stop at the interlocking signal when:

- Moving below 25 MPH and passing a signal that governs the approach to an automatic interlocking.  
or
- Speed is reduced to below 25 MPH after passing a signal that governs the approach to an automatic interlocking.

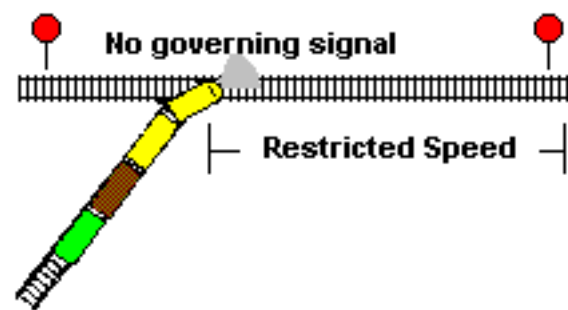
The train must continue to move prepared to stop at the interlocking signal until the train reaches a point approximately 1,000 feet from that signal. If the interlocking signal then indicates proceed, the train may resume speed.

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### 9.10: Initiating Movement Between Signals

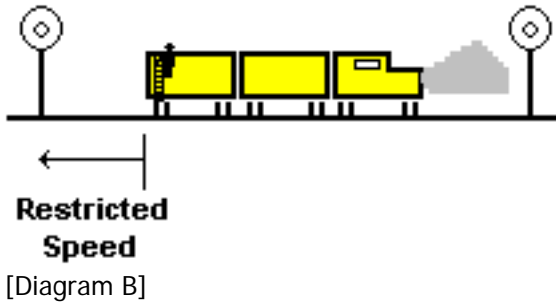
When one of the following occurs, move at restricted speed until the leading wheels have passed the next governing signal or the end of the block system:

- The train enters a block with no governing signal.



[Diagram A]

- The previous signal indication is unknown.
- Movements in the opposite direction from which the block was entered.



## Exception

If a train is within ACS or ATC territory with operative cab signals, the train may operate according to the cab signal indication.

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## 9.11: Movement from Signal Requiring Restricted Speed

When a train passes a signal requiring movement at restricted speed, the train must move at restricted speed until its leading wheels have passed the next governing signal or the end of the block system.

Exception:  
If a train is within ACS or ATC territory, with operative cab signals, the train may immediately comply with the cab signal indication.

## System Special Instruction

### 9.11 Movement from Signal Requiring Restricted Speed

**Add exception to read:**

**Exception:**

If a train is within ACS or ATC territory, with operative cab signals, the train may immediately comply with the cab signal indication.

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## 9.12: Stop Indications

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### 9.12.1: CTC Territory

At a signal displaying a Stop indication, if no conflicting movement is evident, the train will be governed as follows:

- A crew member must immediately contact the control operator unless the train is:
  - Within track and time limits.
  - or
  - Entering track and time limits from any point other than either end of the track and time limits.
- Before authorizing the train to proceed, the control operator must know that the route is properly lined and no conflicting movement is occupying or authorized to enter the track between that signal and the next absolute signal governing movement or the end of CTC where applicable.
- When the train receives these instructions, "After stopping, (train) at (location) has authority to pass signal displaying Stop



indication," specifying the route where applicable. The train must move at restricted speed.

## Exception

**Conflicting Movement.** When the control operator has stopped a conflicting movement, he may then authorize another train to proceed in the same limits, advising both crews of movement to be made. If the stopped movement is later permitted to proceed, that train must move at restricted speed until its leading wheels have passed the next governing signal or the end of the block system.

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## 9.12.2: Manual Interlockings

At a signal displaying a Stop indication, if no conflicting movement is evident, the train will be governed as follows:

- A crew member must immediately contact the control operator.
- Before authorizing the train to proceed, the control operator must know that the route is properly lined and no conflicting movement is occupying or authorized to enter the track between that signal and the next absolute signal governing movement or the end of interlocking limits where applicable.
- The control operator may authorize the train to proceed by using hand signals or the following instructions, "After stopping, (train) at (location) has authority to pass signal displaying Stop indication," specifying the route where applicable. The train must move at restricted speed.
- If the signal governs movement over a drawbridge, a crew member must verify that the bridge is in the proper position for the train to pass.

Before proceeding into or continuing in CTC territory, the manual interlocking control operator must be sure that the CTC control operator has given authority to proceed.

## Exception

**Conflicting Movement.** When the control operator has stopped a conflicting movement, he may then authorize another train to proceed, advising both crews of movements to be made. If the stopped movement is later permitted to proceed, that train must move at restricted speed until its leading wheels have passed the next governing signal or the end of the block system.

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## 9.12.3: Automatic Interlockings

At a signal displaying a Stop indication, the crew will be governed by instructions in the release box, special instructions, or other instructions. After complying with the instructions that allow the train to proceed, if signal continues to display a Stop indication, the train must move at restricted speed. However, if there is a conflicting movement, the train must not proceed until the movement has passed or stopped, and both crews agree on the next movement.

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## 9.12.4: ABS Territory

At a signal displaying a Stop indication outside interlocking limits, the train will be governed as follows:

## A. Main Track

On a main track, except where Rule 9.14 ( Movement with the Current of Traffic) is in effect, after stopping, a train authorized beyond the signal must comply with one of the following procedures:

1. Proceed at restricted speed, if authority beyond the signal is joint with other trains or employees.
2. Proceed at restricted speed to permit an engine, with or without cars, to couple to its train or to a standing cut of cars, if the track between the engine and cars is clear.
3. Proceed at restricted speed when a crew member has contacted the train dispatcher and obtained permission to pass the Stop indication. However, if the train dispatcher cannot be contacted, move 100 feet past the signal, wait 5 minutes, then proceed at restricted speed.

## B. Movement with the Current of Traffic

On a main track where Rule 9.14 (Movement with the Current of Traffic) is in effect, after stopping, a crew member must contact the train dispatcher or control operator and obtain permission to pass the Stop indication, then proceed at restricted speed. However, if the signal governs movement to a single main track, comply with Rule 9.17 (Entering Main Track at Hand-Operated or Spring Switch), then proceed at restricted speed.

## C. Siding or Other Track

If the signal governs movements from a siding or other track to the main track, comply with Rule 9.17 (Entering Main Track at Hand-Operated or Spring Switch), then proceed at restricted speed.

## D. Control Point Locations

At control point locations, if no conflicting movement is evident, a crew member must immediately contact the control operator for authority to pass the Stop indication unless the control point is within the trains track permit limits.

## System Special Instruction

### 9.12.4 ABS Territory

Add:

⊖ D. Control Point Locations

At control point locations, if no conflicting movement is evident, a crew member must immediately contact the control operator for authority to pass the Stop indication unless the control point is within the trains track permit limits.

## General Order

**Change letter reference** under Rule 9.12.4 for Control Point Locations (page 79) to read D instead of C.

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## 9.13: When Instructed to Operate Dual Control Switches by Hand

If the control operator cannot line the dual control switch to the desired position, or the control machine does not indicate that the

switch is lined and locked, ~~the control operator must authorize movement past the Stop indication and instruct the employee to operate the switch by hand. Movement may then proceed to that switch.~~ before authorizing movement the control operator and crew must have a clear understanding specifying:

\* The control point.

\* Route.

\* Switch(s) that must be operated by hand.

The control operator may then authorize movement past the Stop indication and instruct the employee to operate the switch by hand.

Movement may then proceed as authorized only after a clear understanding is reached with all crew members specifying the control point, route, and switch(s) that must be operated by hand.

Before passing over the switch, the train must stop and the employee must operate the switch by hand as outlined in Rule 9.13.1 (Hand Operation of Dual Control Switches). After at least one unit or car has passed over the switch points, the employee must return the switch to power unless otherwise instructed by the control operator.

## System Special Instruction

### Change rule to read:

If the control operator cannot line the dual control switch to the desired position, or the control machine does not indicate that the switch is lined and locked, before authorizing movement. The control operator and crew must have a clear understanding specifying:

\* The control point.

\* Route.

\* Switch(s) that must be operated by hand.

The control operator may then authorize movement past the Stop indication and instruct the employee to operate the switch(s) by hand.

Movement may then proceed as authorized only after a clear understanding is reached with all crew members specifying the control point, route, and switch(s) that must be operated by hand.

Before passing over the switch, the train must stop and the employee must operate the switch by hand as outlined in Rule 9.13.1 (Hand Operation of Dual Control Switches). After at least one unit or car has passed over the switch points, the employee must return the switch to power unless otherwise instructed by the control operator.

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## 9.13.1: Hand Operation of Dual Control Switches

An employee must get permission from the control operator to operate a dual control switch by hand. Operate the switch as follows:

- Unlock the switch lock.
- Place the selector lever in the HAND position or remove the hand crank from the holder.
- Operate the hand throw lever until the switch points are seen to move when the lever is operated, even if the switch is lined for the intended route.
- Line the switch for the intended route, or insert the crank on the shaft and turn the crank as far as it will turn until the switch is in the desired position. Remove the crank from the shaft, but do not return it to the crank holder.
- Return the switch to power by restoring the selector lever to the POWER or MOTOR position and lock. Or, return the crank to the holder and secure it with the switch lock. Notify the control operator after power to the switch is restored.

When the selector lever is in the HAND position or the crank has been removed from the holder, signals governing movements over the switch will display Stop indication, and movements will be governed by hand signals. Notify the engineer, if possible, when the switch is in hand operation and when it has been restored to power operation.

For other types of switch machines, follow the above procedure using the instructions for operation posted at the switch or by special instructions.

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## 9.13.2: Performing Switching

When necessary to place a dual control switch in hand operation to perform switching the crew must:

- Complete a job briefing with the control operator on moves to be made.
- Receive authority to enter the control point.
- Receive permission to place the switch in hand operation.

Crew will then comply with Rule 9.13.1, except do not return switch to power until final movement has been made over the switch.

Notify the control operator when switch has been returned to power, further movements must be made by signal indication or as authorized by the control operator.

### System Special Instruction

#### Add new rule:

When necessary to place a dual control switch in hand operation to perform switching the crew must:

- Complete a job briefing with the control operator on moves to be made.
- Receive authority to enter the control point.
- Receive permission to place the switch in hand operation.

Crew will then comply with Rule 9.13.1, except do not return switch to power until final movement has been made over the switch.

Notify the control operator when switch has been returned to power, further movements must be made by signal indication or as authorized by the control operator.

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## 9.14: Movement with the Current of Traffic

On tracks designated in the timetable, trains will run with the current of traffic, if the train dispatcher gives verbal authorization or a controlled signal indicates proceed.

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### 9.14.1: Reporting Clear of a Track Having a Current of Traffic

A train without a crew member on the rear and operating on a track having a current of traffic may report clear of the limits or report having passed a specific location only when it is known the train is complete. This must be determined by one of the following ways:

- The rear of the train has a rear-end telemetry device, and air pressure on the head-end device indicates brake pipe continuity.
- An employee verifies the marker is on the rear of the train.
- A crew member can observe the rear car of the train on which the marker is placed.
- The train is stopped and an inspection verifies that the marker is on the rear car of the train.
- A trackside warning detector transmits an axle count for the train, and axle count duplicates the axle count transmitted by the previous trackside warning detector.

In addition, a train clearing in a siding or other track must comply with requirements outlined in Rule 8.3 (Main Track Switches) before reporting clear of the limits.

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## 9.14.2: Controlled Block System (CBS)

On tracks designated in the timetable, movements will run in the direction specified by verbal authority from the train dispatcher or a controlled signal indicating proceed. This authority will establish the current of traffic for the movement. Before granting authority, the train dispatcher must know that conflicting movements are protected.

A train must not enter or occupy any track in CBS limits unless:

- A controlled signal indicates proceed.  
or
- Verbal authority is granted.

A movement must proceed only in the direction authorized unless authority is granted by Rule 9.15 (Track Permits).

A movement authorized in one direction must report to the train dispatcher when it has cleared the main track within CBS limits. A movement that clears the main track within CBS limits must not reenter that track without new authority unless within Track Permit Limits.

In CBS limits, Rule 9.15 (Track Permits) is in effect.

### System Special Instruction

#### 9.14.2 Controlled Block System (CBS)

**Add new rule:**

On tracks designated in the timetable, movements will run in the direction specified by verbal authority from the train dispatcher or a controlled signal indicating proceed. This authority will establish the current of traffic for the movement. Before granting authority, the train dispatcher must know that conflicting movements are protected.

A train must not enter or occupy any track in CBS limits unless:

- A controlled signal indicates proceed.  
or
- Verbal authority is granted.

A movement must proceed only in the direction authorized unless authority is granted by Rule 9.15 (Track Permits).

A movement authorized in one direction must report to the train dispatcher when it has cleared the main track within CBS limits. A

movement that clears the main track within CBS limits must not reenter that track without new authority unless within Track Permit Limits.

In CBS limits, Rule 9.15 (Track Permits) is in effect.

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## 9.15: Track Permits

On tracks designated in the timetable, a track permit will authorize a train, track car, machine, or employee to occupy the main track or tracks between specific points. The track permit must be issued by a designated control operator under the direction of the train dispatcher. Within these limits, movements may be made in either direction according to signal indication.

Limits designated by a switch extend only to the signal governing movement over the switch, unless otherwise designated.

A train must obtain authority to pass a controlled signal displaying Stop indication to enter track permit limits. Within track permit limits a train, after stopping, may pass a signal displaying Stop indication at restricted speed without further authority, except when signal governs movement at an interlocking.

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### 9.15.1: Issuing Track Permits

The track permit may only be issued when:

- Limits are clear.
- Limits are occupied by the train, track car, machine, or employee who will receive the track permit.
- Limits are occupied by a train, track car, machine, or employee holding a track permit.  
or
- All trains moving on signal indication without a track permit have passed the location where the track will be fouled.

The track permit limits must be protected by controlled signals. The designated control operator must know the following before issuing a track permit:

- Each controlled signal protecting the limits displays a Stop indication.
- Marking or blocking devices prevent displaying signals for movement into the limits.
- The designated control operator and each control operator who controls signals to protect the limits understand the limits, have provided protection, and have recorded the track permit on the prescribed form.

### Track Permit Acknowledgment

Track permit authority must be recorded and repeated to the control operator. Acknowledgment must be received before being acted upon.

The control operator must maintain a record of the authority granted.

### More than One Track Permit

If more than one track permit is in effect at any time within the same limits, all affected trains or employees must be notified.

Trains must move at restricted speed within these limits.

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## 9.15.2: Clearing Track Permits

Marking or blocking devices must not be changed or removed until the limits have been released to the control operator.

Track permit limits must be cleared and reported clear to the control operator before time expires. If the track permit is released before time expires, all equipment must be clear of the limits and reported clear to the designated control operator. However, if no other track permit has been granted within the same limits, the train may request release of the track permit. Signal indications will then govern the train if the control operator verbally authorizes the release, specifying direction of movement if required.

When necessary to modify the expiration time, an employee and the control operator must communicate before the time expires to adjust the time granted. If the employee cannot contact the control operator and the time limit expires, authority is extended until the control operator is contacted.

Employees reporting clear of track permit authority must state:

- Their name or other identification.
- Track permit number being released.
- Limits being released.

### Releasing Portion of Limits

When a crew member informs the control operator that the authority is released between two specific points, the authority is considered void between those points. This track release must begin at the outer limit of the authority.

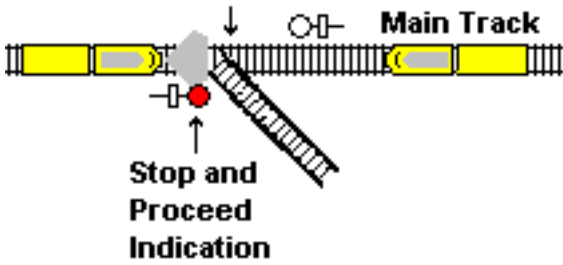
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## 9.16: Stop and Proceed Indication

At a signal displaying a Stop and Proceed indication, the train will be governed as follows:

1. The train must stop, then proceed at restricted speed.  
or
2. The train may pass the signal at restricted speed without stopping to do any of the following:
  - a. Leave the main track when the switch is lined for movement and the track is clear from the signal to the clearance point.

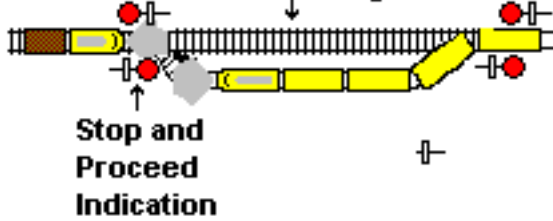
**Switch lined and track clear to clearance point**



[Diagram A]

b. Continue on the main track when meeting or passing a train, and the main track is clear to the opposite end of the siding where a train is fouling the main track.

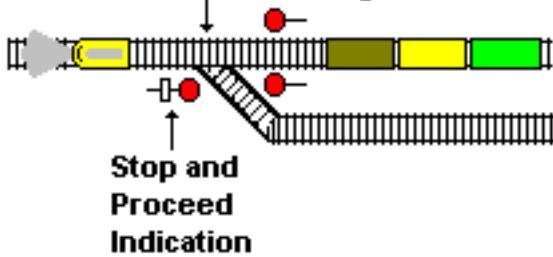
**Track is clear to opposite end of siding**



[Diagram B]

c. Permit an engine, with or without cars, to couple to its train or to a standing cut of cars, if the track between the engine and cars is clear.

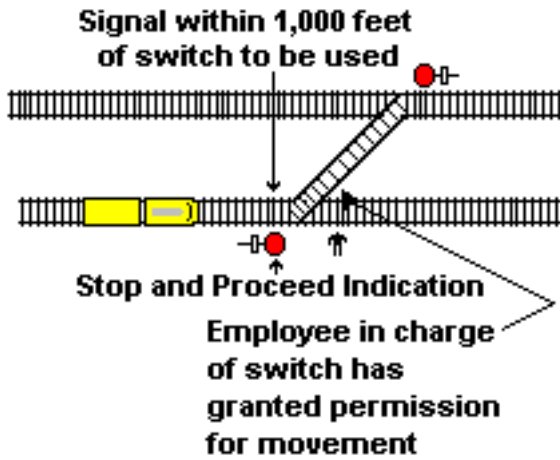
**Track clear between engine and cars**



[Diagram C]

d. Enter a switch that is less than 1,000 feet beyond the signal, and the employee in charge of the switch has granted permission for movement.





[Diagram D]

- e. Continue on the main track when proceeding at restricted speed due to rule or previous signal indication.
- f. Move within track and time, work and time, work between, track permit, or track out of service limits.

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## 9.17: Entering Main Track at Hand-Operated or Spring Switch

Within CTC territory and manual interlocking limits, the control operator must authorize the train to enter the track at a hand-operated or spring switch where no governing signal exists. The control operator must verify that there are no conflicting movements before giving the authority.

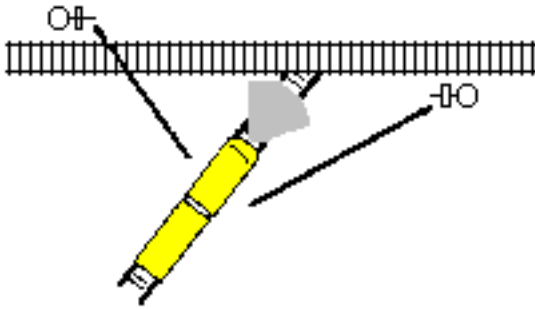
In ABS territory, when authorized to enter the signaled track, a crew member or switch tender must open the switch and wait 5 minutes at the switch to establish block signal protection. If at the end of 5 minutes the employee does not hear or see movement approaching, the train may enter the signaled track. At a crossover, line the switch in the track the train is on, wait the 5 minutes, then line the other switch of the crossover.

### A. When Hand Operation of a Spring Switch or 5 Minute Wait Is Not Required

Waiting 5 minutes or operating the spring switch by hand is not required [unless prescribed by Rule 8.9 (Movement over Spring Switches)] under any of the following conditions:

1. Switch is equipped with an electric lock.
2. ~~Track occupancy indicator indicates track is clear.~~
3. Block signal governing movement to signaled track indicates proceed.
4. Block signals governing movements on the signaled track indicate that no train is approaching from either direction.

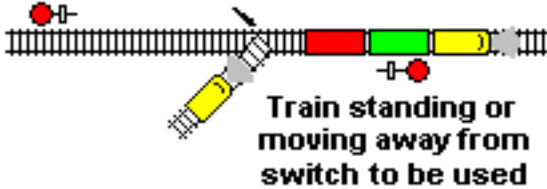
**Signals indicate no train approaching from either direction**



[Diagram A]

- Block to be entered is occupied by a train, engine, or car that is standing or moving away from the switch to be used.

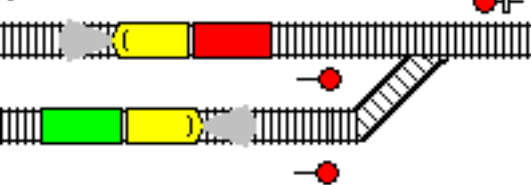
**Switch within same block**



[Diagram B]

- Main track between siding switches is occupied by a train that has been met or a standing train that will be passed.

**Track occupied by train met or passed**



[Diagram C]

- Train is entering a main track outside of yard limits for authorized movement against the current of traffic.
- Rule 6.14 (Restricted Limits) is in effect, provided movement does not occur beyond restricted limits for 5 minutes after the main track circuit is fouled, unless a block signal displays a proceed indication.
- Work and time authority is granted within DTC.
- Track permit authorizes movement.
- or
- Track warrant outside yard limits authorizes WORK BETWEEN two specific points.

## System Special Instruction

### 9.17 Entering Main Track at Hand-Operated or Spring Switch

#### Part A. When Hand Operation of a Spring Switch or 5 Minute Wait Is Not Required

##### Application:

Condition (2) does not apply on UPRR.

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## 9.17.1: Signal Protection in ABS by Lining Switch

When a train or engine is within ABS limits and requires action as necessary to stop other trains, this may be provided by lining and locking a main track switch against movement at or beyond the point where the train or engine will stop movement or clear the main track.

If the switch is located within a block other than the one occupied, do not make movements until 5 minutes after the switch has been lined. Also, make sure no train or engine is between the switch and the train or engine being protected or is within or closely approaching the block where the switch is located.

Except where Rule 6.13 (Yard Limits) or Rule 6.14 (Restricted Limits) is in effect, a train must receive permission from the train dispatcher before crossing over to or obstructing another main track signaled for movement in one or both directions.

Train dispatcher must ensure that no other movements against the current of traffic have been or will be authorized. Crew members must notify the train dispatcher when their movement is clear of the other main track.

In addition, before crossing over or fouling a main track, trains must comply with the following:

1. Do not move until 5 minutes after lining the switch.
2. Locate the block signal that protects the switch against trains moving with the current of traffic. To move against the current of traffic past that signal, pull the leading engine or car 100 feet beyond the signal. Wait 10 minutes before moving any further against the current of traffic. Then proceed at restricted speed.
3. To move against the current of traffic beyond any further signals, obtain authority as outlined in Rule 14.6 (Movement Against the Current of Traffic) or Rule 15.3 (Authorizing Movement Against the Current of Traffic).

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## 9.18: Electrically Locked Switches and Derails

Special instructions or instructions posted near the switch will govern the operation of switches and derails equipped with electric locks.

To enter a main track within interlocking or CTC limits, employees must not open the case of door or unlock an electrically locked switch or derail without track and time or authority from the control operator.

### Emergency Release

If the electric lock includes an emergency release, do not break the seal on the release or operate the release without permission from the control operator or train dispatcher. However, when communication has failed, the seal may be broken and/or the release operated:

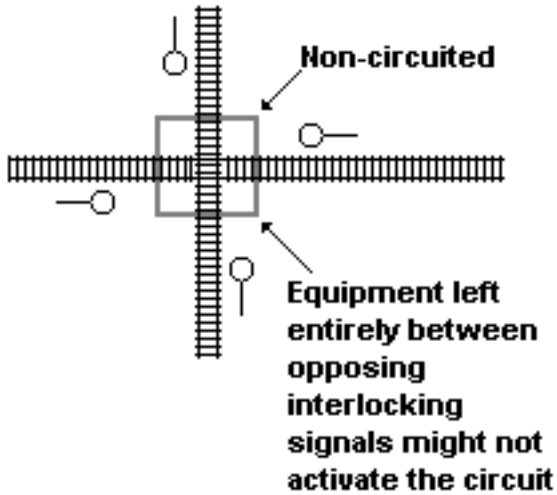
- To permit a train to leave the main track.  
**or**
- To permit a train that has authority to enter the main track. Train must not enter the main track until 5 minutes after the seal is broken and/or the release operated.

Notify the control operator or train dispatcher when the seal has been broken and/or the emergency release operated.

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## 9.19: Leaving Equipment in Signal System

Engines, cars, or equipment must not be detached and left standing entirely between the opposing interlocking signals that govern movements at a railroad crossing at grade.



[Diagram A]

Do not depend upon track equipment, other than engines or cars to actuate block signals, interlocking signals, or highway crossing signals or to be under the protection of such signals.

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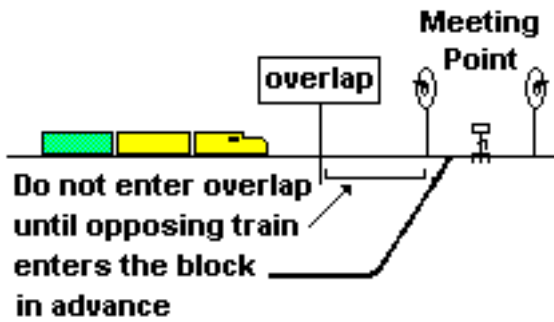
## 9.20: Clear Track Circuits

A train, engine, car, or equipment left standing on sidings or other tracks must be clear of insulated joints at clearance points.

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## 9.21: Overlap Circuits

Overlaps may be identified by overlap signs. A train on the main track at a meeting point must not pass an overlap sign location or open a switch within the overlap until the opposing train has entered the block.



[Diagram A]

A preceding train must clear the overlap as soon as possible to avoid delaying a following train.

Unless otherwise instructed by the train dispatcher, a train on a siding at a meeting or passing point must not pass an overlap sign location until authorized to leave the siding.

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## 9.22: Standing on Sanded Rail

Do not allow an engine with less than three cars, or cuts of four cars or less, to stand on a sanded rail.

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## 9.23: Suspension of Block System

When authorized, a track bulletin may suspend the block system or sections of it.

Do not suspend the block system or sections of it until all trains and control operators in the affected territory have been notified by track bulletin specifying the limits of the suspension.

Track bulletins issued to suspend the block system must not be delivered to trains entering the affected territory until the affected limits are clear of trains, or until the track bulletin has been transmitted or delivered to all trains within the limits.

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### 9.23.1: Guidelines While Block System Is Suspended

#### **Change rule to read:**

When a block system or sections of it are suspended, the following guidelines govern:

A Track Bulletin will specify, when applicable:

- \* The affected tracks and milepost limits of the suspension.
- \* The location(s) of flagmen who may authorize trains to enter or to proceed at intermediate locations within the suspended limits, specifying track(s) when necessary.
- \* The position of dual control switches at the end of multiple main tracks.
- \* Dual control switches that have been locked in hand operation for main track movement.
- \* Actions to be taken where automatic crossing warning devices are affected.

\* When track warrants may be used to authorize movement.

**Crew members must:**

- \* Follow rules that apply to non-signaled territory and not exceed 59 MPH for passenger trains or 49 MPH for other trains.
- \* Disregard extinguished or illuminated block and interlocking signals, unless specified by track bulletin, except when those signals:
  - Govern movements over railroad crossings at grade.
  - Are connected with trackside warning detectors.
- \* Approach the beginning and end of the suspended limits prepared to stop. When suspension ends at a block signal identified as in service, trains must approach that signal prepared to stop until its aspect can be clearly seen.
- \* If suspension begins at an in service control point, signal indication will only authorize movement through the control point, not beyond it.
- \* If suspension does not end at a signal identified as in service, trains leaving the limits and moving into block system territory must move at restricted speed to the first signal in service beyond the limits.

**Movements over Railroad Crossings at Grade and Drawbridges:**

- \* Signals that govern movement over railroad crossings at grade and drawbridges must be regarded as displaying a Stop indication, regardless of the aspect displayed, unless the track bulletin specifies that the signals are in service or flagman at that location authorizes movement.
- \* Crew members must not rely on time release or key controller operation as adequate protection to move over the crossing, unless instructed that they are in service.

**Dual Control Switches:**

Unless notification has been received from the train dispatcher that dual control switches are:

- \* Locked in hand operation and are lined for intended movement.
- or
- \* Attended by a flagman;

Trains must stop and crew member must:

- \* Hand operate and lock dual control switches for main track movement.
- \* Leave switches locked in hand operation.
- \* Notify the train dispatcher that switches have been locked in hand operation and lined for main track movement.

Remote control switches not equipped for hand operation will be spiked or clamped and all concerned notified.

**Spring Switches:**

Spring switches removed from service must be spiked and those concerned notified. If spring switches are left in service, trains making facing point movements must be prepared to stop and test the switch, unless it is known that the switch is properly lined for the diverging route.

**Block System Returned to Normal:**

Train Dispatcher must notify crew members within the affected territory before permitting other trains to enter the limits when the block signal system will be returned to normal operation.

When the block system or sections of it are suspended, the following guidelines govern:

- Employees must follow rules that apply to non-signaled territory.
- Trains must receive a track bulletin prescribing speed restrictions that do not exceed 59 MPH for passenger trains or 49 MPH for other trains.
- Trains will disregard extinguished or illuminated block and interlocking signals except where:
  - Signals govern movements over railroad crossings at grade or drawbridges.
  - or
  - Signals are connected with trackside warning detectors.

Trains must approach the block and interlocking signals excepted above and each end of the suspended limits prepared to stop. Trains that leave the limits and move into block system territory must move at restricted speed until they reach the first signal in service beyond the limits. Signals that govern movement over railroad crossings at grade and drawbridges must be regarded as displaying a Stop indication, regardless of the aspect displayed, unless the track bulletin specifies that the signals are in service.

If the crew does not know that signals governing movement over railroad crossings at grade are in service, the crew must provide flag protection in each direction on conflicting routes before proceeding over the crossing. Crew members must not rely on time release or key controller operation as adequate protection while moving over the crossing, unless they are instructed otherwise.

- On multiple main tracks, a track bulletin will designate the track or tracks the block system is suspended on. A track bulletin that specifies the track to be used will be issued to each train.
- Where automatic crossing warning devices have been affected, action to be taken will be stated in the track bulletin.
- Dual control switches on the main track will be lined and locked for main track movement. Switches equipped with selector levers will be locked in the HAND position. All other dual control switches will be spiked. All concerned will be notified. Until informed by the train dispatcher, trains must stop and inspect dual control switches, foul the circuit, and make sure the switch is properly lined before passing over it.

A track bulletin must be issued that specifies which position dual control switches at the end of double track or multiple main tracks are to be left lined.

If a crew member receives notification from the train dispatcher of the position of dual control switches, leave those switches in that position after use.

- Spring switches that will be removed from service must be spiked and those concerned notified.

If spring switches are left in service, trains making facing point movements must be prepared to stop, unless it is known that the switch is properly lined.

- When the block system has been returned to normal operation, a track bulletin must notify all trains within the affected territory before any train can enter the limits and be governed by the block system.

## System Special Instruction

### 9.23.1 Guidelines While Block System Is Suspended

#### Change rule to read:

When a block system or sections of it are suspended, the following guidelines govern:

A Track Bulletin will specify, when applicable:

- \* The affected tracks and milepost limits of the suspension.
- \* The location(s) of flagmen who may authorize trains to enter or to proceed at intermediate locations within the suspended limits, specifying track(s) when necessary.
- \* The position of dual control switches at the end of multiple main tracks.
- \* Dual control switches that have been locked in hand operation for main track movement.
- \* Actions to be taken where automatic crossing warning devices are affected.
- \* When track warrants may be used to authorize movement.

**Crew members must:**

- \* Follow rules that apply to non-signaled territory and not exceed 59 MPH for passenger trains or 49 MPH for other trains.
- \* Disregard extinguished or illuminated block and interlocking signals, unless specified by track bulletin, except when those signals:
  - Govern movements over railroad crossings at grade.
  - Are connected with trackside warning detectors.
- \* Approach the beginning and end of the suspended limits prepared to stop. When suspension ends at a block signal identified as in service, trains must approach that signal prepared to stop until its aspect can be clearly seen.
- \* If suspension begins at an in service control point, signal indication will only authorize movement through the control point, not beyond it.
- \* If suspension does not end at a signal identified as in service, trains leaving the limits and moving into block system territory must move at restricted speed to the first signal in service beyond the limits.

**Movements over Railroad Crossings at Grade and Drawbridges:**

- \* Signals that govern movement over railroad crossings at grade and drawbridges must be regarded as displaying a Stop indication, regardless of the aspect displayed, unless the track bulletin specifies that the signals are in service or flagman at that location authorizes movement.
- \* Crew members must not rely on time release or key controller operation as adequate protection to move over the crossing, unless instructed that they are in service.

**Dual Control Switches:**

Unless notification has been received from the train dispatcher that dual control switches are:

- \* Locked in hand operation and are lined for intended movement.  
or
- \* Attended by a flagman;

Trains must stop and crew member must:

- \* Hand operate and lock dual control switches for main track movement.
- \* Leave switches locked in hand operation.
- \* Notify the train dispatcher that switches have been locked in hand operation and lined for main track movement.

Remote control switches not equipped for hand operation will be spiked or clamped and all concerned notified.

**Spring Switches:**

Spring switches removed from service must be spiked and those concerned notified. If spring switches are left in service, trains making facing point movements must be prepared to stop and test the switch, unless it is known that the switch is properly lined for the diverging route.

**Block System Returned to Normal:**

Train Dispatcher must notify crew members within the affected territory before permitting other trains to enter the limits when the block signal system will be returned to normal operation.



## 9.24: Call Lights

When a call light is on, any employee who sees it, unless the employee is on a moving train, must contact the control operator immediately.

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Updated: 1/28/2011

## 10.0: RULES APPLICABLE ONLY IN CENTRALIZED TRAFFIC CONTROL (CTC)

- [10.1: Authority to Enter CTC Limits](#)
- [10.2: Clearing Through Hand-Operated Switches](#)
- [10.3: Track and Time](#)
- [10.3.1: Protection of Limits](#)
- [10.3.2: Protection of Machines, Track Cars, or Employees](#)
- [10.3.3: Joint Track and Time](#)
- [10.3.4: Track and Time Acknowledgment](#)

### 10.1: Authority to Enter CTC Limits

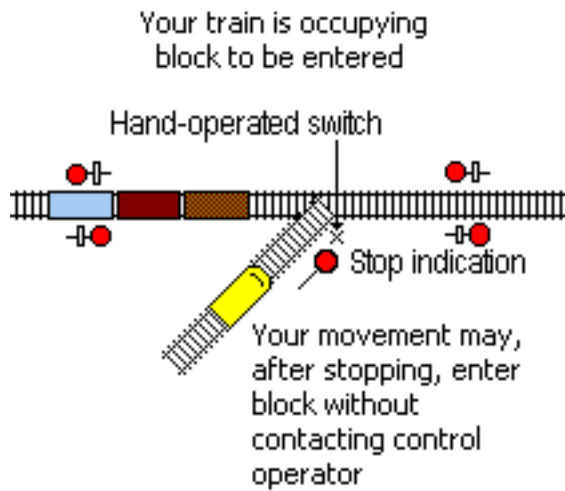
CTC limits are designated in the timetable. Sidings within CTC limits are controlled sidings and are governed by CTC rules. A train must not enter or occupy any track where CTC is in effect unless a controlled signal displays a proceed indication or the control operator authorizes:

- Movement past a Stop indication under Rule 9.12.1 (CTC Territory).
- A train to enter track between block signals as follows: "(Train) at (location) has authority to enter (track) and proceed (direction)." After entering the track, the train is authorized to move only in the direction specified.  
  
or
- Track and Time under Rule 10.3 (Track and Time).

### Signal Governing Movement Over a Hand-Operated Switch

If a signal governs movement over a hand-operated switch that is not electrically locked, the control operator must authorize the train to enter or occupy any track where CTC is in effect before the switch is opened. After the switch is opened, if the signal does not display a proceed indication, a crew member must wait 5 minutes at the switch. After the 5 minute wait if the signal does not display a proceed indication, move the train at restricted speed and notify the control operator.

However, if the block to be entered is occupied by its own standing train or when the hand-operated switch remains open, the movement may, after stopping, pass an absolute signal displaying a Stop indication without waiting 5 minutes and without contacting the control operator.



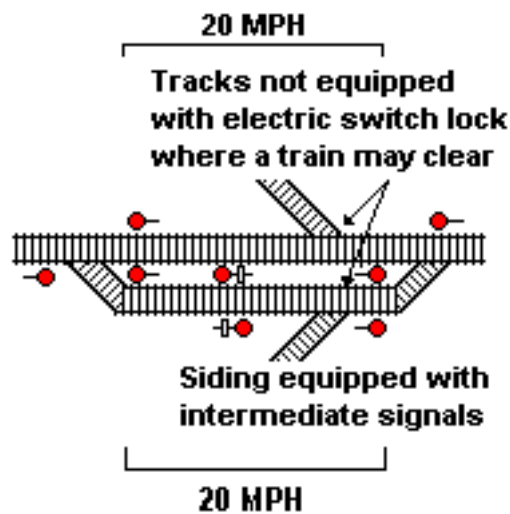
[Diagram A]

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## 10.2: Clearing Through Hand-Operated Switches

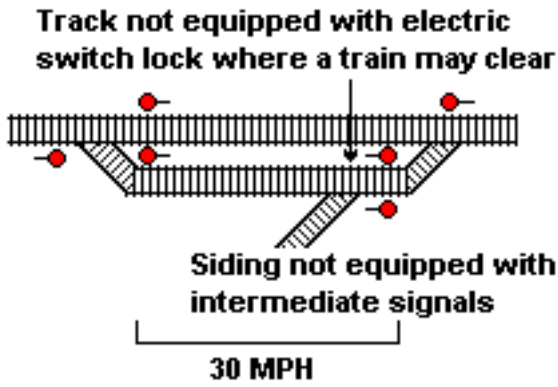
Where CTC is in effect, a train must not clear in any track at a hand-operated switch not equipped with an electric switch lock, except under one of the following conditions:

- Where the permanent maximum authorized speed does not exceed 20 MPH on the main track or a controlled siding equipped with an intermediate signal.



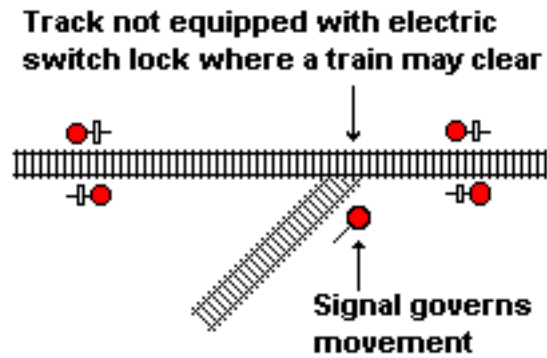
[Diagram A]

- Where the permanent maximum authorized speed does not exceed 30 MPH on a controlled siding not equipped with an intermediate signal.



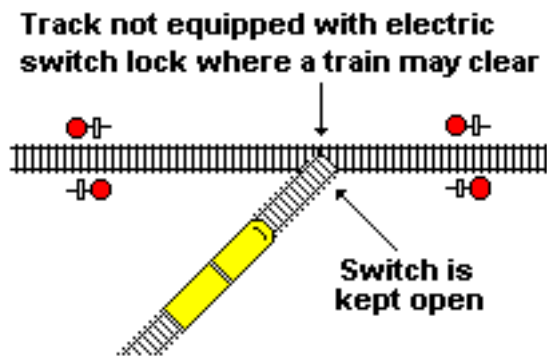
[Diagram B]

- Where a signal governs movement to a track where CTC is in effect.



[Diagram C]

- When the hand-operated switch is kept open.



[Diagram D]

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### 10.3: Track and Time

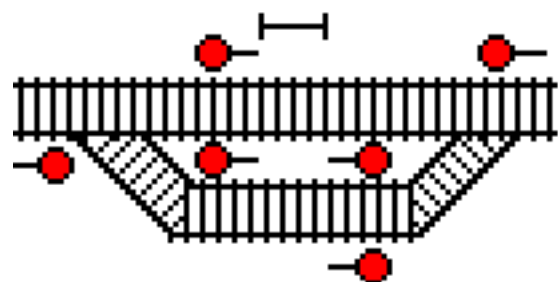
The control operator may authorize a train to occupy a track or tracks within specified limits for a certain time period. Authority must

include track designation, track limits, and either a time limit or the words "until released". The train may use the track in either direction within the specified limits according to signal indication until the limits are verbally released.

Limits designated by a switch extend only to the signal governing movement over the switch unless otherwise designated.

**West Switch    Anna    East Switch**

**Limits extend only to the signal governing movement over the switch**



**Track and time between West Switch Anna and East Switch Anna**

[Diagram A.]

**Track and time does not authorize trains to occupy the track(s) within interlocking limits.**

## A. Passing Signal Displaying Stop or Stop and Proceed Indication

Except at interlockings, trains granted track and time:

1. After stopping at a signal displaying a Stop indication, must be granted verbal authority to enter the limits at either end. Verbal authority is not required after stopping within the limits or when entering the limits at any other location. Train must move at restricted speed.
2. Must observe the requirements for inspection of spring switches.
3. May pass a signal within the limits displaying Stop and Proceed indication without stopping.

## B. Time Limits

Trains must release track and time before the time granted expires. When necessary to modify the expiration time, an employee and the control operator must communicate before time expires to adjust the time granted. If the employee cannot contact the control operator and the time limit expires, authority is extended until the control operator is contacted.

## C. Releasing When Within the Limits

If no other employee has received track and time within the same limits, a train may release track and time to move in a specified direction. Signal indications will then govern the train, if the control operator verbally authorizes the release specifying direction of movement.

Employees releasing track and time must state:

- Their name or other identification.
- The track and time limits being released, including number, if applicable.

## D. Releasing Portion of Limits

When a crew member informs the control operator that the authority is released between two specific points, the authority is considered void between those points. This track release must begin at the outer limit of the authority.

### System Special Instruction

**Application of the second paragraph:** When the track and time includes "Switch Yes," the limits include that switch and the track between the absolute signals governing movement over the switch.

**Application of the boxed sentence:** Track and time limits are sometimes issued across an interlocking. Track and time provides authority to be on the main track in CTC on both sides of the interlocking; however, it does not provide authority to occupy the interlocking limits. Interlocking rules must be complied with.

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## 10.3.1: Protection of Limits

Before granting track and time, the control operator must apply blocking or marking devices to the control machine to prevent movement into the limits. The control operator may only grant track and time:

1. If the limits are clear.
2. If the limits are occupied by a train with track and time or that will receive track and time.
3. For an engine to switch a train standing within the limits. Crew members on the engine must provide protection against possible movement of the standing train, if necessary.  
or
4. After all trains moving within the limits that do not have track and time have passed the location where the track will be occupied, and the employee has been notified that authority is granted behind such trains.

Blocking or marking devices must not be changed or removed until limits have been released to the control operator.

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## 10.3.2: Protection of Machines, Track Cars, or Employees

Machines, track cars, or employees will receive track and time in the same manner as trains.

Machines, track cars, or employees must be clear of the limits before the employee granted track and time releases the authority.

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## 10.3.3: Joint Track and Time

Before track and time is granted where limits will be jointly occupied, the control operator must issue joint track and time to all trains, machines, track cars or employees within the same limits or that will enter the limits. Trains must move at restricted speed within joint track and time limits.

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### **10.3.4: Track and Time Acknowledgment**

Track and time authority must be recorded and repeated to the control operator. Acknowledgment must be received before being acted upon.

The control operator must maintain a record of the authority granted.

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Updated: 9/02/2010

## 11.0: RULES APPLICABLE IN ACS, ATC AND ATS TERRITORIES

- [11.1: Establishing Absolute Block](#)
- [11.2: Signal Indications with Absolute Block](#)
- [11.3: Broken or Missing Seals](#)

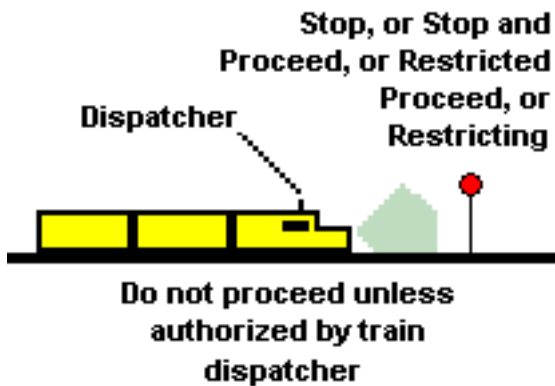
### 11.1: Establishing Absolute Block

Absolute block may be established in advance of a train. The train dispatcher can establish it verbally or by issuing a track bulletin addressed only to the train affected by stating, "Absolute block is established in advance of your train between \_\_\_\_\_ and \_\_\_\_\_."

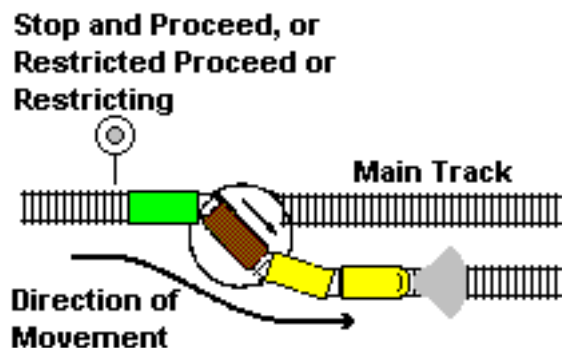
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### 11.2: Signal Indications with Absolute Block

When absolute block is established in advance of a train, the train must not pass a signal indicating Stop, Stop and Proceed, Restricted Proceed, or Restricting unless verbally authorized by the train dispatcher. However, the train may leave the main track through a switch that is immediately after a signal indicating Stop and Proceed or Restricting.



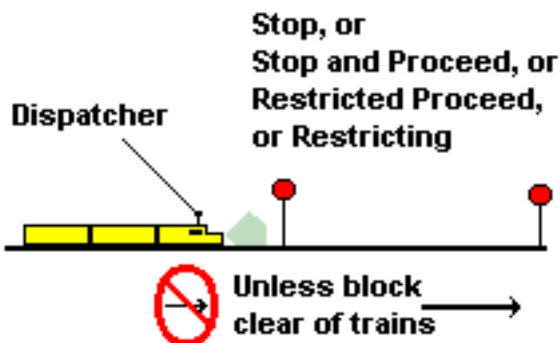
[Diagram A]





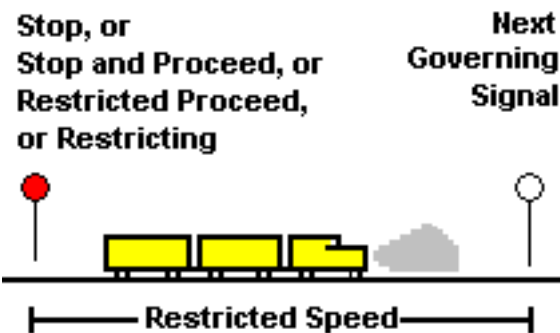
[Diagram B]

When absolute block is established in advance of a train, the train dispatcher must not authorize the train to pass a signal indicating Stop, Stop and Proceed, Restricted Proceed, or Restricting until the block governed by that signal is clear of trains.



[Diagram C]

If authorized to pass the signal, the train must proceed at restricted speed until it reaches the next governing signal.



[Diagram D]

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### 11.3: Broken or Missing Seals

Do not break the seal on the cutout cock or cut out ACS or ATS devices unless they do not operate properly. Report ACS or ATS failures, interruptions, and removal of or missing seals to the train dispatcher immediately.

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Updated: 9/24/2011

## 12.0: RULES APPLICABLE ONLY IN AUTOMATIC TRAIN STOP SYSTEM (ATS) TERRITORY

- [12.1: Required Equipment](#)
- [12.1.1: ATS Seals and Keys](#)
- [12.2: ATS Device Cut Out, Not Equipped, or Not Working](#)
- [12.3: Unusual Conditions](#)
- [12.3.1: ATS Penalty Brake Application](#)
- [12.3.2: ATS Inoperative](#)
- [12.3.3: Damaged Inductor](#)
- [12.4: ATS Testing](#)
- [12.4.1: Test Inductor Locations](#)
- [12.4.2: No Test Inductors](#)

### 12.1: Required Equipment

Except as provided in Rule 12.2 (ATS Device Cut Out, Not Equipped, or Not Working), an engine controlling the air brakes of a passenger train within ATS limits must be equipped with an operative ATS device.

#### System Special Instruction

Delete the word "passenger".

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#### 12.1.1: ATS Seals and Keys

When operating in ATS territory, the ATS must be sealed or locked.

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### 12.2: ATS Device Cut Out, Not Equipped, or Not Working

Within ATS limits, if the ATS device on an engine controlling the train's air brakes fails or is cut out enroute, or if the engine on a train being detoured is not equipped with a working ATS device, the following will apply:

- The train dispatcher must be notified promptly by radio or telephone.
- The train may proceed according to signal indication, but cannot exceed 40 mph until an absolute block is established in advance of the train.
- If an absolute block is established in advance of the train as provided in Rule 11.1 (Establishing Absolute Block), the train may proceed according to signal indication, but cannot exceed 79 MPH.

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## 12.3: Unusual Conditions

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### 12.3.1: ATS Penalty Brake Application

When two successive ATS penalty brake applications have occurred while passing over inductors at signals displaying Proceed, engineer must acknowledge at each succeeding inductor thereafter, regardless of signal indications and report to the train dispatcher.

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### 12.3.2: ATS Inoperative

The ATS system is considered inoperative when:

- Acknowledging at subsequent inductors at signals when required by Rule 12.3.1 (ATS Penalty Brake Applications), or at two successive inert inductors, does not prevent penalty stops.
  - The acknowledgment alarm fails to sound or light fails to illuminate when acknowledgment is required at an inductor at a wayside signal indicating other than Proceed.
  - Brakes do not apply upon failure to acknowledge a signal indicating other than Proceed.
- OR**
- Absence of, or damage to, an ATS receiver is noted.

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### 12.3.3: Damaged Inductor

Employees noting the absence of or damage to a wayside inductor in approach to a signal must notify the train dispatcher. The train dispatcher must immediately call the signal maintainer who must cause the signal to display its most restrictive indication until inductor is replaced or repaired.

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## 12.4: ATS Testing

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### 12.4.1: Test Inductor Locations

1. Move engine at 3 MPH or more over first inductor while holding the acknowledging device in full position (not over 15 seconds) to determine that brake application does not occur.
2. Move engine at 3 MPH or more over second inductor and do not acknowledge, a brake application should occur. Operate reset device to full position and release brakes.
3. Report as prescribed in Rule 17.4.1.

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## 12.4.2: No Test Inductors

At locations where there are no test inductors:

1. Pass a test bar under the ATS receiver while holding the acknowledging device in full position (not over 15 seconds) to determine that brake application does not occur.
2. Pass a test bar under the ATS receiver and do not acknowledge. A brake application should occur. Operate reset device to full position and release brakes.
3. Report as prescribed in Rule 17.4.1.

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Updated: 5/04/2010

## 13.0: RULES APPLICABLE ONLY IN AUTOMATIC CAB SIGNAL SYSTEM (ACS) TERRITORY

- [13.1: General Information](#)
- [13.1.1: Observance of Signals](#)
- [13.1.2: Conforming with Block Signals](#)
- [13.1.3: Does Not Indicate Conditions Ahead](#)
- [13.1.4: Cab Signals Cut In and Out](#)
- [13.1.5: Departure Test](#)
- [13.2: Normal Operation](#)
- [13.2.1: Restrictive to More Favorable](#)
- [13.2.2: Favorable to More Restrictive](#)
- [13.2.3: Elimination of Audible Indicator](#)
- [13.3: Unusual Conditions](#)
- [13.3.1: Cab Signal and Block Signal Do Not Agree](#)
- [13.3.2: Inoperative Cab Signal Device](#)
- [13.3.3: Movement with an Inoperative Cab Signal Device](#)

### 13.1: General Information

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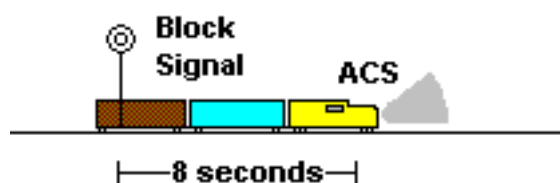
#### 13.1.1: Observance of Signals

The Automatic Cab Signal (ACS) system is used in addition to block signals to govern the use of blocks. However, employees must continue to observe rules that govern the use of block signals as well as other rules, except as outlined in Rules 13.2.1 (Restrictive to More Favorable) and 13.2.2 (Favorable to More Restrictive).

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#### 13.1.2: Conforming with Block Signals

The cab signal and block signal systems are interconnected so that the cab signal agrees with the block signal indication within 8 seconds after the engine passes the block signal that governs entrance into a block.



[Diagram A]

## Exception

The ACS system is to be considered inoperative through turnouts and crossovers. Block signal indications and speeds specified in the special instructions for each turnout govern movements through turnouts and crossovers.

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### 13.1.3: Does Not Indicate Conditions Ahead

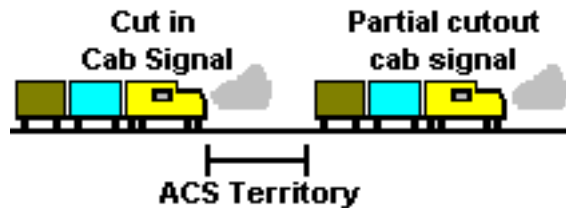
Cab signals will not indicate conditions ahead when the engine is:

- Moving against the current of traffic.
  - Shoving cars.
- OR**
- Moving backward and not equipped for backward operation.

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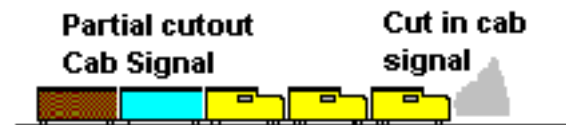
### 13.1.4: Cab Signals Cut In and Out

The cab signal on the lead unit must be cut in before entering and while operating within ACS territory and placed in partial cutout after leaving ACS territory.



[Diagram A]

The cab signal must be placed in partial cutout on all trailing units in ACS territory.



[Diagram B]

Before taking charge of an engine in or approaching ACS territory, the engineer must know that the cab signal devices are cut in and operative and that the ACS cutout is properly sealed. If the device was cutout or seal is missing upon taking charge of a locomotive, the ACS equipment must be re-tested. If device was previously tested and fails to function properly upon entering, or while operating in ACS territory, the train dispatcher must be notified and the train must be operated under an absolute block. If the device was not tested previously, the engineer must make a departure test prior to entering ACS territory.

**Do not cut out cab signal devices while the train is in ACS territory, unless authorized to do so.**

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### 13.1.5: Departure Test

A cab signal departure test must be made at the initial terminal of the locomotive. The certification of the departure test shall be recorded on the proper form and posted in the Locomotive cab, with a copy left at the test location for filing in the office of the supervisor having jurisdiction. If it is impractical to leave a copy of the certification and test results at that location, then the results must be transmitted to either the train dispatcher or another designated individual before entering equipped territory. A written record of the test results and the name of the person performing the test shall be retained for 92 days at these locations.

The departure test must determine that:

1. The ACS device is operative and cutout handle is sealed.
2. The cab signal apparatus reflects all aspects according to the code rates.
3. Acknowledgment of all more restrictive aspects will silence the audible indicator and forestall a penalty brake application.
4. Not acknowledging the restrictive indication will initiate a full service penalty brake application within eight (8) seconds.

### System Special Instruction

**Add new rule:**

A cab signal departure test must be made at the initial terminal of the locomotive. The certification of the departure test shall be recorded on the proper form and posted in the Locomotive cab, with a copy left at the test location for filing in the office of the supervisor having jurisdiction. If it is impractical to leave a copy of the certification and test results at that location, then the results must be transmitted to either the train dispatcher or another designated individual before entering equipped territory. A written record of the test results and the name of the person performing the test shall be retained for 92 days at these locations.

The departure test must determine that:

1. The ACS device is operative and cutout handle is sealed.
2. The cab signal apparatus reflects all aspects according to the code rates.
3. Acknowledgment of all more restrictive aspects will silence the audible indicator and forestall a penalty brake application.
4. Not acknowledging the restrictive indication will initiate a full service penalty brake application within eight (8) seconds.

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## 13.2: Normal Operation

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### 13.2.1: Restrictive to More Favorable

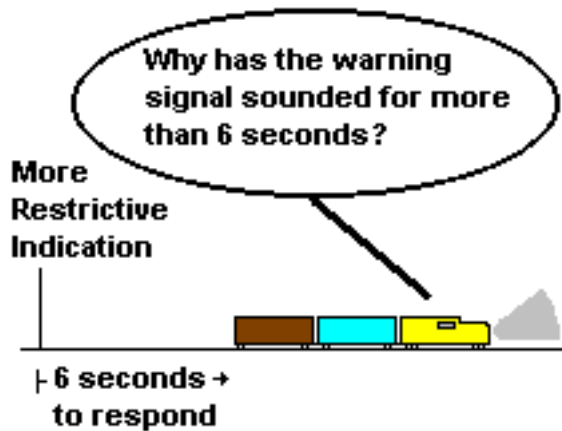
Cab signal indications do not supersede the indication displayed on block and interlocking signals. However, when a cab signal changes to a more favorable indication after having passed the block or interlocking signal, the train may immediately comply with the indication.

### 13.2.2: Favorable to More Restrictive

When a cab signal changes to a more restrictive indication, the engineer must comply promptly with the indication received.

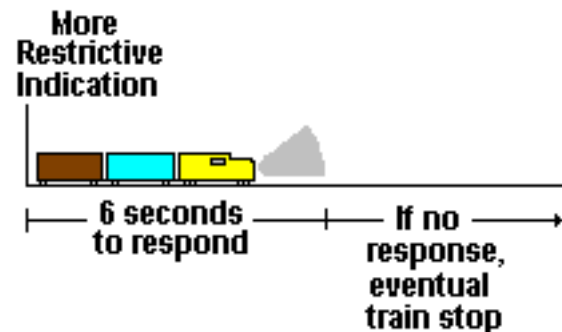
#### Acknowledging Restrictive Indication

When a cab signal changes to a more restrictive indication, the engineer must acknowledge the change with the acknowledging device. On engines not equipped with the Coded Cab Signal-Safety Control (CCS-SC) System, another member of the crew must immediately find out from the engineer why the warning whistle sounded longer than 6 seconds. When conditions require, the crew member must stop the train immediately.



[Diagram A]

On engines equipped with CCS-SC, the engineer must acknowledge the change within 6 seconds of receiving it to avoid a penalty brake application.



[Diagram B]

#### Penalty Brake Application Occurs

On engines equipped with CCS-SC, if the engineer does not acknowledge the more restrictive indication, a full service penalty brake application will occur automatically within 6 to 8 seconds. When this occurs, the engineer must do the following:



- Place the automatic brake valve handle in suppression position and leave it there until the train stops.
- Place the throttle in idle position.
- Acknowledge the signal change with the acknowledging device.
- After the train has stopped and the P.C. light goes out, place the automatic brake valve handle in release position.

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### 13.2.3: Elimination of Audible Indicator

To keep the audible indicator from sounding while the train is stopped in a cab signal test loop, place the reverser handle in either the neutral or reverse position. This will change the cab signal to its most restrictive aspect. After acknowledging the signal change, no more signal changes will be received.

Place the reverser handle in the forward position to automatically restore the equipment to normal operation.

Since the reverser handle in trailing units is in neutral position, the audible indicator is automatically silenced on trailing units.

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## 13.3: Unusual Conditions

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### 13.3.1: Cab Signal and Block Signal Do Not Agree

If the cab signal does not display the proper ACS aspect shown in the Block and Interlocking Signal Rules:

- The most restrictive block or cab signal indication must be complied with. A crew member must promptly notify the train dispatcher of the location, signal number, and track where the signals did not agree.
- At control point locations with only an absolute signal(s), when authorized by the train dispatcher to pass the Stop indication, the cab signal may change to a more favorable indication at the signal. The train may comply with the cab signal indication. This is normal due to track circuitry and would not be considered an improper display of the cab signal.

**Exception:** When the train dispatcher's instructions require the train to proceed at Restricted Speed, the train must comply with the train dispatcher's instructions regardless of cab signal indication.

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### 13.3.2: Inoperative Cab Signal Device

The ACS system is to be considered inoperative when:

- The audible indicator does not sound when the cab signal changes to a more restrictive indication.
- The audible indicator continues to sound when the cab signal change is acknowledged.
- The cab signal does not conform at two consecutive block or interlocking signal locations.

**OR**

- Any part of the cab signal device is damaged.

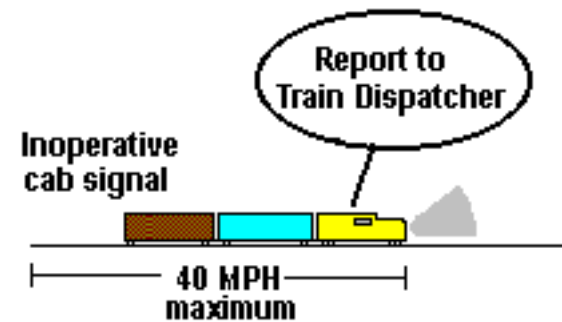
## Known in Advance

When it is known in advance that the ACS system is inoperative in a specific area, crew members will be notified with a track bulletin.

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### 13.3.3: Movement with an Inoperative Cab Signal Device

When it is determined the cab signal device is inoperative, the train may proceed according to block signal indications. However, the train must not exceed 40 MPH until it reaches a point where a crew member can report the defect to the train dispatcher.



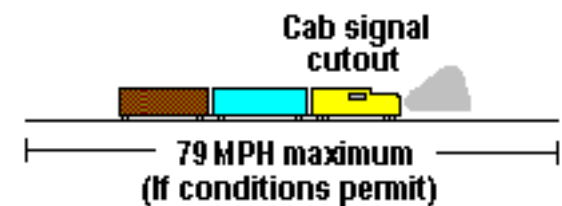
[Diagram A]

The train dispatcher will:

- Instruct the crew to cut out the cab signal device.
- Establish an absolute block in advance of the train.
- Instruct the crew to position the acknowledging lever in the Partial Cutout position (C/O) when cab signal is inoperative due to a power outage.

When the cab signal device has been cut out, the train must:

- Proceed according to block signal indications, not exceeding 79 MPH.
- Comply with Rule 11.2 (Signal Indications with Absolute Block).



[Diagram B]

When it is determined the cab signal device is inoperative due to a power outage, a crew member will position the acknowledging lever in the Partial Cutout position.

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Updated: 9/24/2011

## **14.0: RULES APPLICABLE ONLY WITHIN TRACK WARRANT CONTROL (TWC) LIMITS**

- [14.0: RULES APPLICABLE ONLY WITHIN TRACK WARRANT CONTROL \(TWC\) LIMITS](#)
- [14.1: Authority to Enter TWC Limits](#)
- [14.2: Designated Limits](#)
- [14.3: Operating with Track Warrants](#)
- [14.3.1: Leaving the Main Track](#)
- [14.4: Occupying Same Track Warrant Limits](#)
- [14.4.1: Radio Blocking](#)
- [14.5: Protecting Men or Equipment](#)
- [14.6: Movement Against the Current of Traffic](#)
- [14.7: Reporting Clear of Limits](#)
- [14.8: Track Warrant Requests](#)
- [14.9: Copying Track Warrants](#)
- [14.9.1: Duplicating Track Warrants](#)
- [14.10: Track Warrant in Effect](#)
- [14.11: Changing Track Warrants](#)
- [14.12: Not Used](#)
- [14.13: Mechanical Transmission of Track Warrants](#)

## **14.0: RULES APPLICABLE ONLY WITHIN TRACK WARRANT CONTROL (TWC) LIMITS**

**TRACK WARRANT**

(Suggested form)

NO: \_\_\_\_\_

TO: \_\_\_\_\_

1.  TRACK WARRANT NO. \_\_\_\_\_ IS VOID.
2.  PROCEED FROM \_\_\_\_\_ TO \_\_\_\_\_ ON \_\_\_\_\_ TRACK.
3.  PROCEED FROM \_\_\_\_\_ TO \_\_\_\_\_ ON \_\_\_\_\_ TRACK.
4.  WORK BETWEEN \_\_\_\_\_ AND \_\_\_\_\_ ON \_\_\_\_\_ TRACK.
5.  NOT IN EFFECT UNTIL \_\_\_\_\_
6.  THIS AUTHORITY EXPIRES AT \_\_\_\_\_
7.  NOT IN EFFECT UNTIL AFTER ARRIVAL OF \_\_\_\_\_ AT \_\_\_\_\_
8.  HOLD MAIN TRACK AT LAST NAMED POINT.
9.  DO NOT FOUL LIMITS AHEAD OF \_\_\_\_\_
10.  CLEAR MAIN TRACK AT LAST NAMED POINT.
11.  BETWEEN \_\_\_\_\_ AND \_\_\_\_\_ MAKE ALL MOVEMENTS AT RESTRICTED SPEED. LIMITS OCCUPIED BY TRAIN.
12.  BETWEEN \_\_\_\_\_ AND \_\_\_\_\_ MAKE ALL MOVEMENTS AT RESTRICTED SPEED. LIMITS OCCUPIED BY MEN OR EQUIPMENT.
13.  DO NOT EXCEED \_\_\_\_\_ MPH BETWEEN \_\_\_\_\_ AND \_\_\_\_\_
14.  DO NOT EXCEED \_\_\_\_\_ MPH BETWEEN \_\_\_\_\_ AND \_\_\_\_\_
15.  FLAG PROTECTION NOT REQUIRED AGAINST FOLLOWING TRAINS ON THE SAME TRACK.
16.  TRACK BULLETINS IN EFFECT \_\_\_\_\_
17.  OTHER SPECIFIC INSTRUCTIONS: \_\_\_\_\_

OK \_\_\_\_\_ (TIME) DISPATCHER \_\_\_\_\_

LIMITS REPORTED CLEAR AT \_\_\_\_\_

(Mark the box for each item instructed.)

**Example Track Warrant for Bulletins**

NO: **(Track Warrant)** FROM: **(Location)** TO: **(Location)** DATE: \_\_\_\_\_

TO: **(Engine)** **(Train ID)** AT: **(Location)**

ON: **Subdivision (000)**

16. (X) 4 TRACK BULLETINS IN EFFECT: 42034 42683 42554 42276

17. (X) OTHER SPECIFIC INSTRUCTIONS:

THIS WARRANT IS USED TO DELIVER TRACK BULLETINS ONLY AND DOES NOT CONVEY AUTHORITY TO OCCUPY THE MAIN TRACK.

OK **(time)** DISPATCHER **ABC** RELAYED TO: \_\_\_\_\_

COPIED BY: \_\_\_\_\_

**System Special Instruction**

**14.0 Rules Applicable Only Within Track Warrant Control (TWC) Limits**

Additions to suggested form.

Add a "Box 18" and a "Track Warrant Has" line and "Clear of" location lines to Track Warrant Form as shown:

18.  Joint With:

\_\_\_\_\_ Between \_\_\_\_\_ & \_\_\_\_\_

\_\_\_\_\_ Between \_\_\_\_\_ & \_\_\_\_\_.

\_\_\_\_\_ Between \_\_\_\_\_ & \_\_\_\_\_.

**Add** summary lines (the total number of boxes marked and individual box numbers.)

Track Warrant Has \_\_\_\_\_ Boxes Marked: \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_.

**Add "roll up" lines**

Clear of \_\_\_\_\_ at \_\_\_\_\_ Disp \_\_\_\_\_ by \_\_\_\_\_

Clear of \_\_\_\_\_ at \_\_\_\_\_ Disp \_\_\_\_\_ by \_\_\_\_\_

Clear of \_\_\_\_\_ at \_\_\_\_\_ Disp \_\_\_\_\_ by \_\_\_\_\_

**Lines 5, 6 and 15 have been deleted.**

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## 14.1: Authority to Enter TWC Limits

Where designated by the timetable, a track warrant will authorize main track use under the direction of the train dispatcher or as prescribed by Rule 6.13 (Yard Limits) or 6.14 (Restricted Limits). Track warrant instructions must be followed where yard limits or restricted limits are in effect.

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## 14.2: Designated Limits

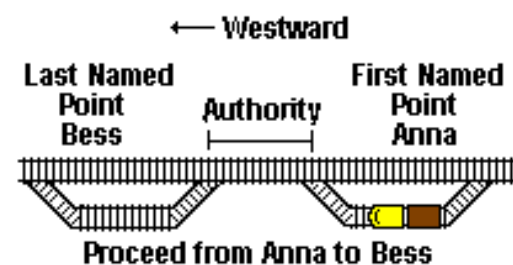
Track warrant limits must be designated by specifying track, where required, and specific locations such as switches, mile posts, or railroad identifiable points. However, station names may be used as follows:

### A. First Named Point

When a station name designates the first named point, authority extends from and includes the last siding switch. Authority extends from the station sign if no siding exists.

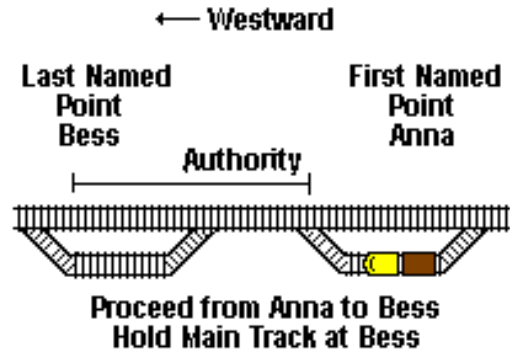
### B. Last Named Point

When a station name designates the last named point, authority extends to and includes the first siding switch. Authority extends to the station sign if no siding exists.



[Diagram A]

At the last named point, authority extends to but does not include the last siding switch when the track warrant states, "Hold main track at last named point."

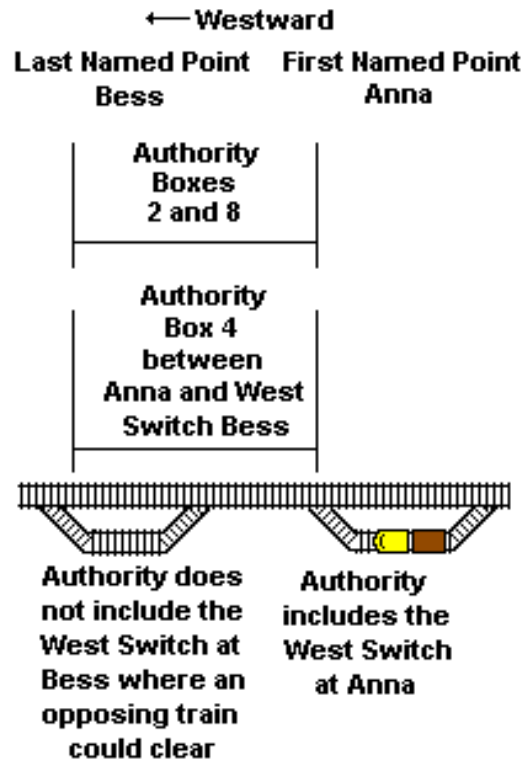


[Diagram B]

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### 14.3: Operating with Track Warrants

A track warrant authorizes a train or engine to occupy the main track within designated limits. However, the train or engine must not foul a switch at either end of the limits where an opposing train may use the same switch to clear the main track.



[Diagram A]

The train or engine must move as follows:

1. Proceed from one point to another in the direction the track warrant specifies. When a crew member informs the train dispatcher that the entire train has passed a specific point, track warrant authority is considered void up to that point.

or

2. If authorized to "WORK BETWEEN" two specific points, the train or engine may move in either direction between those points. When a crew member informs the train dispatcher that the authority is released between two specific points, the authority is considered void between those points. This track release must begin at the outer limit of the authority.

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### 14.3.1: Leaving the Main Track

A train authorized to proceed in one direction must inform the train dispatcher when it leaves the main track before reaching the last named point, unless a crew member is left to prevent a following movement from passing.

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## 14.4: Occupying Same Track Warrant Limits

A track warrant must not be issued to a train within the same or overlapping limits with another train unless:

1. In signaled territory, all trains are authorized to proceed in the same direction.
2. In non-signaled territory, all trains are authorized to proceed in the same direction and are instructed to move at restricted speed.
3. Two or more trains are authorized to "WORK BETWEEN" two specific points at restricted speed within the overlapping limits.
4. Trains are authorized to proceed through the limits of another train authorized to "WORK BETWEEN" two specific points, and track warrants instruct all trains to move at restricted speed within the overlapping limits. When station name(s) designate the overlapping limits, refer to Rule 14.2 (Designated Limits) for limits where trains are required to move at restricted speed.  
or
5. Radio Blocking is authorized as outlined by Rule 14.4.1 (Radio Blocking).

Where track warrant authority includes yard limits or restricted limits, the terms of Rule 6.13 (Yard Limits) or Rule 6.14 (Restricted Limits) apply, but track warrant instructions must be followed.

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### 14.4.1: Radio Blocking

Where designated by special instructions, in non-signaled territory, more than one train may be authorized to proceed in the same direction within the same or overlapping limits, provided the following train:

- Is notified on the track authority of the identity of the preceding train.
- Does not occupy the limits ahead of the preceding train.
- Notifies the crew of the preceding train that radio blocking has been authorized stating the limits.
- Is notified by the preceding train that the entire train has passed a specific location. Location specified must not be beyond limits indicated. The following words must be used: "(Train) clear of (location)".
- Does not proceed beyond the last location the preceding train has reported to have passed.

All instructions between the trains must be written, repeated, and acknowledged with "THAT IS CORRECT" before being acted on. These written instructions between the trains must be retained until the end of tour of duty.

Notify the train dispatcher if communication cannot be established between the two trains. If necessary, radio blocking information may be relayed only by the train dispatcher.

The last named point of the following train's authority must not extend beyond the last named point of the preceding train's authority.

In the application of Rule 6.4 (Reverse Movements) and Rule 6.6 (Picking Up Crew Member), the movement must not go beyond the last specific location reported to the following train.



## Written Instructions Between Trains

(Suggested Form)

(Following Train ID) is authorized Radio Blocking from \_\_\_\_\_ to \_\_\_\_\_ behind (Preceding Train ID).

	<u>LOCATION</u>		<u>TIME</u>		<u>CREW MEMBER</u>
(Preceding Train ID) clear of	_____	at	_____	reported by	_____
	_____	at	_____	reported by	_____
	_____	at	_____	reported by	_____
	_____	at	_____	reported by	_____
	_____	at	_____	reported by	_____

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## 14.5: Protecting Men or Equipment

Men or equipment may receive a track warrant in the same manner as trains to occupy or perform maintenance on the main track without other protection.

A track warrant must not be issued to protect men or equipment within the same or overlapping limits with a train unless:

1. All trains are authorized to proceed in one direction only, and the track warrant specifies that men or equipment do not occupy limits ahead of these trains.  
or
2. All trains authorized are notified of the men or equipment and have been instructed by track warrants to move at restricted speed within overlapping limits. When station name(s) designate the overlapping limits, refer to Rule 14.2 (Designated Limits) for limits where trains are required to move at restricted speed. Also, a track warrant must inform the employee in charge of men or equipment about the trains. If the track is not safe for trains to move at restricted speed, the employee must protect the track with red flags according to Rule 5.4.7 (Display of Red Flag or Red Light).

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## 14.6: Movement Against the Current of Traffic

When a track warrant authorizes a train to move against the current of traffic, the train must use only the track designated within the specified limits. This train must not allow a train following on the same track to pass, unless the train dispatcher instructs it to pass.

### **Application:**

This rule does not apply on UPRR unless designated in the timetable.

### **System Special Instruction**

### **Application:**

This rule does not apply on UPRR unless designated in the timetable.

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## 14.7: Reporting Clear of Limits

Before reporting clear of the limits or reporting having passed a specific location, confirm with the dispatcher that the conductor and engineer have discussed their location and are in agreement with limits or warrant being released. Communication must include the track warrant number when releasing track warrants.

A train without a crew member on the rear and operating in non-signaled or double track territory may report clear of the limits, report having passed a specific location, or release the track between two specific locations only when it is known the train is complete. This must be determined by one of the following ways:

1. The rear of the train has a rear-end telemetry device, and air pressure on the head-end device indicates brake pipe continuity.
2. An employee verifies the marker is on the rear of the train.
3. A crew member can observe the rear car of the train on which the marker is placed.
4. The train is stopped, and an inspection verifies that the marker is on the rear car of the train.
5. A trackside warning detector transmits an axle count for the train, and the axle count duplicates the axle count transmitted by the previous trackside warning detector.

In non-signaled territory comply with the requirements outlined in Rule 8.3 (Main Track Switches) and advise the train dispatcher:

- All main track switches operated have been restored and locked in normal position.
- The crew has completed the job briefing.
- The conductor report form is properly initialed.

~~In addition, a train clearing in a siding or other track must comply with requirements outlined in Rule 8.3 (Main Track Switches) before reporting clear of the limits:~~

~~In addition, before reporting clear of the limits or reporting having passed a specific location in non-signaled territory, comply with the requirements outlined in Rule 8.3 (Main Track Switches) and advise the train dispatcher:~~

- ~~All main track switches operated have been restored and locked in normal position.~~
- ~~The crew has completed the job briefing.~~
- ~~The conductor report form is properly initialed.~~

When a hand-operated switch is used to clear the main track, except where Rule 6.13 (Yard Limits) or Rule 6.14 (Restricted Limits) are in effect, advise the train dispatcher of the position of the switch and that the switch is locked when reporting clear of track warrant limits. Train dispatcher shall repeat the reported switch position and employee releasing the limits shall confirm to the train dispatcher this information is correct.

### System Special Instruction

#### 14.7 Reporting Clear of Limits

**Change last second paragraph to read:**

~~In addition, before reporting clear of the limits or reporting having passed a specific location in non-signaled territory, comply with the requirements outlined in Rule 8.3 (Main Track Switches) and advise the train dispatcher:~~

- ~~All main track switches operated have been restored and locked in normal position.~~
- ~~The crew has completed the job briefing.~~
- ~~The conductor report form is properly initialed.~~

### Application

Engineer and conductor are jointly responsible to ascertain and agree on the exact location their entire train has passed before reporting past a specific location or clearing their track warrant limits.

## **"Roll-up"**

When the train dispatcher requests a crew to report a train's location to shorten up or "Roll-up" an active track warrant the following communication will apply:

**Train dispatcher:** "I need to roll-up track warrant (number). What will protect the rear of your train, over?"

When reporting past a specific location:

- ~~Engineer and conductor will job brief and agree on train's location.~~
- ~~Communication with the train dispatcher will include whole milepost number (not tenths) the entire train is past.~~
- Engineer and conductor will job brief and agree on train's location and location entire train is past.
- When using a milepost location, communication with the train dispatcher will include a whole milepost number (not tenths) the entire train is past.
- When using railroad identifiable points that include a direction, such as a siding switch, state and spell direction i.e. "North (N O R T H) siding switch at Dora".

**Conductor:** "Milepost (number) covers the rear of our train, dispatcher. Conductor (Name) ready to copy, over

**After initial communication the train dispatcher will initiate "Roll-up":**

**Sample radio transmissions:**

**Train Dispatcher:** "Track Warrant #4655, UP 2467 is clear of MP 362, over."

**Conductor:** "Track Warrant #4655, UP 2467 is clear of MP 362, over."

**Train Dispatcher:** "That is correct at 0817, dispatcher BAF, copied by Smith, over."

**Conductor:** "Correct at 0817, dispatcher BAF, Smith, over."

**Train Dispatcher:** "That's correct, Dispatcher Out."

## **General Order**

### **14.7 Reporting Clear of Limits**

Change entire rule to read:

Before reporting clear of the limits or reporting having passed a specific location, confirm with the dispatcher that the conductor and engineer have discussed their location and are in agreement with limits or warrant being released. Communication must include the track warrant number when releasing track warrants.

A train without a crew member on the rear and operating in non-signaled or double track territory may report clear of the limits, report having passed a specific location, or release the track between two specific locations only when it is known the train is complete. This must be determined by one of the following ways:

1. The rear of the train has a rear-end telemetry device, and air pressure on the head-end device indicates brake pipe continuity.
2. An employee verifies the marker is on the rear of the train.
3. A crew member can observe the rear car of the train on which the marker is placed.
4. The train is stopped, and an inspection verifies that the marker is on the rear car of the train.
5. A trackside warning detector transmits an axle count for the train, and the axle count duplicates the axle count transmitted by the

previous trackside warning detector.

In non-signalized territory comply with the requirements outlined in Rule 8.3 (Main Track Switches) and advise the train dispatcher:

- All main track switches operated have been restored and locked in normal position.
- The crew has completed the job briefing.
- The conductor report form is properly initialed.

When a hand-operated switch is used to clear the main track, except where Rule 6.13 (Yard Limits) or Rule 6.14 (Restricted Limits) are in effect, advise the train dispatcher of the position of the switch and that the switch is locked when reporting clear of track warrant limits. Train dispatcher shall repeat the reported switch position and employee releasing the limits shall confirm to the train dispatcher this information is correct.

Changes to "Roll-up" information contained in SSI.

Revise and add third bullet for the initial conversation with the train dispatcher as follows:

Train dispatcher: "I need to roll-up track warrant (number). What will protect the rear of your train, over?"

When reporting past a specific location:

- Engineer and conductor will job brief and agree on train's location and location entire train is past.
- When using a milepost location, communication with the train dispatcher will include a whole milepost number (not tenths) the entire train is past.
- When using railroad identifiable points that include a direction, such as a siding switch, state and spell direction i.e. "North (N O R T H) siding switch at Dora".

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## 14.8: Track Warrant Requests

An employee who requests a track warrant must inform the train dispatcher what movements will be made and, when necessary, which tracks will be used and how much time is required.

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## 14.9: Copying Track Warrants

The conductor and the engineer must each have a copy of the track warrant issued to their train, and each crew member must read and understand it. The copy must show the date. The following must occur when transmitted verbally:

### A. Transmitting Track Warrants

1. The train dispatcher will transmit the track warrant. The train dispatcher will not transmit the summary.
2. An employee will enter all of the information transmitted by the train dispatcher. The employee will then check the information copied to ensure all items are correct and enter in the summary the total number of boxes marked and individual box numbers.
3. The employee will repeat the preprinted and information transmitted by the train dispatcher including what has been entered in the summary, "This track warrant has (total number) boxes marked: (individual box numbers)."
4. The train dispatcher will check the repeat and summary. If all information, including the summary, is correct, the train dispatcher will say "OK" and give the time and his/her initials.

The employee will enter the OK time and the train dispatcher's initials on the track warrant and repeat them to the train dispatcher.

- 
1. An employee will enter all of the information and instructions on the track warrant.
  2. The employee will repeat the preprinted and written information transmitted by the train dispatcher.
  3. The train dispatcher will check it and, if correct, will say "OK" and give the time and his initials.
  4. The employee will enter the "OK" time and the train dispatcher's initials on the track warrant and repeat them to the train dispatcher.

## **B. In Effect**

1. The track warrant is not in effect until the "OK" time is shown on it.
2. If the track warrant restricts movement or previously granted authority, it cannot be considered in effect by the train dispatcher until acknowledgment of the "OK" has been received.

Employees may relay track warrants.

## **System Special Instruction**

**Change Part A. to read:**

### **A. Transmitting Track Warrants**

1. The train dispatcher will transmit the track warrant. The train dispatcher will not transmit the summary.
2. An employee will enter all of the information transmitted by the train dispatcher. The employee will then check the information copied to ensure all items are correct and enter in the summary the total number of boxes marked and individual box numbers.
3. The employee will repeat the preprinted and information transmitted by the train dispatcher including what has been entered in the summary, "This track warrant has (total number) boxes marked: (individual box numbers)."
4. The train dispatcher will check the repeat and summary. If all information, including the summary, is correct, the train dispatcher will say "OK" and give the time and his/her initials.

The employee will enter the OK time and the train dispatcher's initials on the track warrant and repeat them to the train dispatcher.

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## **14.9.1: Duplicating Track Warrants**

Employees who reproduce track warrants with a duplicating machine do not need to repeat them to the train dispatcher.

Duplicated track warrants must not be delivered or used until they are checked and verified as:

- Legible
- Duplicated in their entirety.

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## **14.10: Track Warrant in Effect**

A track warrant is in effect until a crew member reports the train has cleared the limits, or the track warrant is made void. The crew member

must inform the train dispatcher when the train has cleared the limits.

Employees reporting clear of track warrant limits must state:

- Their name or other identification.
- Track warrant number being released.
- Limits being released.

## Time Limit Shown

If the track warrant shows a time limit, the train must clear the limits by the time specified, unless another track warrant is obtained. If an employee cannot contact the train dispatcher and the time limit expires, authority is extended until the train dispatcher is contacted.

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## 14.11: Changing Track Warrants

Employees must not add to or alter the track warrant in any manner, except as specified by Rule 15.1.1 (Changing Address of Track Warrants or Track Bulletins).

When the limits or instructions of a track warrant must be changed, a new track warrant must be issued showing, "Track Warrant No. \_\_\_\_\_ is void" and the number of the track warrant being changed. ~~When a track warrant of a previous date is voided, the date must be included.~~ The previous track warrant will no longer be in effect.

**Note:** This does not prohibit additions or changes authorized by the rules (e.g. Rule 14.7).

## System Special Instruction

**Add Note:**

**Note:** This does not prohibit additions or changes authorized by the rules (e.g. Rule 14.7).

## General Order

### 14.11 Changing Track Warrants

Delete second sentence of second paragraph reading:

When a track warrant of a previous date is voided, the date must be included.

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## 14.12: Not Used

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## 14.13: Mechanical Transmission of Track Warrants

Repetition is not required when track warrants are transmitted mechanically. The "OK" time will be given when the track warrant is issued.

Track warrants that restrict the authority or movement of a train must not be transmitted mechanically, unless the train being restricted will not leave the point without receiving the track warrant.

The crew must verify the designated limits and any conditions of track warrants that convey authority with the train dispatcher before initiating

movement on main track.

## **System Special Instruction**

### **Add the following paragraph:**

The crew must verify the designated limits and any conditions of track warrants that convey authority with the train dispatcher before initiating movement on main track.

## **General Order**

### 14.13 Mechanical Transmission of Track Warrants

Change last paragraph to read:

The crew must verify the designated limits and any conditions of track warrants that convey authority with the train dispatcher before initiating movement on main track.

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Updated: 1/20/2012

## 15.0: TRACK BULLETIN RULES

- [15.0: TRACK BULLETIN RULES - TRACK CONDITION SUMMARY](#)
- [15.1: Track Bulletins](#)
- [15.1.1: Changing Address of Track Warrants or Track Bulletins](#)
- [15.2: Protection by Track Bulletin Form B](#)
- [15.2.1: Protection for On-Track Equipment](#)
- [15.2.2: Protection of Non-Railroad Contractors](#)
- [15.3: Authorizing Movement Against the Current of Traffic](#)
- [15.4: Protection when Tracks Removed from Service](#)
- [15.5: Protection When Tracks Blocked With Equipment](#)
- [15.6: Change of a General Order, Special Instruction, or Rule](#)
- [15.7: Copying Track Bulletins](#)
- [15.8: Duplicating Track Bulletins](#)
- [15.9: Mechanical Transmission of Track Bulletins](#)
- [15.10: Retaining Track Bulletins](#)
- [15.11: Not Used](#)
- [15.12: Relief of Engineer or Conductor During Trip](#)
- [15.12.1: Relief of Engineer or Conductor at Crew Change](#)
- [15.13: Voiding Track Bulletins](#)
- [15.13.1: Verbally Raising a Speed Restriction](#)
- [15.14: Delivering Track Bulletins](#)

## 15.0: TRACK BULLETIN RULES - TRACK CONDITION SUMMARY

### System Special Instruction

#### 15.0 Track Bulletin Rules - Track Condition Summary

Form B's will have asterisks before and after the bulletin. When flags are displayed in less than the prescribed distance, the milepost and direction will be shown. If flags are not displayed, "NOT" will be shown.

#### Example: Track Condition Summary

NO: (Track Warrant) TO: (Train ID)

#### Subdivision (000)

42683(2) 42554(3) 42276(2) 42034

LINE NO.	LIMITS FROM MP	LIMITS TO MP	MPH	TRACK(S) AFFECTED	FLAG	FOR AT MP	FOR DIR	FROM DATE	UNTIL DATE	UNTIL TIME
-----										
FORM A NO. 42683										
1.	43.9	44	40	MT 2		43	WWD	05/07/09	1220	
-----										
2.	46.6	47.1	40	MT 2				05/11/09/	1318	
-----										
FORM A NO. 42554										
1.	51	51.2	40	MT 2				08/08/08	1102	
-----										



2. 55.5 55.6 40 MT 2 08/10/08 0100

-----  
LINE LIMITS TIME TRACK(S) FLAG FOR GANG  
NO. FROM MP TO MP FROM UNTIL AFFECTED AT MP DIR NO /FOREMAN  
-----

\*\*\*\*\*FORM B NO. 42276\*\*\*\*\*

ON 05/14/09 RULE 15.2 APPLIES WITHIN THE FOLLOWING LIMITS:

1. 113 118 0700 1900 MT 1 112 WWD 4763 GUTZ

2. 113 118 0700 1900 MT 2 112 WWD 4763 GUTZ

-----  
LINE LIMITS TRACK(S) FLAG FOR FROM UNTIL  
NO. FROM MP TO MP MPH AFFECTED FLAG AT MP DIR DATE TIME DATE TIME  
-----

FORM A NO. 42554

3. 114.4 116.3 60 MT 2 05/10/09 1118

FORM C NO. 42034 Date 05/03/09

1. SIDING AT WILD OUT OF SERVICE SWITCHES ARE SPIKED AND TAGGED

**For Train Movements in the Opposite Direction.**

**Example: Track Condition Summary**

NO: (Track Warrant) TO: (Train ID)

**Subdivision (000)**

42276(2) 42554(3) 42683(2) 42034

LINE NO.	LIMITS FROM MP TO MP		TIME FROM UNTIL	TRACK(S) AFFECTED	FLAG AT MP	FOR DIR	GANG NO /FOREMAN
*****FORM B NO. 42276*****							
ON 05/14/09 RULE 15.2 APPLIES WITHIN THE FOLLOWING LIMITS:							
1.	118	113	0700 1900	MT 1	112	WWD	4763 GUTZ
2.	118	113	0700 1900	MT 2	112	WWD	4763 GUTZ

LINE NO.	LIMITS FROM MP TO MP		TRACK(S) AFFECTED	FLAG AT MP	FOR DIR	FROM DATE	UNTIL DATE TIME
FORM A NO. 42554							
3.	116.3	114.4	60 MT 2			01/20/08	1118
2.	55.6	55.5	40 MT 2			01/10/08	0100
1.	51.2	51	40 MT 2			01/08/08	1102
FORM A NO. 42683							
2.	47.1	46.6	40 MT 2			05/11/09	1318
1.	44	43.9	40 MT 2	43	WWD	05/07/09	1220

FORM C NO. 42034 DATE 05/03/09  
 1. SIDING AT WILD OUT OF SERVICE SWITCHES ARE SPIKED AND TAGGED



Below the last line of data there will be a blank line then the page number. Nothing should be printed below the page number.

OK times and Train Dispatchers initials are not shown.

**Form A and Form B Track Bulletins**

On the subdivision summary page, the track bulletin number for Form A and Form B bulletins will have, in parenthesis, the number of line items for that track bulletin. Because of the sorting by milepost, any particular Form A or Form B bulletin may be split by another Form A or Form B in the body of the Track Condition Summary.

**Form C Track Bulletins**

Form C track bulletins for a particular subdivision will be listed after the Form A and Form B bulletins for that subdivision with two exceptions.

- Listed first on the Track Condition Summary will be Form C bulletins that apply to the entire system. The subdivision heading will be "System Bulletin All Subdivisions".
- Form C bulletins issued on multiple subdivisions will be listed next. These will only be listed once; the subdivision heading will show all the subdivisions that the bulletin has been issued on.

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**15.1: Track Bulletins**

~~Track bulletins or track warrants must not be changed unless authorized by the rules. Track bulletins must not be changed unless specified by Rule 15.1.1 (Changing Address of Track Warrants or Track Bulletins) or Rule 15.13 (Voiding Track Bulletins).~~ The train dispatcher will issue track bulletins as required. Track bulletins will contain information on all conditions that affect safe train or engine movement. Forms other than track bulletin Forms A and B may be used when necessary.

**Receipt and Comparison of Track Bulletins**

<b>Example Track Warrant for Bulletins</b>			
NO: <b>(Track Warrant)</b>	FROM: <b>(Location)</b>	TO: <b>(Location)</b>	DATE:
TO: <b>(Train ID)</b>	<b>(Train Symbol)</b>	AT: <b>(Location)</b>	
ON: <b>Subdivision (000)</b>			
16.(X) 4 TRACK BULLETINS IN EFFECT: 42034 42683 42554 42276			
17.(X) OTHER SPECIFIC INSTRUCTIONS: THIS WARRANT IS USED TO DELIVER TRACK BULLETINS ONLY AND DOES NOT CONVEY AUTHORITY TO OCCUPY THE MAIN TRACK.			
OK <b>(time)</b> DISPATCHER <b>ABC</b> RELAYED TO:		COPIED BY:	

The conductor and engineer must receive a track warrant at their initial station unless otherwise instructed by the train dispatcher. All track bulletins that affect their train's movement must be listed on the track warrant, unless the track warrant shows "NONE" or "NO." The conductor and engineer must have copies of all track bulletins listed and other instructions required. Each crew member must read and understand them.

All crew members are responsible for complying with the requirements of track bulletins and reminding each other of those requirements.

At the initial station, when outbound crew members receive track warrants and track bulletins from inbound crew members, the conductor and

engineer must compare the track warrants and track bulletins with each other and with the train dispatcher before proceeding.

At locations where track warrants listing track bulletins are received by printer or fax, crew members must verify that route description, if printed, covers the intended route of their train and that the track warrant includes the correct train ID and train symbol of their train. If it does not, contact the train dispatcher and determine if the track warrant is valid. Also, crew members must check the date and "OK" time on the track warrant and if the track warrant is over 4 hours old, contact the train dispatcher and determine if additional track bulletins are needed.

Any rule referencing track warrants is also applicable to DTC authority.

**Note:** After receiving track warrant, if crew is assigned to operate a train with a train symbol different than the one listed on their track warrant, the above applies.

**System Special Instruction**

Example Track Warrant for Bulletins			
NO: <u>(Track Warrant)</u>	FROM: <u>(Location)</u>	TO: <u>(Location)</u>	DATE:
TO: <u>(Train ID)</u>	<u>(Train Symbol)</u>	AT: <u>(Location)</u>	
ON: <u>Subdivision (000)</u>			
16.(X) 4 TRACK BULLETINS IN EFFECT: 42034 42683 42554 42276			
17.(X) OTHER SPECIFIC INSTRUCTIONS: THIS WARRANT IS USED TO DELIVER TRACK BULLETINS ONLY AND DOES NOT CONVEY AUTHORITY TO OCCUPY THE MAIN TRACK.			
OK <u>(time)</u> DISPATCHER <u>ABC</u> RELAYED TO:		COPIED BY:	

**Change first sentence to read:**  
Track bulletins or track warrants must not be changed unless authorized by the rules.

**Change the last paragraph, add note as follows:**  
At locations where track warrants listing track bulletins are received by printer or fax, crew members must verify that route description, if printed, covers the intended route of their train and that the track warrant includes the correct train ID train symbol of their train. If it does not, contact the train dispatcher and determine if the track warrant is valid. Also, crew members must check the date and "OK" time on the track warrant and if the track warrant is over 4 hours old, contact the train dispatcher and determine if additional track bulletins are needed.

**Note:** After receiving track warrant, if crew is assigned to operate a train with a train symbol different than the one listed on their track warrant, the above applies.

**Application:**  
Having a copy of the "Track Condition Summary" meet the requirement of having a copy of the bulletins listed.

**General Order**

**Change the fifth paragraph to read:**  
At locations where track warrants listing track bulletins are received by printer or fax, crew members must verify that route description, if printed, covers the intended route of their train and that the track warrant includes the correct train ID and train symbol of their train. If it does not, contact the train dispatcher and determine if the track warrant is valid. Also, crew members must check the date and "OK" time on the track warrant and if the track warrant if over 4 hours old, contact the train dispatcher and determine if additional track bulletins are needed.

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### 15.1.1: Changing Address of Track Warrants or Track Bulletins

If the address must be changed on a track warrant used to deliver track bulletins only or a track bulletin that does not grant authority according to Rule 15.3 (Authorizing Movement Against the Current of Traffic), the train dispatcher may verbally change the train symbol, engine identification, direction, or date. However, crews performing yard or hostling service, using the main track at a yard or terminal, may change the engine number or train symbol on track warrants or track bulletins received from the train dispatcher without communicating with the train dispatcher.

#### System Special Instruction

##### Add second sentence to rule reading:

However, crews performing yard or hostling service, using the main track at a yard or terminal, may change the engine number or train symbol on track warrants or track bulletins received from the train dispatcher without communicating with the train dispatcher.

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## 15.2: Protection by Track Bulletin Form B

Display track flags as specified in Rule 5.4.3 (Display of Yellow-Red Flag) and Rule 5.4.7 (Display of Red Flag or Red Light).

A train must not enter the limits unless instructed by the employee in charge. A train within the limits at the time the track bulletin Form B takes effect must not make further movement until instructed by the employee in charge.

A crew member must attempt to contact the employee in charge of a track bulletin Form B sufficiently in advance to avoid delay, giving the train's location and track being used. The crew member must inform the employee in charge if there are any excessive dimension loads in the train. The employee in charge will use the following format to establish communication with the train:

Foreman (name and/or gang number) using Track Bulletin No. \_\_\_\_ (specifying line number when necessary) between MP \_\_\_\_ and MP \_\_\_\_ (specifying subdivision when necessary).

Trains within the limits of a track bulletin Form B, unless otherwise restricted, must move at the speed(s) specified by the employee in charge as stated in Item A (Instructions).

#### A. Instructions

After communication with the train has been established, the employee in charge will use the following format to grant a train permission to proceed through the Form B limits:

- (Train ID) may pass the red flag (or red light) at MP \_\_\_\_ (without stopping) and proceed at (one of the following), (specifying track when necessary):
  - "Maximum Authorized Speed"
  - "Restricted Speed"
  - A speed specified by the employee in charge

Two additional speeds may be given to restrict a train's movement through a portion of the limits, by adding the following:

- Do not exceed \_\_\_\_MPH between/at MP\_\_\_\_ and MP\_\_\_\_ (or other location).

To require a train to stop at a designated location within the limits, add the following:

- Stop at MP\_\_\_\_ (or other location) until additional instructions are received.

When men or equipment foul adjacent track(s), add the following:

- Men or equipment fouling (specify track).

## **B. Repeat Instructions**

A crew member must repeat the above instructions, and the employee giving the instructions must acknowledge them before they can be followed.

Once instructions are received from employee in charge, if the track route changes from previous instructions received, contact employee in charge to determine that original instructions received are valid on new track route before proceeding on the new route. The movement must not change direction without permission from the employee in charge.

## **System Special Instruction**

### **Add to third paragraph concerning information given to EIC:**

The crew member must inform the employee in charge if there are any excessive dimension loads in the train.

### **Application:**

When two Form B track bulletins meet at adjoining subdivisions resulting in a continuous Form B restriction with the same employee in charge and the same time limits the employee in charge may grant permission and give instructions to the train concerning both Form B's at the same time. The communication will begin using the following format:

Foreman (name) using 2 track bulletins. Track Bulletin No.\_\_\_\_ Line No. \_\_\_\_ Subdivision \_\_\_\_ and Track Bulletin No. \_\_\_\_  
Line No. \_\_\_\_ Subdivision \_\_\_\_ between MP \_\_\_\_ and MP \_\_\_\_ (outer mileposts).

## **General Order**

### **Rule 15.2 Protection by Track Bulletin Form B**

Change third paragraph to read:

A crew member must attempt to contact the employee in charge of a track bulletin Form B sufficiently in advance to avoid delay, giving the train's location and track being used. The crew member must inform the employee in charge if there are any excessive dimension loads in the train. The employee in charge will use the following format to establish communication with the train:

Foreman (name and/or gang number) using Track Bulletin No.\_\_\_\_ (specifying line number when necessary) between MP\_\_\_\_ and MP\_\_\_\_ (specifying subdivision when necessary).

## 15.2.1: Protection for On-Track Equipment

Track bulletin Form B may be used to protect on-track equipment, such as rail detector cars, without using yellow-red flags. Identify protected equipment in the track bulletin.

While trains, engines, and protected equipment are in track bulletin limits, they will otherwise be governed by Rule 15.2 (Protection by Track Bulletin Form B). The same track bulletin must not protect other gangs and equipment.

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## 15.2.2: Protection of Non-Railroad Contractors

When authorized non-railroad employees or non-railroad contractors are working near a main track or controlled siding, protection will be provided as outlined below.

- When working within 10 feet of the track, protection will be provided by use of a track bulletin, track and time, track permit, track warrant, or other means of protection. Except in California or when work will be performed foul of the track, a Form C track bulletin may be used:

"EFFECTIVE ON (DATE) FROM (TIME) UNTIL (TIME) BETWEEN MP \_\_\_ AND MP \_\_\_  
PROCEED PREPARED TO STOP SHORT OF MEN AND EQUIPMENT NOT TO EXCEED  
20 MPH UNLESS INSTRUCTED OTHERWISE BY FOREMAN (NAME)."

Train receiving track bulletin must proceed within the limits prepared to stop short of men and equipment and not exceed 20 MPH until leading wheels have cleared the limits unless instructed otherwise by the employee in charge. Whistle signal 5.8.2 (8) will be sounded.

- When working between 10 and 25 feet of the track, trains will be notified of their presence by issuance of a Form C track bulletin that reads:

"CONTRACTORS ARE WORKING AT LEAST 10 FEET FROM THE TRACK AT THE  
FOLLOWING LOCATION(S): (IDENTIFIED AT MP \_\_\_ OR BETWEEN MP \_\_\_ and  
MP \_\_\_)."

A watchman must ensure workers and equipment remain at least 10 feet from the track.

Railroad employees who observe work being performed within the boundaries of railroad right-of-way without notification as outlined above should report this information to the train dispatcher for further action.

## System Special Instruction

### 15.2.2 Protection of Non-Railroad Contractors

#### Add new rule:

When authorized non-railroad employees or non-railroad contractors are working near a main track or controlled siding, protection will be provided as outlined below.

- When working within 10 feet of the track, protection will be provided by use of a track bulletin, track and time, track permit, track warrant, or other means of protection. Except in California or when work will be performed foul of the track, a Form C track bulletin may be used:

"EFFECTIVE ON (DATE) FROM (TIME) UNTIL (TIME) BETWEEN MP \_\_\_ AND MP \_\_\_  
PROCEED PREPARED TO STOP SHORT OF MEN AND EQUIPMENT NOT TO EXCEED  
20 MPH UNLESS INSTRUCTED OTHERWISE BY FOREMAN (NAME)."



Train receiving track bulletin must proceed within the limits prepared to stop short of men and equipment and not exceed 20 MPH until leading wheels have cleared the limits unless instructed otherwise by the employee in charge. Whistle signal 5.8.2 (8) will be sounded.

- When working between 10 and 25 feet of the track, trains will be notified of their presence by issuance of a Form C track bulletin that reads:

"CONTRACTORS ARE WORKING AT LEAST 10 FEET FROM THE TRACK AT THE FOLLOWING LOCATION(S): (IDENTIFIED AT MP\_\_\_ OR BETWEEN MP\_\_\_ and MP\_\_\_)."

A watchman must ensure workers and equipment remain at least 10 feet from the track.

Railroad employees who observe work being performed within the boundaries of railroad right-of-way without notification as outlined above should report this information to the train dispatcher for further action.

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## 15.3: Authorizing Movement Against the Current of Traffic

Where Rule 9.14 (Movement with the Current of Traffic) is in effect, a track bulletin may authorize movement against the current of traffic as follows:

1. "(Train) will use \_\_\_\_ track against the current of traffic (point) to (point)."  
The train must use only the track specified between these points. Opposing trains must not leave the last point until the train arrives. The train dispatcher must not authorize a following train to move against the current of traffic until the previous train has cleared the last point.

The example may be modified as follows:

1. "After (opposing train) arrives at (point) (train) will use \_\_\_\_ track against the current of traffic (point) to (point)."

The train that will move against the current of traffic must not leave the first point until the opposing train arrives.

Trains directly affected in both directions must receive this track bulletin and must not:

- Clear the main track.
  - Allow a following train to pass.
- OR
- Pass a preceding train, unless authorized by the train dispatcher.
2. "(Time) until (time) (date) all trains use \_\_\_\_ track between (point) and (point). All trains must stop before fouling \_\_\_\_ track between these points unless directed to proceed by employee in charge of switches or by train dispatcher."

This bulletin may also contain information on public crossing protection, switches spiked, intermediate flagman, and so forth.

**Following Movement.** A train may not follow another train against the current of traffic until the previous train has cleared the limits, passed a designated location, or passed a flagman located at the next intermediate point. Flag protection is not required against following trains.

**Flagman Provided.** When flagmen are provided, the example will be modified by adding:

- "Intermediate flagman located at (point). Trains moving against the current of traffic must stop short of flagman unless directed to proceed."

**Extending Time.** Time may be extended by issuing another track bulletin as follows:

- "Track bulletin No. \_\_ is extended until (time)."

This bulletin will be used when one or more tracks will be removed from service, and all trains in both directions must use the remaining track as directed by the train dispatcher or an employee in charge of switches at each end of the designated limits.

The train dispatcher will authorize movement between the designated points and issue the track bulletin and necessary instructions to

the employee in charge of switches. This employee may verbally direct movement or use hand signals. Also, the train dispatcher may use a controlled signal indication to authorize movement.

All affected trains must receive a copy of the track bulletin.

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## 15.4: Protection when Tracks Removed from Service

Before a track is removed from service it must be protected.

A track bulletin may protect tracks removed from service by designating the track and naming the points at each end of the track. Trains must not use this track unless the track bulletin states the name or title of an employee who may authorize use. This person will direct all movements. Movements must be made at restricted speed unless instructed otherwise by the employee in charge. Movements may then proceed as instructed and in accordance with signal indications.

The control operator must grant authority to pass an absolute signal displaying a Stop indication at control points at either end of the out of service track. Except at interlockings, after stopping, movements may pass Stop indications within the out of service track. When required, the train dispatcher must advise crews of alternate routes and switch positions.

~~Before a track is removed from service it must be protected.~~

~~A track bulletin may protect tracks removed from service by designating the track and naming the points at each end of the track. Trains must not use this track, unless the track bulletin states the name or title of an employee who may authorize use, and this person directs all movement. Movements must be made at restricted speed.~~

~~Proper authority must also be received to pass an absolute signal displaying a Stop indication to enter the out of service track. Except at interlockings, after stopping, movements may pass Stop indications within the out of service limits. Movements within the out of service limits may pass Stop and Proceed indications without stopping.~~

~~When required, the train dispatcher must advise crews of alternate routes and switch positions.~~

## System Special Instruction

### Change rule to read:

Before a track is removed from service it must be protected.

A track bulletin may protect tracks removed from service by designating the track and naming the points at each end of the track. Trains must not use this track unless the track bulletin states the name or title of an employee who may authorize use. This person will direct all movements. Movements must be made at restricted speed unless instructed otherwise by the employee in charge. Movements may then proceed as instructed and in accordance with signal indications.

The control operator must grant authority to pass an absolute signal displaying a Stop indication at control points at either end of the out of service track. Except at interlockings, after stopping, movements may pass Stop indications within the out of service track. When required, the train dispatcher must advise crews of alternate routes and switch positions.

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## 15.5: Protection When Tracks Blocked With Equipment

Notify the train dispatcher when main tracks, sidings, or other tracks that are normally clear are blocked with equipment and cannot be cleared.

When the main track is blocked, provide protection as specified by Rule 6.20 (Equipment Left on Main Track).

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## 15.6: Change of a General Order, Special Instruction, or Rule

When authorized by the designated manager, a track bulletin may be used to issue, change, or cancel general orders, special instructions, or rules.

General orders or special instructions cancelled by track bulletins must not be reinstated. The track bulletin must remain in effect until the general order that contains the change is posted.

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## 15.7: Copying Track Bulletins

The conductor and the engineer must each have a copy of the track bulletins issued to their train, and each crew member must read and understand them. The copy must show the date. The following must occur when track bulletins are transmitted verbally:

1. An employee will enter all of the information on the track bulletin.
2. The employee will repeat the information to the train dispatcher.
3. The train dispatcher will check it and, if correct, will say "OK" and give the time and his initials.
4. The employee will enter the "OK" time and the train dispatcher's initials on the track bulletin and repeat them to the train dispatcher.

Employees may relay track bulletins.

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## 15.8: Duplicating Track Bulletins

Employees who reproduce track bulletins with a duplicating machine do not need to repeat them to the train dispatcher.

Duplicated track bulletins must not be delivered or used until they are checked and verified as:

- Legible.
- Duplicated in their entirety.

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## 15.9: Mechanical Transmission of Track Bulletins

Repetition is not required when track bulletins are transmitted mechanically. The "OK" time will be given when the track bulletin is issued.

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## 15.10: Retaining Track Bulletins

Employees must keep and comply with track bulletins on all trips during the tour of duty when track bulletins were received.

When directed by the train dispatcher, track bulletins may be retained for use during the next tour of duty. Before initiating movement on the main track on the next tour of duty, a crew member must verify from the train dispatcher that no additional track bulletins are needed.

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## 15.11: Not Used

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## 15.12: Relief of Engineer or Conductor During Trip

When being relieved before a trip is finished, contact the train dispatcher and comply with instructions concerning the handling of track warrants, track bulletins, and other instructions.

When crew members are called to relieve a train at other than the initial station, crew members must contact the train dispatcher before leaving the initial station and determine if any track warrants, track bulletins, or other instructions must be obtained.

When a conductor, engineer, or both are relieved before a trip is finished, they must contact the train dispatcher and comply with instructions concerning the handling of their track warrants, track bulletins, and other instructions.

When crew members are called to relieve a train at other than the initial station, crew members must contact the train dispatcher before leaving the initial station and determine if any track warrants, track bulletins, or other instructions must be obtained.

### Comparison of Information

The relieving conductor and engineer must compare:

- Track warrants, track bulletins, instructions, and pertinent information with each other.
- Their track warrant for bulletins number with the train dispatcher. The train dispatcher will verify that the warrant includes all required track bulletins and will provide any additional restrictions required for the route.

~~The relieving conductor and engineer must compare track warrants, track bulletins, instructions, and pertinent information with each other and with the train dispatcher after arriving at the train and before proceeding. To compare track bulletins with the train dispatcher, the crew will provide their track warrant for bulletins number. The train dispatcher will acknowledge that this warrant includes all required track bulletins and deliver any additional restrictions for their route not included in the track warrant for bulletins.~~

~~The relieving conductor and engineer must compare track warrants, track bulletins, instructions, and pertinent information with each other and with the train dispatcher before proceeding.~~

### System Special Instruction

**Change paragraph under "Comparison of Information" to read:**

~~The relieving conductor and engineer must compare track warrants, track bulletins, instructions, and pertinent information with each other and with the train dispatcher after arriving at the train and before proceeding. To compare track bulletins with the train dispatcher, the crew will provide their track warrant for bulletins number. The train dispatcher will acknowledge that this warrant includes all required track bulletins and deliver any additional restrictions for their route not included in the track warrant for bulletins.~~

The relieving conductor and engineer must compare:

- Track warrants, track bulletins, instructions, and pertinent information with each other.
- Their track warrant for bulletins number with the train dispatcher. The train dispatcher will verify that the warrant includes all required track bulletins and will provide any additional restrictions required for the route.

## General Order

### Rule 15.12 Relief of Engineer or Conductor During Trip

Change rule to read:

When being relieved before a trip is finished, contact the train dispatcher and comply with instructions concerning the handling of track warrants, track bulletins, and other instructions.

When crew members are called to relieve a train at other than the initial station, crew members must contact the train dispatcher before leaving the initial station and determine if any track warrants, track bulletins, or other instructions must be obtained.

#### Comparison of Information

The relieving conductor and engineer must compare:

- Track warrants, track bulletins, instructions, and pertinent information with each other.
- Their track warrant for bulletins number with the train dispatcher. The train dispatcher will verify that the warrant includes all required track bulletins and will provide any additional restrictions required for the route.

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### 15.12.1: Relief of Engineer or Conductor at Crew Change

When making a crew change, relieving crew members must determine from the inbound crew if there are any unforeseen restrictions issued that have not been fulfilled/traversed or tasks in progress (e.g. air test). When not relieved by another crew, the inbound crew must leave this information in writing for the relieving crew and notify the dispatcher of tasks not completed. In addition, at locations where a yardmaster is on duty, the yardmaster must also be notified.

## General Order

### Rule 15.12.1 Relief of Engineer or Conductor at Crew Change

Add new rule:

When making a crew change, relieving crew members must determine from the inbound crew if there are any unforeseen restrictions issued that have not been fulfilled/traversed or tasks in progress (e.g. air test). When not relieved by another crew, the inbound crew must leave this information in writing for the relieving crew and notify the dispatcher of tasks not completed. In addition, at locations where a yardmaster is on duty, the yardmaster must also be notified.

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### 15.13: Voiding Track Bulletins

To void a numbered line on a track bulletin, a part of a track bulletin, or an entire track bulletin, the train dispatcher may do one of the following:

#### A. Voiding Track Bulletins Verbally

Void the track bulletin by verbally using one of the following examples:

1. "Line (number) of track bulletin No. reading (quote the line to be voided) is void."
2. "That part of track bulletin No. reading (quote the part to be voided) is void."
3. "Track bulletin No. is void."

Employee must repeat the information to the train dispatcher. If correct, the word "VOID" will be entered to indicate that portion is no longer in

effect.

## B. Issue Track Bulletin or a Track Warrant to Void a Track Bulletin

Issue a track bulletin or use the line designated "OTHER SPECIFIC INSTRUCTIONS" on a track warrant using one of the following examples:

1. "Line (number) of track bulletin No. \_\_\_ is void."
2. "That part of track bulletin No. \_\_\_ reading (quote the part to be voided) is void."
3. "Track bulletin No. \_\_\_ is void."

Where paper copies are used, employee will keep a copy of the track warrant or track bulletin that made it void and the word "VOID" will be entered to indicate that portion is no longer in effect.

The track bulletin or the part of the track bulletin indicated will no longer be in effect.

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## 15.13.1: Verbally Raising a Speed Restriction

The train dispatcher may verbally raise the speed on an existing speed restriction, Rule 2.14 (Mandatory Directive) applies. The train dispatcher must identify the existing speed restriction; e.g., Form A 1234, line 2. After a crew member informs the train dispatcher they have located the speed restriction and are ready to copy, the train dispatcher will use the following format:

(Train ID) Track Bulletin \_\_\_\_\_, Line No MP \_\_\_ to MP \_\_\_, \_\_\_ MPH (adding track if necessary), speed is increased to \_\_\_ MPH.

The employee will draw a line through the existing speed on the track condition summary form, write the new speed adjacent to the old speed, and then repeat the information to the train dispatcher. If the information is correct, the train dispatcher will state "OK", with the time and the train dispatcher's initials, which must be repeated by the employee.

The new speed must not be acted upon until the train dispatcher states "OK", and gives the time and the train dispatcher's initials.

## System Special Instruction

### 15.13.1 Verbally Raising a Speed Restriction

#### Add new rule:

The train dispatcher may verbally raise the speed on an existing speed restriction, Rule 2.14 (Mandatory Directive) applies. The train dispatcher must identify the existing speed restriction; e.g., Form A 1234, line 2. After a crew member informs the train dispatcher they have located the speed restriction and are ready to copy, the train dispatcher will use the following format:

(Train ID) Track Bulletin \_\_\_\_\_, Line No MP \_\_\_ to MP \_\_\_, \_\_\_ MPH (adding track if necessary), speed is increased to \_\_\_ MPH.

The employee will draw a line through the existing speed on the track condition summary form, write the new speed adjacent to the old speed, and then repeat the information to the train dispatcher. If the information is correct, the train dispatcher will state "OK", with the time and the train dispatcher's initials, which must be repeated by the employee.

The new speed must not be acted upon until the train dispatcher states "OK", and gives the time and the train dispatcher's initials.

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## 15.14: Delivering Track Bulletins

Employees who copy track bulletins for delivery must deliver copies to all those addressed, unless the track bulletin is voided or transferred to a relieving employee. When employees have delivered copies to all addressed, they must keep a copy on file.

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Updated: 10/23/2011

## 16.0: RULES APPLICABLE ONLY IN DIRECT TRAFFIC CONTROL (DTC) LIMITS

- [16.0: RULES APPLICABLE ONLY IN DIRECT TRAFFIC CONTROL \(DTC\) LIMITS](#)
- [16.1: Authority to Enter DTC Limits](#)
- [16.1.1: Switches Between DTC Blocks](#)
- [16.2: DTC Authority](#)
- [16.3: Movement in a Specified Direction](#)
- [16.3.1: Leaving the Main Track](#)
- [16.4: Work and Time](#)
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- [16.6: Releasing DTC Authority](#)
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## 16.0: RULES APPLICABLE ONLY IN DIRECT TRAFFIC CONTROL (DTC) LIMITS

### System Special Instruction

**Application:**

Does not apply on UPRR.

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## 16.1: Authority to Enter DTC Limits

The timetable will designate DTC limits. A train may enter DTC limits only after receiving authority from the train dispatcher. Men or equipment may be issued DTC authority in the same manner as trains. DTC territory will not include territory where Rule 6.13 (Yard Limits) or Rule 6.14 (Restricted Limits) is in effect.

### System Special Instruction

**Application:**

Does not apply on UPRR.

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## 16.1.1: Switches Between DTC Blocks



Switches between DTC blocks may be occupied only when authority includes at least one block on each side of the switch; however, men or equipment may be authorized to occupy a switch located between DTC blocks without authority on each side of the switch when the DTC authority includes the name of the switch and the instructions "Switch Yes." DTC authority must not be released until the rear of the movement has completely entered the adjoining block.

## System Special Instruction

### Application:

Does not apply on UPRR.

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## 16.2: DTC Authority

The train dispatcher will issue DTC authority to a crew member on the head end of the train when possible. An employee operating the controls of a moving engine or on-track equipment may not copy DTC authority.

### A. Recorded in Writing

When transmitted verbally, the employee who receives or releases DTC authority must record it in writing and include the following:

1. Name of first and last DTC block where authority is issued.
2. Time that work and time expires.
3. Train identity when DTC authority is issued behind a train or radio blocking behind a preceding train is in effect.
4. Time DTC authority is released to the train dispatcher.

DTC authority must not be transferred to a relieving crew, unless authorized to do so by the train dispatcher.

When verbal authority is received from the train dispatcher to leave equipment in a DTC block, the train dispatcher may instruct a crew member to void the DTC authority.

**Employees cannot act upon DTC authority until the train dispatcher says, "That is correct."**

### B. Multiple Authorities

Not more than one DTC authority may be issued in the same DTC block except:

1. In ABS territory, as provided by Rule 16.3 (Movement in a Specified Direction), authority may be issued to more than one train in the same direction.
2. As provided by Rule 16.4 (Work and Time).

of

3. Where radio blocking is designated by special instructions, in non-signal territory, more than one train may be authorized to proceed in the same direction within the same or overlapping limits, provided the following train:

- Is notified on DTC authority of the identity of the preceding train.
- Notifies the crew of the preceding train that radio blocking has been authorized stating the limits.
- Does not occupy the block limits ahead of the preceding train.
- Is notified by the preceding train that the entire train has cleared a specific block. Location specified must not be beyond block limits of the following train. The following words must be used: "(Train) clear of (block)."
- Does not proceed beyond the last block the preceding train has reported to have cleared.

All instructions between trains must be written, repeated, and acknowledged with "That is correct" before being acted on. These written instructions between the trains must be retained until the end of tour of duty.

#### **Written Instructions Between Trains:**

"(Preceding Train ID) has cleared (Block) at (Time)." When all available lines on DTC form have been filled in, new DTC authority must be obtained.

Notify the train dispatcher if communication cannot be established between the two trains. If necessary, radio blocking information may be relayed only by the train dispatcher.

The last named point of the following train's authority must not extend beyond the authority of the preceding train.

In the application of Rule 6.4 (Reverse Movements) and Rule 6.6 (Picking Up Crew Member), the movement must not enter the last block reported cleared to the following train.

### **System Special Instruction**

#### **Application:**

Does not apply on UPRR.

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## **16.3: Movement in a Specified Direction**

#### **Issue Format**

**One or Two Blocks.** The train dispatcher will issue authority and an employee will acknowledge it using the following sample format:

**Train Dispatcher:** "RR 4321 East, with Engineer Jones, you are authorized to proceed Eastward in one block, Anna."

**Crew Member:** "RR 4321 East, with Engineer Jones, I am authorized to proceed Eastward in one block, Anna."

**Train Dispatcher:** "RR 4321 East, that is correct."

**More than Two Blocks.** The train dispatcher will issue authority in more than two blocks using the following sample format:

**Train Dispatcher:** "RR 4321 East, with Engineer Jones, you are authorized to proceed Eastward in three blocks, Anna through Cloy."

## System Special Instruction

### Application:

Does not apply on UPRR.

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## 16.3.1: Leaving the Main Track

A train authorized to proceed in one direction must inform the train dispatcher when it leaves the main track before reaching the last named point, unless a crew member is left to prevent a following movement from passing.

## System Special Instruction

### Application:

Does not apply on UPRR.

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## 16.4: Work and Time

### A. Issue Requirements

1. Work and time authority may be issued to an employee in charge of on-track equipment when:

- The DTC block is clear.

• The DTC block is occupied by a train and/or employee in charge of on-track equipment that has already been issued work and time. Before joint work and time may be issued, the train dispatcher must first notify the engineer of train or employee in charge of on-track equipment affected that the DTC block will be jointly occupied. All movements must be made at restricted speed within joint work and time limits.

or

• All trains issued Rule 16.3 (Movement in a Specified Direction) have passed the location where the track will be occupied, and the employee receiving the DTC authority is notified that work and time is granted behind such trains.

2. Work and time authority may be issued to a train when:

• The DTC block is clear.

• The DTC block is occupied by a train and/or employee in charge of on-track equipment that has already been issued work and time. Before joint work and time may be issued, the train dispatcher must first notify the engineer of train or employee in charge of on-track equipment affected that the DTC block will be jointly occupied. All movements must be made at restricted speed within joint work and time limits.

or

• All trains issued Rule 16.3 (Movement in a Specified Direction) have passed the location where the track will be occupied and the employee receiving the DTC authority must be notified that work and time is granted behind such trains as prescribed by Rule 16.2 (DTC Authority).

A train or on-track equipment issued work and time may occupy the designated block and move in either direction.

An employee in charge of on-track equipment granted work and time behind a train must not pass train(s) specified.

## **B. Issue Format**

**One or Two Blocks.** The train dispatcher will issue work and time and an employee will acknowledge it using the following sample format:

**Train Dispatcher:** "RR 4321 East, with Engineer Jones, I am granting you work and time in one block, Anna, until 10:10 AM."

**Crew Member:** "RR 4321 East, with Engineer Jones, I am granted work and time in one block, Anna, until 10:10 AM."

**Train Dispatcher:** "RR 4321 East, that is correct."

**More than Two Blocks.** The train dispatcher will issue authority in more than two blocks using the following sample format:

**Train Dispatcher:** "RR 4321 East, with Engineer Jones, I am granting you work and time in 3 blocks, Anna through Cloy, until 10:10 AM."

**Crew Member:** "RR 4321 East, with Engineer Jones, I am granted work and time in three blocks, Anna through Cloy, until 10:10 AM."

Unless the train and/or employee in charge of on-track equipment receives a time extension, they must clear the block and report "Released" before the time limit expires. The train dispatcher may issue an unspecified time limit by using the words "until released."

**A train dispatcher must not authorize a train to enter a DTC block under Rule 16.3 (Movement in a Specified Direction) until work and time in that block is released.**

### **C. Additional Time**

Trains or the employee in charge of on-track equipment must release work and time before the time granted expires. If the train or employee in charge requires additional time, the authority must be obtained from the train dispatcher before time expires. If a train crew member or employee in charge is unable to contact the train dispatcher, and the time limit expires, authority is extended until the train dispatcher is contacted.

## **System Special Instruction**

### **Application:**

Does not apply on UPRR.

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## **16.5: Changing DTC Authority**

When it becomes necessary to change the authority previously granted to a train, a new authority will be issued in accordance with Rule 16.3 (Movement in a Specified Direction) or Rule 16.4 (Work and Time). After the "(\_\_\_\_), that is correct" response is received from the train dispatcher, the authority previously granted becomes void.

The train dispatcher must notify the engineer before withdrawing previously issued DTC authority.

## **System Special Instruction**

### **Application:**

Does not apply on UPRR.

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## 16.6: Releasing DTC Authority

Unless the train dispatcher specifies otherwise, when a train with directional authority clears a DTC block, an employee will immediately release it to the train dispatcher. The train must not re-enter the DTC block it has been released from:

Before a DTC block is released, engineer and conductor must communicate with each other and confirm that their train is clear of DTC block(s) to be released.

### A. Release Format

**One or Two Blocks.** An employee will release a DTC block, and the train dispatcher will acknowledge it using the following sample format:

**Crew Member:** "RR 4321 East, with Engineer Jones, I am releasing one block, Anna."

**Train Dispatcher:** "RR 4321 East, with Engineer Jones, you are releasing one block, Anna."

**Crew Member:** "Train dispatcher, that is correct."

**More than Two Blocks.** An employee will release more than two blocks using the following sample format:

**Crew Member:** "RR 4321 East, with Engineer Jones, I am releasing three blocks, Anna through Cloy."

**A DTC block is not released until the employee releasing the block reports, "Train dispatcher, that is correct."**

### B. Operating in Non-Signaled or Double Track Territory

In non-signaled or double track territory, a train without a crew member on the rear of the train may release a DTC block only when the complete train is clear of the limits, which is determined by one of the following:

1. The rear of the train has an operating rear-end telemetry device, and the air pressure on the head-end device indicates brake-pipe continuity.
2. An employee verifies that a marker is on the rear of the train.
3. A crew member can observe the rear car of the train on which the marker has been placed.
4. A trackside warning detector transmits an axle count for the train, and the axle count duplicates the axle count transmitted by the previous trackside warning detector.

In addition, a train clearing in a siding or other track must comply with requirements outlined in Rule 8.3 (Main Track Switches) before reporting clear of the limits.

## System Special Instruction

### Application:

Does not apply on UPRR.

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## 16.7: Communication Failure

If communication fails, a third party may relay the authority to enter and/or release a DTC block as follows:

- The train dispatcher must transmit the DTC authority to the third party.
- The third party must repeat it back to the train dispatcher.
- If correct, the train dispatcher will respond, "(Third Party Identification), that is correct for relay," which authorizes the third party to transmit the DTC authority to a crew member.
- The crew member receiving the DTC authority must repeat it back to the third party.
- If correct, the third party will respond, "(\_\_\_\_\_), that is correct" and inform the train dispatcher that DTC authority has been relayed correctly.

## System Special Instruction

### Application:

Does not apply on UPRR.

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Updated: 5/04/2010

## 17.0: RULES APPLICABLE ONLY IN AUTOMATIC TRAIN CONTROL (ATC) TERRITORY

- [17.1: Automatic Train Control Territory](#)
- [17.2: Taking Charge](#)
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- [17.5: High Speed Setting](#)
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- [17.7.1: Speed Indicator in ATC](#)
- [17.7.2: ATC Motion Light](#)
- [17.7.3: Audible Indicator](#)
- [17.8: Improper Display](#)

### 17.1: Automatic Train Control Territory

ATC territory is specified in special instructions. An engine must not be operated in ATC territory if it is not equipped with an operable ATC system unless otherwise authorized by special instructions or the train dispatcher.

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### 17.2: Taking Charge

When taking charge of an engine equipped with ATC in ATC territory or entering such territory, engineers must know that:

1. The ATC system is cut in and sealed or locked on engines equipped.
2. The following devices are sealed (on engines equipped) with a mechanical seal:
  - Speed indicator case.
  - Speed indicator cables.
  - High speed whistle cutout cock.

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### 17.3: Cut In and Cut Out Requirements



The ATC system, in part or in its entirety, must not be cut out in ATC territory unless:

- Train dispatcher grants permission.

or

- Failure of the ATC system prevents train movement at restricted speed (unable to recover the air) and crew is unable to immediately contact the train dispatcher. The train dispatcher must be notified as soon as practical. Notification must include if cab signals are operative.

The train dispatcher may grant permission to a crew member to cut out the ATC system when:

- It has failed. Before granting permission to the crew to cut out the ATC the train dispatcher must determine if the cab signals are operative.

or

- Required for movements against the current of traffic at speeds above restricted speed.

## **A. Cutting In ATC**

To cut in ATC:

1. Turn on the ATC system.
2. Acknowledge when the acknowledging horn sounds.
3. Cut in the ATC actuator and seal or lock.

## **B. Cutting Out ATC**

To cut out ATC:

1. Break the seal or unlock and cut out the ATC actuator.
2. Turn off the power to the ATC system.

If ATC is cut out due to failure enroute, at the next stop the engineer must cut in the ATC to determine if it is again operable. Train dispatcher must be notified if ATC is again operative or continues to fail and if cab signals are operative if previously cut out.

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## **17.4: Departure Test Requirements**

A departure test is required:

- Before entering ATC Territory .  
or
- When the ATC is cut in after being cut out enroute within ATC territory.

## A. Energized Test Loop

While the engine is standing on energized test loop:

1. The cab signal should display a Clear aspect.
2. When the test loop is de-energized or when the engine is moved off of the test loop, the aspect will change to a Restricting and the acknowledging horn will sound. Do not acknowledge the horn and do not move the brake valve handle.
3. A penalty brake application should occur within 8 seconds.
4. Recover the air.
5. When the horn sounds again, acknowledge to prevent brake application.

Note: To recover the air after an ATC penalty brake application, acknowledge the horn or alarm and move the brake valve handle to SUPPRESSION until the PCS light has gone out. The brakes may then be released.

**Receivers on Both Ends:** When an engine has ATC receivers on both ends and is standing on energized track, the cab signal should display Clear.

1. Place the reverser in Reverse position. The aspect will change to Restricting and the acknowledging horn will sound.
2. Do not acknowledge the horn and do not move the brake valve handle. A penalty brake application should occur within 8 seconds.
3. Recover the air.
4. When the horn sounds again, acknowledge to prevent brake application.

## B. De-energized Track

When engine is standing on de-energized track:

1. Release the brakes, but do not acknowledge the acknowledging horn.
2. A penalty brake application should occur within 8 seconds.
3. Recover the air
4. When the horn sounds again, acknowledge to prevent brake application.

## System Special Instruction

### Procedures for Locomotives with Automatic Testing Equipment

#### A. Locomotives with solid•state Union Switch & Signal ATC/CCS System:

1. With the locomotive standing on dead track, fully apply the independent brake and release the automatic brake and:
  - a. Place the generator field switch in the ON position.
  - b. Turn on the signal circuit breaker.
  - c. Place the reverser in Forward.
2. Place CNW Cut-out switch in cut•in position.
3. Place CNW Cut-out cock in cut•in position and seal.
4. After opening the departure test box, put the test switch in the ON position. As the ATC system begins internal testing, Clear and Restricting cab signals are turned off and the motion light flashes.
5. After the internal test is complete (approximately 10 seconds), a Clear cab signal is illuminated and the acknowledge alarm is activated. Press and release the acknowledge button.
  - a. The Clear is then turned off.
  - b. A Restricting cab signal is illuminated and acknowledge alarm is activated. Press and release the acknowledge button.
  - c. The Restricting is then turned off.
6. The system then drives the speedometer to:
  - a. Locate the Union Pacific overspeed setting and repeats this process four times.
  - b. Test the CNW Restricted overspeed setting of 23 MPH.
  - c. A Restricting is illuminated and acknowledge alarm is activated. Press and release the acknowledge button. The system then drives the speedometer to the CNW high speed setting.
  - d. A Clear is illuminated and acknowledge alarm is activated. Press and release acknowledge button.
  - e. The Clear is turned off and speedometer is returned to 0 MPH.
7. Fully release independent brake.
  - a. The acknowledge alarm is activated (do not acknowledge).
  - b. A penalty brake application should occur within 8 seconds.
  - c. Recover the air.
8. The successful completion of the departure test will result in:

- a. The overspeed alarm beeping continuously.
- b. All signal lights flashing.

9. Place the Departure Test Switch to OFF position.

10. If the locomotive is to be operated in non-ATC territory prior to entering ATC territory, push the Arm button after completing the departure test (see Item 8).

11. If departure test is unsuccessful, repeat the test. If the test is again unsuccessful, perform an ATC departure test as prescribed by Rule 17.4.

## **B. Locomotives with MICROCAB System:**

1. Turn on the DEPT TEST SWITCH and:

- a. The MOTION indicator is illuminated throughout Departure Test. The overspeed alarm activates intermittently for 1 second, then goes silent to indicate the start of the test.
- b. The system waits for 6 seconds before proceeding to the next step.
- c. The overspeed alarm activates intermittently for 1 second, then is silent to indicate the end of the delay.
- d. Within 5 seconds the Clear cab signal is illuminated.

When the acknowledge alarm is activated, the acknowledge switch must be pressed and released within 6 seconds to avoid a penalty brake application.

- a. Within 5 seconds the Clear is extinguished and the Restricting cab signal illuminated. When the acknowledge alarm is activated press and release the acknowledge switch.
- b. The Restricting cab signal is then extinguished. Failure to respond within 6 seconds results in a penalty brake application.
- c. The overspeed alarm is activated intermittently for 1 second, then is silent to indicate the completion of carrier tests.

3. The system then drives the speedometer to the high speed setting and:

- a. Visually confirm that the expected speed (within 3 MPH) is displayed by the speedometer.
- b. The acknowledge alarm is activated continuously. Press and release the acknowledge switch.

4. The system then drives the speedometer to the restricted overspeed of 23 MPH. Visually confirm that the speedometer displays the expected speed (within 1MPH).

- a. The acknowledge alarm sounds continuously. Press and release the acknowledge switch.

- b. The system stops driving the speedometer and it returns to 0 MPH.
  - c. The overspeed alarm sounds for approximately 1 second.
  - d. When the alarm is silent, the test is confirmed.
5. The system waits indefinitely for the operator to press and release the acknowledge switch.
- a. Upon releasing the switch the overspeed alarm is activated intermittently for 1 second, then silenced to indicate the start of a penalty delay.
  - b. In about 6 seconds, the system initiates a penalty brake application. The acknowledge alarm sounds continuously.
  - c. Recover the air.
6. The intermittent sound of the overspeed alarm prior to the DEPT TEST SWITCH being turned off indicates that the Departure Test has been successfully made.
- a. Turn off the DEPT TEST SWITCH. A Restricting cab signal is illuminated.
  - b. The acknowledge and over speed alarms are silent.

If the locomotive is to be operated in non-ATC territory prior to entering ATC territory, push the Arm button after completing the departure test.

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## 17.4.1: Departure Test Reporting

Records of ATC and ATS tests:

- Must be retained for 92 days.
- Must be placed in the engine cab.

1. When Mechanical Department employees perform the test:

- One part of the form must be retained at the test location for 92 days.
- The other must be placed in the inspection holder in the engine cab.

2. At points where engineers are required to perform ATC or ATS departure tests, engineers must complete the form, place it in the inspection holder of the engine, and notify the train dispatcher. Crew members are not to remove this form unless specifically instructed to do so.

3. The train dispatcher, unless instructed otherwise, must record the date, time, location, engine number and name of the engineer.

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## 17.4.2: ATC Automatic Cut-in Circuit

A departure test entering ATC territory is not required for engines equipped with the automatic ATC cut-in circuit when the following conditions are met:

- The ATC actuator is cut in and sealed.
- The motion light is illuminated enroute to ATC territory at speeds of 6 MPH or more.

At ATC Automatic Cut-in Test Locations:

- The cab signal will display a Clear aspect when passing a "B" sign (Beginning ATC test section).
  - The speed whistle will sound for 3 or 4 seconds.
- The cab signal will change to a Restricting aspect when the "E" (End ATC test section) is passed.
  - When train speed exceeds 40 MPH the high speed whistle will sound until a Clear aspect is displayed.
  - When train speed is below 40 MPH the horn will sound and must be acknowledged.

## System Special Instruction

### Add new Rule:

A departure test entering ATC territory is not required for engines equipped with the automatic ATC cut-in circuit when the following conditions are met:

- The ATC actuator is cut in and sealed.
- The motion light is illuminated enroute to ATC territory at speeds of 6 MPH or more.

At ATC Automatic Cut-in Test Locations:

- The cab signal will display a Clear aspect when passing a "B" sign (Beginning ATC test section).
  - The speed whistle will sound for 3 or 4 seconds.
- The cab signal will change to a Restricting aspect when the "E" (End ATC test section) is passed.
  - When train speed exceeds 40 MPH the high speed whistle will sound until a Clear aspect is displayed.
  - When train speed is below 40 MPH the horn will sound and must be acknowledged.

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## 17.5: High Speed Setting

When a cab signal displays a Clear aspect and the train speed exceeds the high speed setting, a high-speed whistle will sound continuously. This will require a SUPPRESSION brake application within 6 seconds to prevent a penalty brake application.

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### 17.5.1: Over 40 MPH

The high speed whistle will sound when the speed is more than 40 MPH when the cab signal changes to a Restricting aspect.

1. Move the brake valve handle to SUPPRESSION within 6 seconds to prevent a penalty brake application.
2. When speed is reduced to less than 40 MPH, the high speed whistle will stop and the acknowledging horn will sound.
3. Acknowledge this horn. If the cab signal continues to display Restricting, speed must immediately be reduced to restricted speed.

If restricted speed is not reached within 70 seconds after the acknowledging horn was acknowledged, a penalty brake application will occur unless the brake valve handle is in SUPPRESSION.

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## 17.5.2: Under 40 MPH

The acknowledging horn will sound if the cab signal changes from Clear to Restricting when the speed is under 40 MPH.

1. Acknowledge the horn within 6 seconds to prevent a penalty brake application.
2. If the cab signal continues to display Restricting, train speed must immediately be reduced to restricted speed.

If restricted speed is not reached within 70 seconds after the acknowledging horn was acknowledged, a penalty brake application will occur unless the brake valve handle is in SUPPRESSION.

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## 17.5.3: Restricting Cab Signal

When cab signal changes from a Clear to a Restricting aspect, trains exceeding Restricted Speed must immediately reduce to Restricted Speed. While the cab signal continuously displays a Restricting aspect, the acknowledging horn will sound to alert the crew members of the restriction. When the speed is approaching the restricting over speed setting, the low speed alarm will sound to alert crew members that speed must be reduced.

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## 17.6: Conforming with Block Signals

Cab signal indications do not supersede the indication displayed on block and interlocking signals. The most restrictive block or cab signal indication must be complied with. However, when the cab signal changes from Restricting to Clear after having passed the block or interlocking signal, the train may immediately comply with the cab signal indication.

Except where cab signals are capable of displaying diverging route aspects, when initiating movement or when the cab signal changes from Restricting to Clear after the engine passes a signal that governs the approach to a diverging route, the train must approach the next signal at the speed prescribed for the most restrictive route at that location until the next signal is visible.

Note: When the cab signal cycles from Clear to Restricting and immediately back to Clear, the train may continue at normal speed.

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### 17.6.1: Approaching Diverging Route

When the cab signal changes from Restricting to Clear after the engine passes a signal displaying an Approach or a more restricting indication and the next signal can display an indication for a diverging route, the train must approach the next signal at the speed prescribed for the most restrictive route at that location. However, if the signal is seen to display an indication for a more favorable route, the speed for that route governs.

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## 17.7: ATC Failure/Cut-out Enroute

When any part of the ATC system is cut-out enroute:

1. Before an absolute block is established in advance of the train:
  - o If cab signals are operative or movement will be entirely in a continuous block signal territory, proceed not exceeding 40 MPH.
  - or
  - o If cab signals are not operative and movement is outside continuous block signal territory, proceed at restricted speed.
2. After an absolute block is established in advance of a train:
  - o If cab signals are operative or movement will be entirely in continuous block signal territory, proceed in accordance with signal indications not exceeding 79 MPH.
  - o If cab signals are not operative and movement is outside continuous block signal territory:
    - Passenger trains may proceed not exceeding 59 MPH.
    - Freight trains may proceed not exceeding 49 MPH.
3. Before an absolute block in advance of movement is established in ATC territory the train dispatcher must determine if:
  - o The cab signals are operative
  - o The absolute block in advance of movement will be entirely in territory with continuous fixed block signals.
  1. If the cab signals are operative or the absolute block in advance of movement will be entirely in continuous block signal territory, the train dispatcher may establish an absolute block in advance of movement as provided by Rule 11.1 (Establishing an Absolute Block). Rule 11.2 (Signal Indications with Absolute Block) applies. If the cab signal changes to Restricting the train must stop.
  2. If the cab signals are inoperative and any part of the absolute block in advance of movement will be outside continuous block signal territory, the train dispatcher must not establish an absolute block in advance of movement until it is determined that no trains or engines:
    - Occupy the limits ahead of the train being given the absolute block in advance of movement.
    - Will occupy the limits ahead of the train being given the absolute block in advance of movement.
  3. Rule 9.15 (Track Permit) or Rule 10.3 (Track and Time) establishes an absolute block when not issued joint.

**Note:** Continuous block signal territory is designated on the subdivision page where ATC is in effect.

### System Special Instruction

**Add:**

**Note:** Continuous block signal territory is designated on the subdivision page where ATC is in effect.

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## 17.7.1: Speed Indicator in ATC

An inoperative or inaccurate speed indicator, as prescribed by Rule 1.39 (Accuracy of Speed Indicator) is considered an ATC failure. Rule 17.7 (ATC Failure/Cut Out Enroute ) applies.

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## 17.7.2: ATC Motion Light

If the motion light is not on when the speed is 6 MPH or above, proceed in accordance with the cab signal indication but not to exceed 40 MPH. Rule 17.7 (ATC Failure/Cut Out Enroute) applies.

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## 17.7.3: Audible Indicator

If the audible indicator does not sound when the cab signal changes to a more restrictive indication or continues to sound when the cab signal change is acknowledged, it is considered an ATC failure. Rule 17.7 (ATC Failure/Cut Out Enroute) applies.

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## 17.8: Improper Display

If a cab signal displays Clear when it should display Restricting due to an open switch, occupied block, or other condition, the train must:

- Stop and warn other trains by radio of exact location and status of train.
- Contact the train dispatcher and be governed by his instructions. If the train dispatcher gives permission to proceed, the train must proceed at restricted speed until the train dispatcher establishes an absolute block in advance of movement.

**Note:** The cab signal indication may change within 300 feet of a hand operated switch (before or after). The cab signal may change from Restricting to Clear before (within 300 feet) an opened hand operated switch. This is normal due to track circuitry and would not be considered an improper display of the cab signal.

### System Special Instruction

**Add Note:** The cab signal indication may change within 300 feet of a hand operated switch (before or after). The cab signal may change from Restricting to Clear before (within 300 feet) an opened hand operated switch. This is normal due to track circuitry and would not be considered an improper display of the cab signal.

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Updated: 4/27/2010

# Glossary

- [19.GL: GENERAL CODE OF OPERATING RULES GLOSSARY](#)

## 19.GL: GENERAL CODE OF OPERATING RULES GLOSSARY

### Abbreviations

Use only the following abbreviations:

**ABS** Automatic Block Signal System

**ACS** Automatic Cab Signal System

**AMTK** Amtrak

**ATC** Automatic Train Control

**ATS** Automatic Train Stop

**AUTH** Authority

**BO** Bad Order

**BRN** Branch

**BRT** Block Register Territory

**C** Center

**C & E** Conductor and Engineer

**COFC** Container on Flat Car

**CONDR** Conductor

**CP** Control Point

**CTC** Centralized Traffic Control

**DCS** Dual Control Switch

**DISPR** Dispatcher

**DIST** District

**DIV** Division

**DT** Double Track

**DTC** Direct Traffic Control

**E** East

**ENG** Engine

**ENGR** Engineer

**ESS** East Siding Switch

**EWD** Eastward

**FRT** Freight

**HER** Head End Restriction

**IM** Intermodal

**JCT** Junction

**MAX** Maximum

**MMT** Multiple Main Track

**MP** Mile Post

**MPH** Miles Per Hour

**MT** Main Track

**MW** Maintenance of Way

**N** North

**NO** Number

**NSS** North Siding Switch

**NWD** Northward

**OK** Correct

**OOS** Out of Service  
**OPR** Operator  
**ORIG** Originating  
**PSGR** Passenger  
**RC** Radio Channel  
**RCO** Remote Control Operator  
**RCZ** Remote Control Zone  
**RECD** Received  
**RE** Region  
**S** South  
**SDG** Siding  
**SI** Special Instructions  
**SSI** System Special Instructions  
**SSS** South Siding Switch  
**SUB** Subdivision  
**SUBDIV** Subdivision  
**SUPT** Superintendent  
**SW** Switch  
**SWD** Southward  
**TOFC** Trailer on Flat Car  
**TRK** Track  
**TRN** Train  
**TWC** Track Warrant Control  
**W** West  
**WSS** West Siding Switch  
**WWD** Westward  
**XO** Crossover  
**YD** Yard  
**YL** Yard Limits  
**YM** Yardmaster

Use the normal abbreviations for names of months.

### **ABS**

*See Automatic Block Signal System.*

### **Absolute Block**

A length of track that no train is permitted to enter while the track is occupied by another train.

### **Absolute Signal**

A block or interlocking signal without a number plate, or designated by an A marker.

### **ACS**

*See Automatic Cab Signal System.*

### **Adjacent Track**

Parallel tracks that are not separated by a single lane roadway or similar distance are considered adjacent tracks.

**Note:** This definition only applies when determining if Track Breach Protection is required.

### **Articulated**

Permanently connected multiple unit cars that share a common truck.

### **ATC actuator**

An ATC brake applying apparatus.

**ATS**

*See Automatic Train Stop System.*

**Automatic Block Signal System (ABS)**

A series of consecutive blocks governed by block signals, cab signals, or both. The signals are activated by a train or by certain conditions that affect the block use.

**Automatic Cab Signal System (ACS)**

A system that allows cab signals and the cab warning whistle to operate automatically.

**Automatic Train Control (ATC)**

A system to enforce compliance with cab and wayside signal indications. If the train exceeds a predetermined speed for a given cab signal indication and speed is not reduced at a sufficient rate, brakes are automatically applied.

**Automatic Train Stop System (ATS)**

A system activated by wayside inductors positioned to apply the brakes automatically until the train stops.

**Block**

A length of track:

- Between consecutive block signals
- Between a block signal and the end of block system limits  
or
- In ATC limits, the use of which is governed by cab signals and/or block signals.

**Block Register Territory (BRT)**

A method of operation in non-signaled territory where trains, men, and equipment are authorized to occupy the main track in limits designated by the timetable.

**Block Signal**

A fixed signal at the entrance of a block that governs trains entering and using that block.

**Block System**

A block or series of consecutive blocks within ABS, ACS, CTC, or interlocking limits.

**Breach**

To enter area between two adjacent tracks.

**BRT**

*See Block Register Territory.*

**Cab Red Zone**

A "Cab Red Zone" (CRZ) exists during critical times or when multiple tasks are occurring. During a cab red zone, an environment must be created in the control compartment that focuses exclusively on controlling the train and complying with the rules.

**Cab Signal**

A signal in the engineer's compartment or cab that indicates a condition affecting train movement. Cab signals are used with interlocking or block signals or without block signals.

**Cars**

Railroad cars.

**Centralized Traffic Control (CTC)**

A block system that uses block signal indications to authorize train movements.

**Clearance Point**

The location closest to a switch where it is safe for equipment, and a person riding the side of equipment unless prohibited, to pass equipment on an adjacent track.

**Conductor**

Employee in charge of train or yard movement.

**Control Operator**

Employee assigned to operate a CTC or interlocking control machine or authorized to grant track permits.

**Control Point**

The location of absolute signals controlled by a control operator.

**Controlled Siding**

A siding within CTC or interlocking limits where a signal indication authorizes the siding's use.

**Controlled Signal**

An absolute signal controlled by a control operator.

**Crew Member**

Conductors, assistant conductors, brakemen, engineers, remote control operators, yard engine foremen, switchmen, and yard helpers.

**Crossings at Grade**

Crossings that intersect at the same level.

**Crossover**

~~A combination of two switches that connect two adjacent tracks, normally used for crossover movements. A track connection between two adjacent tracks, consisting of two switches, which is intended to be used primarily for the purpose of crossing over from one track to the other.~~

**CTC**

*See Centralized Traffic Control.*

**Current of Traffic**

The movement of trains in one direction on a main track, as specified by the rules.

**Direct Traffic Control (DTC)**

A DTC block or a series of DTC blocks where the train dispatcher authorizes track occupancy.

**Distant Signal**

A fixed signal outside a block system that governs the approach to a block signal, interlocking signal, or switch point indicator. A distant signal does not indicate conditions that affect track use between the distant signal and block or interlocking signals or between the distant signal and switch point indicator. A distant signal is identified by a D.

**Double Track**

Two main tracks where the current of traffic on one track is in a specified direction and in the opposite direction on the other.

**Dual Control Switch**

A power-operated switch, moveable point frog, or derail that can also be operated by hand.

**DTC**

*See Direct Traffic Control.*

**DTC Block**

A length of main track specified by name. DTC block name and limits are identified by wayside signs reading, Begin (name) Block and End (name) Block and by mile post location in the timetable.

**Electric Switch Lock**

An electrically controlled lock that restricts the use of a hand-operated switch or derail.

**Engine**

A unit propelled by any form of energy or more than one of these units operated from a single control. Engines are used in train or yard service. Rules that apply to engines also apply to cab control cars.

**Engineer**

Also includes student engineers, firemen, hostlers, and remote control operators.

**Equipment**

Railroad equipment.

**Equipment Fouling a Track**

The end of rolling equipment or on-track maintenance of way equipment left between the clearance point and the switch points leading to the track on which the equipment is standing.

**Fixed Signal**

A signal that is fixed to a location permanently and that indicates a condition affecting train movement.

**Flagman**

Any employee providing flag protection as outlined in Rule 6.19 (Flag Protection) and for other purposes as outlined in the rules.

**Foreman**

Employee in charge of work.

**Gravity Switch**

A switching process using gravity to reposition cars on the opposite end of a locomotive, without using locomotive to start movement of cars. See Rule 7.7.1.

**Interlocking**

Signal appliances that are interconnected so that each of their movements follows the other in a proper sequence. Interlockings may be operated manually or automatically.

**Interlocking Limits**

The tracks between outer opposing absolute signals of an interlocking.

**Interlocking Signals**

The fixed signals of an interlocking that govern trains using interlocking limits.

**Jump Frog**

A main track frog designed for use with low traffic turnouts. The main track side is made up of an unbroken rail and the turnout side carries the wheel over the main track rail by supporting the flange of the wheel.

**Main Track**

A track extending through yards and between stations that must not be occupied without authority or protection.

**Men or Equipment**

A term referring to Engineering Department employees and their related equipment.

**Multiple Main Tracks**

Two or more main tracks that are used according to the timetable.

**Pilot**

An employee assigned to a train to assist an engineer or conductor who is unfamiliar with the rules or the portion of railroad the train will operate on.

**Proceed Indication**

Any block signal indication that allows a train to proceed without stopping.

**Radio**

As used in these rules it also applies to wireless communication devices when used in railroad operations.

**Radio Blocking**

A method to establish an absolute block for a following train in non-signaled territory by direct communication with a preceding train.

**Radio Speed Restriction**

A speed restriction received from the train dispatcher while enroute.

**RCO**

See Remote Control Operator

**RCZ**

See Remote Control Zone

**Remote Control Operator (RCO)**

An employee who may operate an engine with or without cars by means of a remote control transmitter.

**Remote Control Transmitter**

A device that gives the remote control operator control of a remote control engine.

**Remote Control Zone (RCZ)**

A portion of track(s) within definite limits designated in the timetable special instructions.

**Reverse Movement**

A movement opposite the authorized direction.

**Siding**

A track connected to the main track and used for meeting or passing trains. Location of sidings are shown in the timetable.

**Signal Aspect**

The appearance of a fixed or cab signal.

**Signal Indication**

The action required by the signal aspect.

**Single Track**

A main track where trains are operated in both directions.

**Special Instructions**

Instructions contained in the timetable or other publication.

**Spring Switch**

A switch with a spring mechanism that returns the switch points to the original position after they are trailed through.

**Spur Track**

A track connected to another track at only one end, also referred to as a stub track.

**Station**

A place designated by name in the timetable station column.

**Stowed**

When required by rule 2.21, electronic devices including cell phones, laptops, cameras, DVD's, etc., must be turned off and placed out of sight in the employee's grip, luggage, back pack, etc. Electronic devices placed in pockets or device holsters are not considered as being stowed.

**Switch Point Indicator**

A light type indicator used during movement over certain switches to show that switch points fit properly.

**Switch Providing Direct Access**

A switch that if used by rolling equipment could permit the rolling equipment to enter the track and couple to equipment.

**Timetable**

A publication with instructions on train, engine, or equipment movement. It also contains other essential information.

**Track Bulletin**

A notice of conditions affecting train movement. It may also authorize movement against the current of traffic where Rule 9.14 (Movement with the Current of Traffic) is in effect.

**Track Occupancy Indicator**

An indicator that tells whether a length of track is occupied or not.

**Trackside Warning Detector**

A device that indicates conditions such as overheated journals, dragging equipment, excess dimensions, shifted loads, high water, or slides.

**Track Warrant Control (TWC)**

A method to authorize train movements or protect men or machines on a main track within specified limits in a territory designated by the timetable.

**Train**



One or more engines coupled, with or without cars, displaying a marker, and authorized to operate on a main track. A term that when used in connection with speed restrictions, flag protection, and the observance of all signals and signal rules also applies to engines.

### **Train Coordination**

Working limits established by a roadway worker through the use of a train's authority on a main track or other track where specific authority is required from a control operator or train dispatcher.

### **Train Dispatcher**

Employee assigned to operate a CTC or interlocking machine, transmit or deliver orders affecting train movements, and supervise train movements and any employees connected with that movement, including control operators.

### **Train ID**

Trains will be identified by initials and engine number, adding the direction when required. When an engine consists of more than one unit or when two or more engines are coupled, the number of one unit only will be illuminated as the identifying number. The identifying number will be the number of the lead unit, unless changing direction during a trip or tour of duty when that unit is no longer the lead unit.

### **TWC**

*See Track Warrant Control.*

### **Variable Switch**

A switch identified by a V or a bowl painted yellow. When traileed through, the switch points remain lined in the position they were forced.

### **Whistle Quiet Zone**

A designated portion of track, that includes road crossing(s) at grade where whistle signal (7) is not regularly sounded.

### **Working Limits**

A segment of track within definite boundaries on which movements may be made only as permitted by the employee in charge. Boundaries may be established using mile posts, station signs, timetable locations, or clearly identifiable points.

### **Yard**

A system of tracks, other than main tracks and sidings, used for making up trains, storing cars, and other purposes.

### **Yard Access Crossing**

A grade crossing that is located within the physical confines of a railroad yard and is either:

- Open to unrestricted public access;  
or
- Open to persons other than railroad employees going about their normal duties, e.g., business guests or family members.

### **Yard Limits**

A portion of main track designated by yard limit signs and timetable special instructions or a track bulletin.

## **System Special Instruction**

## **Glossary**

## **Abbreviations**

**SI** Special Instructions

**SSI** System Special Instructions

**Change: Crossover**

A combination of two switches that connect two adjacent tracks, normally used for crossover movements.

**Add:**

**Adjacent Track**

Parallel tracks that are not separated by a single lane roadway or similar distance are considered adjacent tracks.

**Note:** This definition only applies when determining if Track Breach Protection is required.

**Breach**

To enter an area between two adjacent tracks.

**Cab Red Zone**

A "Cab Red Zone" (CRZ) exists during critical times or when multiple tasks are occurring. During a cab red zone, an environment must be created in the control compartment that focuses exclusively on controlling the train and complying with the rules.

**Gravity Switch**

A switching process using gravity to reposition cars on the opposite end of a locomotive, without using locomotive to start movement of cars. See Rule 7.7.1.

**Radio Speed Restriction**

A speed restriction received from the train dispatcher while enroute.

**Spur Track**

A track connected to another track at only one end, also referred to as a stub track.

**Switch Providing Direct Access**

A switch that if used by rolling equipment could permit the rolling equipment to enter the track and couple to equipment.

**Yard Access Crossing**

A grade crossing that is located within the physical confines of a railroad yard and is either:

- Open to unrestricted public access;
- or
- Open to persons other than railroad employees going about their normal duties, e.g., business guests or family members.

**General Order**

**Change Automatic Train Control (ATC) to read:**

A system to enforce compliance with cab signal indications. If the train exceeds a predetermined speed for a given cab signal indication and speed is not reduced at a sufficient rate, brakes are automatically applied.

**Add: Jump Frog**

A main track frog designed for use with low traffic turnouts. The main track side is made up of an unbroken rail and the turnout side carries the wheel over the main track rail by supporting the flange of the wheel.

**Add: Stowed**

When required by rule 2.21, electronic devices including cell phones, laptops, cameras, DVD's, etc., must be turned off and placed out of sight in the employee's grip, luggage, back pack, etc. Electronic devices placed in pockets or device holsters are not considered as being stowed.

**Add: Train Dispatcher**

Employee assigned to operate a CTC or interlocking machine, transmit or deliver orders affecting train movements, and supervise train movements and any employees connected with that movement, including control operators.

**Add: Train ID**

Trains will be identified by initials and engine number, adding the direction when required. When an engine consists of more than one unit or when two or more engines are coupled, the number of one unit only will be illuminated as the identifying number. The identifying number will be the number of the lead unit, unless changing direction during a trip or tour of duty when that unit is no longer the lead unit.

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Updated: 7/29/2011

## 20.0: GENERAL DUTIES OF THE TRAIN DISPATCHER

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### 20.1: Supervision

Train dispatchers report to and receive instructions from the Corridor Director/Manager and/or proper authority.

Control operators are supervised by the train dispatcher in matters concerning train movement.

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## 20.2: Duties of Train Dispatchers

Reference: GCOR 1.44

Train dispatcher's responsibilities include:

- Supervising the movement of trains.
- Using proper protection and authorities for employees as prescribed by the rules.
- Complying with the rules and requiring that others do the same.
- Cooperating with field personnel conducting efficiency tests by not divulging any information that would interfere with, or affect the outcome of, the tests.
- Communicating with supervisors regarding conditions that affect the SAFE AND EXPEDIENT movement of trains.

Do not issue instructions that are in conflict with the rules. Train dispatchers must be aware that, because of their authority, employees might follow the dispatcher's instructions, even if rules might be violated.
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## 20.3: Records Kept

All written records must be kept in a neat and legible manner on a timely basis. All computerized records must be kept up-to-date and accurate. These records may be produced in a court of law. Accuracy is critical.

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## 20.4: Train Priority

Train dispatchers must be familiar with priorities, speed, and routing information of trains approaching their territory, or that are operating within their territory. Whenever possible, ensure priority trains are given preference and that no train is delayed unnecessarily.

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## 20.5: Knowledge of Territory

Train dispatchers must:

- Be familiar with characteristics that affect safe and efficient train operation, (e.g., geographic, weather, local restrictions).
- Constantly be alert to, and inquire about, all information that affects operation of territories supervised.
- Plan as far in advance as practicable taking into consideration details which may affect train operations.
- Communicate with train dispatchers, terminal train dispatchers, supervisors of train operations and control operators of

adjoining territories, giving particular attention to the movement and protection of trains and employees between territories.

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## 20.5.1: Knowledge of Adjoining Territories

Knowledge of territory must extend beyond the limits supervised by the train dispatcher for safe and efficient operation as well as proper application of rules.

Train dispatchers must:

- Inform other railroads and terminals of train movements that affect them.
- Not issue Track Warrants, Track Bulletins, instructions, or take any actions that may affect another train dispatcher's territory until a mutual understanding is reached between the dispatchers.
- Not remove any blocking device applied to signals, switches or track placed by an adjoining dispatcher until a mutual understanding is reached between the dispatchers.

Train dispatchers, if allowed by software, may issue Track and Time to and including the next control point in the adjoining train dispatcher's territory after reaching an understanding with that train dispatcher.

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## 20.6: Transfer

A transfer must be made to relieving train dispatcher to include the following, if applicable:

- Track Bulletins
- Absolute Blocks in effect
- Unforeseen Speed Restrictions
- Pertinent instructions and information
- All active authorities

Relieving train dispatcher must review all required items listed on transfer and General Orders, Train Dispatcher and Control Operator Bulletins and Office Notices.

Whenever possible, a verbal exchange of information must be made between the two dispatchers, including the fact they have both recorded their Hours of Service.

The relieved train dispatcher must log off the train dispatching system and the relieving train dispatcher must log on to the train dispatching system before transfer is considered complete.

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## 20.7: Proper Terms

Train dispatchers must do the following and require the same from others they communicate with:

- Use terms that are clear and not in conflict with the rules.

- Use proper instructions instead of rule numbers, except as otherwise provided in the rules.
- Use exact words when quoting a rule.
- Use only abbreviations authorized by the GCOR Glossary.

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## 20.8: Requirements For Granting Authority

When transmitting, or accepting release of, authorities; or when transmitting any other mandatory directive or instruction in the CAD system, the train dispatcher or control operator must directly observe the screen display to ensure the employee's repeat is correct.

When transmitting authority, mandatory directive, or instruction; or when confirming the limits of authority that includes a control point, state the location as either "CP" or "Control Point," followed by the alphanumeric designation (e.g., "CP A010").

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### 20.8.1: Requirements For Granting and Releasing Authority

The specified format must be used to grant authority.

When issuing verbal or written authorities train dispatcher must:

- Advise employee of any conditions or restrictions prior to issuing authority.
- Ensure instructions can be understood and that they are not in conflict with general orders, special instructions, or operating rules.
- Transmit authority with the precise limits and conditions that have been established in the dispatching system.
- Listen carefully while directly observing screen display during repeat of authority to ensure it is correct.
- Use only the "OK Time" on the CAD screen display.
- Guard against hazardous conditions and not create unsafe combinations.
- Void any written authorities that are not understood and reissue using a new number so they are understood by all concerned.
- Issue verbal authorities clearly, concisely and at a speed that can be received easily.

Train dispatchers must exercise caution to ensure that the employees do not misunderstand a discussion about work to be performed as being authority granted.

- When releasing authority:

Care must be taken to ensure the correct authority is released. Train dispatchers' repeat of release must include, at a minimum, authority number, authority limits, release time, and name of employee releasing.

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## 20.8.2: Confirmation of Limits Prior to Granting Authority

Prior to verbally issuing authority, other than to a train, the train dispatcher or control operator must confirm the limits. Only the limits of authority must be confirmed, conditions of authority or other information should not be discussed at this time.

Confirmation of limits applies to Track and Time, Track Permits, Foul Time, and Track Warrants.

### A. Issuing Authority as Requested:

1. Create the authority in the dispatching system and verify blocking is in place.
2. Using proper terminology, state the limits of the authority as they appear on the display screen.
3. Require the employee to acknowledge the confirmation of limits; for example, "That is correct, dispatcher," "Ready to copy," or "I understand you are giving me <limits>."
4. Issue the authority with no changes in the confirmed limits.

### B: Issuing Authority When Requested Limits Are Unavailable or Specific Limits Are Not Requested:

1. If unable to issue the authority as requested, state that those limits are not available. State the limits that can be granted and ask the employee if those limits are useable. If the employee has not requested specific limits, proceed directly to Step 2.
2. Create the authority in the dispatching system and verify blocking is in place.
3. Using proper terminology, state the limits of the authority as they appear on the display screen.
4. Require the employee to repeat the limits.
5. Once the limits are repeated correctly, the authority may be transmitted with no changes in the confirmed limits.

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## 20.8.3: Hy-Rail Motor Patrol (BRONCO) Instructions

Subdivisions authorized to operate Hy-Rail Motor Patrols (HMP) under storm protection are identified in the Area Timetable or Subdivision General Order. The Manager of Track Maintenance or his designate will notify the train dispatcher when train escort using HMP under storm protection is required.

When authorizing HMP, not on track and time, to operate during storm conditions, the train dispatcher must:

1. Issue a storm bulletin using Track Bulletin format:

"STORM ORDER IS IN EFFECT BETWEEN (location) AND (location) SPEED WHERE VIEW OBSCURED 20 MPH UNLESS A GREATER SPEED IS AUTHORIZED BY THE HY-RAIL MOTOR PATROL OPERATOR."



2. Contact both the HMP Operator and train crew to ascertain a complete understanding of escort limits has been reached.

3. Authorize each new train escort movement with an HMP separately.

If the train and HMP operator report that they are unable to maintain communication with each other, issue joint Track and Time to both.

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## **20.8.4: Remote Authority Instructions**

### **20.8.4 Remote Authority Instructions**

When utilizing the CAD Remote Authority System for the issuance or release of on-track authorities:

- The requirements of Rule 20.8.1 for releasing authority do not apply
- The requirements of Rule 20.8.2 pertaining to the confirmation of limits do not apply
- The requirement of Rule 24.2.6 pertaining to restating the limits does not apply

If the requested authority will be behind a train or trains, the dispatcher must know where the remote user will foul the track and verify that all trains listed on the authority are beyond this location. This requirement does not apply after the issuance of the first authority if the same train(s) are listed on subsequent contiguous authorities addressed to the same remote user.

If the remote user informs the dispatcher electronically that their work will shunt the signal circuits within a control point, or that dual control switches will be taken in hand operation, this satisfies the requirement of Rule 24.2.7 Shunting Signal Circuits to make this determination; however, the dispatcher must still provide protection.

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## **20.9: Relaying Through Another Qualified Employee**

When relaying authority through another qualified employee:

1. Give authority to third party:
  - a. Transmit required authority to third party.
  - b. Require third party to repeat.
  - c. If correct, respond with "(Third Party ID), that is correct for relay."
2. Third party gives authority to employee requiring the authority:

- a. Instruct the third party to transmit the authority to receiving employee.
  - b. Require third party to verify to train dispatcher that receiving employee has repeated correctly.
3. Give OK time and dispatcher's initials to third party:
- a. Give OK time and dispatcher's initials to relaying employee.
  - b. Instruct third party to give OK time and dispatcher's initials to receiving employee.
  - c. Require that relaying employee advise train dispatcher when receiving employee has repeated OK time and dispatcher's initials.

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## 20.10: Communications

The train dispatcher's communication console must be used for company business.

The unrecorded "side phone" must not be used to transmit or release authorities or issue instructions that affect the movement of trains, except in the event of communication failure.

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## 20.11: Reports of Trespassers or Suspicious Activity

In the event a report is received of suspicious activity, trespassers along the right of way, or unauthorized persons on equipment, obtain and forward to Corridor Director/Manager as much detailed information as possible. This should include a description, vehicles in the area, license plate numbers, or any other information that may help in a possible investigation.

If report involves suspicious activity or trespassers:

1. Protect the area, notifying trains if necessary.
2. Notify Response Management Control Center (RMCC).

If report involves vehicles on or near the track:

1. Immediately instruct all trains approaching the area to be prepared to stop short of obstruction.
2. Notify Response Management Control Center (RMCC).
3. If told that vehicle was stuck on track, verify that MW is notified to inspect track.

If report involves livestock on the right of way, advise closely approaching trains.

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## 20.12: Accidents, Injuries and Defects

Reference: GCOR 1.1.3

When a report is received from the field of accidents, injuries, or track or mechanical defects, the train dispatcher must ensure that the necessary safeguards are provided as soon as possible. In case of doubt as to whether operation of train(s) is safe, the train dispatcher must require train(s) to stop and examine the reported defect before proceeding.

If a defect is reported as a broken rail (including field weld failures or "pull-aparts"), movements over the defect must not be permitted until an employee qualified to inspect track has determined that the defect may be safely passed over and has prescribed an appropriate speed over defect.

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## 20.13: Care for Injured

Reference: GCOR 1.2.1

When advised of an injury, ascertain if emergency services are required.

When responding to report of injuries:

1. Obtain exact location including railroad mile post and public access information.
2. Protect the location.
3. Notify Response Management Control Center (RMCC).
4. Give this priority over other duties.

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## 20.14: Statements

Reference: GCOR 1.2.6

Train dispatcher must:

- Require identification before divulging information that relates to the operation of the railroad.
- Only release information to employees of the railroad or others that are authorized to receive the information.

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## 20.15: Rules Availability and Use

Reference: GCOR 1.3.1

Train dispatchers must have a current copy of the following available for reference while on duty:

- General Code of Operating Rules (GCOR)
- Rules Governing Train Dispatchers and Control Operators (RTDCO)
- System Special Instructions
- Timetables

- General Orders
- Safety Rules
- Air Brake and Train Handling Rules
- Form 8620-Instructions for Handling Hazardous Materials

Employees may utilize electronic media with the most recent approved versions in lieu of books. Employees must be able to access the electronic versions in a timely manner.

When any rule or instruction for train dispatchers is supplemented, modified, or canceled, the Vice-President Harriman Dispatching Center (HDC) will issue a Train Dispatcher and Control Operator Bulletin.

Train Dispatcher and Control Operator Bulletins do not supersede General Orders, Special Instructions or the General Code of Operating Rules.

Office Notices may be issued to cover territory or office specific instructions, which do not supplement, modify or cancel a GCOR rule or RTDCO rule.

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## 20.16: General Orders

Reference: GCOR 1.3.2

Train dispatchers must check new General Orders for items duplicated in track bulletins and must revise track bulletins to delete such items.

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## 20.17: Irregularities

Reference: GCOR 1.4

Immediately report to the Corridor Director/Manager and, if necessary, proper authority any irregularities that pertain to:

- Train movement.
- Operation of signals or related apparatus.
- Handling or execution of track bulletins or track warrants.
- Compliance with or apparent lack of understanding of the rules.

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## 20.18: Hours of Service Law

Reference: GCOR 1.17

### A. Hours of Service Involving Trains

Plan operations to avoid violations and, if possible, prevent crews from tying up short of terminal because of hours of service. Report

all violations or possible violations to the Corridor Director/Manager or proper authority.

## **B. Hours of Service Record for Train Dispatchers**

Train dispatcher must maintain their own hours of service record with the following:

- Place (e.g., HDC Omaha, Spring, etc.), date, and name of employee.
- Occupation of employee (e.g., train dispatcher or control operator).
- Total number of consecutive hours and minutes off duty prior to going on duty. When off duty over 99 hours and 59 minutes, indicate 99+. If less than 99 hours and 59 minutes, the record must reflect actual hours and minutes.
- Date and time on duty.
- Date and time off duty.
- Total time of service.

Mandatory classes, meetings, drug tests, etc. required before or after shift are considered as commingled service and must be used in calculating consecutive hours off duty. The record should also include an explanation of commingled service.

**Note:** Time on or off duty must be recorded precisely. Transfers must be included in the time on duty. Train dispatchers must not work more than 9 hours in any 24-hour period. Report all violations to the Corridor Director/Manager or proper authority.

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## **20.19: Unauthorized Persons**

**Reference:** GCOR 1.22

Unauthorized persons will not be allowed in the dispatcher's cubicle.

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## **20.20: Operation or Repair of Appliances**

**Reference:** GCOR 1.23

The train dispatcher must not make or allow any unauthorized appliance repairs, alterations, or additions. Appliances must be operated only by those authorized to do so.

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## **20.21: Fire**

**Reference:** GCOR 1.28

When report of fire is received:

1. Protect the area if the fire poses any threat to train operations or if train operations pose any threat to fire fighting personnel.
2. If a bridge or tunnel is involved, take additional precautions to prevent train movement until advised by employee in charge

that movement may be resumed.

3. Report fire to Response Management Control Center (RMCC).
4. If reported as a right of way fire, instruct the train that last traversed the area to stop. This train must be inspected by Mechanical Department personnel and not allowed to proceed until released by appropriate supervisor. If train is no longer on the dispatcher's territory, notify Corridor Director/Manager who will arrange to have the train inspected. Note: If the last train through the area was a passenger train, instruct that train to stop and crew will inspect the train before it is allowed to proceed.

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## 20.22: Handling Dimensional / Excessive Dimension Equipment

Reference: GCOR 1.36

### A. Definition

In the application of this rule, the following definitions apply:

#### Absolute Meet

Absolute Meet is a fixed meeting point between opposing or passing trains where track centers permit safe clearance.

#### Dimensional Equipment

Dimensional Equipment is any car/load with a width of 11 Feet 0 inches to 12 feet 0 inches, inclusive.

#### Excessive Dimension Equipment

Excessive Dimension Equipment is any car/load with a width of more than 12 feet 0 inches.

#### Overhang

Loads that hang over the end of the car. These loads normally require idler cars placed at each end of the car.

#### Swingout

Swingout is the additional dimension a load may acquire when moving on a curved track (i.e. overhanging load which will "swing out" when rounding a curve).

### B. Safe Movement

When moving Excessive Dimension equipment, train dispatcher must:

- Issue track bulletin :

"EXCESSIVE DIMENSION EQUIPMENT (Car number) ON TRAIN (trainID) (#) FEET (#) INCHES WIDE ENROUTE (station) TO (station). BE GOVERNED BY RULE 1.36."

- Add any other restriction found on a clearance wire that affects the safe movement on that territory.
- If necessary, furnish advance information to crews concerning Absolute Meets with opposing and passing trains. Train handling equipment 13'00" or wider that requires absolute meets must be in CAD manual mode.
- Advise adjacent control areas of trains known to be handling Dimensional Equipment.
- Use appropriate CAD functions, whenever possible, to protect areas where restricted cars must not be met or passed.

Be governed by current Office Notices for instructions regarding train operations while handling any dimensional or excessive dimension equipment.

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## 20.22.1: Close Clearance

When locations are identified that have track centers 12 feet 9 inches or less, a track bulletin must be issued to all trains using the following format:

"BETWEEN (milepost) AND (milepost) THERE IS CLOSE CLEARANCE BETWEEN (name) AND (name) TRACKS TRAINS HANDLING DIMENSIONAL OR EXCESSIVE DIMENSION LOADS MUST NOT EXCEED 30 MPH BETWEEN THESE LOCATIONS."

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## 20.22.2: Protection of Dimensional / Excessive Dimension Equipment Staged or Setout Online

Where track centers are less than 14 feet, when a train will be staged online without a crew, the train dispatcher must ascertain, prior to releasing the crew, whether the train has a dimensional or excessive dimension load in the consist. If the trains consist contains a dimensional or excessive dimension load, a track bulletin must be issued using the following format:

"DIMENSIONAL (or excessive dimension) LOAD ON (name) TRACK AT (location) WILL NOT CLEAR EXCESSIVE DIMENSION LOADS 13 FEET 0 INCHES WIDE.

These instructions apply to dimensional or excessive dimension equipment setout online as well.

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## 20.22.3: Overhanging Load with Swingout

Issue track bulletin to protect against overhanging loads which cause the swing out dimensions to exceed 12 feet 0 inches on the subdivision.

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## 20.23: Reporting Engine Defects

Reference: GCOR 1.40

After receiving report of a locomotive malfunction, notify the locomotive help desk, reporting the following:

- Dispatcher position number and territory dispatched
- Train symbol and lead locomotive unit identification number
- Locomotive INITIAL AND NUMBER in trouble (if different from lead unit)
- Location of train and radio tower on which the crew can be contacted
- Problem that the locomotive is experiencing

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## 20.24: Emergency Calls and Critical Alarms

Reference: GCOR 2.10

When responding to emergency calls and critical alarms, train dispatcher must:

- Give these priority over all other duties.
- Respond to unattended workstations. Notify the other dispatcher when he/she returns.

Emergency Calls:

Respond immediately. Identify that radio is being answered in response to an emergency call:

**"UP DISPATCHER (unique designation) RESPONDING TO EMERGENCY CALL ON (base radio location) RADIO, OVER."**

- Respond a minimum of 3 times before disconnecting from an unanswered emergency call.
- Determine emergency services and support personnel needed.
- Ascertain as much information from initial contact as practical:

1. If a grade crossing / pedestrian accident:

- a. Crossing name, mile post, or other identifiable location
- b. Side of train that the vehicle ended up on
- c. Whether ambulance, or other emergency response may be needed for crew or passengers. **If not known, assume an ambulance is needed.**

2. All other emergencies:

- a. Emergency response equipment needed
  - b. Other tracks blocked
  - c. Other railroads or highways blocked
  - d. Other threats which may exist.
- Obtain exact location of incident including railroad mile post and public access information.
  - Make notification to Response Management Communications Center (RMCC) using the speed dial labeled RMCC 911 on your AVTEC or dial 8-544-7622 (company line) or 1 888-877-7267. After RMCC has been notified, inform your Corridor Director/ Manager of all known information. Protect the location, if necessary.
  - When necessary, secure the area of the emergency from other train movements that could cause unnecessary interference and danger.



- Monitor radio and render all possible assistance.
- Gather information, determining if relief crew is needed.
- Enter necessary information in Unusual Occurrences, when required.

The Corridor Director/Manager, RMCC and Service Interruption will make all subsequent notifications.

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## 20.24.1: Passenger Train Emergency

For passenger train emergency, regulations define an emergency as:

- A derailment
- A fatality at a grade crossing
- A passenger or employee fatality, or a serious illness or injury to one or more passengers or crewmembers requiring admission to a hospital
- An evacuation of a passenger train
- A security situation (e.g., a bomb threat)

When notified of a passenger train emergency, the train dispatcher must:

- Protect the affected area from other train movements, including adjacent rail modes of transportation, that could cause unnecessary danger to passengers, crew, and emergency responders
- Notify RMCC with all known details
- Notify Corridor Director/Manager with all known details
- Monitor the situation and provide assistance, as required

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## 20.25: Protecting Unforeseen Restrictions

Reference: GCOR 6.11

Whenever possible, create a Protective Track Tag (PTT) or Track Restriction Protection (TRP) to protect an unforeseen restriction. Verify the correct placement of a PTT with the requesting field employee. Prior to finalizing the process, repeat the information from the CAD screen to the employee. The train dispatcher must not relieve the employee of providing flag protection until protection has been properly placed to prevent movement into the affected area, and all affected trains within the protected limits have received the restriction.

Use the appropriate CAD function when transmitting a restriction. If verbally transmitted: when the restriction has been correctly repeated, give the OK time from the PTT or track warrant ORS screen and dispatcher's initials.

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### 20.25.1: Overriding PTT Protection Using Approach Hold Release

Reference: GCOR 2.14

The Approach Hold Release function may only be used to clear a signal into a PTT when:

- The CAD system cannot determine which train the signal is requested for. The train dispatcher must verify the train has the restriction prior to requesting the signal.
- CAD "Yard" train ID needs the signal for switching moves. The train dispatcher must verify the train has the restriction prior to requesting the signal.
- A Signal employee requests that the signal be cleared for testing purposes.

All other train symbols must be issued the restriction using the PTT function before allowing entry into the affected area.

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## 20.26: Statement of Numbers in Mandatory Directives

Reference: GCOR 2.14.1

When transmitting a mandatory directive, the train dispatcher must state certain numbers in single digits. If further clarification is needed, the train dispatcher may also restate and/or spell numbers.

Numbers which must be stated in single digits:

- Authority number (when applicable)
- The engine number the mandatory directive is addressed to
- All numbers contained in the body of the mandatory directive

Numbers which do not have to be stated in single digits:

- Date
- Box number in a track warrant
- The OK time

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## 20.27: Games, Reading, and Electronic Devices

Reference: GCOR 2.21

Train dispatchers are prohibited from using a cellphone or other wireless communications device while on duty and located at the train dispatching workstation.

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## 20.28: Handling Key Trains

The purpose of this rule is to clarify the manner in which Key Trains are to be handled with regard to the use of 10 MPH sidings.

Train Dispatchers must plan the operation of their territory in advance in order to keep Key Trains on the main track at meeting points when practical. At locations where the siding speed is 10 MPH or less, a Key Train must hold the main track, except under the following conditions:

- When necessary to meet another Key Train at the location of a 10 MPH (or less) siding;
- When necessary to meet a passenger train other than a business car special; or,
- When authorized by a Dispatching Center Superintendent to place a Key Train in a 10 MPH (or less) siding.

When a Key Train is placed in a 10 MPH (or less) siding to meet another train(s), the train dispatcher must instruct the first train holding the main track to stop before passing any portion of the Key Train until the Key Train is stopped in the siding, and then to proceed at restricted speed passing the Key Train in the siding until it is known that the main track is not fouled. If another employee is in a position to visually verify that the Key Train in the siding is not fouling the main track prior to the arrival of the first train to be met, the requirement to have the first train operate at restricted speed will not apply.

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Updated: 1/20/2012

## 21.0: SIGNALS AND THEIR USE

- [21.1: Track Bulletins Where GCOR Rule 5.4.4 in Effect](#)
- [21.2: Display of Red Flag or Red Light](#)
- [21.3: Whistle Failure](#)
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- [21.6: Protection of Occupied Outfit Cars](#)
- [21.7: Blue Signal Protection of Workmen](#)
- [21.8: Improperly Displayed Signals](#)
- [21.8.1: Improperly Displayed Block Signals](#)

### 21.1: Track Bulletins Where GCOR Rule 5.4.4 in Effect

Reference: GCOR 5.4.4

Where Rule 5.4.4 (Authorize Protection by Yellow or Yellow-Red Flag) is in effect, requests for track protection using Form A or Form B should be referred to Corridor Director/Manager.

**Exception:** When restriction is less than 2 miles from a junction, terminal or another area, issue track bulletin to advise location of yellow or yellow-red flags.

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### 21.2: Display of Red Flag or Red Light

Reference: GCOR 5.4.7

A train dispatcher must not authorize a train to pass a red flag or red light.

**Note:** MW rules require a red flag to be displayed on a stiff pole. Red cloth or other red objects on the ground and not displayed on a stiff pole are not to be considered as a red flag.

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### 21.3: Whistle Failure

Reference: GCOR 5.8.3

Whistle failure must be reported to the locomotive help desk and Corridor Director/Manager as soon as possible.

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## 21.4: Headlight Failure

Reference: GCOR 5.9.3

Headlight failure must be reported to the locomotive help desk and Corridor Director/Manager as soon as possible.

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## 21.5: Engine Identifying Number

Reference: GCOR 5.11

All trains and engines will be identified by their initials and unit number when using written, verbal or electronic communication. The identifying number will be the number of the lead unit, unless changing direction during a trip or tour of duty when that unit is no longer the lead unit.

In track bulletins that advise employees about Excessive Dimension equipment, trains may be identified by train symbol and passenger trains may be identified by schedule number.

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## 21.6: Protection of Occupied Outfit Cars

Reference: GCOR 5.12

The train dispatcher must apply blocking mechanism to prevent unauthorized movement into the protected area before informing employee that protection is provided for outfit cars.

When protecting outfit cars the train dispatcher must fill out the prescribed form and maintain a written record for 15 days.

A form can be found in TCS user group "DIR".

IN TCS Enter SW DUP FORM25 DIR

1. Type "FORM25 – (current date)" as message name.
2. Identify appropriate location in message description area and record protection provided.
3. When protection is released, form must be completed.

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## 21.7: Blue Signal Protection of Workmen

Reference: GCOR 5.13

Train dispatcher must not provide blue signal protection on the main track except at locations specifically exempted by the Federal Railroad Administration.

When providing blue signal protection for other than a main track, the train dispatcher must have control of access into track where protection will be provided.

Switches must be lined to prevent access to the track being protected and control blocks applied.

Blue signal protection must be recorded on the prescribed form and kept on record for 15 days.

A form can be found in TCS user group "DIR".

IN TCS Enter SW DUP FORM25 DIR

1. Type "FORM25 - (current date)" as message name.
2. Identify appropriate location in message description area and record protection provided.
3. When protection is released, form must be completed.

When blue signal protection is authorized, use verbal format: "(Employee name) YOU ARE GRANTED BLUE SIGNAL PROTECTION ON (track)."

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## **21.8: Improperly Displayed Signals**

**Reference: GCOR 5.15 and 9.4**

Improperly displayed signal or the absence of a signal, flag, or sign must be reported to the Corridor Director/Manager and/or to proper employee.

When possible, verbally notify approaching trains of the condition.

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### **21.8.1: Improperly Displayed Block Signals**

**Reference: GCOR 5.15**

If any irregularities are detected in the operation of a block signal appliance, display controlled signals to their most restrictive indication and place track or location in manual mode until repairs are made.

This rule applies to any block signal aspect irregularity other than a proceed indication into an occupied block or block in which a switch is open. If a proceed indication into an occupied block is reported, refer to Rule 23.7.

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Updated: 4/28/2010

## 22.0: MOVEMENT OF TRAINS AND ENGINES

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### 22.1: Initiating Movement

Reference: GCOR 6.2

All trains are required to obtain a Track Warrant for Bulletins prior to initiating movement on main track.

**Except:** Switching or yard moves and trains that are operating on territories where Rule 5.4.4 is in effect, may determine from the train dispatcher or yardmaster if any track bulletins are in effect. If no track bulletins are in effect, advise that none are needed.

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### 22.2: Reverse Movement

Reference: GCOR 6.4.1

Before granting permission for a reverse movement:

#### A. Application of this rule:

- In ABS TWC territory, paragraph "B" and "C" apply.
- In non-signaled TWC territory, only paragraph "C" will apply.
- Within CTC or manual interlocking limits, set the controlled signal providing access to the rear of train to Stop and apply blocking mechanism to prevent unauthorized movement into protected area if paragraph "B" or "C" have not been applied.
- In Rule 9.14 territory, (where Rule 9.15 is not in effect) set the controlled signal providing access to the rear of the train making reverse movement to Stop and apply blocking mechanism to prevent unauthorized movement into protected area if paragraph "B" has not been applied.

Permission for reverse movement in Rule 9.14 or 9.15 territory may only be given for a train to pass the block signal protecting the rear of the train. Any movement beyond the second signal to the rear is a movement against the current of traffic and must be protected by track bulletin or track permit.

B. Instruct first following train within the same limits to stop and remain stopped until advised reverse movement is completed. Do not grant any authority between train making reverse movement and first train stopped.

C. Issue joint authority when any of the following are in effect within the same limits behind the train making reverse movement:

- Track and Time in CTC territory
- Track Permit in Rule 9.15 territory
- Box 4 Work Between in TWC territory

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## 22.3: Movement of On-Track Equipment on Signal Indication

While handling all self-propelled rail grinders, in-track welders and other equipment designated by the Chief Engineer to run on signal indication, the train dispatcher must provide protection against following train movements using one of the following methods:

- In CTC, auto routing and automatic clearing features must not be used to move on-track equipment. The track block feature in the dispatching system can be used or place the control points or locations in manual mode. All dual control switches over which the equipment will pass must be blocked.
- In TWC, issue track warrant using box 4 and do not issue with joint authority using box 11,12 or 17.

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### 22.3.1: Movement of On-Track Equipment on Signal Indication within Cab Signal Territory

On-track equipment, equipped with a working cab signal device, may operate on signal indication within cab signal territory. On-track equipment not equipped with a working cab signal device, will operate as follows:

- In CTC or Rule 9.15 ACS, CBS or ATC territory, all movement will be made on Track and Time or Track Permit authority.
- In Rule 9.14 ACS or ATS territory, all movement will be made with absolute block established in advance of the movement.

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## 22.3.2: High-Speed Work Equipment

On-track equipment authorized by the Chief Engineer to operate at a speed higher than the normal MW work equipment speed will be identified as "high speed work equipment." This equipment will be authorized to operate at up to maximum timetable speed (not exceeding 49 MPH) and will be exempted from, among other things, the requirement to be prepared to stop and protect all road crossings at grade. The train dispatcher must ensure that all unforeseen track restrictions, including those concerning automatic crossing device failures, are delivered to the employee in charge of the high speed work equipment.

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## 22.4: Protection of Equipment/Train Left on Main Track

Reference: GCOR 6.20

Train dispatcher or control operator must provide protection before authorizing a crew of a train to leave equipment on the main track (outside of yard limits) without flag protection.

**NOTE:** Unattended locomotive(s), not coupled into other equipment, must not be left on the main track. (ABTH Rule 32.1.3)

Protection must be provided in the following manner:

- A. In CTC, manual interlocking limits, or track permit territory, apply protective track tag or track tag with block, stating "EQUIPMENT (or Train) ON (track) BETWEEN (mile post/location) AND (mile post/location)."
- B. In current of traffic (Rule 9.14 territory, where Rule 9.15 is not in effect) a track bulletin (see example 1) must be issued immediately to all trains which may operate against the current of traffic on the affected track.
- C. In TWC territory (non-signaled and ABS), trains or equipment tied up or left on main track must be protected by track warrant. Use the following process when protecting a train or equipment left on main track:
  1. Issue a track warrant to "Dispatcher", with a Line 4 "Work Between", Line 11 "Joint with Trains...", and Line 17 "Other Specific Instructions" Limits occupied by other men or equipment. (Computer will automatically generate a Line 9 "Do not foul limits ahead of ...") (see example 2)
  2. Prior to requesting and/or accepting the release of the train's warrant, verify that the train is stopped within the limits of the "dispatcher" warrant. Advise crew that train or equipment is protected and then have the train crew release their track warrant.

In addition, in non-signaled TWC territory, a track bulletin must be issued and given immediately to all trains approaching the location of the train or equipment left on main track. (see example 1)

Example 1:

"(Name) TRACK BLOCKED WITH EQUIPMENT (or Train) BETWEEN (location/milepost) AND (location/milepost). BE GOVERNED BY GCOR RULE 6.20."

Example 2:

**To:** Dispatcher

**At:** Location

X Box ( 4) Work Between(location) and(location)

X Box ( 9) Do not foul limits ahead of(Train ID)

X Box (11) Between(location) and(location) make all movements at restricted speed. Limits occupied by train or engine.

X Box (17) Other Specific Instructions: -  
Limits occupied by other men or equipment  
Equipment (or Train) on(track) between  
(milepost/location) and (milepost/location).  
or  
Any other information that will help protect  
the main track.

The limits of track warrant must be as short as possible, protecting both ends of equipment left on main track.

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### **22.4.1: Employee Notification of Equipment Location**

Before granting authority or issuing instructions to enter protected limits where train or equipment has been left standing, the train dispatcher must notify the employee of the location of the train or equipment. If the train or equipment is protected by a portable derail, the train dispatcher must notify the employee of the location of the portable derail.

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### **22.4.2: Removing Protection for Standing Equipment**

The train dispatcher must confirm that the track is clear of standing equipment and portable derails removed before removing protection.

Do not use a Box 1 on a train's Track Warrant to VOID the Track Warrant that was issued to protect the standing equipment.

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### **22.4.3: Protection of Unattended Equipment/Train Left on Siding in Non-Signaled TWC Territory**

When trains or equipment are left unattended on sidings in non signaled TWC territory, the Train Dispatcher must issue a Line 17 "Other Specific Instructions" on all subsequent track warrants which grant authority past the occupied siding until another train crew or employee has advised that all switches are in normal position. Line 17 will state "Comply with procedure PS at (Station Name)."

After being advised that the train or employee has passed the location of the unattended equipment, the train dispatcher may discontinue the issuance of the line 17.

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## 22.4.4: Track Breach Protection on Adjacent Track

Reference: System Special Instructions – Item 12

**Note: Do not confuse Track Breach Protection with any type of authority to occupy a main track or controlled siding. If authority is required to perform work, issue the appropriate authority on the track(s) that will be occupied.**

Train dispatchers may protect TBP limits only on controlled track(s) adjacent to where work will be performed. Limits will be defined by control points (CP's) or whole mileposts (MP's). However, if the end of the TBP limits is at the end of the subdivision, fractional milepost may be used.

Prior to providing protection, the train dispatcher must verify that:

- TBP limits are clear; or
- All trains granted authority within TBP limits are either:
  - Beyond the location where protection will be provided, or
  - Notified of the condition. Advise the requesting employee that approaching trains have been notified; when information is repeated correctly, state "That is correct."
- Employee has been advised of standing equipment within TBP limits.
- None of the following are in effect within the same or overlapping limits: non-directional authority to a train (Track and Time, Track Permit, Box 4 Work Between) or track out of service.
- The request includes lead unit, name of employee, limits, and track to be protected.

### Providing Protection of TBP Limits:

1. Create the protection using the CAD PTT or TRP function. If using the PTT function, verify that blocking mechanism is correctly applied.
2. Repeat the TBP information to the requesting employee. If correct, the requesting employee will confirm by stating, "That is correct."

### While Track Breach Protection is in effect:

Before granting authority to trains to enter the protected limits, notify them of the condition using the appropriate CAD function.

The protection must not be removed until the employee whose name is on the Track Breach Protection states that it is safe to do so, or that employee's Hours of Service has expired.

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## 22.5: Precautions Against Unusual Conditions

Reference: GCOR 6.21

When conditions arise that could jeopardize safety of trains, engines and employees:

1. Immediately warn all trains and employees authorized into the affected limits.
2. Set controlled signals to Stop and apply a blocking mechanism to prevent unauthorized movement into the affected area.
3. Issue track bulletins as requested and in accordance with the System Special Instructions.
4. In cases of extreme weather conditions such as heat, cold, or flooding, maintenance employees should be given priority to inspect track.

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### 22.5.1: Not Used

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### 22.5.2: Not Used

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### 22.5.3: Tornado Instructions

When a dispatcher receives a tornado warning:

- Protect the limits specified in the warning with a PTT, track tag and block, TRP, or dispatcher warrant.
- Advise all trains within or approaching the affected area: inform them of the geographic limits and effective start time of the warning, and instruct them to comply with Item 16 of the System Special Instructions.
- Do not transmit an expiration time of the warning.
- When a warning has expired and no additional warnings have been issued, advise trains that the tornado warning is no longer in effect.

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### 22.5.4: High Wind Instructions

**Passenger and Commuter Trains:** Passenger trains must not be allowed to operate when actual or predicted sustained wind or gust speeds meet or exceed the following parameters:

Union Pacific Passenger Equipment . . . . . 80 MPH

(includes foreign line business car specials)

Amtrak Passenger and Express Car Equipment . . . . . 80 MPH

(includes Amtrak approved special trains)

West Coast Commuter Operations . . . . . 80 MPH

Chicago Commuter Operations . . . . . 70 MPH

Passenger and Commuter trains that must be stopped in the affected area may be moved, not exceeding 20 mph, to a staging location (e.g., station, siding, crossover location) as directed by the train dispatcher.

**Freight Trains:**

When actual or predicted sustained wind or gust speeds are 50 mph or greater, take the following actions. (These warnings may be in the form of Wind Detectors, Weather Data Warnings, or Local Observations. When reports are received from multiple sources, the highest projected wind speed must be used to determine blow over speed.)

- When actual or predicted sustained wind or gust speeds are 90 mph or greater, stop all trains.
- When actual or predicted sustained wind or gust speeds are 50 mph or greater, but less than 90 mph, the corridor director/manager will follow these procedures:

1. Determine the blow over speed for each train operating within or that will enter the affected area. ITMS and -94 inquiry are two available tools.

2. Trains with cars that indicate blow over speeds less than or equal to the actual or predicted sustained wind or gust speed must do one of the following:

- Stop if within the affected area. Trains that must be stopped in the affected area may be moved, not exceeding 20 mph, to a staging location (e.g., station, siding, crossover location) as directed by the train dispatcher to permit trains not affected by the wind warning to be met or passed.
- Not enter the affected area
- Be rerouted
- Set out the car that has a blow over speed less than the wind speed

3. When a train will be held or a car will be set out the corridor director/manager must notify the Superintendent (and the Intermodal manager, if intermodal equipment is involved). The Intermodal manager should be able to determine if container information is correct and advise if it is appropriate to set out the car in question or hold the train according to customer requirements.

- These restrictions will remain in place until the Weather Warning has expired or been cancelled, or until 30 minutes after the wind speeds decline or after the last gust, that restricted the train, was recorded. Concurrence of the Superintendent is necessary to release trains less than 30 minutes after last occurrence. The weather service may be contacted to confirm that the wind has abated.
- Tornado warnings are governed by Special Instructions Item 16.
- These instructions are not issued to crews because they do not normally have the means of determining the actual wind speed.

**Foreign Line Trains:**

If unable to determine the blow over speed for a foreign train, do not allow it into the affected area, or stop the train if it is

operating within the affected area, until the foreign railroad can be contacted. The foreign railroad should furnish the car types on the train. Be governed by the following:

- When actual or predicted sustained wind or gust speeds are 50 mph or greater, stop all trains with loaded or empty containers, including double stack trains.
- When actual or predicted sustained wind or gust speeds are 65 mph or greater, stop all empty unit coal trains, trains with loaded or empty trailers, bi-levels, or tri-levels.
- When actual or predicted sustained wind or gust speeds are 80 mph or greater, stop all trains except loaded unit coal trains and loaded unit grain trains.
- When actual or predicted sustained wind or gust speeds are 90 mph or greater, stop all trains.
- Foreign line trains may also be released from these restrictions after waiting 30 minutes since the wind speed declined or last gust was recorded.

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## 22.5.5: Heavy Rains and Flooding Conditions

When a report (including automated weather alert) is received advising of heavy rain, flash flood or flooding conditions, be governed as follows:

1. Immediately contact all trains within or approaching the area and advise of the location or limits of the potential high water situation, adding the following verbiage: "FF in effect between \_\_\_ and \_\_\_/ or at location"
2. Apply blocking device to affected area.
3. Verify that track inspector is notified to proceed immediately to the area to inspect the track.
4. When the track inspector advises ready to begin inspecting, give preference to allow the track inspection, holding trains if necessary.
5. If a report is received from any source that water is over the top of the rail, instruct train(s) to stop and to remain stopped until the track has been inspected and it is determined that movement can be made safely.
6. Protection may be removed when all warnings have expired and the track has been released by an employee qualified to inspect track.

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## 22.6: Protection Against Defects

Reference: GCOR 6.21.1

### A. Defect Reported by Train:

When crew members report a defect or condition, including rough track or thermal misalignment (could be reported by an employee as a sun kink), that might cause an accident, the train dispatcher will, if possible, provide protection and inform crew such protection has been provided. In addition, the train dispatcher must do the following:

1. Determine location of defect.
2. Immediately advise any train approaching the reported defect on the same track using verbal format:

"(Train ID) reduce to restricted speed not exceeding 10 MPH between (location) and (location) until rear of train clears the restricted area."

If in doubt as to whether the reported track is passable, stop trains until advised by a maintenance employee qualified to inspect track that it is safe for movement.

3. Apply a blocking mechanism to prevent unauthorized movement into the affected track until all trains requiring the restriction have been advised.

4. Notify appropriate track supervisor.

Continue to require all train movements at that location to be made at restricted speed, not exceeding 10 MPH until advised by a maintenance employee qualified to inspect track that the restriction is no longer required.

## **B. Defect Reported by Maintenance Employees:**

When maintenance employees request protection for impassable track or a track which is unsafe for normal track speed, the maintenance employee must be advised to continue providing protection until relieved by the train dispatcher.

## **C. Defect Reported as a Possible Broken Rail**

When a report is received of a possible broken rail, the train dispatcher must:

1. Determine location of defect.
2. Immediately advise any train approaching the reported defect on the same track to stop before passing over the location and not proceed until authorized by a maintenance employee qualified to inspect track.
3. Apply a blocking mechanism to prevent unauthorized movement into the affected track until all trains requiring the restriction have been advised.
4. Notify appropriate track supervisor.

Do not authorize train to pass over broken rail until advised by a maintenance employee qualified to inspect track that it is safe to do so.

## **D. Possible Defect Observed by Train Dispatcher**

When the train dispatcher observes a train or on-track equipment leaving two separate track occupancies on screen display closely behind their movement, the dispatcher must stop this movement immediately. Once stopped, the train dispatcher must:

1. Advise the crew to receive a roll-by inspection of the train or equipment from qualified employees looking out for suspected flat wheels or any other defect that may cause broken rail, not exceeding 10 mph during the roll-by inspection. (Crew must make the roll-by inspection if no other qualified employees available).
2. Place the affected tracks in manual mode.
3. Notify the Signal Technician and Corridor Manager.

If no defects are found during the roll-by inspection, train or on-track equipment may proceed at normal speed.

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## **22.7: Emergency Stop or Severe Slack Action**

Reference: GCOR 6.23

Provide protection on adjacent track(s) for a train that reports an emergency application of the brakes or severe slack action while stopping.

- Know that any movement within the limits to be protected has been notified of the condition before the crew is relieved of providing protection.
- Apply blocking mechanism to prevent unauthorized movement into the protected area until trains entering are notified of train in emergency or advised that adjacent track(s) are safe for passage.
- In locations where a blocking mechanism cannot be used, verbally contact trains that may meet or pass affected train to advise of location and status of train stopped.

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## 22.8: Receiving or Discharging Passengers

Reference: GCOR 6.30

When a passenger train or business car special is approaching a station where it will receive or discharge passengers, trains must not be allowed to proceed between the station platform and the passenger or business car special. Protection must be provided in one of two ways:

1. Blocking mechanism must be used to prevent unauthorized movement of trains or equipment on the affected track until advised that the passenger train or business car has departed the platform; or,
2. The train crew of the passenger train or business car must be instructed not to enter the station until it is known that the track(s) separating their train and the platform are clear and that no further movement will be authorized.

This rule does not prohibit meeting passenger trains at stations where passengers will be received or discharged.

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## 22.9: Automatic Warning Devices

Reference: GCOR 6.32.2

When advised of a defective or malfunctioning automatic crossing warning device, the location must be immediately protected and reported to the signal technician.
--

When notified that an automatic warning device is malfunctioning, the train dispatcher must:

1. Obtain as much detailed information as possible about malfunction.
2. Notify closely approaching trains, instruct crew to comply with Rule 6.32.2, Procedure 1.
3. Contact the Harriman Dispatching Center (HDC) crossing signal technician and be governed by the technician's instructions.
  - (a) If automatic warning device fails to operate:



Issue the following track bulletin (XG) and, where software allows, use a blocking mechanism to prevent unauthorized movement into affected area.

"AUTOMATIC CROSSING DEVICE HAS AN ACTIVATION FAILURE AT (\_\_\_\_). RULE 6.32.2 PROCEDURE 1 APPLIES."

If using a blocking mechanism, advise trains of location before allowing entry into the affected area using the verbal format:

"(Train ID) comply with procedure XG at (location)."

(b) If automatic warning device is activated falsely or gate is broken:

Issue the following track bulletin (XH) and, where software allows, use a blocking mechanism to prevent unauthorized movement into affected area.

"AUTOMATIC CROSSING DEVICE NOT WORKING PROPERLY AT (\_\_\_\_). RULE 6.32.2 PROCEDURE 2 APPLIES."

If using a blocking mechanism, advise trains of location before allowing entry into the affected area using the verbal format:

"(Train ID) comply with procedure XH at (location)."

4. Where track bulletin is used, this information may be transmitted verbally to commuter trains with engineer only in the cab.

5. Protection must remain in place until notified by signal technician that crossing protection is restored to normal operation.

**NOTE:** Signal technician will notify local law enforcement.

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## 22.9.1: Automatic Warning Devices Disabled

Reference: GCOR 6.32.2

When notified that automatic warning devices are (or will be) disabled, the location must be protected by issuing the following track bulletin (XS) or, where software allows, use a blocking mechanism to prevent unauthorized movement into affected area.

"AUTOMATIC CROSSING DEVICE DISABLED AT (\_\_\_\_). RULE 6.32.2 PROCEDURE 1 APPLIES."

If using a blocking mechanism, advise trains of location before allowing entry into the affected area using the verbal format:

"(Train ID) comply with procedure XS at (location)."

The train dispatcher can modify this format as needed to accommodate a start time, multiple crossing devices disabled within the same Form B or area, and also to specify which tracks are affected.

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## 22.10: Insufficient Clearance at Road Crossings

Reference: GCOR 6.32.4 and 6.32.7

When notified road crossings not cut as required by Rule 6.32.4 and the road crossing will be left unattended, the location must be protected by issuing the following track bulletin (XC) or, where software allows, use a blocking mechanism to prevent unauthorized movement into affected area.

"DO NOT EXCEED 15 MPH APPROACHING CROSSING(S) AT (location) UNTIL CROSSING(S) ARE OCCUPIED."

If using a blocking mechanism, advise trains of location before allowing entry into the affected area using the verbal format:

"(Train ID) comply with procedure XC at (location)."

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## 22.11: Impaired Sight Distance or Damaged Crossbucks

Reference: GCOR 6.32.4

When notified of impaired sight distance or damaged crossbucks at road crossings, the location must be protected by issuing the following track bulletin (XI) or, where software allows, use a blocking mechanism to prevent unauthorized movement into affected area.

"DO NOT EXCEED 15 MPH (at location) UNTIL CROSSING IS OCCUPIED."

If using a blocking mechanism, advise trains of location before allowing entry into the affected area using the verbal format:

"(Train ID) comply with procedure XI at (location)."

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Updated: 10/21/2011

## 23.0: SWITCHES AND BLOCK SYSTEM RULES

- [23.1: Main Track Switches in TWC Territory](#)
- [23.2: Hotbox Signal Clear](#)
- [23.3: Where Stop Must Be Made](#)
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- [23.8: Track Occupancy Indication \(TKO\)](#)
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### 23.1: Main Track Switches in TWC Territory

Reference: GCOR 8.3

- Do not authorize a train to leave main track switch open in non-signaled TWC territory.
- A main track switch may only be left open when authorized by track warrant in signaled TWC except when train crews are applying the 7th bullet of GCOR Rule 8.3 (Main Track Switches).

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### 23.2: Hotbox Signal Clear

When the Stop signal linked to a hotbox detector (if equipped with radio-transmitted verbal indicators that talk on defect only) fails to clear for a train, and the hotbox detector has not notified the train dispatcher of a defect, before transmitting "Hotbox Signal Clear" for that Stop signal, the train dispatcher must ask the train crew if the detector transmitted a "No Defects" message.

If the detector transmitted a "No Defects" message, the Stop signal may be cleared for the train. The signal technician must be notified regarding the detector's failure to communicate with the CAD system.

If the detector did not transmit a "No Defects" message, contact the signal technician and ask whether any defects show on the remote readout, for this train.

1. If the signal technician reports that the remote readout indicates there are no defects, the Stop signal may be cleared and the train authorized to continue at normal speed or,
2. If the signal technician reports that a remote readout, for this train, has not been received (or can not be retrieved), the train dispatcher must consider this condition as a "DETECTOR MALFUNCTION with no defect message received". The train dispatcher must instruct the train crew to comply with the instructions found in System Special Instruction Item 13.7.1 B.

Hotbox Hold Signal Clear instructions do not apply to the EC4. The EC4 test equipment activates a hot axle defect when passing over a hotbox detector.

The train dispatcher may release the Hotbox Hold Signal clear prior to the EC4 passing the detector and disregard the detector message.

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## 23.3: Where Stop Must Be Made

Reference: GCOR 9.5

Should a train fail to stop short of a controlled signal displaying Stop that was not "in time," the following action must be taken immediately:

1. Instruct the train to stop and remain stopped. Stop any conflicting movements approaching the train and warn any employees holding authorities.
2. Protect the location. Set signals governing access to the area to Stop and apply blocking mechanism to all affected tracks.
3. Notify Corridor Director/Manager.
4. Train must not be allowed to proceed until released by field management officer, Corridor Director/Manager or proper supervisor.

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## 23.4: Changing Established Route

Reference: GCOR 9.5.1

Any signal once requested must be considered as proceed signal regardless of screen display.

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## 23.5: Protection During Repairs

Reference: GCOR 9.5.3

Issue track and time or foul time to authorize repairs in CTC territory, unless a track bulletin Form B is in effect or the track is out of service.

## A. CTC

When control of a Control Point has been transferred to a signal technician, do not authorize any movement at that location unless:

- The signal technician clearly understands the movement to be made.
- The signal technician gives train dispatcher permission to grant authority at that location or returns control to train dispatcher.

## B. Manual Interlocking

Issue foul time (or track and time, if authorized by timetable) to authorize repairs within a Manual Interlocking.

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## 23.6: Authority to Proceed

Reference: GCOR 9.5.4

Do not establish a signal route:

- To proceed against current of traffic, unless it is known the movement has been authorized by GCOR Rule 15.3 (Authorizing Movement Against the Current of Traffic), or by special instructions.
- To enter a track that has been removed from service.
- For the first train to enter a section of track in which an intermittent track occupancy has been observed.
- When a field officer requests that a signal be held at Stop position to conduct a Field Training Exercise (FTE), control operator will not attempt to clear the signal until advised by the field officer that the test has been completed.

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## 23.7: Failure to Display Most Restrictive Indication

Reference: GCOR 9.7

When a report is received that a signal fails to display its most restrictive indication, or when a request is received from the signal department to comply with Rule 23.7:

1. Stop all movements at and between the controlled signals governing the approach to the location of reported malfunction until protection has been established.
2. Place the affected limits in manual mode and set signals to Stop.
3. Notify HDC signal technician.
4. Do not give train permission or authority to proceed unless authorized by the Corridor Director/Manager or proper supervisor.

When authorized by the Corridor Director/Manager or proper supervisor to begin train movement again:

1. Provide protection by requiring that all trains move through the limits at restricted speed until the condition is corrected.
2. Use a track bulletin to issue the following:

“BETWEEN (CP/location) AND (CP/location) ALL MOVEMENT MUST BE MADE AT RESTRICTED SPEED.”

If using a blocking mechanism instead of issuing a track bulletin. Instructions must be issued in the same format as the track bulletin example.

3. Normal operations may be resumed when released by appropriate signal department manager.

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## 23.8: Track Occupancy Indication (TKO)

Before authorizing a train to pass a signal displaying Stop indication into a track segment in which a track occupancy indication of unknown origin is present, advise the crew of the track occupancy indication.

If a TKO (track occupancy indication) remains behind a train which is following one or more other trains, before authorizing an opposing movement to pass signal displaying Stop into the TKO, train dispatcher must confirm by radio that the last train has cleared that control point. Do not depend on train tracking to make this determination.

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## 23.9: Intermittent Track Occupancy Indication

When a train dispatcher observes an intermittent track occupancy indication of unknown origin in CTC (other than within Control Point), that portion of track must be protected by applying a blocking mechanism to prevent unauthorized movement into the affected area.

A track occupancy indication will be considered intermittent when it occurs more than once within one hour within the same limits without a cause being identified.

Unless the track is inspected by Signal Department or MW employee, the first train movement into the affected area must be authorized to pass signal displaying Stop indication using the following wording:

"AFTER STOPPING, (Train ID) AT (location) HAS AUTHORITY TO PASS SIGNAL DISPLAYING STOP INDICATION (Add: Route and Direction if more than one route is available). DO NOT EXCEED RESTRICTED SPEED TO (next CP)."

**Note:** A train receiving this instruction must proceed at restricted speed from the signal displaying Stop indication until the head end of the train reaches the next controlled signal regardless of the aspects displayed by any signals having number plates.

It is imperative that the Signal Technician be notified as soon as an intermittent track occupancy is identified to minimize train delay.

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## 23.10: Stop Indications / CTC

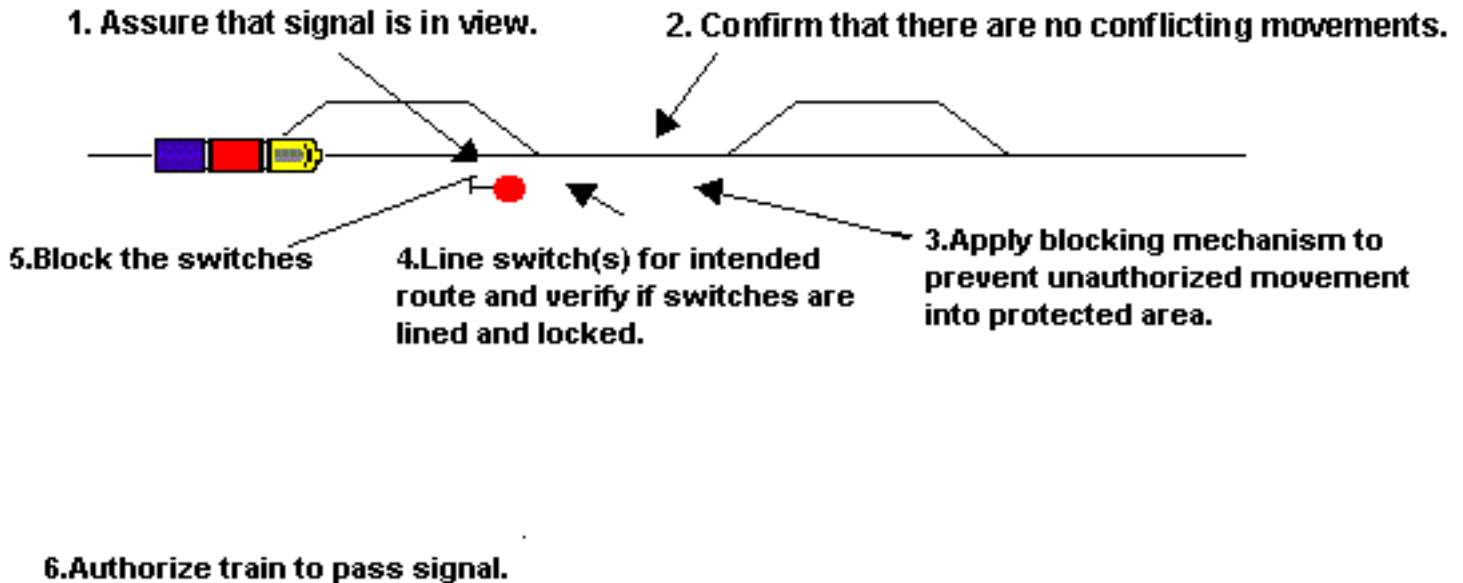
Reference: GCOR 9.12.1

Before verbally authorizing a train by a Stop Indication, the Control Operator Must:

1. Confirm that no conflicting movement is occupying or authorized to enter the protected limits.
2. Line the dual control switches (if present) for the intended route.
3. Verify switches are lined and locked for the intended route.

If the switches show to be lined and locked for the intended route, apply Paragraph A.

If the switches are not lined and locked (out of correspondence), apply Paragraph B.



### **A. Stop Indication Where Dual Control Switches Show to Be Lined and Locked for Intended Route or Where There Are No Switches.**

Do not authorize a train to proceed past Stop indication until:

1. It is known that crew has signal aspect in view.
2. It is verified there are no conflicting movements.
3. Blocking Mechanism has been applied to prevent unauthorized movement into the protected area.
4. It is verified that the dual control switch(s) to be passed over are lined and locked for the intended route.
5. Blocking mechanism has been applied to the dual control switch(s) to be passed over. Use verbal format:

"AFTER STOPPING, (Train ID) AT (location) HAS AUTHORITY TO PASS SIGNAL DISPLAYING STOP INDICATION." (Add: Route and Direction if more than one route is available)

### **Removal of blocking mechanisms:**

1. Do not remove the blocking mechanism from the dual control switches until the train has entered the protected limits.
2. Do not remove the blocking mechanism from the protected area until the train has entered the limits and the next

controlled signal has been established in direction of movement.

## **B. Stop Indication with Dual Control Switches Not Lined and Locked**

The train dispatcher must conduct a job briefing with the employee:

- A. Advise the employee of the route to be taken,
- B. What is wrong at that location (which turnout or crossover does not show to be lined and locked),
- C. Clearly instruct the employee to hand operate the switch or switches that cannot be lined and locked for movement. If movement is to be made through a crossover that must be lined by hand, instruct the employee to hand operate both switches of the crossover, as well as any moveable point frogs, if so equipped. If unable to clearly communicate exactly which switch(s) must be operated by hand, instruct the employee to hand operate all dual control switches required for their movement within the control point.

Example: "Your route will be from Main 1 to Main 2 at CP A120. I cannot get the east crossover switches to line and lock for your movement. I need you to hand operate all switches of the east crossover for your movement."

D. Only after the employee has repeated a clear understanding of which switch(s) must be operated by hand, the train dispatcher will give the employee authority to pass Stop indication and proceed in the proper direction on the assigned route using the following steps:

Do not authorize a train to proceed past Stop indication until:

1. It is known that crew has signal aspect in view.
2. It is verified there are no conflicting movements.
3. Blocking Mechanism has been applied to prevent unauthorized movement into the protected area. Advise trains (or equipment operating on signal indication) authorized into any affected track segment that signal indications may change.
4. A request has been made (if possible) for the dual control switch(s) to be passed over to be lined for the intended route.
5. Blocking mechanism has been applied to the dual control switch(s) to be passed over.

Use verbal format:

"AFTER STOPPING, (Train ID) AT (location) HAS AUTHORITY TO PASS SIGNAL DISPLAYING STOP INDICATION."

(Add: Route and Direction if more than one route is available)

### **Removal of blocking mechanisms:**

1. Do not remove the blocking mechanism from the dual control switches until the train has entered the protected limits.
2. Do not remove the blocking mechanism from the protected area until the train has entered the limits and the next controlled signal has been established in direction of movement.



## C. Conflicting Movement

When a conflicting movement is within the limits in which a train is to be authorized to pass a Stop indication, the conflicting movement must be stopped, instructed to remain stopped, and advised of the movement to be made.

Train given authorization to pass Stop indication must be advised of the conflicting movement.

Or

Both trains may be issued joint track and time.

## D. Emergency Control Panel

The train dispatcher may grant permission to a signal employee to take control of CTC or Manual Interlocking control point(s) for the purpose of signal testing or other signal maintenance not requiring Foul Time or Track and Time.

Signal employees must not be permitted or instructed to line switches or establish signal routes for train movements unless the CTC or Manual Interlocking site is in fail status and cannot be controlled by the train dispatcher or control operator.

## E. CTC Failure

During a CTC outage the screen display is no longer an accurate depiction of where trains may be located, if signals are or are not established, or if switches are lined and locked.

Do NOT depend on what the display shows when making judgments on the status of signals, switches or trains operating within the territory.

In the event of a CTC outage, the following actions must be taken:

1. Place affected track(s) in manual mode.
2. Remove any stack route requests that were placed prior to the outage.
3. Verbally determine the location of each train within the area affected by the CTC outage and place each train symbol in the proper track segment.

Before authorizing a train to pass a signal displaying Stop indication within the limits of the CTC outage, or at a control point outside of the CTC outage for movement toward the first control point in monitor, verify there is no conflicting movement by doing the following:

- Verbally determine the location of any train(s) that may present a potential conflicting movement.
- Verbally instruct the first train that may present a potential conflicting movement, if stopped, to remain stopped, regardless of signal indication
- Verbally instruct the first train that may present a potential conflicting movement and that is still operating on signal indication, of the point where it must stop movement, regardless of signal indication received at that point.
- Issue instructions to hand operate dual control switches.

## 23.11: Stop Signal / Manual Interlockings

Reference: GCOR 9.12.2

Do not authorize a train to proceed past a Stop indication at a manual interlocking until:

1. It is known that crew has signal aspect in view and that there are no conflicting movements;
2. Blocking mechanism has been applied to dual control switch(es) to be passed over. The blocking mechanism on the switch can be removed after the train has entered the protected limits; and
3. All train dispatchers or control operators, including foreign railroads, controlling any signaled route within the manual interlocking, have been contacted to determine that no conflicting movements have been or will be authorized before granting authority to train to proceed past Stop indication.

Use verbal format:

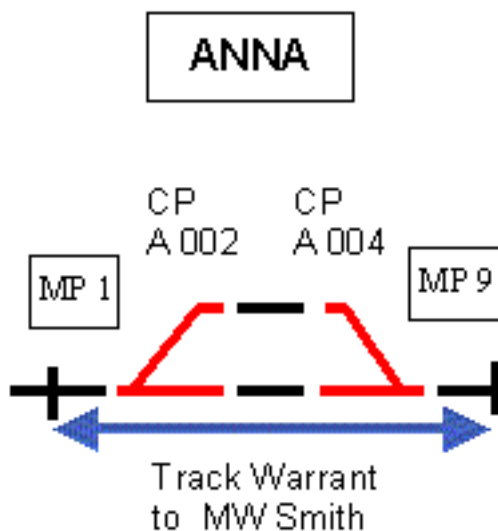
"AFTER STOPPING, (Train ID) AT (location) HAS AUTHORITY TO PASS SIGNAL DISPLAYING STOP INDICATION." (specify route and direction if required)

Do not authorize on-track equipment to proceed through a manual interlocking until all train dispatchers or control operators, including foreign railroads, controlling any signaled route within the manual interlocking, are contacted to determine that no conflicting movements have been or will be authorized before granting Foul Time permit.

The dispatcher or control operator may issue verbal authority for on-track equipment to proceed through manual interlocking limits if the interlocking is an end of siding control point and track authority has been issued to the employee on both sides of the interlocking limits.

Before verbally authorizing employee through a manual interlocking, route must be lined and blocked.

For example:



MW Smith has a track warrant to work between MP 1 and MP 9. The train dispatcher may verbally authorize him through the manual interlockings located at CP A002 and CP A004.

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## 23.12: Stop Signal / Automatic Interlockings

Reference: GCOR 9.12.3

When a train reports that they are unable to get a proceed indication at an automatic interlocking within CTC territory, before authorizing the train past the stop indication, the train dispatcher must:

1. Verify that the crew has complied with instructions in the release box.
2. Ensure that train has authority to occupy track beyond the Stop signal.
3. Ascertain no conflict of authority exists.

Use verbal format:

"AFTER STOPPING (Train ID) AT (location) HAS AUTHORITY TO PASS SIGNAL DISPLAYING STOP INDICATION."

When reported that instructions are not in release box, or in special instructions, do not verbally authorize train movement through an automatic interlocking. Signal technician must be notified.

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## 23.13: Stop Signal / ABS Territory

Reference: GCOR 9.12.4

On single main track, before granting permission for movement to pass Stop in ABS territory the train dispatcher must:

1. Ensure that train has authority to occupy track beyond the Stop indication.
2. Ascertain no conflict of authority exists.

Use verbal format:

"AFTER STOPPING (Train ID) AT (location) HAS PERMISSION TO PASS SIGNAL DISPLAYING STOP INDICATION."

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### 23.13.1: Stop Indications / Hold Points

Do not authorize a train to proceed past a Hold Point until:

1. It is verified there are no conflicting movements.
2. Use verbal format:

"(Train ID) AT (location) HAS AUTHORITY TO PASS (CP)."

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## 23.14: Hand Operation of Dual Control Switches to Perform Switching

Reference: GCOR 9.13.1, 9.13.2

The train dispatcher may permit a train crew member to place a dual control switch in hand position.

When a train crew member is granted permission to place a switch in hand position, the train dispatcher must:

1. Verify that there are no conflicting movements.
2. Apply blocking mechanism to switch(s) and all track segments affected in all directions to prevent unauthorized movement into the protected area. Advise trains (or equipment operating on signal indication) authorized into any affected track segment that signal indications may change.
3. Specify which tracks are authorized to be occupied and direction(s) movement is authorized.

Do not remove blocking mechanism used to protect area until advised switch has been restored to power position.

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## 23.15: Rule Deleted

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## 23.16: Authorizing Movement Against the Current of Traffic

Reference: GCOR 6.25 and 15.3

Before issuing authority for a train to move against the current of traffic, the train dispatcher must:

1. Know that all train and engine movements are clear of the affected track.
2. Ensure the limits of authority are designated by clearly identifiable points that allow the train or engine to access a crossover or other switch(s) to clear the limits.
3. Ensure that protection against opposing movements on the track to be occupied has been provided at or beyond the point where movement will be completed by flag protection or by a controlled signal set to display Stop indication and blocking mechanism applied.
4. Issue track bulletin to:
  - o First opposing train, if any. (Verify this train will not clear main track, allowing other opposing trains to enter the limits.)
  - o All trains with crews on duty, including locals and work trains that will be operating with the current of traffic within the designated limits.
5. Notify yardmasters, yard crews, and other concerned employees.
6. Issue track bulletin to train that is to move against current of traffic only after all affected trains have been issued track bulletin.

Protection for movement against current of traffic must be maintained until train is known to be clear of limits.

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## 23.17: Voiding Track Bulletin Form C For Single Track Operation

Reference: GCOR 6.25 and 15.3

To void a track bulletin Form C for single track operation as outlined in Rule 15.3 (Authorizing Movement Against the Current of Traffic) item 2 to a specific train or trains, while leaving the track bulletin Form C in effect to other trains, issue the following:

"TRACK BULLETIN NO. (#) OF (date) IS VOID TO (Engine, direction)."

The track bulletin must also be addressed to the flagman. Provide a copy of this track bulletin to all affected.

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## 23.18: Issuing Track Permits

Reference: GCOR 9.15.1

To issue a track permit:

A. When track permit limits are clear, track is occupied by requesting employee, or all trains moving on signal indication without track permit have passed location where track is to be fouled:

1. Set signals to display Stop and apply blocking mechanism to controls to prevent access into the protected area.
2. Issue track permit.

Any track permit issued behind trains must include notification that authority is granted behind such trains.

Dispatcher must know that employee in the field has identified, by initials and engine number, any train(s) without a track permit that are within the limits to be occupied, or that the train has physically passed the point where maintenance employee will foul track. The train dispatcher may assist in making this determination.

B. If a track permit is in effect within the limits:

1. If track permit is held by a train, ensure it is not exceeding restricted speed.
2. If previous track permit is not already joint, change first track permit to joint.
3. Issue a joint permit.

C. On operating territories where more than one train dispatcher or control operator is responsible for providing protection at entry points into track permit limits, each train dispatcher or control operator must provide appropriate protection and record that a track permit has been established.

Track permits for maintenance employees must be issued as joint occupancy unless it is reasonably expected that the limits will not be jointly occupied or that the employee requests that the authority be issued sole.

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## 23.19: Clearing Track Permits

Reference: GCOR 9.15.2

Joint track permits issued to trains must not be released until train clears limits or is sole occupant.

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## **23.20: Signal Protection in ABS by Lining Switch**

Reference: GCOR 9.17.1

When permitting a crew to cross over, foul or obstruct a main track signaled for movement in one direction train dispatcher must:

1. Ensure that no movements have been or will be authorized against the current of traffic and apply protection to affected area.
2. Not authorize movement against the current of traffic at that location until crew reports track is clear.

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## **23.21: Electrically Locked Switches and Derails**

Reference: GCOR 9.18

When a seal has been broken or emergency release operated on an electric lock, a signal technician must be notified.

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## **23.22: Repositioning Dual Control Switches**

Do not reposition a dual control switch within track and time, foul time, track permit, Form B, or track out of service limits until an understanding is reached with all affected trains or employees as to the move to be made.

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Updated: 4/29/2011

## 24.0: CTC RULES

- [24.1: Authority to Enter CTC Limits](#)
- [24.2: Track and Time](#)
- [24.2.1: Protection of Limits](#)
- [24.2.2: Issuing Track and Time](#)
- [24.2.3: Track and Time within Manual Interlocking](#)
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- [24.2.5: Issuing Foul Time](#)
- [24.2.6: Additional Time](#)
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- [24.3: Repairing A Codeline Failure During a CTC Outage](#)

### 24.1: Authority to Enter CTC Limits

Reference: GCOR 10.1

Before verbally authorizing train to enter CTC between block signals and operate in a specified direction:

1. It must be known that no conflicting movement is occupying or authorized to enter the track. If authority is to be granted behind train(s), notify train entering CTC of this condition of authority.
2. Set signals governing access into the area to be occupied to Stop and apply blocking mechanism(s) to prevent unauthorized movement into protected area.

Use verbal Format:

“(Train ID) AT (location) HAS AUTHORITY TO ENTER (track) AND PROCEED (direction).”

Blocking mechanism(s) must not be removed until it is known that movement has occupied the track.

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### 24.2: Track and Time

Reference: GCOR 10.3

At locations designated in the timetable as CTC, train dispatchers may grant track and time:

- If limits are clear
- If limits are occupied by train to be granted track and time; or
- If all trains within limits have been identified by employee in the field as having passed the location where track will be occupied.

Any track and time issued behind trains must include notification that authority is granted behind such trains.

Dispatcher must know that employee in the field has identified, by initials and engine number, any train(s) without track and time that are within the limits to be occupied or that the train has physically passed the point where maintenance employee will foul track. The train dispatcher may assist in making this determination.

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### **24.2.1: Protection of Limits**

Before granting track and time authority, protect the limits as follows:

- Apply blocking mechanism(s) to prevent unauthorized movement into protected area.
- Line and lock dual control switches within the limits for the movement. If a switch within the track and time limits does not indicate locked, instruct the employee to operate that switch by hand.
- Record the Track and Time authority.

Where automated functions are available, they must be used. Where automated functions are not available, use the prescribed form.

To protect work being performed, issue track and time or foul time unless track bulletin Form B is in effect or track is out of service.

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### **24.2.2: Issuing Track and Time**

Before issuing track and time, the train dispatcher or control operator must verify that signals governing access into the limits are at Stop and apply blocking mechanism. Signals that are in time, flashing or requested are not considered at Stop.

When granting track and time, the train dispatcher must not include any track that is not within CTC territory.

On operating territories where more than one train dispatcher or control operator is responsible for providing protection at entry points into track and time limits, each must provide appropriate protection and record that a track and time authority has been established.

Do not issue a Track and Time authority to trains that include "Switch Yes" at the end of the authority limits except when the switch (or Hold signal) is at the end of CTC and the authority limits will be jointly occupied with MW.

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### **24.2.3: Track and Time within Manual Interlocking**

Reference: GCOR 10.3.1

At Manual Interlocking locations authorized by timetable, train dispatchers may grant track and time.

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## 24.2.4: Joint Track and Time

Reference: GCOR 10.3.3

Before track and time is granted where limits will be jointly occupied, the train dispatcher must:

- Know that trains to be granted joint track and time within the limits are moving at restricted speed.
- Issue joint track and time to all trains, machines, track cars or employees within the same limits or that will enter the limits.

When trains are included, do not issue joint or overlapping limits to more than four occupants.

Track and time for maintenance employees must be issued as joint occupancy unless it is reasonably expected that the limits will be not jointly occupied or that the employee requests that the authority be issued sole.

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## 24.2.5: Issuing Foul Time

**Foul time authorizes exclusive occupancy of a control point or manual interlocking. Foul time may NOT be issued Joint. The train dispatcher or control operator must not verbally authorize trains or other employees to enter foul time limits.**

When issuing foul time, verify that signals governing access into the limits are at Stop and apply blocking mechanism. Signals that are in time, flashing or requested are not considered at Stop.

If the control operator controls all routes at a control point or manual interlocking, foul time may be issued for all tracks. If all routes are not to be included, the control operator must specify which tracks or routes the foul time includes.

If the control operator does not control all routes at a control point or manual interlocking, advise the employee copying the foul time that the route is not included in their authority. They will need to obtain protection from the control operator that controls that route.

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## 24.2.6: Additional Time

Reference: GCOR 10.3 B

If track and time / foul time has expired and the limits have not been released, the train dispatcher must continue to provide protection until the limits have been released.

When using CAD, additional time limit for track and time or foul time may be granted only once and must include a repeat of the permit number.

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## 24.2.7: Shunting Signal Circuits

When issuing track and time or foul time to employees to perform work within a control point, determine if they will shunt the signal circuits. It is not necessary to make this determination if:

- Authority is being granted to an operator of on-track equipment for the purpose of moving through the control point; or
- Blocking mechanisms have been applied to all affected track segments to prevent an unintended change of signal indications for approaching trains(s).

If work will shunt the signal circuit, or if dual control switch is to be taken off power:

- Advise trains (or equipment operating on signal indication) authorized into any affected track segment that signal indications may change.
- Apply blocking mechanism to all affected track segments.

Do not authorize movements into the protected area until affected movements are notified that signal indications may change.

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## 24.3: Repairing A Codeline Failure During a CTC Outage

Reference: GCOR 10.3

During a CTC outage the screen display is no longer an accurate depiction of where trains may be located, if signals are or are not established or if switches are lined and locked.

**Do NOT depend on what the display shows when making judgments on the status of signals, switches or trains operating within the territory.**

When a CTC code line has failed and **it is necessary to operate on-track equipment or Hy-Rail vehicles with track and time for the purpose of repairing the codeline**, a Manager Central Train Dispatch and Manager Signal Operations must be notified and the following applies:

1. Place affected tracks in manual mode.
2. Stop any trains within outage and the first-out trains approaching limits of outage area and instruct them to remain stopped and to get ready to copy a track bulletin. (Ensure first approaching train at limits will not clear the main track.)
3. Issue Form C track bulletin specifying the limits of CTC failure. **Between (CP/MP/LOCATION) and (CP/MP/LOCATION) on (TRACK) movement may be made only under track and time authority.**
4. Ascertain the location of each train within the area affected by the CTC outage and place each train symbol in the proper track segment. **Note:** After this has been accomplished, Manager of Central Train Dispatch will notify Manager of Signal Operations to INITIALIZE those control points within or at the limits of any track and time to be issued. (This will clear the office display to permit track and time issuance but does not take down any field signals.)
5. Issue employee track and time, specifying joint if train in limits and instructions to hand operate all dual control switches which must be passed over specifying route.

**When it becomes necessary to issue track and time to a TRAIN within or approaching the CTC outage:**

1. Issue authority from a control point to a control point and do not include any dual-control switches.
2. Instruct trains NOT to act on any proceed indications displayed by absolute signals within the CTC outage area until contacting the train dispatcher.
3. Instruct trains to hand operate all dual control switches over which they will pass.

When restored to full operation, void track bulletin to each train OR issue a new track bulletin to cover a shortened area of outage.

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Updated: 4/29/2011

## 25.0: CAB SIGNAL TERRITORIES

- [25.1: Cab Signals Cut Out](#)
- [25.1.1: Reports of Cab Signal Failure](#)
- [25.2: ATC Territory](#)
- [25.2.1: Authority to Cutout ATC](#)
- [25.2.2: Absolute Block Protection](#)
- [25.3: ATS Territory](#)
- [25.4: CCS/ACS Territory](#)
- [25.4.1: Returning Movements in ACS Territory](#)

### 25.1: Cab Signals Cut Out

Before authorizing an engineer to cut out the cab signal system, determine whether the engineer has properly acknowledged the cab signal. The engineer should do the following:

1. If the acknowledging lever is in the PARTIAL CUTOFF position (C/O), move the acknowledging lever to the NORMAL position (NOR) and leave it there for 1 second.
2. Move the acknowledging lever from the NORMAL position (NOR) to the ACKNOWLEDGE position (ACK), hold it there for 1 second, and release it back to the NORMAL position (NOR).
3. If in non-cab signal territory, move the acknowledging lever to the PARTIAL CUTOFF position (C/O) to turn off the cab signal light.
4. Reset the air brakes if a penalty brake application occurred as specified in Air Brake and Train Handling Rule 33.9 (Penalty Brake Application).

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#### 25.1.1: Reports of Cab Signal Failure

If 2 different trains report that they experience "train control" or a restricting cab signal indication where one should not have existed at the same location, signal technician must be notified.

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### 25.2: ATC Territory

Reference: GCOR 17.7

#### 1. ATC FAILURE with OPERATIVE CAB SIGNALS

Establish Absolute Block in advance of movement per Rule 11.1 using verbal format:

“(Engine and Direction) ABSOLUTE BLOCK IS ESTABLISHED IN ADVANCE OF YOUR TRAIN BETWEEN (location)

and (location) GCOR RULE 11.2 GOVERNS" (Signal Indications with Absolute Block).

- Ensure that limits to be established with absolute block do not extend beyond crew change location or train dispatcher territory boundary in which cab signal system is in effect.
- Ensure the block directly ahead of train is not or will not be occupied by another train.
- Record in Unusual Occurrences:

1. Time and location where ATC was cut out.
2. Limits between which absolute block was established.

- Notify the locomotive help desk about inoperative ATC.

**Note:** When absolute block is established in advance of a train, the train dispatcher must not authorize movement past any signal reported as indicating Stop or Restricting until the block governed by that signal is clear of trains.

## 2. ATC and CAB SIGNAL FAILURE

### A. In ATC Territory with Wayside Signals

- Instruct crew to cut out ATC and cab signals using verbal format:

"(Engine and Direction) CUT OUT ATC AND CAB SIGNAL DEVICE AND OPERATE ACCORDING TO GCOR RULE 13.3.3" (Movement with an Inoperative Cab Signal Device)

- Establish absolute block in advance of movement per Rule 11.1 using verbal format:

"(Engine and Direction) ABSOLUTE BLOCK IS ESTABLISHED IN ADVANCE OF YOUR TRAIN BETWEEN (location) and (location). GCOR RULE 11.2 GOVERNS" (Signal Indications with Absolute Block).

- Ensure that limits to be established with absolute block do not extend beyond crew change location or beyond territory in which cab signal system is in effect.
- Record in Unusual Occurrences:

1. Time and location where ATC and cab signals were cut out.
2. Limits between which absolute block was established.

- Notify the locomotive help desk about inoperative ATC and cab signals.

**Note:** When absolute block is established in advance of a train, the train dispatcher must not authorize movement past any signal reported as indicating Stop or Restricting until the signal governing that block is clear of trains.

### B. In ATC Territory without Wayside Signals

- Instruct crew to cut out ATC and cab signals using verbal format:

"(Engine and Direction) CUT OUT ATC AND CAB SIGNAL DEVICE AND OPERATE ACCORDING TO GCOR RULE 17.7" (ATC Failure/Cut-out Enroute)

- Establish absolute block in advance of movement using verbal format:

“(Engine and Direction) ABSOLUTE BLOCK IS ESTABLISHED IN ADVANCE OF YOUR TRAIN BETWEEN (location) and (location) NO TRAINS ARE OR WILL OCCUPY THESE LIMITS AHEAD OF YOUR TRAIN.

- Ensure that limits to be established with absolute block do not extend beyond crew change location or beyond territory in which cab signal system is in effect.
- Ensure the entire limits between the locations identified ahead of train is not or will not be occupied by another train.
- Record in Unusual Occurrences:
  1. Time and location where ATC and cab signals were cut out.
  2. Limits between which absolute block was established.
- Notify the locomotive help desk about inoperative ATC and cab signals.

**Note:** When absolute block is established in advance of a train, the train dispatcher must not authorize movement past any signal reported as indicating Stop or Restricting until the block governed by that signal is clear of trains.

(To determine where wayside signals are located, refer to Subdivision General Order.)

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## 25.2.1: Authority to Cutout ATC

In ATC territory, when it becomes necessary to operate against the current of traffic for other than a planned event, the train dispatcher cannot instruct the engineer to cut out the train control device. The ATC device must remain operative and the train must operate at restricted speed until such time as it can return to its normal route.

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## 25.2.2: Absolute Block Protection

In areas where **all of the following are in effect:**

- ATC Territory without continuous fixed block signals
- Rule 9.14 **and** Rule 9.15

Prior to establishing and transmitting Absolute Block to train, Train dispatcher must first ensure that the route is lined for the train through the entire limits of the Absolute Block.

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## 25.3: ATS Territory

Reference: GCOR 12.2

### ATS FAILURE

Establish Absolute Block in advance of movement per Rule 11.1 using the verbal format:

“(Engine and Direction) ABSOLUTE BLOCK IS ESTABLISHED IN ADVANCE OF YOUR TRAIN BETWEEN (location) and (location). GCOR RULE 11.2 GOVERNS” (Signal Indications with Absolute Block).

- Ensure that limits to be established with absolute block do not extend beyond crew change location or beyond territory in which ATS system is in effect.
- Ensure the block directly ahead of train is not or will not be occupied by another train.
- Record in Unusual Occurrences:

1. Time and location where ATS was cut out.
2. Limits between which absolute block was established.

- Notify the locomotive help desk about inoperative ATS.

**Note:** When absolute block is established in advance of a train, the train dispatcher must not authorize movement past any signal reported as indicating Stop or Restricting until the block governed by that signal is clear of trains.

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## 25.4: CCS/ACS Territory

Reference: GCOR 13.3.3

### CAB SIGNAL FAILURE

A. While operating on territories with wayside signals:

- Instruct crew to cut out cab signals using verbal format:

“(Engine and Direction) CUT OUT CAB SIGNAL DEVICE AND OPERATE ACCORDING TO GCOR RULE 13.3.3” (Movement with an Inoperative Cab Signal Device)

- Establish Absolute Block in advance of movement per Rule 11.1.

“(Engine and Direction) ABSOLUTE BLOCK IS ESTABLISHED IN ADVANCE OF YOUR TRAIN BETWEEN (location) AND (location). GCOR RULE 11.2 GOVERNS” (Signal Indications with Absolute Block).

- Ensure that limits to be established with absolute block do not extend beyond crew change location or beyond territory in which cab signal system is in effect.
- In cab signal territory, ensure the block directly ahead of train is not or will not be occupied by another train.
- Record in Unusual Occurrences:

1. Time and location where cab signal device was cut out.
2. Limits between which absolute block was established.

- Notify the locomotive help desk about inoperative cab signal device.

**Note:** When absolute block is established in advance of a train, the train dispatcher must not authorize movement past any signal reported as indicating Stop or Restricting until the signal governing that block is clear of trains.

## B. While operating on territories without wayside signals:

- Instruct crew to cut out cab signals using verbal format:

“(Engine and Direction) CUT OUT CAB SIGNAL DEVICE AND OPERATE ACCORDING TO GCOR RULE 13.3.3” (Movement with an Inoperative Cab Signal Device in Territory without Block Signals)

- Establish Absolute Block in advance of movement per Rule 11.1.

“(Engine and Direction) ABSOLUTE BLOCK IS ESTABLISHED IN ADVANCE OF YOUR TRAIN BETWEEN (location) AND (location). NO TRAINS ARE OR WILL OCCUPY THESE LIMITS AHEAD OF YOUR TRAIN.”

- Ensure that limits to be established with absolute block do not extend beyond crew change location or beyond territory in which cab signal system is in effect.
- Ensure the entire limit between the locations identified ahead of train is not or will not be occupied by another train.
- Record in Unusual Occurrences:

1. Time and location where cab signal device was cut out.
2. Limits between which absolute block was established.

- Notify the locomotive help desk about inoperative cab signal device.

## C. When cause is known:

If the cause of the cab signal failure is known (i.e. commercial power outage or storm damage).

- Establish Absolute Block in advance of movement per Rule 11.1.

### In territory with Wayside Signals:

“(Engine and Direction) ABSOLUTE BLOCK IS ESTABLISHED IN ADVANCE OF YOUR TRAIN BETWEEN (location) AND (location). GCOR RULE 11.2 GOVERNS” (Signal Indications with Absolute Block).

### In territory without Wayside Signals:

“(Engine and Direction) ABSOLUTE BLOCK IS ESTABLISHED IN ADVANCE OF YOUR TRAIN BETWEEN (location) AND (location). NO TRAINS ARE OR WILL OCCUPY THESE LIMITS AHEAD OF YOUR TRAIN.”

- Ensure that limits to be established with absolute block do not extend beyond crew change location or beyond territory in which cab signal system is in effect.
- In cab signal territory, ensure the block directly ahead of train is not or will not be occupied by another train.
- Record in Unusual Occurrences, limits between which absolute block was established.
- Notify the signal technician regarding the location where the inoperative cab signals have been reported.

**Note:** When absolute block is established in advance of a train, the train dispatcher must not authorize movement past any signal reported as indicating Stop or Restricting until the block that is governed by that signal is clear of trains.



## 25.4.1: Returning Movements in ACS Territory

Reference: GCOR 13.1.3

Before lining signals in ACS Territory to allow a lite locomotive consist to return to its train when it is not equipped or not tested for movement in that direction, establish an absolute block in advance of the returning movement as outlined in Rule 25.4.

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Updated: 4/28/2010

## 26.0: TWC RULES

- [26.1: When Issuing Track Warrants](#)
- [26.2: Clearing Track Warrants](#)
- [26.2.1: Clearing Track Warrants in Non-signalized Territory](#)
- [26.3: When Issuing Restriction by Track Warrant](#)
- [26.4: Yard Limits in ABS-TWC Territory](#)
- [26.5: Operating With Track Warrants](#)
- [26.5.1: Clearing Main Track](#)
- [26.5.2: Disjointed Authority](#)
- [26.6: Occupying Same Track Warrant Limits](#)
- [26.7: Protection of Trains in Non-Signalized TWC Territory](#)
- [26.8: Protecting Men or Equipment](#)
- [26.9: Mechanical Transmission of Track Warrants](#)

### 26.1: When Issuing Track Warrants

Reference: GCOR 14.0 and GCOR 2.14

State intent to verbally issue a track warrant and determine who will copy. When the employee informs that they are ready to copy:

1. Complete input of information in all required fields on the track warrant screen.
2. When transmitting, state the box number of each box marked.
3. Read each word of the line(s) chosen, including preprinted words, but may exclude the "Date" and "At Location." Do not add, change or delete any information contained within the body of the track warrant during the verbal issuance of the track warrant.
4. Use Box 17 only to record computer-generated messages or specific instructions required to operate the train safely and efficiently. Do not use Box 17 to list track bulletins or to convey information that concerns work on line.
5. Record name of employee(s) who copies repeats, relays or reports clear.
6. Confirm that the employee's statement of the summary matches the track warrant screen and includes total number of boxes marked and names each individual box marked.
7. If all information, including the summary, is correct, say "OK" with the time and dispatcher's initials as displayed on the CAD ORS screen.

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### 26.2: Clearing Track Warrants

Care must be taken to ensure the correct track warrant is released. Train dispatchers' repeat of release must include, at a minimum, track warrant number, track warrant limits, release time, and name of employee releasing.

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#### 26.2.1: Clearing Track Warrants in Non-signalized Territory

In non-signaled TWC territory, do not accept the release of a track warrant until it is confirmed that all main track switches operated have been restored and locked in the normal position.

If switches were operated by a train crew within the limits of a train's track warrant, confirm that the conductor and engineer have both initialed the Conductor Report Form (if required), prior to accepting the release of the track warrant.

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## 26.3: When Issuing Restriction by Track Warrant

Reference: GCOR 14.0

When a track restriction is to be issued using Box 13, 14, or 17:

- Restriction must be included each time a track warrant is issued to that train or engine, until restriction has been passed.
- Restriction must be included on train dispatcher transfer if train or engine has not passed the restriction.

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## 26.4: Yard Limits in ABS-TWC Territory

Reference: GCOR 14.1

Do not issue track warrants to maintenance employees through Yard Limits in ABS-TWC territory.

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## 26.5: Operating With Track Warrants

Reference: GCOR 14.4

The use of Box 4 to authorize train movements (within limits not jointly occupied) is to be restricted to only those train crews that advise they need to work in both directions.

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### 26.5.1: Clearing Main Track

When a train is operating with Track Warrant Box 2 authority and must clear the main track at a siding at the last named point to meet or pass a train, Track Warrant Box 10 (Clear Main Track At Last Named Point) must be used.

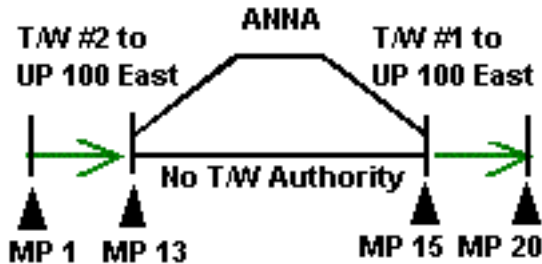
This rule does not apply at those locations where the end-of-siding switches are Manual Interlockings.

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## 26.5.2: Disjointed Authority

Disjointed authorities are any set of track warrant authorities that are issued to the same train on the same main track that have a gap between the two track warrant authorities.

**Example of a disjointed authority:**



Within TWC Territory, disjointed track warrant authorities on the same main track must not be issued to trains except:

1. Disjointed authorities may be issued where short sections of CTC, Current of Traffic, Manual Interlocking, Yard Limits where TWC is not in effect or other method of control exists within a TWC Territory or,
2. Disjointed authorities may be issued where the train's current track warrant contains Box 10 ("Clear Main Track At Last Named Point") and the "FROM" location on the second track warrant is the same as the "TO" location on the current track warrant.

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## 26.6: Occupying Same Track Warrant Limits

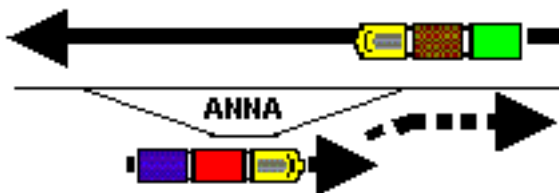
Reference: GCOR 14.4

### A. Conditional Authorities:

- Track Warrant Box 7 (Not in effect until after the arrival of):
  - In non-sigaled TWC territory, a train receiving a track warrant containing a Box 7 must be stopped at the meeting point prior to the issuance of the track warrant.

**Note:** A train stopped short of the meeting point for topographical reasons (e.g., to lay off road crossings, grade considerations, etc.) is considered as stopped at the meeting point.

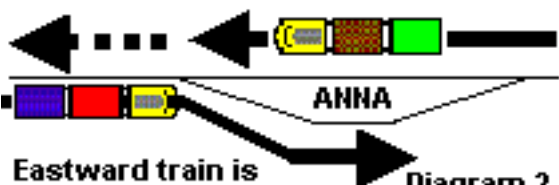
**Westward train  
is operating  
past ANNA**



**Diagram 1.**

**Eastward train is  
"stopped" in the siding at  
ANNA and can be issued  
another track warrant that  
includes a Box 7**

**Westward train is "stopped"  
on the main track at ANNA and  
can be issued another track  
warrant that includes a Box 7**



**Diagram 2.**

**Eastward train is  
approaching ANNA with  
instructions to "Clear Main  
Track at Last Named Point"  
and can not be issued  
another track warrant that  
includes a Box 7 until the  
movement has been  
"stopped" at the meeting  
point**

- Track Warrant Box 9 (Do not foul limits ahead of):

In non-signalized territory, do not issue track warrants to trains containing a Box 9.

#### **B. Joint Occupancy:**

##### **Trains:**

Do not use Boxes 11 and 12 to require operation at restricted speed unless it is known that the limits will be jointly occupied.

##### **Men or Equipment:**

Use Boxes 11 and 17 for men or equipment unless it is reasonably expected that the limits will not be jointly occupied or when the employee requests that the authority be issued sole.

### **C. Track Warrant Box 18:**

Do not issue more than four joint track warrants in the same or overlapping limits.

- Train dispatcher may advise that a train or employee has cleared the limits.
- Limits of authority should be short enough to allow for radio communication between employees.

### **D. Overlapping Track Warrant Limits:**

In non-signalized TWC territory, do not issue a track warrant Box 2 (Proceed) to a train through another train's track warrant that contains a Box 4 (Work Between).

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## **26.7: Protection of Trains in Non-Signalized TWC Territory**

Reference: GCOR 6.19 in TWC

When a train is operating in non-signalized TWC territory, train dispatcher must not authorize following movements within the same limits.

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## **26.8: Protecting Men or Equipment**

Reference: GCOR 14.5

A. Before men or equipment may be authorized in the same or overlapping limits:

- Ensure that all track warrants to men or equipment in the same or overlapping limits with other men or equipment contain instructions in Box 17, "LIMITS ARE OCCUPIED BY OTHER MEN OR EQUIPMENT."
- When authority will not be jointly held with a train or engine, use Box 9, "DO NOT FOUL LIMITS AHEAD OF (initials, engine number, direction)."

B. Use of Box 9 is permitted only after the following conditions have been met:

Dispatcher must know that employee in the field has identified, by initials and engine number, any train(s) listed in the track warrant Box 9 or that the train has physically passed the point where maintenance employee will foul track. The train dispatcher may assist in making this determination.

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## **26.9: Mechanical Transmission of Track Warrants**

Reference: GCOR 14.13

Before mechanically transmitting a track warrant, the train dispatcher must verify it for accuracy.

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Updated: 10/27/2011

## 27.0: TRACK BULLETIN RULES

- [27.1: Track Bulletins](#)
- [27.1.1: Request to Issue Track Bulletins](#)
- [27.1.2: Issuing Track Bulletins in Territory Controlled by Terminal Train Dispatchers or Control Operators](#)
- [27.1.3: Track Bulletin Instructions](#)
- [27.2: Track Bulletin Examples](#)
- [27.3: Track Warrant for Bulletins](#)
- [27.4: Changing Address of Track Warrant for Bulletins or Track Bulletins](#)
- [27.5: Protection by Track Bulletin Form B](#)
- [27.6: Change of a Rule, General Order, or Special Instruction](#)
- [27.7: Voiding Track Bulletins](#)
- [27.7.1: Verbally Raising a Speed Restriction](#)

### 27.1: Track Bulletins

Reference: GCOR 15.1

The train dispatcher is responsible for issuing and delivering track bulletins providing necessary information concerning conditions that affect safe operation. Track bulletins must be accurate, concise and in the proper format.

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#### 27.1.1: Request to Issue Track Bulletins

When a request is received to issue a track bulletin:

- Repeat information to the employee making request, ensuring that information corresponds with request and complies with the rules.
- Input information into the system, including the name of employee making the request and the date of the request.

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#### 27.1.2: Issuing Track Bulletins in Territory Controlled by Terminal Train Dispatchers or Control Operators

When track bulletins are issued that pertain to train movement in territories controlled by a terminal train dispatcher or control operator, the train dispatcher must confirm that:

- Protection is in place until all trains have been notified of the restriction, and
- The terminal train dispatcher or control operator has received the bulletin.



## 27.1.3: Track Bulletin Instructions

### Issuance of track bulletins:

- If an unforeseen restriction will not be repaired within 12 hours, a track bulletin must be issued.
- When a crew member tells a train dispatcher of a restriction in the train's equipment that is not covered under special instructions or a general order, the train dispatcher must immediately cover the restriction by track bulletin or track warrant.
- Do not issue multiple track bulletins of the same type in the same bulletin territory, if possible.
- Review all Form A and C bulletins daily, combining A's with A's, C's with C's, where possible.
- Do not modify an existing track bulletin to eliminate overlapping speed restrictions. Overlapping restrictions must be shown in the proper sequence in the track bulletin. Sequence all restrictions as they would be encountered in one geographic direction. Restrictions of a like nature can be grouped within a Form C track bulletin, but geographic sequence must be maintained within each grouping.
- When a speed restriction cannot be placed in a Form A due to the length of text describing the limits of the restriction, issue in a Form C, separate from other Form C's. More than one speed restriction may be contained in the same Form C track bulletin.
- Any Form C track bulletin requiring an action or active response by a crew member must not be combined with Form C track bulletins of an informational nature when it can be avoided.
  - Examples of bulletins which require action by crewmembers are speed restrictions, sounding whistle and bell frequently and preparing to stop short of a flagman.
  - Examples of informational bulletins include the condition of the right of way, track material distributed, and tracks removed from service.
- All train dispatchers must be aware that any instructions contained within a Form C that are permanent in nature (e.g., close clearance between building and track, or walkway removed from bridge) should not stay on the Form C for an extended period of time. The Manager of Track Maintenance must be prompted to have this information issued as a Superintendent's Bulletin.
- When composing track bulletins, care must be taken to select wording that will convey a proper description of a condition. As an example, "BAD FOOTING" or "POOR FOOTING" implies a vague condition, whereas "UNEVEN FOOTING" or "TRACK MATERIAL DISTRIBUTED" describe specific conditions.

## 27.2: Track Bulletin Examples

Whenever possible, use CAD track bulletin high-use formats. The following are some examples of prescribed Form C wording:

### A. Against the Current of Traffic:

(Engine, direction) WILL USE (name) TRACK AGAINST THE CURRENT OF TRAFFIC (point) TO (point). BE GOVERNED BY GCOR RULE 15.3.

### B. Automatic Cab Signal System Temporarily Removed From Service:

FROM (time) (date) UNTIL (time) (date), CAB SIGNALS WILL BE REMOVED FROM SERVICE BETWEEN (location) AND (location). CAB SIGNAL INDICATION MUST BE DISREGARDED WHILE IN THIS AREA. ABSOLUTE BLOCK IS ESTABLISHED IN ADVANCE OF TRAINS WHILE IN THIS AREA. BE GOVERNED BY GCOR RULE 11.2.

### C. Block Signal(s) Temporarily Removed From Service:

SIGNAL (id) (or NORTHWARD SIGNAL AT MP \_\_\_\_ ) REMOVED FROM SERVICE AND THE BLOCK EXTENDED FROM

SIGNAL (id) (or NORTHWARD SIGNAL AT MP \_\_\_\_ ) TO SIGNAL (id) (or NORTHWARD SIGNAL AT MP \_\_\_\_ ).

**D. Change or Cancel a General Order or Special Instruction:**

- GENERAL ORDER NO. (#) (or SPECIAL INSTRUCTIONS ITEM # ) WILL NOT APPLY TO (train IDS).
- GENERAL ORDER NO. (#) (or SPECIAL INSTRUCTIONS ITEM # ) IS CHANGED AS FOLLOWS: (list changes).
- GENERAL ORDER NO.(#) IS IN EFFECT AS FOLLOWS: (list).

**E. Excessive Dimension Equipment Being Handled:**

EXCESSIVE DIMENSION EQUIPMENT (car #) ON TRAIN (engine # or train symbol) (# of) FEET (# of) INCHES WIDE ENROUTE (location) TO (location). BE GOVERNED BY GCOR RULE 1.36.

**Note:** Use train symbol unless engine has been dedicated to train.

**F. Notice of Timetable Change:**

(Name) AREA TIMETABLE NO. (#) TAKES EFFECT AT (time and date).

**Note:** This track bulletin must be put into effect at least 24 hours in advance and remain in effect for 6 days after the effective date of the timetable.

**G. Suspend a Block System:**

BLOCK SYSTEM SUSPENDED ON (name) TRACK BETWEEN (location) AND (location). BE GOVERNED BY GCOR RULE 9.23. MAXIMUM SPEED (#) MPH.

**Note:** Not to exceed 59 MPH for passenger trains or 49 MPH for other trains.

Add, if applicable:

- INTERLOCKING SIGNALS AT (location) REMAIN IN SERVICE.
- AUTOMATIC CROSSING SIGNALS AT (location) ARE OUT OF SERVICE.
- SWITCH AT (location) LINED FOR (track).
- SPRING SWITCH AT (location) SPIKED FOR (track).

**H. Track Material Distributed:**

TRACK MATERIAL DISTRIBUTED (at location) or (between locations).

## **I. Track Removed From Service:**

(Name) TRACK OUT OF SERVICE BETWEEN (location) AND (location) or (Name) TRACK OUT OF SERVICE AT (location). BE GOVERNED BY GCOR RULE 15.4.

Add if applicable:

- USE ONLY AS AUTHORIZED BY (name/title).
- SWITCH(ES) AT (location) LINED FOR (track).

## **J. Train Defect Detector Removed From Service (when authorized by Regional Director in train management):**

TRAIN DEFECT DETECTOR LOCATED AT (location) REMOVED FROM SERVICE. BE GOVERNED BY SYSTEM SPECIAL INSTRUCTIONS ITEM 13.

## **K. Walkway Removed or Damaged:**

WALKWAY ON BRIDGE (location) PERMANENTLY REMOVED FROM SERVICE or TEMPORARILY REMOVED FROM SERVICE.

WALKWAY ON BRIDGE (location) DAMAGED AND MUST NOT BE USED.

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## **27.3: Track Warrant for Bulletins**

Reference: GCOR 15.1

When issuing a Track Warrant for Bulletins, the train dispatcher must:

- Issue only one track warrant for bulletins. If the number of bulletins exceeds the CAD system configuration, contact the CAD manager.
- Ensure that all track bulletins in effect between the point of origin and destination of the crew are listed on the track warrant for bulletins.
- If a crew member indicates that the initial track warrant for bulletins was not received or is incorrect, or the train dispatcher is unsure if any changes in the track bulletins have occurred since the initial track warrant for bulletins was sent:
  - Instruct crew to destroy any existing copies.
  - Void the original track warrant for bulletins from the system. Do not use a Box 1 on the track warrant for this purpose.
  - Issue a new track warrant for bulletins.

Whenever sending a subsequent track warrant for bulletins to a remote printer or device, verify that crew received the correct set of track bulletins.

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## **27.4: Changing Address of Track Warrant for Bulletins or Track Bulletins**

Reference: GCOR 15.1.1

Train dispatchers may verbally change the train symbol, engine ID, date or direction on a track warrant for listing track bulletins only. Use the following procedure:

1. Verify that the new engine ID is the lead locomotive in the consist. The engine is not required to be in the lead locomotive consist if the train is a passenger train controlled from a cab car or train has changed direction during a trip or tour of duty.
2. Review outstanding track bulletins to ensure that the original engine number is not listed in any track bulletins, such as Form C excessive dimension equipment bulletins.
3. Contact the crew member and verbally change the engine ID using this format:
  - o "Track warrant NO.\_\_\_\_ to (Train ID) at (station) changed to read (Train ID) at (station)."
4. Ensure the information is correctly repeated.

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## 27.5: Protection by Track Bulletin Form B

Reference: GCOR 15.2

When issuing track bulletin Form B the train dispatcher must:

- Issue a minimum of 12 hours before any part of the bulletin goes into effect, when possible
- Ensure that Form B track bulletins do not extend into a second day.
- Not issue Form B with limits that overlap another foreman/gangs limits.
- If listing Form B limits of an adjacent track on a separate line, include correct milepost locations.

**Note:** When a Form B request is received for limits that extend beyond both ends of a siding and applies on both main track and siding, it is not necessary to indicate placement of yellow-red flags for siding.

- Ensure that the "flags" column contains:
  - o A blank space, indicating that flags are two miles from the restriction, or
  - o The mile post location(s) of flag(s) displayed less than two miles from the restriction, or
  - o The word "NOT" to indicate no flags displayed.

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## 27.6: Change of a Rule, General Order, or Special Instruction

Reference: GCOR 15.6

When authorized by the Corridor Director or higher authority, a track bulletin may be used to issue, change or cancel rules, general orders or special instructions.

When a General Order or Superintendent Bulletin is issued which protects a restriction or conveys information contained in a track bulletin, the track bulletin may be voided.

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## 27.7: Voiding Track Bulletins

**Reference: GCOR 15.13**

The train dispatcher may not modify an active track bulletin, except as defined in GCOR Rule 15.13.1 and RTDCO 27.7.1 Verbally Raising a Speed Restriction. The only options are:

- Voiding a numbered line on a track bulletin
- Voiding a portion of a track bulletin
- Voiding a track bulletin in its entirety

When voiding a track bulletin in its entirety the dispatcher must:

- Verify that the time limits or authority granted in the track bulletin have expired before voiding that bulletin, unless authorized by employee in charge.
- Void track bulletin and reissue under a different number if an error is discovered after the complete time has been entered.

#### **A. Form A Track Bulletins:**

When a dispatcher receives a request to change an active Form A track bulletin, the dispatcher must:

1. Issue a new Form A track bulletin.
2. Void the specific line item to be changed in the existing Form A track bulletin.

#### **B. Form B Track Bulletins:**

When a dispatcher receives a request to void a portion of an active Form B track bulletin, the dispatcher must:

1. Issue a separate Form C track bulletin using format: "Line(s) (#) of Track Bulletin (#) is (are) void."
2. Continuing delivering the Form B track bulletin to those addressed, as well as the Form C track bulletin voiding a portion of the Form B, until the latest time limit on the Form B track bulletin has expired.

#### **C. Form C Track Bulletins:**

When a dispatcher receives a request to change an item contained within an active Form C track bulletin, the dispatcher must:

1. Issue a new Form C track bulletin.
2. Void the requested portion of the existing Form C track bulletin.

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## **27.7.1: Verbally Raising a Speed Restriction**

**Reference: GCOR 15.13.1**

The dispatcher may verbally raise the speed on an existing restriction contained in a Form A track bulletin. The dispatcher may not lower the speed nor change the limits.

To verbally raise the speed on an existing restriction, inform the crew of the track bulletin and the line number of the restriction to be changed. When informed that the crew is ready to copy, use the format:

"UP3985, Track Bulletin 1234, Line 2, MP 21.5 to MP 22.5, 15 MPH (adding track if necessary), speed is increased to 30 MPH."

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Updated: 4/29/2011

## Train Air Brake Tests / Inspections - Chapter 30

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### 30.0: Train Air Brake Tests and Inspections

<b>30.0 Train Air Brake Tests and Inspections</b>
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### 30.1: Compliance with FRA Regulations

<b>30.1</b>	<b>Compliance with FRA Regulations</b>
<i>49 CFR 215.13</i>	Inspect and test brake equipment in accordance with Federal Railroad Administration (FRA) regulations contained within these rules. This is the responsibility of the employee(s) who perform the work, unless otherwise instructed.
<i>232.1</i>	The status of the inspection/test must be communicated to the relieving crew verbally or by written notification left on the controlling locomotive.

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### 30.1.1: Qualified Inspectors

<b>30.1.1</b>  <i>49 CFR</i> <i>232.203</i>  Reference Glossary	<b>Qualified Inspectors</b> Inspections and air brake tests must be performed by either a "Qualified Person", "Qualified Mechanical Inspector" or a "Qualified Maintenance Person" as specified by Federal Regulations.
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## 30.2: General Requirements

<b>30.2 General Requirements</b>
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### 30.2.1: Coupling and Securing Air Hoses

<b>30.2.1</b>  <i>49 CFR</i> <i>232.107</i>	<b>Coupling and Securing Air Hoses</b> Before coupling air hoses between locomotives and/or cars, employees must: <ul style="list-style-type: none"> <li>• Shake debris out of the hoses.</li> <li>• Blow all condensation from the locomotive brake pipe or yard air line.</li> </ul>
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### 30.2.2: Operative Brakes

<b>30.2.2</b>  <i>49 CFR</i> <i>232.103</i>  Reference SSI Item 2-G	<b>Operative Brakes</b> These requirements apply to air brake tests and inspections: <ul style="list-style-type: none"> <li>• All cars must have operative air brakes.  Exceptions: <ul style="list-style-type: none"> <li>◦ Cars with defective air brakes may be moved for repairs when properly tagged on both sides by a Qualified Mechanical Inspector.</li> <li>◦ Scale test cars are not required to be equipped with air brakes, but if equipped, the brakes must be operable.</li> <li>◦ Brakes that fail enroute.</li> </ul> </li> <li>• Cars with brakes that fail enroute must be tagged on both sides and noted on train documentation. Leave information for the relieving crew, and notify the dispatcher or Mechanical Help Desk. Train documentation that reflects such cars may be transmitted by electronic means to relieving crews.</li> <li>• At least 85% of the cars in a train must have operative brakes under all circumstances. <ul style="list-style-type: none"> <li>◦ To determine the number of operative brakes in a train, refer to Item 2-G in System Special Instructions.</li> </ul> </li> </ul>
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### 30.2.3: Employee in Charge During Air Brake Test

<b>30.2.3</b>  <i>49 CFR</i> <i>232.205</i>	<b>Employee in Charge During Air Brake Test</b> The employee performing the air brake test is in charge while the test is being conducted and must ensure that all other employees are safely positioned before beginning the test.  The employee in control of the air brakes must not apply or release brakes without permission from the employee performing the air brake test.
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### 30.2.4: Standard Brake Pipe Pressure

<b>30.2.4</b>  <i>49 CFR 232.103</i>	<b>Standard Brake Pipe Pressure</b> Regulating valve must be set at 90-psi. (Passenger and Freight Equipment)  <b>Note:</b> When UP employees are operating foreign line passenger trains, they are governed by the foreign line's instructions.
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### 30.2.5: Charging Air Brake System

<b>30.2.5</b>  <i>49 CFR 232.103</i>  Reference Rule 32.2.1	<b>Charging Air Brake System</b> When charging the system: <ul style="list-style-type: none"><li>• Do not charge a train's air brake system with more than one automatic brake valve cut-in unless utilizing distributed power locomotives.</li><li>• If main reservoir pressure falls below 100-psi, engine RPM may be increased but is not to exceed throttle position 2.</li><li>• If using a remote control locomotive, use the charge feature on the remote control transmitter.</li></ul> In yards where trains are made up, when unattended locomotives are used to charge the brake system, the automatic brake valve may be left in release position.
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### 30.2.6: Air Brake Tests Using Gauge or End-of-Train Device

<b>30.2.6</b>  <i>49 CFR 232.205</i>	<b>Air Brake Tests Using Gauge or End-of-Train Device</b> When required to determine brake pipe pressure at rear of train, any of the following devices may be used: <ul style="list-style-type: none"><li>• An accurate gauge.</li><li>• An EOT.</li><li>• A distributed power locomotive.</li></ul> To determine that the brakes apply and release on the rear car, the requirement is considered fulfilled when either an EOT or power consist attached to the rear of the train indicates the following: <ul style="list-style-type: none"><li>• Brakes are applied when brake pipe pressure decreases by at least 5-psi.</li><li>• Brakes are released when brake pipe pressure increases by at least 5-psi.</li></ul>
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## 30.3: Initial Terminal Air Brake Test (Class I Air Brake Test)

<b>30.3 Initial Terminal Air Brake Test (Class I Air Brake Test)</b>
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### 30.3.1: Initial Terminal Air Brake Test (Class I) Requirements

<p><b>30.3.1</b></p> <p>49 CFR 232.205</p> <p>Reference Rule 1.33 30.10.1 30.11.1 30.11.2 Glossary</p>	<p><b>Initial Terminal Air Brake Test (Class I) Requirements</b></p> <p>A. Test Must be Conducted Where:</p> <ul style="list-style-type: none"> <li>o Train is originally assembled.</li> <li>o Train consist (including train received in interchange) is changed by other than one or more of the following: <ul style="list-style-type: none"> <li>1. Adding one solid block.</li> <li>2. Removing one solid block.</li> <li>3. Removing defective cars.</li> <li>4. Repositioning cars to meet hazardous material or restricted car placement requirements.</li> <li>5. Changing locomotive consist(s).</li> </ul> </li> </ul> <p style="text-align: center;">or</p> <ul style="list-style-type: none"> <li>o A unit or cycle train has traveled 3,000 miles since its last Initial Terminal Air Brake Test, Class I.</li> </ul> <p>B. Test Must be Conducted on a Portion of the Train or Cars Added to the Train When:</p> <ul style="list-style-type: none"> <li>o Car(s) added are not a solid block.</li> <li>o A portion of the train has been off air for more than 4 hours.</li> <li>o A solid block of cars being added to the train is composed of cars from more than one previous train.</li> <li>o Cars added from a previous train have not remained continuously and consecutively coupled with the train line remaining connected unless: <ul style="list-style-type: none"> <li>1. Removing defective equipment from the solid block.</li> <li>2. Separated into multiple solid blocks due to space or trackage constraints. Cars must be re-coupled in the same relative order as removed.</li> </ul> </li> </ul>
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### 30.3.2: Initial Terminal Air Brake Test (Class I) Procedure

<p><b>30.3.2</b></p> <p>49 CFR 232.205</p> <p>Reference Rule 30.10.1</p>	<p><b>Initial Terminal Air Brake Test (Class I) Procedure</b></p> <p>When performing an Initial Terminal Air Brake Test (Class I), comply with the procedures outlined in Rule 30.10.1.</p>
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### 30.3.3: Initial Terminal Air Brake Test (Class I) Notification

<p><b>30.3.3</b></p> <p>49 CFR 232.205</p> <p>Reference Rule 5.10 30.10.1</p>	<p><b>Initial Terminal Air Brake Test (Class I) Notification</b></p> <p>The engineer and conductor must know they have the required written notification that an Initial Terminal Air Brake Test (Class I) was performed on their entire train. Notification will be left on the controlling unit and will include:</p> <ul style="list-style-type: none"> <li>• Name of inspector.</li> <li>• Date and time test was completed.</li> <li>• Location where test was performed.</li> <li>• Number of cars inspected.</li> </ul> <p>Written notification may be provided to the engineer and conductor by:</p> <ul style="list-style-type: none"> <li>• Air Brake Test Form at the initial terminal.</li> <li>• Electronic means in the space provided on the train documentation. or</li> <li>• Information may be communicated to the engineer or conductor that the test has been completed and entered on the Air Brake Test Form or on space provided on train documentation.</li> </ul> <p>If the test was performed by train crew members, the required information must be entered on an Air Brake Test Form, if available, or in space provided on the train documentation by the conductor or engineer.</p> <p><b>Note:</b> When there is a conflict between train documentation and the Air</p>
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Brake Test Form, the Air Brake Test Form will govern.

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### 30.3.4: Cycle Trains

<b>30.3.4</b> <i>49 CFR</i> <i>232.205</i> <i>232.207</i>  Reference Rule 30.3.5	<b>Cycle Trains</b> Cycle trains must meet the following conditions: <ul style="list-style-type: none"><li>• Not to be operated more than 3,000 miles before another Initial Terminal Air Brake Test (Class I) is required.</li><li>• 1,000 Mile Inspection (Class IA) must be performed each 1,000 miles.</li><li>• A bulk commodity train designated as extended haul must be governed by Rule 30.3.5.</li></ul>
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### 30.3.5: Trains Designated as Extended Haul

<b>30.3.5</b> <i>49 CFR</i> <i>232.213</i>  Reference Rule 30.1.1	<b>Trains Designated as Extended Haul</b> Trains designated as Extended Haul must be given an Initial Terminal Air Brake Test (Class I) performed by a Qualified Mechanical Inspector at the initial terminal.  These trains must not: <ul style="list-style-type: none"><li>• Operate more than 1,500 miles before an additional air brake test is performed.</li><li>• Make more than one pick up and one set out between the initial terminal and the next designated inspection point, excluding set out of defective equipment.</li><li>• Move any cars with defective equipment, regardless of whether tagged appropriately.</li></ul> Any cars or solid block of cars added enroute must be given an Initial Terminal Air Brake Test (Class I) by a Qualified Mechanical Inspector (either at the time of pick up or pretested) at the location the cars are added.
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### 30.3.6: Attaching Locomotive to Cars Previously Class I Tested Using Yard Air or Other Locomotive

<b>30.3.6</b> <i>49 CFR</i> <i>232.205</i> <i>232.217</i>  Reference Rule 30.3 32.5.1 Glossary	<b>Attaching Locomotive to Cars Previously Class I Tested Using Yard Air or Other Locomotive</b> After locomotive is attached, one of the following procedures must be used: <ul style="list-style-type: none"><li>• If cars have been off air 4 hours or less and yard air or locomotive pressure setting was 90 psi, then perform Application and Release Test (Class III). If train has been off air more than 4 hours, perform a Rule 30.3 (Initial Terminal Air Brake Test, Class I) on the entire train.</li></ul> <b>Note:</b> When attaching locomotive to the opposite end of air source, an overcharged condition may occur. To correct condition, comply with Rule 32.5.1 prior to performing air test.
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### 30.4: 1,000 Mile Inspection Tests (Class IA Brake Test)

<b>30.4 1,000 Mile Inspection Tests (Class IA Brake Test)</b>
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**30.4.1: 1,000 Mile Inspection Tests (Class IA Brake Test)**

<p><b>30.4.1</b> 49 CFR 232.207</p> <p>Reference Rule 30.10.1</p>	<p><b>1,000 Mile Inspection Tests (Class IA Brake Test)</b> At designated locations, comply with procedures outlined by Rule 30.10.1.</p>
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**30.5: Transfer Train Movement Air Test**

<p><b>30.5 Transfer Train Movement Air Test</b></p>
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**30.5.1: Transfer Train Movement Air Test**

<p><b>30.5.1</b> 49 CFR 232.215</p> <p>Reference Rule 30.10.1</p>	<p><b>Transfer Train Movement Air Test</b> A train making transfer movements not exceeding 20 miles in one direction is considered a transfer train. Intermediate switching is permitted enroute. Comply with the procedures outlined in Rule 30.10.1.</p>
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**30.6: Test When Cutting Off and Recoupling**

<p><b>30.6 Test When Cutting Off and Recoupling</b></p>
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**30.6.1: Test When Cutting Off and Recoupling**

<p><b>30.6.1</b> 49 CFR 232.211</p> <p>Reference Rule 30.3.1 30.5.1</p>	<p><b>Test When Cutting Off and Recoupling</b></p> <p>Before proceeding when a train is uncoupled and recoupled in 4 hours or less:</p> <ul style="list-style-type: none"> <li>• Restore brake pipe pressure as indicated by gauge or device at the rear end of the train.</li> <li>or</li> <li>• Verify that the brakes on rear car apply and release from a 20-psi brake pipe reduction.</li> </ul> <p>If more than 4 hours, conduct a Rule 30.3.1 (Initial Terminal Air Brake Test, Class I) or a Rule 30.5.1 (Transfer Train Movement Air Test)—whichever applies to the type of test previously performed on those cars that did not remain charged.</p>
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**30.7: Application and Release Test (Class III Brake Test)**

<p><b>30.7 Application and Release Test (Class III Brake Test)</b></p>
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### 30.7.1: Application and Release Test (Class III Brake Test) Requirements

<b>30.7.1</b>	<b>Application and Release Test (Class III Brake Test) Requirements</b>
<i>49 CFR 232.211</i>	Test must be conducted when:
Reference Rule 30.3 30.3.6 30.10.1 33.6	<ul style="list-style-type: none"><li>• Any change is made to a locomotive consist.</li><li>• A caboose is changed.</li><li>• Picking up a block of previously tested cars that have not been off air for more than 4 hours.</li><li>• Helper locomotives are added anywhere in the train or removed from other than the rear end of the train.</li><li>• One or more consecutive cars are set out of the train.</li><li>• Defective equipment is set out of train.</li></ul> <p style="text-align: center;">or</p> <ul style="list-style-type: none"><li>• Rearranging previously tested cars in train for hazardous materials, train make-up, or helper placement.</li></ul>
	Comply with the procedures outlined in Rule 30.10.1

### 30.8: Inbound Train Inspection

<b>30.8 Inbound Train Inspection</b>
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#### 30.8.1: Inbound Train Inspection

<b>30.8.1</b>	<b>Inbound Train Inspection</b>
Reference Rule 32.1.3	Make a 70-psi brake pipe reduction at terminals where the Mechanical Department will make immediate air brake inspections and repairs after locomotives are detached.

### 30.9: Train Information

<b>30.9 Train Information</b>
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#### 30.9.1: Train Information

<b>30.9.1</b>	<b>Train Information</b>
<i>49 CFR 232.211</i>	A train crew taking charge of its train will be provided a train consist. If a consist is not available or if the consist does not include all the following, the information may be provided by other means:
	<ol style="list-style-type: none"><li>1. Weight and length of the train.</li><li>2. Weight distribution of train, if necessary, for proper train handling.</li><li>3. Information related to car or locomotive defects.</li><li>4. If train air brake test, i.e., Class I or Class IA, is required prior to next crew change point.</li></ol>

## 30.10: Air Brake Test and Inspection Charts/49 CFR 232

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### 30.10.1: Air Brake Test Requirements

Freight Air Brake Tests												
Type of Test	Perform safety inspection per Rule 1.33	Charge system to at least 75-psi at rear of train as indicated by gauge or device.	Leakage test as required per rule 30.11.2	20-psi brake pipe reduction	Brake application and inspection per rule 30.11.1			Release brakes and check release <sup>1</sup>			Brake pipe pressure being restored as indicated by gauge or device at rear of train	Brake test notification required
					All cars	Car(s) picked up	Rear car <sup>5</sup>	All cars	Cars(s) picked up	Rear car <sup>5</sup>		
30.3 Class I	X	X	X	X	X			X			X	X
30.3.5 Ext. Haul <sup>2</sup>	X	X	X	X	X			X			X	X
30.3.1/30.3.5 <sup>2</sup> Car added enroute	X	X	X	X		X	X		X	X	X	
30.4.1 Class IA		X	X	X	X						X	
30.5.1 Transfer Train <sup>3</sup>	X	X		X	X						X <sup>3</sup>	
30.6.1 Recoupling											X	
30.7.1 Class III		X	X <sup>4</sup>	X			X			X	X	

<sup>1</sup>Rolling release inspection may be made not exceeding 10 MPH.

<sup>2</sup>Cars must be inspected by a Qualified Mechanical Inspector.

<sup>3</sup>Cars added enroute must be tested as required by Rule 30.5.1. When cars are set out—determine that brake pipe pressure at the rear car has been restored.

<sup>4</sup>Required when cars were previously tested from a Yard Test Plant.

<sup>5</sup>Class III rear car brake requirements are considered fulfilled when brake pipe pressure is decreased by 5 psi and increased by 5 psi per Rule 30.2.6.

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## 30.11: Air Brake Tests and Inspection Procedures

### 30.11 Air Brake Tests and Inspection Procedures

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### 30.11.1: Brake Inspection Requirements

<p>30.11.1</p> <p>49 CFR 232.205</p>	<p><b>Brake Inspection Requirements</b></p> <p>Inspect both sides of the cars while performing the air brake test to determine that:</p> <ul style="list-style-type: none"> <li>• Angle cocks are properly positioned.</li> <li>• Air hoses are in condition for service and properly coupled.</li> <li>• Air brake system leakage is minimal; if necessary, make repairs to reduce leakage.</li> <li>• Retaining valves are in exhaust (EX) position.</li> <li>• Piston travel meets the following requirements:             <ul style="list-style-type: none"> <li>◦ Comply with requirements as outlined by stenciling or badge plate.</li> <li>◦ Truck-mounted brake piston travel must be within the limits of the travel indicator when brakes are set and provide brake shoe clearance when brakes are released. or</li> <li>◦ Body-mounted brake requirements:                 <ul style="list-style-type: none"> <li>▪ Class I air brake test must be between 6 and 9</li> </ul> </li> </ul> </li> </ul>
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Updated: 1/23/2012



## Locomotive Requirements - Chapter 31

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### 31.0: Locomotive Consist Requirements

31.0 Locomotive Consist Requirements
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## 31.1: Taking Charge of Locomotive Consist

<p><b>31.1</b></p> <p><i>49 CFR 218.55 218.57 229.23</i></p> <p>Reference Rule 31.8</p>	<p><b>Taking Charge of Locomotive Consist</b></p> <p>Engineers are responsible for the following:</p> <ul style="list-style-type: none"><li>• Checking that the locomotive daily inspection card is current on the controlling locomotive.</li><li>• Verify that "Blue Card" is displayed under a transparent cover in the cab of each locomotive. Union Pacific locomotives have an entry at the bottom of the blue card which reads "Do Not Use After mm/dd/yy". Verify that the locomotive has not passed this date.</li><li>• Verifying that the brake system is in proper condition for use.</li></ul> <p><b>Locomotive Safety Devices</b></p> <p>Inspect that required safety devices and systems are cut-in and sealed on lead controlling locomotive for the route to be used except:</p> <ul style="list-style-type: none"><li>• When a safety device becomes defective enroute.</li><li>or</li><li>• During drag loading/unloading operations under 5 MPH.</li></ul> <p>If a safety device becomes defective enroute, inform the train dispatcher and Mechanical Department as soon as possible.</p> <p>Do not cut-out, tamper with, or disable a safety device without proper authorization or unless authorized by rule. When a locomotive is enroute, this authorization may come from the train dispatcher, mechanical supervisor, or other manager.</p>
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## 31.2: Locomotive Inspections

<p><b>31.2 Locomotive Inspections</b></p>
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### 31.2.1: Inspection Requirements

**31.2.1****Inspection Requirements**

When locomotive inspection forces are not immediately available, an engineer taking charge of a locomotive must know that the brakes are in operating condition.

The engineer is responsible for ensuring that each locomotive in his charge, including locomotive(s) picked up enroute, is inspected each day the locomotive is in service. Determine if the locomotive needs to be inspected by checking the locomotive daily inspection card in each locomotive cab. The card will indicate the date and time of the last daily inspection.

**Exception:** On a multiple-locomotive consist, the engineer may assume that all trailing locomotives in the consist and any distributed power locomotives in the train were inspected on the same date as the locomotive daily inspection card on the controlling locomotive.

**A. Inspected Previous Calendar Day**

If the locomotive daily inspection card indicates that the locomotive was inspected the previous calendar day, then complete the current daily inspection before the end of the tour of duty. The engineer may be relieved from requirements to perform a daily inspection when instructions provide for mechanical forces to make the inspection.

Ensure that the Electronic Locomotive Inspection Report is completed.

Inspection should be performed during daylight hours when possible.

**B. Not Inspected Previous Calendar Day**

If the locomotive daily inspection card indicates that the locomotive was not inspected during the previous day, or if there is no record on the locomotive, inspect the locomotive before it is placed into service on the current day.

**C. Locomotive Picked Up Enroute**

When picking up a locomotive on line, the engineer must determine which locomotives will require a daily inspection. No locomotive in resulting consist may have a date older than the lead controlling locomotive.

**D. Locomotive Set Out on Line**

When setting out a locomotive on line that was inspected on the previous calendar day, inspect the locomotive, unless notified that the locomotive will be inspected by the Mechanical Department.

## 31.2.2: Complete Required Daily Inspection Forms

<p><b>31.2.2</b></p> <p><i>49 CFR 229.21</i></p>	<p><b>Complete Required Daily Inspection Forms</b></p> <p><b>Locomotive Inspection Report</b> Complete an Electronic Locomotive Inspection Report for each locomotive inspected.</p> <p>The locomotive daily inspection card must include the following information:</p> <ul style="list-style-type: none"><li>• Date.</li><li>• Location.</li><li>• Time.</li><li>• Complying or non-complying (check appropriate box).</li><li>• Union Pacific employee number. Legible signatures may be used by other than Union Pacific employees.</li></ul> <p>The locomotive daily inspection card must remain in the holder in the locomotive cab.</p>
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## 31.2.3: Event Recorder/Track Image Recorder

<p><b>31.2.3</b></p>	<p><b>Event Recorder/Track Image Recorder</b></p> <p>Only authorized personnel may remove the recorder data pack or download recorder data.</p>
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## 31.2.4: Speed Indicator

<p><b>31.2.4</b></p> <p>49 CFR 229.117</p>	<p><b>Speed Indicator</b></p> <p><b>A. Speed Indicator Test</b></p> <p>The engineer must test the speed indicator of the controlling locomotive using identified test miles or mile posts as soon as possible after departure.</p> <p><b>B. Operative Speed Indicator</b></p> <p>A locomotive used as a controlling unit at speeds above 20 MPH must be equipped with an operative speed indicator. Speed indicator requirements:</p> <ul style="list-style-type: none"> <li>• Locomotive speed indicators must be accurate within: <ul style="list-style-type: none"> <li>○ ±3 MPH at speeds between 10 and 30 MPH.</li> <li>○ ±5 MPH at speeds above 30 MPH.</li> </ul> </li> </ul> <p><b>Note:</b> A speed indicator that exceeds the above tolerances must be handled as a non-complying condition found enroute.</p> <p><b>C. Speed Indicator Fails Enroute</b></p> <p>If a speed indicator on a controlling locomotive fails enroute, the locomotive may continue as a controlling locomotive at normal track speed only to the next facility where repairs can be made or until the locomotive is due a daily inspection, whichever occurs first. Movement beyond a facility where repairs can be made or location where daily inspection was conducted must not exceed 20 MPH.</p>
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### 31.2.5: Locomotive with Non-complying Condition Safe to Move

<p><b>31.2.5</b></p> <p>Reference Rule 31.8</p>	<p><b>Locomotive with Non-complying Condition Safe to Move</b></p> <p><b>A. During the locomotive daily inspection, if a non-complying condition is discovered, it may be moved only:</b></p> <ul style="list-style-type: none"> <li>• As a single locomotive under power not attached to cars.</li> <li>• In a locomotive consist not attached to cars.</li> <li>• If isolated or shut down when attached to cars.</li> </ul> <p><b>Exceptions:</b></p> <ul style="list-style-type: none"> <li>• A controlling locomotive found with defective speed indicator during daily inspection may be operated under power attached to cars not exceeding 20 MPH.</li> </ul>
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- Locomotives found with any of the following defects during the daily inspection may be operated under power attached to cars as a trailing locomotive:
  - Inoperative headlights.
  - Both ditch lights inoperative.
  - Inoperative horn or bell.
  - Defective speed indicator.
  - Window cracks that obscure view.
  - Cab seats not properly secured.

Prior to moving a non-complying locomotive, perform the following:

1. Complete a non-complying locomotive tag, and attach it to the isolation switch of the non-complying locomotive. The tag must include the following information:
  - "Non-complying locomotive" written on the tag.
  - Locomotive initials and number.
  - Name of the inspecting railroad.
  - Inspection location and date.
  - Nature of the defect.
  - Movement restrictions, if any.
  - Destination.
  - Signature of the employee making the inspection.
2. Secure a copy of the non-complying tag on the control stand of the controlling locomotive.
3. Make sure the engineer in charge of the locomotive movement receives written notification of the non-complying locomotive (A copy of a non-complying locomotive tag meets this requirement.). The engineer must inform all other crew members of the non-complying unit and of any restrictions.
4. Notify the train dispatcher/Mechanical Help Desk, yardmaster, or other proper authority.

However, a locomotive may be moved as a single or dead unit within a yard solely for repairs, not to exceed 10 MPH, without complying with Items 1, 2, and 3 listed above.

## **B. Non-complying Condition Found Enroute**

A locomotive that develops a non-complying condition enroute may continue operating if the engineer or other qualified employee determines the locomotive is safe to move. The locomotive may be operated at normal speed until the next daily inspection or until it reaches the nearest point where repairs can be made, whichever occurs first.

The engineer must:

- Apply a non-complying tag to the isolation switch on the non-complying locomotive and the controlling locomotive.
- Report non-complying conditions to the train dispatcher/Mechanical Help Desk as soon as possible.
- Notify the relieving engineer of any non-complying conditions when possible.

Report any non-complying conditions on the Electronic Locomotive

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### 31.2.6: Defects Other than Non-complying Conditions

<b>31.2.6</b>	<b>Defects Other than Non-complying Conditions</b>  Report all defects through the Electronic Locomotive Inspection Report for each locomotive in the consist. A locomotive that is not loading properly must be reported to the Dispatcher/Mechanical Help Desk.  Examples of a defect or problem that is not a non-complying condition include: <ul style="list-style-type: none"><li>• Weather stripping is defective.</li><li>• Windshield wipers are not working.</li><li>• One headlight bulb is burned out.</li><li>• Ground relay is tripped.</li><li>• Safety valve on the air compressor or main reservoir is popping off.</li></ul>
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### 31.2.7: Major Internal Defects

<b>31.2.7</b>	<b>Major Internal Defects</b>  If a locomotive has a major internal defect, shut down the engine and do not restart until inspected by mechanical forces.  Report condition to Dispatcher/Mechanical Help Desk, and fill out a "Non-Complying Locomotive" tag. Attach the tag near the engine starting control.  If instructed to set out locomotive, leave the locomotive where mechanical personnel can access it, when possible.
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## 31.3: Locomotive Air Brake Tests

<b>31.3 Locomotive Air Brake Tests</b>
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### 31.3.1: Locomotive Consist Air Brake Test Requirements

<b>31.3.1</b>	<b>Locomotive Consist Air Brake Test Requirements</b>
Reference Rule 31.8.2 31.8.4 31.8.4.1	Conduct a locomotive air brake test when: <ul style="list-style-type: none"><li>• Making up a locomotive consist.</li><li>• Adding locomotive to a consist.</li><li>• Other than rear locomotive is removed from consist.</li><li>• Locomotive consist is rearranged.</li></ul> <p style="text-align: center;">or</p> <ul style="list-style-type: none"><li>• Changing operating ends.</li></ul>

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### 31.4: Standard Air Pressure

<b>31.4 Standard Air Pressure</b>
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#### 31.4.1: Standard Locomotive Air Pressures

<b>31.4.1</b>	<b>Standard Locomotive Air Pressures</b>
	Before initiating movement, ensure that air pressures are as follows: <ul style="list-style-type: none"><li>• Main reservoir pressure is 120 to 140-psi.</li><li>• Locomotive brake cylinder pressure must be adjusted to pressure indicated on badge plate.</li></ul> <p><b>Note:</b> Foreign line locomotives may require different main reservoir and brake cylinder pressures.</p>

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### 31.5: Dynamic Brake/Locomotive Warnings



## 31.5 Dynamic Brake/Locomotive Warnings

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### 31.5.1: Dynamic Brakes

**31.5.1** 49 CFR  
232.109 Reference  
Rule  
31.8.1

#### Dynamic Brakes

##### **A. Controlling Dynamic Brake**

On train movements equipped with operative dynamic brakes, the lead controlling locomotive must have:

- An operative dynamic brake.  
or
- The ability to control the operative dynamic brakes of trailing locomotives in a consist and an operative accelerometer that displays current change in speed or predicted change in speed in miles per hour per minute.

**Note:** The above requirement would not apply to low-speed yard and transfer movements on level or near level grade.

##### **B. Controlling Dynamic Brake – Enroute Failure**

May continue operating as the lead locomotive if:

- The engineer or other qualified employee determines the train is safe to move.
- The train may then be operated at normal speed until:
  - The train reaches the nearest repair point.  
or
  - The lead locomotive can be replaced.

**C. Locomotives with Inoperative Dynamic Brakes** Inoperative dynamic brake:

- Must be individually tagged, and an additional defect tag must be left on the controlling locomotive as information to the locomotive engineer.
- Information may be shown on train consist.

Tag indicating inoperative dynamic brakes should include the following information:

- Locomotive number.
- Name of discovering railroad.
- Location and date condition discovered.
- Signature of person discovering the condition.

Dynamic brakes cut-out to comply with dynamic brake axle limitations are

not considered inoperative brakes.

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## 31.5.2: Dynamic Brake Warning Light

<b>31.5.2</b>  <i>49 CFR 229.115</i>	<b>Dynamic Brake Warning Light</b>  If the Dynamic Brake Warning Light illuminates, reduce the dynamic brake until the light goes out. If condition continues, cut-out the dynamic brake on defective unit.
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## 31.5.3: Wheel Slip Warning Light

<b>31.5.3</b>  <i>49 CFR 229.115</i>	<b>Wheel Slip Warning Light</b>  If the wheel slip light is illuminated, reduce power or dynamic brake until the light goes out. If light does not go out: <ul style="list-style-type: none"><li>• Ensure that wheels are rotating freely.</li><li>• If wheels rotate freely and wheel slip light remains on during throttle reduction, isolate affected locomotive.</li><li>• If the wheels do not rotate freely, notify the dispatcher and set out the locomotive.</li></ul> <b>WARNING:</b> A wheel slip light continuously illuminated for 6–8 seconds or longer at speeds above 15 MPH may indicate a locked wheel or a slipped pinion gear. Should this occur, stop and determine that all wheels rotate freely.
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## 31.6: Moving Locomotives

31.6 Moving Locomotives

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### 31.6.1: Moving Light Locomotive Consists

<b>31.6.1</b>	<p><b>Moving Light Locomotive Consists</b></p> <p>Operate a light locomotive consist from the cab nearest the direction of travel when any one of the following conditions exists:</p> <ul style="list-style-type: none"> <li>• Distance to be traveled exceeds 2 miles.</li> <li>• A member of the same crew does not control movement using hand signals or radio.</li> <li style="padding-left: 20px;">or</li> <li>• Visibility is impaired.</li> </ul> <p><b>Exceptions:</b> This may not be required when it is necessary to maintain a DP link when moving a locomotive to train or when other operating conditions prevent occupying the cab nearest the direction of travel.</p>
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### 31.6.2: Locomotive Consist Limits

<b>31.6.2</b>  Reference Rule 31.8.3	<p><b>Locomotive Consist Limits</b></p> <p>Limit freight trains to eight locomotives on the lead consist. The maximum of eight locomotives includes units that are:</p> <ul style="list-style-type: none"> <li>• Working.</li> <li>• Isolated.</li> <li>• Dead-in-consist.</li> <li style="padding-left: 20px;">or</li> <li>• Dead-in-train immediately behind the locomotive consist.</li> </ul> <p>Train management may authorize up to 10 locomotives in the lead consist on freight trains but must not exceed power axle and dynamic brake limitations.</p> <p>The eight locomotive limit does not apply to power transfers. Limit power transfers to a maximum of 25 locomotives.</p> <p>Do not move or switch more than eight coupled locomotives within locomotive servicing facilities. This includes movements between service tracks and train yards.</p>
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### 31.6.3: Hostling Locomotive

<b>31.6.3</b>	<p><b>Hostling Locomotive</b></p> <p>Multiple locomotive consists may be moved within a terminal area with only the brake pipe connected, provided the speed does not exceed 10 MPH.</p> <p>Perform the following inspection and test before the initial movement of locomotives coupled together and whenever locomotives are added or the controlling locomotive is changed:</p> <ol style="list-style-type: none"><li>1. Brake pipe is connected and angle cocks are open between each locomotive.</li><li>2. Automatic brake valve must be cut-out on all locomotives coupled together except the controlling locomotive.</li><li>3. Independent brake valve must be cut-in on the lead unit on each consist and handle in release.</li><li>4. Allow brake pipe to charge.</li><li>5. Perform a standing brake test as follows:<ol style="list-style-type: none"><li>1. Make a 10-psi service brake application.</li><li>2. Ensure that sufficient locomotive brakes apply for safe movement. <b>Note:</b> Brakes may not apply on locomotives that are shut down unless the dead engine feature is cut-in.</li><li>3. Release the automatic brake application.</li><li>4. Ensure brakes release on each locomotive.</li></ol></li><li>6. Release all hand brakes.</li></ol>
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### 31.6.4: Moving Locomotives within Mechanical Department Limits

<b>31.6.4</b>	<p><b>Moving Locomotives within Mechanical Department Limits</b></p> <p>When moving locomotives within Mechanical Department limits:</p> <ol style="list-style-type: none"><li>1. Charge and properly position brake equipment before moving the controlling locomotive.</li><li>2. On controlling locomotive, apply and release locomotive brakes to verify that brake cylinder pistons are operating and brake cylinder lines to trucks are not cut-out.</li></ol>
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### 31.6.5: Turntable

<b>31.6.5</b>	<p><b>Turntable</b></p> <p>Do not move on or off a turntable unless correctly lined and locked.</p>
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## 31.7: Locomotive Placement

<b>31.7 Locomotive Placement</b>
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### 31.7.1: Locomotive Alignment Control

<b>31.7.1</b>	<b>Locomotive Alignment Control</b>	
<b>LOCOMOTIVE PLACEMENT TABLE</b>	<b>Locomotives Equipped for MU</b>	<b>Locomotives Not Equipped for MU.</b>
UP and Foreign Line/Waybilled Locomotives with Alignment Control	When running, they may be placed anywhere in consist. If shutdown or isolated, place behind lead consist and MU.	Couple directly behind lead consist and set-up by Mechanical Department.
UP Locomotive without Alignment Control	When consist has locomotives with alignment control, they must be placed second in consist, one per train when handling cars.	Shut down and place between the tenth and fifth cars from rear of train. If two locomotives are handled in one train, they must be separated by one car. No more than two may be cut-in to a train.  Entrained locomotives must be set-up by Mechanical Department.
	When consist has no locomotives with alignment control, up to three non-alignment control locomotives may be placed on head end when handling cars.	
	On light locomotive consist, up to five locomotives may be handled on rear of consist.	

Foreign Line/Waybilled  
Locomotives without Alignment  
Control

Special Train Move only (light locomotive consist)

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## 31.8: Locomotive Inspections and Procedures

### 31.8 Locomotive Inspections and Procedures

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### 31.8.1: Conducting a Locomotive Daily Inspection

#### 31.8.1

49 CFR  
229.21  
229.53  
232.105  
236.553

#### Conducting a Locomotive Daily Inspection

Inspect these three general areas of each locomotive:

- Control Compartment/Locomotive Cab.
- Walkways and Engine Compartments.
- Ground Level.

**Note:** B-units and units designated or modified not to be occupied are not required to have or be equipped with all the devices included in the inspection.

Remote control locomotives (RCL) must be in manual mode when conducting inspection.

Not all defects are non-complying conditions. The following items are non-complying conditions if they do not function properly during the daily inspection.

#### A. Control Compartment/Locomotive Cab

Operate sanders to deposit sand in front of each locomotive's lead wheels using the reverser position to determine the direction.

On each locomotive ensure that:

- Each air gauge registers within 3-psi of the required pressure.
- Locomotive cab is free of stumbling or slipping hazards.
- No traction motors have been cut-out. However, on GE AC, GE-8 DC, GE-9 DC, and EMD AC locomotives, one or more traction motors/trucks may be cut-out and not considered a non-complying condition.
- Cab seats are properly secured.
- Locomotives equipped with dynamic braking will be considered as having a non-complying condition if the dynamic brake has been

defective for 30 continuous days.

On lead locomotive ensure that:

- At least one headlight bulb is operational on each end of the locomotive consist.
- At the initial terminal, both ditch lights are operational. At least one ditch light must be operational at other than initial terminal.
- Horn and bell operate.
- Gauge lights and engineer's overhead cab light illuminate. If burned out and other available lighting is sufficient to allow visibility from the crew's normal position, report as a defect but not a non-complying condition.
- Speed indicator functions accurately. After a daily inspection, if the speed indicator failure is identified on the lead locomotive as soon as it begins moving, the failure is a non-complying condition discovered during the daily inspection.
- Windows provide a clear view. Small cracks that do not obscure view must be reported as defects but not non-complying conditions.
- The locomotive toilet facility is sanitary and operational.
- Only a telemetry head end unit (HEU) calibrated within the last 368 days may be used.

**Exception:** Calibration is not required on the Wabtec HEU with the sticker reading, "This unit is equipped with a Wabtec synthesized radio that complies with FRA-2004-18895."

## **B. Walkway and Engine Compartment**

Inspect both sides of each locomotive to ensure that:

- Walkways and walk-in compartments (car body-type locomotives) are clear of debris, tools, and accumulated oil or grease that present a hazard to the crew.
- Handrails, hand holds, steps, ladders, safety chains, and guards are secured and ready for service. Inspect for broken, bent, damaged, or loose equipment. Make sure safety chains are connected high enough for safe passage.
- All electrical and rotating equipment guards are in place.
- The diesel engine has no apparent exhaust, oil, water, or fuel leaks.
- The hand brake is operational.
- Walkway and engine compartment lights are working. If burned out and other available lighting is sufficient to allow visibility, report as a defect but not a non-complying condition.

## **C. Ground Level**

Inspect the exposed areas for apparent defects, but do not crawl under or between locomotives to make the visual inspection. Set hand brakes, if necessary, and walk around both sides of the locomotive to ensure that:

- Sand is deposited on the rail in front of the lead wheels of each locomotive in the consist.

### **Exceptions:**

- In road service as lead locomotive, if sanders are found

- to be defective enroute, the locomotive may continue in service until it is placed in a repair facility but under no conditions for more than 14 calendar days.
- In road service as a trailing locomotive, if sanders are found to be defective enroute, the locomotive may continue in service until it is placed in a repair facility.
  - In switching service, if sanders are found to be defective at a location where repair facilities are not available, the locomotive may remain in service for no more than 7 calendar days.
- Fuel tank is not leaking.
  - No defects such as cracks and broken or missing parts are on the following:
    - Locomotive trucks.
    - Wheels.
    - Gear cases.
    - Draft gears.
  - Brake cylinder piston travel shall be sufficient to provide brake shoe clearance when the brakes are released.
  - Maximum brake cylinder piston travel is 1 1/2 inches less than the travel entered on FRA Form F 6180-49A (blue card) in the locomotive cab.
  - Brake shoes are secured and approximately in line with the tread of the wheel with no obvious lips or overhangs.
  - Foundation brake rigging is secured, and all components other than wheels and sand hoses are at least 2 1/2 inches above the top of the rail.
  - Snowplow, pilot, or endplate is properly secured and is between 3 inches and 6 inches above the top of the rail.
  - No part of the electrical cable is lying on the coupler.
  - Unused electrical cables are stowed, or the disconnected ends are placed into a dummy receptacle or a multiple-unit cable holder.
  - There is no apparent physical damage to the ATC/ACS receiver bars on locomotives equipped with ATC/ACS.
    - These bars are located above the rail and in front of the wheels. This requirement applies only to lead locomotives on trains operating in ATC/ACS territory. Any apparent damage must be reported, but it does not constitute a non-complying defect.

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## 31.8.2: Changing Operating Ends Procedure



<p><b>31.8.2</b></p> <p>Reference Rule 31.8.4.1</p>	<p><b>Changing Operating Ends Procedure</b></p> <p>Change operating ends on a locomotive consist by cutting out the operating controls on the controlling end and proceeding immediately to the opposite end of the locomotive consist and restore controls.</p> <p><b>A. Cut-Out Operating Controls as follows:</b></p> <ol style="list-style-type: none"> <li>1. Fully apply the independent brake.</li> <li>2. Make a 20-psi brake pipe reduction.</li> <li>3. Remove the reverser.</li> <li>4. Apply sufficient hand brakes to hold locomotive consist. Cut-out the independent and automatic brakes. (On electronic brake systems, toggle independent setting from LEAD to TRAIL, and accept and confirm the change. This will also place the automatic brake in the cutout position.)</li> <li>5. Place the automatic brake valve handle in HANDLE OFF/ CONTINUOUS SERVICE.</li> <li>6. Place independent brake valve handle in release position.</li> <li>7. Place the generator field switch in the OFF position.</li> <li>8. Disarm two-way EOT, if equipped. (DP must be unlinked to change ends.)</li> <li>9. Position headlight switch as necessary.</li> </ol> <p><b>B. Restore Operating Controls as follows:</b></p> <ol style="list-style-type: none"> <li>1. Place the independent brake valve handle in FULL APPLICATION.</li> <li>2. Cut-in the independent brake. (On electronic systems, toggle setting from TRAIL to LEAD.)</li> <li>3. Place the automatic brake valve handle in RELEASE.</li> <li>4. Cut-in the automatic brake. (On electronic systems, toggle setting from CUT OUT to CUT IN.)</li> <li>5. Replace the reverse lever.</li> <li>6. Place switches and breakers in proper positions.</li> <li>7. Conduct locomotive consist air brake test.</li> </ol>
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### 31.8.3: Light Engine Setup

<p><b>31.8.3</b></p> <p>49 CFR 232.205</p>	<p><b>Light Engine Setup</b></p> <p>When light engine power transfers consisting of more than eight locomotive units are to be operated, set-up as shown below:</p>

**Light Engine Power/Dynamic Brake Setup**

Number of Units	Minimum MU'd	Minimum on line for power and dynamic brake	Armed EOT Required	MU Cable Required between units.	Headlight
1-8	All	<u>1</u> Minimum of 8 EPA required with 3 or more units	No	All	Lead/Rear on Dim
9-12	8	4	Yes	Must not be placed between eighth and ninth units.	EOT on rear
13-15		5			
16-18		6			
19-21		7			
22-25		8			

**Light Engine Air Brake Setup**

Number of Units	Train Line Hose	Automatic Brake Cut-in	Independent Brake Cut-in	MU Hoses	Air Test Required
1-8	All	Lead Only	Lead Only	All	Consist
9-25			Cut-in and Released	Locomotive must be running or main reservoir must be connected to running locomotive.	Determine that brakes apply and release on each locomotive.

Light engine movements must not be operated in DP mode except when moving power consists from the service track to a yard track. Site-specific instructions may be created to govern movement of light engine moves within the terminal limits.

**General Order**

**Rule 31.8.3 Light Engine Setup**

Change entire rule to read as follows:

<b>31.8.3</b>  <i>49 CFR</i> <i>232.205</i>	<b>Light Engine Setup</b> When light engine power transfers consisting of more than eight locomotive units are to be operated, set-up as shown below:
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**Light Engine Power/Dynamic Brake Setup**

Number of Units	Minimum MU'd	Minimum on line for power and dynamic brake	Armed EOT Required	MU Cable Required between units.	Headlight
1-8	All	1 Minimum of 8 EPA required with 3 or more units	No	All	Lead/ Rear on Dim
9-12	8	4	Yes	Must not be placed between eighth and ninth units.	EOT on rear
13-15		5			
16-18		6			
19-21		7			
22-25		8			

**Light Engine Air Brake Setup**

Number of Units	Train Line Hose	Automatic Brake Cut-in	Independent Brake Cut-in	MU Hoses	Air Test Required
1-8	All	Lead Only	Lead Only	All	Consist
9-25			Cut-in and Released	Locomotive must be running or main reservoir must be connected to running locomotive.	Determine that brakes apply and release on each locomotive

Light engine movements must not be operated in DP mode except when moving power consists from the service track to a yard track. Site-specific instructions may be created to govern movement of light engine moves within the terminal limits.

### 31.8.4: Procedure for Conducting Locomotive Consist Air Brake Test

<p><b>31.8.4</b></p> <p><i>49 CFR</i> <i>229.46</i> <i>229.59</i> <i>232.105</i></p> <p>Reference Rule 31.3.1</p>	<p><b>Procedure for Conducting Locomotive Consist Air Brake Test</b></p> <p>Ensure locomotive consist is properly secured.</p> <p>From the ground, observe that the locomotive brakes apply and release during this procedure:</p> <ol style="list-style-type: none"><li>1. With the independent and automatic brake valve handles in RELEASE, apply the independent brake.</li><li>2. After observing that the brakes apply on each locomotive, release the independent brake.</li><li>3. When the brakes are released on all locomotives, apply the automatic brake by making a 10-psi brake pipe reduction.</li><li>4. After the brakes apply on all locomotives, actuate and observe that the brakes release.</li><li>5. Reduce brake pipe pressure by at least an additional 10-psi to reapply the brakes.</li><li>6. Determine that all brakes apply on all locomotives.</li><li>7. Move the automatic brake valve handle to RELEASE position.</li><li>8. Determine that all brakes release.</li></ol> <p>When adding or removing a <b>non-controlling</b> locomotive to a DP remote consist, it is not necessary to unlink. Add the following to the above procedure:</p> <ol style="list-style-type: none"><li>1. Ensure that the train is properly secured.</li><li>2. Utilize the lead (head end) locomotive to apply and release the brakes on the remote consist (Items 1–8 above).</li></ol>
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#### 31.8.4.1: Light Engine Running Air Brake Test.

<p><b>31.8.4.1</b></p> <p><i>49 CFR 232.105</i></p> <p>Reference Rule 31.3.1 31.8.2</p>	<p><b>Light Engine Running Air Brake Test.</b></p> <p>An engineer must perform this air test when:</p> <ul style="list-style-type: none"> <li>• Taking charge of engine not coupled to other equipment and originally made up and tested by other than the assigned engineer,</li> <li>• Controlling ends have been changed.</li> </ul> <p>When test is required, perform the following tasks:</p> <ol style="list-style-type: none"> <li>1. Release the independent brake and open throttle sufficiently to cause locomotive to move.</li> <li>2. Close throttle. Locomotive should roll freely. If it does not, check for the cause and correct.</li> <li>3. Apply and release the independent brake while speed is low. A speed reduction indicates brakes have applied.</li> <li>4. With the independent brake released, make a light automatic brake pipe pressure reduction. A speed reduction indicates brakes have applied.</li> <li>5. Actuate and determine that the brakes release. The locomotive should roll freely.</li> </ol> <p>When defects or malfunctions are noted, the condition must be corrected.</p> <p>A Locomotive Consist Air Brake Test may be made instead of a Light Engine Running Air Brake Test.</p>
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## 31.8.5: Starting Procedure

<p><b>31.8.5</b></p>	<p><b>Starting Procedure</b></p> <p>Follow this procedure to start a locomotive:</p> <ol style="list-style-type: none"> <li>1. Check the cooling water level.</li> <li>2. Check that the governor low oil button, over-speed trip, and low water and crankcase protective devices are in the proper positions.</li> <li>3. Check that switches or breakers for air conditioning, lights, heaters, refrigerator, and other accessories are in the OFF positions.</li> <li>4. Ensure that the fuel pump circuit breaker is on.</li> <li>5. Check that the engine run and control switches on the engineer's control console are on.</li> <li>6. Make sure the Isolation Switch is in the START/STOP/ISOLATE position.</li> <li>7. Close the main battery switch.</li> </ol>
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8. Prime the engine as indicated on the badge plate.
9. Crank the engine until the engine starts, but not longer than 20 seconds for EMD locomotives and 45 seconds for GE locomotives. Allow two minutes between cranking attempts.
10. After starting, place switches or breakers for air conditioning, lights, heaters, refrigerator, and other accessories in the ON positions, as appropriate.
11. Check that the air brake system is charged and operative before releasing the hand brake.

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### 31.8.6: Weak Batteries

<b>31.8.6</b>	<p><b>Weak Batteries</b></p> <p>When a weak battery condition is determined by the Mechanical Department, do the following:</p> <ul style="list-style-type: none"> <li>• Tag locomotives with weak batteries to prevent shutdown until the condition is corrected.</li> <li>• Report the condition on engineer electronic inspection report.</li> <li>• Report to the Locomotive Help Desk if discovered enroute.</li> </ul> <p>Locomotives identified with such tags or other identified mechanical problems that would prevent starting where repair facilities are not available may be left running for no more than seven calendar days.</p>
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### 31.8.7: Locomotive Fuel Conservation and TPA Compliance

<b>31.8.7</b>	<p><b>Locomotive Fuel Conservation and TPA Compliance</b></p>
Reference Rule	<p><b>A. Locomotive Shutdown</b> Shut down locomotive when:</p>
SSI Item 5-C	<ul style="list-style-type: none"> <li>• Left standing unattended for 15 minutes or longer.</li> <li>• The trailing locomotive(s) in lead consist are isolated.</li> </ul>
Glossary	<p>Locomotive should be left running when:</p> <ul style="list-style-type: none"> <li>• The temperature is expected to drop below 35 degrees F in the next 12 hours.</li> <li>• Necessary to maintain the air supply, one locomotive may be left running.</li> <li>• Distributed power locomotives are actively linked.</li> </ul>

## B. Fuel Conservation

The TCS train consist shows the maximum authorized fuel conservation speed when applicable. The train dispatcher may cancel fuel conservation speed restrictions.

Trains are subject to the Fuel Conservation Speed (FCS) requirements below:

- **FCS Train Operations:** Exceeding throttle position 5 while in power is prohibited at a speed greater than specified below.

<b>Fuel Conservation Speed</b>			
<b>Train Type:</b>	Coal Trains (loaded or empty)	Freight Trains (including light engine movements)	Passenger and Business Car trains are exempt. Freight trains that are exempted by track bulletin.
<b>Speed:</b>	40	50	No FCS Restrictions

Coal trains may be authorized to operate at FCS 50 by timetable or subdivision general order.

Higher throttle positions may be used, up to and including Run 8, to achieve and maintain FCS-authorized speed.

## C. Tons Per Powered Axle (TPA)

Trains must be operated up to but not exceeding the TPA shown on the TCS consist. At each crew change point, locomotive consist must be adjusted as indicated on the train consist. The locomotive consist will display the status of the locomotives that are to be isolated or brought on line at the crew change point to meet TPA requirements. These instructions will only apply to locomotives in the head end consist.

Locomotive axles/traction motors must not be cut-out to comply with this restriction. When operating in throttle position 8 and speed cannot be maintained within 10 MPH of the trains maximum authorized speed at that location, additional units may be placed on line, not to exceed the maximum allowed EPA for the territory.

The controlling unit of each consist, including DP consist(s), must not be manually isolated or shut down to comply with these instructions.

On the isolation switches on Locomotive(s) that are isolated or shut down, apply tags that read "Fuel Conservation" or "To Meet TPA Requirements." In addition, the lead unit in the consist must be tagged to indicate trailing units that have been shut down or isolated.

**Note:** When calculating TPA/TPDBA, do not round off EPA/EDBA numbers used in making the calculation. After completing the calculation, if the final number is not a whole number, round up the result to the nearest whole number.

**Example:** A train has 10,469 tons and three locomotives with a total of 36.3 EPA. The detail train consist indicates the following TPA limit:

MAXIMUM TPA BETWEEN SX263 AND NX039 IS 430, CURRENT TPA IS 289. If one unit was isolated weighing 200 tons, the train would then have 24.2 EPA, and TPA will increase to 441. This exceeds the maximum TPA for the territory to be operated over. Therefore, all three locomotives must be left on line.

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### 31.8.7.1: Shutdown Procedure

<p><b>31.8.7.1</b></p> <p>Reference Rule 35.5.1</p>	<p><b>Shutdown Procedure</b></p> <p>Follow this procedure to shut down a locomotive:</p> <ol style="list-style-type: none"><li>1. Make sure hand brake is fully applied if leaving locomotive unattended.</li><li>2. Place generator field switch OFF.</li><li>3. Remove reverser.</li><li>4. Move the engine control switch (isolation switch) to the START/ STOP/ISOLATE position.</li><li>5. Properly position accessory switches or breakers in the off position.<ul style="list-style-type: none"><li>o If equipped, the RCL breaker must remain on during short term securement.</li></ul></li><li>6. Shut down engine.</li><li>7. Open main battery switch, except:<ul style="list-style-type: none"><li>o Main battery switch may be left closed for up to two hours to maintain cab signal link on locomotives operating in cab signal territory.</li><li>o Main battery switch may be left closed on RCL to maintain link during short-term securement.</li></ul></li></ol>
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### 31.8.7.2: Prevent Engine Cooling System from Freezing



**31.8.7.2****Prevent Engine Cooling System from Freezing**

The engineer is responsible for protecting locomotives from freeze damage. If an engine dies and cannot be restarted, the engine must be drained if the temperature is below 32 degrees F. Notify the train dispatcher.

If the failure is in the distributed power, immediately contact the train dispatcher.

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Updated: 2/27/2012

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### 32.0: Securement / Train Operations

32.0 Securement / Train Operations
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# 32.1: Securing Equipment

<p><b>32.1</b></p> <p><i>49 CFR 232.103</i></p>	<p><b>Securing Equipment</b></p> <p>Crew members are responsible for securing standing equipment with a sufficient amount of hand brakes to prevent undesired movement. The air brake system must not be depended upon to prevent an undesired movement.</p> <p>On cuts of two or more cars, or on multi-platform cars with two hand brakes, a minimum of two hand brakes must be applied unless otherwise specified.</p>
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## 32.1.1: Securement Procedures

<p><b>32.1.1</b></p>	<p><b>Securement Procedures</b></p> <p>The number and location of hand brakes to be applied depends on the following:</p> <ul style="list-style-type: none"><li>• Grade:<ul style="list-style-type: none"><li>◦ On low end when slack is bunched.</li><li>◦ On high end when slack is stretched.</li></ul></li><li>• Number of loaded and empty cars, and type of car.</li><li>• High winds.</li><li>• Site-specific instructions.</li></ul> <p>All retaining valves must be in EXHAUST position.</p> <p><b>A. Primary Securement Procedure</b> Verify that the hand brake(s) applied on equipment will prevent movement by releasing all air brakes.</p> <p><b>B. Secondary Securement Procedure</b></p> <p>Comply with requirements contained in Securement Chart when not practical to comply with Primary Procedure or where site-specific instructions are in effect.</p> <p>The following table must be used to determine the number of brakes required when using the Secondary Procedure.</p>
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**Securement Chart – When Not Practical to Verify Required Hand Brakes by Release of Air Brakes**

**Number of Applied Hand Brakes Required**

Tons	Grade (%)												
	0+	0.25+	0.5+	0.75+	1.00+	1.25+	1.50+	1.75+	2.00+	2.25+	2.50+	2.75+	3.00+
<1000	2	2	2	2	3	3	4	4	5	6	7	7	9
1000+	2	3	3	3	5	6	8	8	10	12	13	14	15
2000+	2	3	5	5	6	8	9	11	12	14	15	17	20
3000+	3	5	5	7	8	10	12	14	16	18	20	23	30
4000+	4	5	5	8	10	13	15	18	20	23	25	28	35
5000+	5	6	7	9	12	15	18	21	24	27	30	33	39
6000+	5	7	8	11	14	18	21	25	28	32	35	39	46
7000+	5	7	9	13	16	21	24	29	32	37	40	45	53
8000+	5	8	10	14	18	23	27	32	36	41	45	50	60
9000+	5	9	12	15	20	25	30	35	40	45	50	55	65
10000+	6	10	13	17	22	28	33	39	44	50	55	60	All
11000+	6	11	15	18	24	30	36	42	48	54	60	66	All
12000+	7	14	16	20	26	33	39	46	52	59	65	72	All
13000+	8	15	17	22	28	35	42	49	56	63	70	All	All
14000+	8	15	20	23	30	38	45	53	60	68	75	All	All
15000+	9	16	22	24	32	40	48	56	64	72	80	All	All
16000+	10	18	24	26	34	43	51	60	68	77	85	All	All
17000+	10	20	26	28	36	45	54	63	72	81	90	All	All

## 32.1.2: Securing an Unattended Train or Portion of Train with Locomotive Attached

<b>32.1.2</b>  Reference Rule <a href="#">7.6</a> <a href="#">32.1.1</a> <a href="#">32.1.3</a>	<b>Securing an Unattended Train or Portion of Train with Locomotive Attached</b>  To secure a train or a portion of a train with the lead locomotive consist attached, perform the steps below:  <ol style="list-style-type: none"><li>1. Determine the minimum number of hand brakes required to secure a train. Count locomotive hand brakes toward the total hand brakes required.</li><li>2. Comply with Rule 32.1 (Securing Equipment).</li><li>3. Complete Train and Locomotive checklist.</li></ol>
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#### Rule 32.1.2 Securing an Unattended Train or Portion of Train with Locomotive Attached

Add the following Reference Rules to rule:

[7.6](#)  
[32.1.3](#)

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## 32.1.3: Securing an Unattended Train Before Detaching Locomotives

<b>32.1.3</b>  Reference Rule <a href="#">30.8.1</a> <a href="#">32.1.1</a>	<b>Securing an Unattended Train Before Detaching Locomotives</b> Before detaching locomotives or locomotives and cars:  <ol style="list-style-type: none"><li>1. Comply with Rule 32.1 (Securing Equipment).</li><li>2. Make a 20-psi brake pipe reduction.<ul style="list-style-type: none"><li>o At terminals where Mechanical Department will make immediate air brake inspections and repairs after locomotives are detached, comply with Rule 30.8.1.</li></ul></li></ol> After brake pipe exhaust ceases, close the angle cock on the rear locomotive or last car to be detached from portion left standing. Leave the angle cock open on the portion left standing. (Do not bottle the air.)  <u>When removing locomotive(s) from a previously secured train or cut of cars, tie additional hand brakes on cars equal to the number of locomotives removed.</u>
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### General Order

#### Rule 32.1.3 Securing an Unattended Train Before Detaching Locomotives

Add new last paragraph reading:

When removing locomotive(s) from a previously secured train or cut of cars, tie additional hand brakes on cars equal to the number of locomotives removed.

### 32.1.4: Single Car Securement

32.1.4	<p><b>Single Car Securement</b></p> <p>A. Do not detach and leave a single car standing when the car can be coupled to and left secured with other equipment.</p> <p>After performing a single car securement test as required below, a single car may be left standing when:</p> <ul style="list-style-type: none"><li>• Spotting a customer’s facility or industry track.</li><li>• An articulated car is equipped with two hand brakes and both hand brakes are applied and functioning.</li><li>• The Car Department has chained the car to the rail.</li><li>• In a yard or facility equipped with derail protection.</li></ul> <p>When leaving only two cars, both cars must be equipped with wheel or ratchet type brakes.</p> <p>B. When making single car set-outs, perform the following steps in the order outlined to prevent uncontrolled movement. Apply hand brake(s) on car to be set-out.</p> <ol style="list-style-type: none"><li>1. Move car a sufficient distance to ensure hand brake is operational.</li><li>2. Slowly bunch or stretch the slack at the coupler where uncoupling is to be made.</li><li>3. Observe the cars to be left standing for movement for 1 minute.</li><li>4. If car does not move, make a 20-psi brake pipe reduction before cutting away.</li><li>5. After cutting away, tighten handbrake.</li><li>6. If necessary, block the wheels or set out a second car.</li><li>7. On cars with more than one hand brake, all hand brakes must be applied.</li></ol> <p>Maintenance of Way and Car Department Employees moving cars with Brandt Trucks or Car Movers are governed by their own guidelines.</p>
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### 32.1.5: Securing Specialized Equipment

<p><b>32.1.5</b></p>	<p><b>Securing Specialized Equipment</b></p> <p><b>A. Roadrailer Equipment</b>  Roadrailer equipment is equipped with a spring-loaded parking brake (hand brake). The spring-loaded parking brake applies any time the brake cylinder pressure is lost. When this equipment is set out:</p> <ol style="list-style-type: none"> <li>1. Place the train in emergency.</li> <li>2. Inspect 20% of the equipment (not fewer than 10 units) to ensure the brakes are applied.</li> </ol> <p><b>B. Equipment with Multiple Hand Brakes</b>  When applying brakes on cars with multiple hand brakes, all hand brakes on car must be applied. When determining number of required hand brakes, each brake is considered one car.</p>
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### 32.1.6: Releasing Hand Brakes

<p><b>32.1.6</b></p> <p>Reference Rule  7.12  32.1.4</p>	<p><b>Releasing Hand Brakes</b></p> <p>To prevent wheel damage, release hand brakes before moving cars or locomotives.</p> <p><b>A. Release Hand Brakes Before Movement</b>  Release all hand brakes to prevent wheel damage except when required to:</p> <ul style="list-style-type: none"> <li>• Control slack.</li> <li>• Control speed while making gravity switch move.</li> <li>• Test hand brake.</li> </ul> <p>When releasing hand brakes, check <u>for slack and white paint showing on chain when equipped, and</u> at least three additional hand brakes beyond the last applied hand brake.</p> <p>If a hand brake is difficult to release:</p> <ul style="list-style-type: none"> <li>• Charge the air brake system.</li> <li>• Make a full service or emergency application.</li> <li>• Release the hand brake.</li> </ul> <p>If the hand brake cannot be released using the above method, do not move the car except to set it out. The car must be watched during the entire movement to set out, and limit speed to 5 MPH. Report defect to Mechanical Help Desk/Dispatcher.</p> <p><b>B. Controlling Slack</b>  Charge air brake system before releasing hand brakes. On ascending grade, do not release all hand brakes until it is known that slack is stretched.</p>
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# General Order

## Rule 32.1.6 Releasing Hand Brakes

Change second paragraph under part A to read:

When releasing hand brakes, check for slack and white paint showing on chain when equipped, and at least three additional hand brakes beyond the last applied hand brake.

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## 32.2: Securing Locomotives

### 32.2 Securing Locomotives

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### 32.2.1: Unattended Locomotive(s)

<p><b>32.2.1</b></p> <p><i>49 CFR 232.103</i></p> <p>Reference Rule 32.1.1 31.8.7</p>	<p><b>Unattended Locomotive(s)</b> When securing engine:</p> <ol style="list-style-type: none"> <li>1. Place throttle in idle.</li> <li>2. Place transition handle (if equipped) in OFF position.</li> <li>3. Place generator field switch in OFF position.</li> <li>4. Remove and leave reverser handle.</li> <li>5. Apply hand brakes on all locomotives.</li> <li>6. Comply with Rule 32.1 (Securing Equipment) unless locomotive(s) are coupled to previously tested equipment.</li> <li>7. Fully apply the independent brake.</li> <li>8. When engine is running, make a 20-psi brake pipe reduction after allowing the brake system to charge.</li> <li>9. Place headlight switch to OFF position unless required by rule to leave on dim.</li> <li>10. Place engine control switch to isolate or start on all locomotives.</li> <li>11. Close doors and windows.</li> <li>12. Perform the following steps from the DP screen on the lead controlling locomotive when linked DP is not separated from train:             <ul style="list-style-type: none"> <li>o Select ISOLATE and execute for each remote consist in the train. This will cut-out the brake valve on the isolated remote(s) and disable throttle commands to the remote(s).</li> <li>o When train is ready to proceed, remote(s) must be returned to NORMAL status from the DP screen before releasing the automatic brakes.</li> </ul> </li> <li>13. Perform the following steps from the DP screen on the lead controlling locomotive when linked DP consist is separated from train:             <ul style="list-style-type: none"> <li>o Comply with Rule 32.1 (Securing Equipment).</li> <li>o From the DP screen select SET OUT and execute.</li> <li>o Separate the train. Leave remote(s) in SET OUT until train is re-coupled.</li> <li>o After re-coupling, remote(s) must be returned to NORMAL status from the DP screen, and automatic brake must be in release before opening the angle cock on rear portion of the train.</li> </ul> </li> <li>14. When terminating a DP train:</li> </ol>
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- o From the SYSTEM screen select UNLINK and execute. Allow the brake system to vent at a service rate to 0-psi.
- o Select END DIST POWER and return to conventional operation before detaching the lead consist from the train.

**Exceptions:**

1. When on an unattended train, distributed power remote locomotives do not require hand brakes to be applied or engine control switch to be placed in ISOLATE when train is otherwise properly secured.
2. Distributed power remote consists may be left standing with all hand brakes applied at any location, even on the main track, for short durations when in the process of making up or disassembling a DP train.

At mechanical facilities, when locomotives are protected by outbound derails on designated servicing tracks, apply a sufficient number of hand brakes to prevent undesired movement, with a minimum of one per locomotive consist.

Additional securement guidelines for unattended locomotives not coupled to other equipment:

- Must not be left unattended on a main track. However, when necessary to switch a locomotive in a consist (reposition, wye, etc.), a properly secured locomotive may be left unattended if crew remains in the area performing the switch move.
- Must have all hand brakes applied. Release locomotive brakes to determine hand brakes will prevent movement. Fully apply independent brake and make a 20 psi automatic brake pipe reduction.

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### 32.2.2: Separating Locomotives

<b>32.2.2</b>	<p><b>Separating Locomotives</b></p> <p>When separating locomotives, do the following:</p> <ol style="list-style-type: none"> <li>1. Apply hand brakes on locomotives to be cut away from.</li> <li>2. Disconnect walkway safety chains.</li> <li>3. Disconnect MU cables.</li> <li>4. Plug the MU cables into a dummy receptacle.</li> <li>5. Close cutout and angle cocks.</li> <li>6. Cut-in and fully apply independent and automatic air brakes.</li> <li>7. Separate locomotives, allowing hose connections to pull apart with movement of locomotive.</li> <li>8. Attach air hoses to the dummy couplings or place them in the pockets.</li> </ol>
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## 32.3: Train Line

### 32.3 Train Line

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### 32.3.1: Undesired Emergency Resulting in Train Separation

32.3.1	<p><b>Undesired Emergency Resulting in Train Separation</b></p> <p>When train separation occurs:</p> <ol style="list-style-type: none"><li>1. Notify train dispatcher and Mechanical Help Desk.</li><li>2. Immediately secure detached portion(s) using Secondary Securement Procedure.</li><li>3. Close the angle cock on the rear of the cars still attached to the lead locomotive consist.</li><li>4. Recharge the air brake system.</li></ol> <p>Additional hand brakes may be required on low end:</p> <ul style="list-style-type: none"><li>• Before releasing air brakes when necessary to control slack or prevent movement while recharging.</li><li>• When necessary to work under or between equipment.</li><li>• To prevent movement while recharging.</li></ul>
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### 32.3.2: Coupling Brake Pipe Connections

32.3.2  Reference Rule 33.6.2	<p><b>Coupling Brake Pipe Connections</b></p> <p>Maintain brake pipe connections to enable the air brake system to function properly. Angle cocks must not be left partially closed or partially open. Before coupling air hoses to charge brake pipe:</p> <ol style="list-style-type: none"><li>1. Make a 20-psi brake pipe reduction. On a grade, if necessary to prevent an undesired release of the cars being coupled to, make a 40-psi brake pipe reduction.</li><li>2. Signal that the brake valve exhaust has stopped by sounding whistle signal 5.8.2, (2) (Sounding Whistle), or using the radio.</li><li>3. Couple the air hoses and open angle cocks slowly to prevent an emergency brake application.</li></ol> <p><b>Note:</b> Distributed power trains, in some cases, require a different procedure when coupling to rear portion of train. Refer to Rule 33.6.2.</p> <ol style="list-style-type: none"><li>4. When adjusting air hose height:<ul style="list-style-type: none"><li>o Couple the air hoses.</li><li>o Verify that the brake pipe hose support is adjusted so</li></ul></li></ol>
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that the glad hands are at least 4 inches above the top of the rail.

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### 32.3.3: Coupling to Opposite End of Cars

<b>32.3.3</b>  Reference Rule 32.1	<b>Coupling to Opposite End of Cars</b> When a locomotive will immediately run-around or couple to cars at the opposite end, first comply with the following: <ul style="list-style-type: none"><li>• Make a 20-psi brake pipe reduction before cutting away from cars.</li><li>• Allow air brake system to go into emergency.</li><li>• Wait one minute.</li><li>• Close angle cock on the standing portion of the train.</li></ul> Do not bottle air or maintain air pressure in the brake pipe when locomotives are detached or yard air is uncoupled.
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### 32.4: Inclement Weather

<b>32.4 Inclement Weather</b>
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#### 32.4.1: Required Air Brake Test During Inclement Weather

<b>32.4.1</b>  <i>49 CFR 232.107</i>	<b>Required Air Brake Test During Inclement Weather</b>  During inclement weather conditions that may cause snow or ice build up to occur between brake shoes and wheels, brake applications must be performed periodically to ensure proper braking effort is being provided.  To allow any accumulation of ice or snow to melt from brake shoes before braking is necessary, the engineer must make a brake pipe reduction sufficiently in advance of locations where train will be required to: <ul style="list-style-type: none"><li>• Reduce speed.</li><li>• Operate at Restricted Speed.</li><li>• Stop.</li></ul> or <ul style="list-style-type: none"><li>• Before cresting grade.</li></ul> If brakes do not provide sufficient braking effort, stop train immediately
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using an emergency brake application, if necessary. Train must not proceed except as instructed by proper authority.

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## 32.5: Overcharge

### 32.5 Overcharge

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### 32.5.1: Reducing Pressure in Overcharged Train Brake Systems

32.5.1	<b>Reducing Pressure in Overcharged Train Brake Systems</b>  To reduce pressure in an overcharged train brake system, do the following:  <ol style="list-style-type: none"><li>1. Adjust the regulating valve to the required pressure.</li><li>2. Make a full service brake pipe reduction.</li><li>3. Wait at least 30 seconds after the brake pipe exhaust stops. Move the automatic brake handle to release, and charge the system to the required pressure.</li><li>4. An emergency application may be made to correct the condition.</li></ol>
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## 32.6: Flat Spots

### 32.6 Flat Spots

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### 32.6.1: Reporting Flat Spots

32.6.1  <i>49 CFR 215.103 229.75</i>	<b>Reporting Flat Spots</b>  While inspecting car and locomotive wheels, measure and report flat wheels to proper authority and Mechanical Help Desk when length of flat area exceeds 1 inch.  If wheel has a flat spot more than 2-1/2 inches long or wheel has adjoining flat spots that are each at least 2 inches long, the equipment must not be moved faster than 10 MPH and set out at first available point.
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## 32.7: Air Brake Operation

### 32.7 Air Brake Operation

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### 32.7.1: Air Brakes Not Operating Properly

<b>32.7.1</b>  Reference Rule 30.7.1	<b>Air Brakes Not Operating Properly</b> If the train air brake system is not operating properly, stop the train immediately and:  <ol style="list-style-type: none"><li>1. Inspect the air brakes to identify and correct the problem.</li><li>2. Before proceeding, conduct an Application and Release test.</li></ol>
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### 32.7.2: Sticking Brakes

<b>32.7.2</b>  Reference Rule 30.2.2	<b>Sticking Brakes</b>  To minimize the possibility of sticking brakes, comply with the following:  <ol style="list-style-type: none"><li>1. To prevent overcharge, when cars are placed on rear portion of a train, the engineer handling the rear portion must make a full service brake application before angle cocks are opened.</li><li>2. When a running release of train brakes is to be made and operating conditions permit, increase the brake pipe reduction to at least 10-psi and allow brake pipe exhaust to stop before releasing brakes.</li></ol> When brakes do not properly release:  <ol style="list-style-type: none"><li>1. Stop the train as soon as possible.</li><li>2. Determine why the brake(s) did not release and correct if possible.</li><li>3. Inspect for:<ul style="list-style-type: none"><li>o Hand brakes applied.</li><li>o Retaining valve not in EXHAUST.</li><li>o Leak in the air brake system.</li><li>o Defective control valve.</li></ul></li><li>4. Inspect car before departing for wheel defects, and set out car if necessary.</li></ol> If air brake devices are cut-out enroute, notify train dispatcher and Mechanical Help Desk.
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### 32.7.3: Procedure to Cut-Out Control Valve and/or Bleeding Off Car

<b>32.7.3</b>	<p><b>Procedure to Cut-Out Control Valve and/or Bleeding Off Car</b></p> <p>Cut-out control valves on defective cars as follows:</p> <ol style="list-style-type: none"><li>1. Close the branch pipe cutout cock.</li><li>2. When cutting out a control valve, drain the air reservoirs completely by operating the brake cylinder release valve.</li></ol> <p>Bleed off cars only when:</p> <ul style="list-style-type: none"><li>• Repairing the brake system on a car.</li><li>• Cutting out the brakes on a defective car.</li><li>• Switching.</li></ul>
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### 32.7.4: Placement of Cars with Cut-Out Air Brake Equipment

<b>32.7.4</b>  <i>49 CFR 232.15</i>	<p><b>Placement of Cars with Cut-Out Air Brake Equipment</b></p> <p>Follow these requirements when air brake devices must be cut-out:</p> <ul style="list-style-type: none"><li>• Make sure no more than two consecutive air brake devices have been cut-out in a train.</li><li>• If necessary to cut-out a third consecutive air brake device, separate it from the other two cars with cut-out brakes by at least one car with operative brakes.</li><li>• If one air brake device/control valve is cut-out on a car with multiple control valves, consider the remaining brakes on that car to be operative.</li></ul> <p><b>Rear Car Brakes</b></p> <p>The rear car of a train must have operative air brakes. If rear car air brakes become defective enroute, set car out at first available location or reposition car in train.</p> <p><b>Note:</b> If the brake pipe on the disabled car is broken, the car with a broken brake pipe must be handled to set out location with brake pipe pressure in air hoses between the car ahead and the disabled car.</p>
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### 32.8: Setting Out Cars

## 32.8 Setting Out Cars

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### 32.8.1: Setting Out Defective Cars

<b>32.8.1</b>	<b>Setting Out Defective Cars</b>
<i>49 CFR 232.215</i>	Set out a defective car whenever it cannot be safely moved to the next repair location. When defective car must be set out, do the following: <ol style="list-style-type: none"><li>1. Report to the train dispatcher and Mechanical Help Desk.</li><li>2. Set out where repair crew can access car.</li><li>3. If an overheated wheel or journal is involved, inspect the car for signs of fire before departing.</li></ol>
	The defective car must be properly tagged.

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### 32.9: Telemetry

## 32.9 Telemetry

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### 32.9.1: Emergency Application Capability from Rear of Train

<b>32.9.1</b>	<b>Emergency Application Capability from Rear of Train</b>
<i>49 CFR 232.407</i>	<b>A. Requirements</b>
Reference Rule 31.8.3	Trains must be operated with the ability to place the train in emergency from the rear. The following trains are exempt from the requirement of this rule: <ul style="list-style-type: none"><li>• Passenger and Commuter Trains.</li><li>• Light engine consist with 8 or fewer units.</li><li>• Locals, road switchers, and work trains that do not operate on mountain grades.</li><li>• Trains that do not exceed 30 MPH and do not operate in heavy grade or mountain grade territory.</li></ul>
	In the application of this rule, locals, road switchers, and work trains are defined as a train that does not exceed 4,000 trailing tons and travels over a distance that can normally be operated by a single crew in a single tour of duty.

## B. Providing Emergency Application Capability from Rear of Train

Any one of the following methods fulfills the requirement to provide emergency application capability from the rear of the train:

- An operable, two-way, end-of-train telemetry system (HEU/EOT), which must be armed and tested at point of installation.
- Distributed power placed on rear of train.
- Trains with a manned helper, caboose/shoving platform or passenger equipment at the rear of train equipped with an emergency brake valve and manned by an employee equipped with two-way radio communication with the engineer at head end of train.

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## 32.9.2: Installation

<p><b>32.9.2</b></p> <p><i>49 CFR 232.409</i></p>	<p><b>Installation</b></p> <p>End-of-train device must have been calibrated within the last 368 days. Check the affixed stickers prior to installation.</p> <p><b>Exception:</b> Calibration is not required on the Wabtec EOT with the sticker reading, "This unit is equipped with a Wabtec synthesized radio that complies with FRA-2004-18895."</p> <p>After entering the EOT number on the HEU of the locomotive, push the COMM TEST button to establish one-way communication with the EOT.</p> <p>After charging the train, the EOT pressure reading displayed in the locomotive HEU must be compared with that on the rear-end unit. The EOT device shall not be used if the difference between the two readings exceeds three pounds.</p>
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## 32.9.3: Arming HEU/EOT



<p><b>32.9.3</b></p> <p>49 CFR 232.409</p>	<p><b>Arming HEU/EOT</b></p> <p>To arm the HEU:</p> <ol style="list-style-type: none"> <li>1. Press the TEST button on the EOT, which will display the ARM NOW message on the HEU.</li> <li>2. Immediately press the COMMUNICATIONS TEST/ARM button on the HEU, which will display the ARMD message and light the EMERG ENABLED status LED at the same time.</li> </ol> <p>If NOT ARMD appears on the HEU, the system did not accept the arming sequence. Repeat steps above. Some foreign HEU/EOT systems are self-arming when telemetry is established and may be so indicated by a "*" displayed on the HEU.</p>
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### 32.9.4: Testing HEU/EOT

<p><b>32.9.4</b></p> <p>49 CFR 232.407 232.409</p>	<p><b>Testing HEU/EOT</b></p> <p>To test the emergency application capability from the rear of the train, do the following:</p> <ol style="list-style-type: none"> <li>1. Close the angle cock ahead of the last car.</li> <li>2. Initiate an EOT emergency from the lead locomotive HEU. The brake pipe pressure on the EOT must reduce to 0-psi.</li> <li>3. Open the angle cock and determine that brake pipe pressure is restored before proceeding.</li> </ol> <p><b>A. Establishing Communications</b> If the End of Train Telemetry System is unable to establish communications at the installation point, train may be moved a maximum of one mile at Restricted Speed in an attempt to establish communications.</p> <p><b>B. Engineer Notification</b> When the test of the emergency application capability from the rear is conducted, the engineer must be notified verbally or in writing that the test was successfully performed. If verbal notification is made, the train crew must record this notification on Air Brake Test form.</p> <p>The written notification must include the following:</p> <ul style="list-style-type: none"> <li>• Date and Time of test.</li> <li>• Location of test.</li> <li>• Name of employee conducting test.</li> </ul> <p>Written notification must be maintained in the cab of the controlling locomotive.</p>
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## 32.9.5: Emergency Switch

<p><b>32.9.5</b></p> <p>49 CFR 232.409</p>	<p><b>Emergency Switch</b></p> <p>Once a system is properly armed, an emergency brake application can be made at any time. To initiate an emergency brake application at the end of the train:</p> <ol style="list-style-type: none"><li>1. Lift the red cover of the EMERGENCY SWITCH.</li><li>2. Push the toggle switch up.</li><li>3. Verify that:<ol style="list-style-type: none"><li>1. The EMERGENCY message briefly appears in the message display window.</li><li>2. The brake pipe pressure reading quickly drops to 0-psi.</li><li>3. The LOW PRES message is displayed while the last car pressure is below 45-psi.</li></ol></li></ol>
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## 32.9.6: Loss of Emergency Application Capability from Rear of Train

<p><b>32.9.6</b></p> <p>49 CFR 232.407</p> <p>Reference Rule Glossary</p>	<p><b>Loss of Emergency Application Capability from Rear of Train</b></p> <p>Trains required to be equipped with rear-of-train emergency capability are considered to have an enroute failure when any one of the following conditions occurs:</p> <ul style="list-style-type: none"><li>• EOT/HEU indicates:<ul style="list-style-type: none"><li>◦ Loss of front to rear communication. Message = FR NOCOM or NOCOM.</li><li>◦ Emergency valve not enabled. Message = NOT ARMD and/or "Emergency Enabled" indicator NOT illuminated.</li><li>◦ Emergency valve failure or EOT valve failure. Message = VALVFAIL.</li></ul></li><li>• Loss of communication exceeding 16 minutes 30 seconds as indicated by control console for distributed power locomotive on lead controlling locomotive at head end of train.</li><li>• A loss of voice radio communication between a manned helper, caboose, or passenger equipment at the rear of the train and the lead controlling locomotive.</li></ul> <p>When an enroute failure occurs:</p> <ul style="list-style-type: none"><li>• On other than mountain grades:<ul style="list-style-type: none"><li>◦ Train must not exceed 30 MPH.</li><li>◦ Notify dispatcher.</li></ul></li><li>• On mountain grades:<ul style="list-style-type: none"><li>◦ Train must not proceed until failure corrected.</li></ul></li></ul> <p style="text-align: center;">or</p> <ul style="list-style-type: none"><li>◦ Another method of compliance is used.</li></ul> <p>When communication is lost on mountain grade, a train may:</p> <ul style="list-style-type: none"><li>• Move a train length to attempt to reestablish communication or sufficient distance to clear obstruction.</li><li>• Move train in sections due to enroute failure.</li></ul>
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- Continue during a loss of radio communication between the employee at rear of train, provided train does not exceed 5 MPH above maximum authorized speed.

In the event of an emergency, use the emergency toggle switch to initiate emergency application, even if NO COM condition exists.

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## 32.9.7: Disarming HEU/EOT

<b>32.9.7</b>	<p><b>Disarming HEU/EOT</b></p> <p>When a two-way EOT armed to a HEU are to be separated or when changing either an EOT or HEU enroute, the HEU must be disarmed as outlined below:</p> <ol style="list-style-type: none"><li>1. Set the HEU ID code to 00000, or follow the disarm procedures on the electronic display.</li><li>2. Press the COMMUNICATIONS TEST/ARM button.</li><li>3. Verify that the HEU displays EMERG DISABLED.</li></ol> <p>GE locomotives with screens displaying "Armed Other" indicate the HEU was not disarmed from the last two-way EOT utilized. This condition can be corrected by either of two methods:</p> <ul style="list-style-type: none"><li>• Enter the EOT number of the last EOT, and disarm as prompted by the EOT screen display.</li></ul> <p>or</p> <ul style="list-style-type: none"><li>• If last EOT identifying number is not known, HEU may be disarmed by arming the EOT by entering a valid EOT number. Push test button on EOT, then depress "Arm Now" button that will briefly appear in the lower right corner of the EOT screen.</li></ul>
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## 32.10: Unusual Conditions

<b>32.10 Unusual Conditions</b>
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### 32.10.1: Unusual Air Brake Conditions

**32.10.1**

**Unusual Air Brake Conditions**

Follow this process when unusual air brake conditions exist:

1. Train must be stopped, secured, and inspected.
2. Notify the Dispatcher/Mechanical Help Desk.
3. The Dispatcher must then notify the appropriate operating manager for the territory.
4. Manager assisting crew will determine if the train can be moved safely or if it must be held for inspection.

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Updated: 1/25/2012

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### 33.0: Distributed Power and Manned Helper Requirements

33.0 Distributed Power and Manned Helper Requirements
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### 33.1: Distributed Power Requirements

## 33.1 Distributed Power Requirements

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### 33.1.1: Employee Familiarization

33.1.1	<b>Employee Familiarization</b> Employees who set-up or operate distributed power equipment must comply with the requirements and instructions for the type of system they will operate.
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### 33.1.2: Brake Pipe Communication Test (BP Test)

33.1.2  Reference Rule 33.8.1 33.8.2	<b>Brake Pipe Communication Test (BP Test)</b> A brake pipe communication test is required when a distributed power train: <ul style="list-style-type: none"><li>• Is originally made up following radio link.</li><li>• Any time cars are added between the head consist and any remote consist.</li></ul>
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### 33.1.3: DP Radio Communication Interruption

33.1.3  Reference Rule 6.23	<b>DP Radio Communication Interruption</b> During a radio communication interruption, keep the train moving, if possible, to a location where communication is restored. <ol style="list-style-type: none"><li>1. <b>If communication is interrupted:</b><ul style="list-style-type: none"><li>○ When brake valve is cut-in on remote(s), the last throttle and brake pipe pressure will be maintained for up to 90 minutes.</li><li>○ If brake valve on remote(s) is cut-out (BV Out), remote locomotives in power will return to idle.</li></ul></li><li>2. <b>When necessary to idle the remote during communication interruption, make a full service brake pipe reduction to signal the affected remote(s) to return to idle. In addition:</b><ul style="list-style-type: none"><li>○ Brake valve on remote(s) will automatically cut-out.</li><li>○ Dynamic brake on remote(s) will be maintained at last command until communication is restored.</li><li>○ If necessary to idle dynamic brake, stop and then place train in emergency.</li></ul></li><li>3. <b>Recovering from Emergency During Communication Interruption</b></li></ol>
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After required train inspection and air flow is at or below 60 CFM on the lead consist, train may be moved to a location where communication may be restored. Remote locomotive brakes will respond to normal changes in brake pipe pressure, similar to a freight car.

#### 4. **Communication Restored**

When communication is restored, the remote locomotive automatic brake valve will be cut-out. The operator must normalize the controlling remote(s) to return to standard DP operations.

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## **33.2: Remote Consist Unlinked/Shutdown**

### **33.2 Remote Consist Unlinked/Shutdown**

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### **33.2.1: Setting Out Remote Locomotive**

#### **33.2.1**

#### **Setting Out Remote Locomotive**

Set out the remote locomotive or move to the head end of train as directed by dispatcher or proper authority if:

- Remote consist is unlinked.
- Controlling remote is shut down due to enroute failure.

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## **33.3: Changing from Independent to Synchronous Mode**

### **33.3 Changing from Independent to Synchronous Mode**

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### **33.3.1: Operating DP Consist in Independent Mode**

33.3.1	<p><b>Operating DP Consist in Independent Mode</b></p> <p>When operating distributed power consists in independent mode, do not place consists in synchronous mode until all consists are in the same throttle setting unless cresting a grade using multiple remote consists.</p>
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## 33.4: Rear Remote Limitation

33.4 Rear Remote Limitation
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### 33.4.1: Maximum Locomotives

#### A. Short Time Rating

<p>33.4.1</p> <p>Reference Rule SSI Item 5-B / 5-C</p>	<p><b>Maximum Locomotives</b></p> <p>A distributed power consist on the rear of a train is limited to no more than two locomotives. However, when necessary to assist distributed power trains with manned helper operations, additional locomotives may be placed on the rear of the train; powered axle limits must not be exceeded.</p>
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## 33.5: Descending Grade

33.5 Descending Grade
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### 33.5.1: Distributed Power, Descending Grade Exceeding 1.8%

33.5.1	<p><b>Distributed Power, Descending Grade Exceeding 1.8%</b></p> <p>When operating distributed power trains with lead consist in dynamic brake and helper(s) in power, do not exceed throttle position 4 on helper consist (s).</p>
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## 33.6: Manned Helper Requirements

### 33.6 Manned Helper Requirements

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### 33.6.1: Operating Responsibilities with Manned Helper

<p><b>33.6.1</b></p> <p><i>49 CFR 232.219</i></p>	<p><b>Operating Responsibilities with Manned Helper</b> Comply with these helper operating responsibilities:</p> <ul style="list-style-type: none"><li>• The engineer in the lead locomotive is in charge of train movement. Helper engineer must follow lead engineer instructions regarding train handling and other operating responsibilities.</li><li>• Helper locomotive engineers must closely observe brake pipe gauge in order to appropriately react to either a service or emergency brake pipe reduction and control locomotive brakes as necessary.</li><li>• Engineers must comply with site-specific instructions regarding trains operating with helper(s) when applicable.</li></ul>
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### 33.6.2: Adding Manned Helper Mid-train or Rear of Train

<p><b>33.6.2</b></p> <p><i>49 CFR 232.219</i></p> <p>Reference Rule 30.7.1</p>	<p><b>Adding Manned Helper Mid-train or Rear of Train</b></p> <p><b>Procedure for Adding Mid-train or Rear Helper:</b></p> <ol style="list-style-type: none"><li>1. When a helper is entrained or coupled at rear of train, before the angle cocks are opened, the engineer on the helper must:<ol style="list-style-type: none"><li>1. Make a 20-psi brake pipe reduction.</li><li>2. Cut-out the automatic brake valve and place the handle in Handle Off position.</li><li>3. Leave the independent brake valve cut-in.</li><li>4. Couple the brake pipe hoses. Open the brake pipe angle cock on manned locomotive first, and then open angle cock on car or engine.</li></ol></li><li>2. After the helper is placed in the train or coupled at the rear of the train, the engineer of the leading locomotive must:<ol style="list-style-type: none"><li>1. Increase the brake pipe reduction to 20-psi. Observe at least a 5-psi brake pipe reduction at the rear of train as indicated by gauge or device.</li><li>2. Release the train brakes and determine that there is at least a 5-psi brake pipe increase at rear of train as</li></ol></li></ol>
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indicated by gauge or device.

On DP trains, do not select set out, BV out, or isolate. Leave remote(s) in normal status.

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### 33.6.3: Removing a Mid-train Helper

<p><b>33.6.3</b></p> <p><i>49 CFR 232.211</i></p> <p>Reference Rule 30.7.1 30.10.1</p>	<p><b>Removing a Mid-train Helper</b></p> <p>After a mid-train helper is removed, an Application and Release Test is required. An Application and Release Test is not required when removing manned helpers from the rear of the train.</p>
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### 33.6.4: Manned Helper Added to Head End of Non DP Train

<p><b>33.6.4</b></p> <p><i>49 CFR 232.219</i></p>	<p><b>Manned Helper Added to Head End of Non DP Train</b></p> <p>When a helper is coupled on the head end of the train, transfer control of the air brakes and throttle to the helper as follows:</p> <ol style="list-style-type: none"><li>1. After coupling, connect the MU cable and brake pipe between consists.</li><li>2. Before opening angle cocks between the road locomotive and the helper, the engineer on the road locomotive will:<ol style="list-style-type: none"><li>1. Make at least a 6-psi brake pipe reduction.</li><li>2. After the brake pipe exhaust has ceased, cut-out the automatic brake valve and place handle in Handle Off position.</li><li>3. Notify the engineer on the manned helper of the amount of brake pipe pressure reduction made.</li><li>4. The independent brake valve must be left cut-in.</li></ol></li><li>3. The engineer on helper will:<ol style="list-style-type: none"><li>1. Move the automatic brake valve handle into the service zone to reduce the equalizing reservoir pressure 2-psi below the brake pipe pressure reduction made by the engineer on the road locomotive.</li><li>2. After opening the angle cock, increase brake pipe reduction to at least 20-psi, and observe at least a 5-psi reduction as indicated by gauge or device at the rear of train.</li><li>3. Release the automatic air brakes and observe a 5-psi</li></ol></li></ol>
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increase in pressure as indicated by a gauge or device at rear of train.

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### 33.6.5: Manned Helper Removed from Head End of Tra

<p><b>33.6.5</b></p> <p><i>49 CFR 232.219</i></p>	<p><b>Manned Helper Removed from Head End of Train</b></p> <p>When helper will be detached from the head end of train, do the following:</p> <ul style="list-style-type: none"><li>• Engineer on helper will make at least a 6-psi brake pipe reduction before detaching.</li><li>• After cutting off helper, road engineer will:<ol style="list-style-type: none"><li>1. Move the automatic brake valve handle to the release position to recover the equalizing reservoir pressure.</li><li>2. Move the automatic brake valve into the service zone to reduce the equalizing reservoir pressure 2-psi below the brake pipe pressure reduction made by the helper locomotive engineer.</li><li>3. Cut-in the automatic brake.</li><li>4. Increase the brake pipe reduction to 20-psi and observe at least a 5-psi reduction as indicated by a gauge or device at the rear of the train.</li><li>5. Release the automatic air brakes and observe that brake pipe pressure is being restored by observing a 5-psi increase as indicated by a gauge or device at the rear of the train.</li></ol></li></ul>
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### 33.6.6: Transferring Control of Train Brakes

### 33.6.6

#### Transferring Control of Train Brakes

Transfer control of the train air brakes to other entrained locomotive as follows:

Original controlling locomotive:

1. With the train air brakes applied and the brake pipe pressure equalized, cut-out the automatic brake valve.
2. If detaching the locomotive, do not close the angle cocks until transfer of the air brakes has been completed.

New controlling locomotive:

1. If not previously coupled to train, reduce the equalizing pressure 20-psi, and then cut-out the automatic brake valve before opening angle cocks between locomotive and cars. Open the brake pipe angle cock on the locomotive first, and then slowly open the brake pipe angle cock on the car.
2. Move the automatic brake valve handle to the release position to recover the equalizing reservoir pressure.
3. Move the automatic brake valve handle into the service zone until the equalizing reservoir pressure is slightly below brake pipe pressure.
4. Cut-in the automatic brake valve.
5. Immediately reduce brake pipe pressure to not less than a 20-psi reduction.

**Note:** The train must be secured before transferring train air brakes unless both the original and new controlling locomotives are occupied by qualified train service engineers.

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## 33.7: Process for Set-up and Linking Locomotives for DP Service

### 33.7 Process for Set-up and Linking Locomotives for DP Service

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#### 33.7.1: Conventional Set-up

33.7.1	<p><b>Conventional Set-up</b></p> <p>When DP consist has not been previously tested and inspected by mechanical forces for distributed power service, the following tasks must be performed:</p> <ul style="list-style-type: none"> <li>• Each consist must be set-up as an individual conventional consist. Each consist must be properly set-up, air tested, and loading.</li> <li>• Set equalizing reservoir pressure on controlling locomotives to 90-psi.</li> <li>• Clear any air brake computer faults.</li> <li>• Connect brake pipe only between consists.</li> <li>• Controlling locomotive of each consist must be running during set-up. Override auto stop if necessary.</li> </ul>
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### 33.7.2: Display Screen and Remote Set-up

33.7.2	<p><b>Display Screen and Remote Set-up</b></p> <p><b>1. Display Screen Set-up</b></p> <p>The standard method of screen set-up is that the primary screen displays gauges, speed indicator and DP main menu; the secondary screen displays a full-size DP control screen:</p> <ul style="list-style-type: none"> <li>• <u>C45ACCTE &amp; SD70ACe</u>: The default setting is the primary screen on right display only. The screen controls key may be used to modify the default setting, if desired.</li> <li>• <u>C44ACCTE w/IDP</u>: The screen selected by the user to access the initial DP set-up menu defaults as the primary screen. After linking, press the DIST PWR key to access the DP control screen on the secondary display.</li> <li>• <u>SD9043AC</u>: Functions the same as C44ACCTE; the screen display selector switch must be set to "both."</li> <li>• To view the DP Control screen and gauges on a single screen, press DP combined/DP operation key from DP main menu on primary screen.</li> </ul> <p><b>B.Set-up – Distributed Power Remote</b></p> <p>Use the following sequence to set-up remote DP consist(s):</p> <ol style="list-style-type: none"> <li>1. Start from the rear consist first and work forward.</li> <li>2. Set independent brake to lead and fully apply.</li> <li>3. Cut-in automatic brake and release.</li> <li>4. Remove reverser handle.</li> <li>5. Place generator field switch to off.</li> <li>6. Place dynamic brake, control, and fuel pump switches to on.</li> <li>7. Position locomotive isolation switch to run.</li> </ol>
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8. Turn on DP circuit breaker(s) on back wall. (May be labeled as Data Radio) *No breaker on SD70ACe.*
9. Zero out EOT setting. (May require entering 00001).
10. Cut-out Cab Signals using switches in screen. Cab Signal circuit breaker (back wall), must remain on.
11. On engineer's primary display screen, press DIST POWER soft key, then press REMOTE SET UP.
12. Enter LEAD unit number using soft keys.
13. Press the same/opposite direction soft key to set the direction that this locomotive is facing compared to the lead locomotive.  
**Caution: Do not bypass this step.**
14. Press the DONE or ACCEPT soft key.
15. Place automatic brake to handle off and independent brake to release. Insert keeper pin in automatic brake handle if equipped.
16. Place trailing headlight on dim if rear locomotive.
17. Pull in mirrors and close windows/doors.
18. Lock the engineer's seat so it does not swivel.
19. Release the hand brakes on all locomotives in the remote consist.

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### 33.7.3: Set-up – Distributed Power Lead

#### 33.7.3

#### Set-up – Distributed Power Lead

Use the following sequence to set-up lead DP consist:

1. Set the independent brake to lead and fully applied.
2. Set the automatic brake to cut-in and release.
3. Turn on DP circuit breaker(s) on the back wall. (May be labeled as Data Radio) *No breaker on SD70ACe.*
4. Position the isolation switch on back wall to Run.
5. On the engineer's primary screen, press the DIST POWER soft key, then press the LEAD SET UP key.
6. Enter controlling REMOTE unit number.
7. Press the LINK soft key. System will display "Linked OK" when radio communication is established.
8. System will prompt to enter another controlling remote unit. Enter if train has additional remote consist(s).
9. Press the DONE or ACCEPT key when finished.
10. Select FTE (Full Tractive Effort) or CTE (Controlled Tractive Effort) as applicable and EXECUTE.
11. Follow on-screen prompts to recover air. Do not attempt release until "Go to Release" is displayed.
12. Press DIST POWER key on Secondary screen to activate DP Control screen.
13. DP Control screen will indicate flow on each consist. When flow displays less than 20 CFM on all consists or stabilized, press BP TEST key and EXECUTE from System Menu on Primary screen.
14. Apply minimum service when prompted.
15. System will display "BP Test OK" when complete.
16. If test fails, release air, recharge train, and attempt test again. Most BP Test failures are due to air flow not being fully stabilized.
17. Select the LEAKAGE key and EXECUTE from the System Screen on

- Primary Display to perform Automated Leakage Test.
18. From the DP main menu on the primary display, select the MODE key, and press RUN and Execute.

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## 33.8: Procedures for Distributed Power Operation

### 33.8 Procedures for Distributed Power Operation

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#### 33.8.1: Distributed Power Brake Pipe Communication Test (BP TEST)

33.8.1	<p><b>Distributed Power Brake Pipe Communication Test (BP TEST)</b></p> <p>The following procedure is required any time cars are added between the lead consist and any remote consist:</p> <ol style="list-style-type: none"><li>1. The DP Control screen will indicate flow on each consist. When the flow displays less than 20 CFM on all consists <u>or</u> the flow has remained stable for 90 seconds, press BP TEST key and EXECUTE from System Menu on the Primary screen.</li><li>2. Apply Minimum Service when prompted.</li><li>3. System will display "BP Test OK" when complete.<ul style="list-style-type: none"><li>o If the test fails, recharge the train and re-test. Most BP Test failures are due to air flow not being fully stabilized.</li><li>o If the test fails after three attempts, inspect the train for excessive leakage or improperly positioned angle cock(s) before retesting.</li></ul></li></ol>
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#### 33.8.2: Distributed Power Automated Leakage Test

**33.8.2****Distributed Power Automated Leakage Test**

The following procedure is required when performing a brake pipe leakage test.

1. On the primary screen, press the system key, then the LEAKAGE key and EXECUTE.
2. The system will automatically make a 20-psi brake pipe reduction, cut-out brake valves on all consists, and calculate brake pipe leakage.
3. Follow the screen prompt when "Apply Full Service Reduction to End Test" is displayed.
4. The primary screen will display the amount of leakage when test is complete. The leakage test may take up to 5 minutes.
5. Release the automatic air brakes when prompted. This will cut-in brake valves.
  - o If the train is ready for immediate departure, train check is not required.
6. On primary screen, from DP main menu, select MODE, press RUN key and EXECUTE.

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**33.8.3: Set-out Function****33.8.3****Set-out Function**

Use set-out function when trainline is separated between lead consist and remote, including train separation. If train is in emergency, comply with step 1 before recovering the air.

Reference Rule  
32.7.2  
34.4

Make a 20-psi reduction and allow brake pipe to exhaust, then:

1. On the Secondary Display, press the REMOTE key, then press the SET OUT key and EXECUTE. The selected remote is highlighted on display. Repeat the process if more than one remote consist is set out.
2. Verify "Set Out" appears on the remote status.
3. Separate train. A red PCS indication should begin flashing above the remote display upon separation.
4. Make switching moves as needed, and re-couple to train when finished. Do not open the angle cock.
5. On the Remote Screen on Secondary Display, press the NORMAL key and EXECUTE.
6. Verify that the remote status on display changes from "Set Out" to "Normal."
7. The automatic brake must be released before angle cock is opened or train will go into emergency.
8. Slowly open the angle cock to rear portion of train. Brake valve (BV) will cut-in on remote when a brake pipe pressure increase is sensed.



## 33.8.4: Train Check

<b>33.8.4</b>  Reference Rule 34.4	<b>Train Check</b>  Perform a train check when a DP train is stopped:  <ol style="list-style-type: none"><li>1. A BP reduction of at least 10-psi must be in effect before the TRAIN CHECK key will display. On the Primary screen from the DP Main menu, select SYSTEM, then press TRAIN CHECK and EXECUTE.</li><li>2. Release the brakes when ready to depart. "Train Check OK" message should display in less than one minute.</li></ol> If the "Train Check Fail" message is displayed, comply with one of the following:  <ul style="list-style-type: none"><li>• Repeat Train Check with brake pipe reduction greater than 10-psi.</li><li>• Perform a manual train check by selecting BV OUT on Remote Screen, then select NORMAL and EXECUTE. Then release the automatic reduction. If the remote BV cuts in, this satisfies the Train Check requirement.</li><li>• If the test fails three times, inspect the train for closed angle cock (s).</li></ul> Note: Train Check is not required when exceptions contained in Rule 34.4 apply.
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### 34.0: Train Handling

34.0 Train Handling
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## 34.1: Train Handling Responsibilities

<b>34.1</b>	<p><b>Train Handling Responsibilities</b></p> <p>Crew members must exercise judgment and plan ahead to operate their train safely and efficiently. The engineer is responsible for properly controlling the slack in the train. Good train handling requires the proper combination of communication, throttle modulation, dynamic braking, and air braking to:</p> <ul style="list-style-type: none"><li>• Prevent injury.</li><li>• Prevent damage to the track structure, equipment and lading.</li><li>• Use the most fuel-efficient method consistent with good train handling.</li></ul> <p>Controlling and limiting in-train forces are essential to safe train operation. Unless an emergency or other condition requires immediate speed reduction, make:</p> <ul style="list-style-type: none"><li>• Throttle position changes one notch at a time.</li><li>• Dynamic brake changes gradually.</li><li>• Air brake applications to allow slack to adjust.</li></ul>
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## 34.2: Train Handling Guidelines

<b>34.2</b>  <i>49 CFR 232.109</i>	<p><b>Train Handling Guidelines</b></p> <p>Train handling guidelines for starting, stopping, slowing, and controlling trains as well as unplanned stops.</p>
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### 34.2.1: Starting/Accelerating Train

**34.2.1****Starting/Accelerating Train**

1. **On level and ascending grade:**
  - Advance the throttle to a position sufficient to hold the train when necessary.
  - Release the automatic brake.
  - Use the lowest throttle position possible to start the train. It may be necessary to retard starting acceleration by use of the independent brake.
  - Allow the locomotive load meter to stabilize before advancing the throttle to the next higher position.
  - Once the train is moving, do not increase the throttle until the locomotive load meter stabilizes.
  - To accelerate, advance the throttle slowly, one notch at a time to avoid excessive draft forces.
  - In curved territory, use only enough power to start the train to reduce the possibility of string-lining in curves because of excessive lateral forces.
  - If the train will not start, reapply brakes, reduce throttle to idle, and determine the cause. Applying power on a standing DC locomotive longer than necessary will damage traction motors.
2. **On descending grade:**
  1. With the independent brake fully applied, activate the dynamic brake.
  2. Release the automatic brake and wait for all brakes to release and slack to adjust. On heavy descending grades the automatic brakes may remain applied.
  3. Gradually reduce the independent brake until the train begins to move.
  4. Release the independent brake as the dynamic brake becomes effective.
  5. Adjust dynamic brake to allow train to accelerate.

[^Top](#)**34.2.2: Slowing or Controlling Speed****34.2.2****Slowing or Controlling Speed**

When slowing or controlling train speed, the following methods should be utilized (listed in preferred order for best fuel efficiency):

1. Throttle modulation/drifted when conditions allow.
2. Dynamic braking.
3. Dynamic braking supplemented with train air brakes.
4. Stretch braking.

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### 34.2.3: Slowing/Controlling Speed on Level or Descending Grade, with Dynamic Brakes, Slack Bunched

<b>34.2.3</b>	<p><b>Slowing/Controlling Speed on Level or Descending Grade, with Dynamic Brakes, Slack Bunched</b></p> <p>When slowing or controlling speed on level or descending grade with dynamic brakes and slack bunched do the following:</p> <ol style="list-style-type: none"><li>1. If in power, gradually reduce the throttle to idle.</li><li>2. To avoid excessive buff forces, activate the dynamic brake and gradually bunch the slack.</li><li>3. Increase braking to the desired level.</li><li>4. If necessary to control speed, make a minimum brake pipe reduction and further split reduction(s) as needed.</li><li>5. When the speed is controlled and the automatic brake is released, maintain enough dynamic braking to keep the slack bunched until the brakes release throughout the train.</li></ol>
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### 34.2.4: Stretch Braking

<b>34.2.4</b>  Reference Rule 34.5.1	<p><b>Stretch Braking</b></p> <p>Stretch braking is permitted only where more fuel efficient methods will not provide the necessary control of slack and/or train speed. Stretch braking above throttle position 6 is prohibited.</p> <p>When it becomes necessary to apply the train brakes while in power, ensure that locomotive brakes do not apply and observe the following:</p> <ol style="list-style-type: none"><li>1. Make the desired throttle adjustment sufficiently in advance to allow the slack to adjust.</li><li>2. After the slack has adjusted, make a minimum brake pipe reduction.</li><li>3. Reduce the throttle when tractive effort increases from the effect of the brake pipe reduction. If a portion of the train is on a grade, the drawbar force may increase rapidly, requiring further throttle reduction(s).</li><li>4. Make additional brake pipe reductions as necessary.</li></ol> <p>If the entire train is on a descending grade and the train brakes must remain applied, it is permissible to use limited power to control train speed. Do not exceed throttle position 4, reducing throttle as necessary to prevent excessive tractive effort.</p>
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## 34.2.5: Ascending Grade

34.2.5	<p><b>Ascending Grade</b></p> <p>When slowing or controlling speed on an ascending grade, do the following:</p> <ul style="list-style-type: none"><li>• Allow the grade to slow the train.</li><li>• Reduce the throttle one notch at a time to maintain a slack-stretched condition.</li><li>• If necessary, make automatic brake pipe reduction(s) to reduce speed.</li></ul>
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## 34.2.6: Cresting Grade

34.2.6	<p><b>Cresting Grade</b></p> <p>When approaching and cresting a grade:</p> <ol style="list-style-type: none"><li>1. Reduce the throttle as the lead locomotive crests the grade.</li><li>2. On the lead consist, continue to reduce the throttle and/or apply dynamic brake when necessary to keep the speed from increasing or make slack adjustments.</li><li>3. When cresting grade with helper(s) on rear or entrained, reduce helper throttle consistent with good train handling to minimize in train forces.</li></ol> <p>When operating in heavy or mountain grades, refer to System Special Instructions for additional requirements.</p>
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## 34.2.7: Undulating Grade

<p><b>34.2.7</b></p>	<p><b>Undulating Grade</b></p> <p>On trains without entrained helper, when slowing or controlling speed on undulating grade:</p> <ol style="list-style-type: none"> <li>1. As the train approaches the undulation, reduce the throttle as necessary to control train speed.</li> <li>2. Reduce the throttle further as the head end of the train begins descending.</li> <li>3. Just before the head end of the train reaches the ascending grade, increase the throttle.</li> <li>4. Continue to increase the throttle as the train ascends the grade.</li> <li>5. Reduce the throttle as the rear of the train approaches the ascending grade.</li> </ol> <p>On trains with entrained or rear helper, do not operate DP trains in synchronous mode through undulations. Maintain sufficient power on helper(s) to control slack. Site specific train handling instructions may apply.</p>
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### 34.2.8: Stopping

<p><b>34.2.8</b></p> <p>Reference Rule 31.5 34.5.1</p>	<p><b>Stopping</b></p> <p><b>A. Level or Descending Grade using Dynamic Brake</b></p> <p>When stopping on level or descending grade using dynamic brake:</p> <ol style="list-style-type: none"> <li>1. If in power, gradually reduce the throttle to idle.</li> <li>2. Activate the dynamic brake and gradually bunch the slack.</li> <li>3. At a sufficient distance from the stop, make a minimum brake pipe reduction.</li> <li>4. Make further split reduction(s) as needed.</li> <li>5. As dynamic brake retarding force decreases, apply independent brake to avoid slack run-out.</li> </ol> <p><b>B. Level or Descending Grade without Dynamic Brake</b></p> <p>When stopping on level or descending grade:</p> <ol style="list-style-type: none"> <li>1. If in power, gradually reduce the throttle to idle and wait for the slack to adjust.</li> <li>2. At a sufficient distance from the stop, make a minimum brake pipe reduction.</li> <li>3. Make further split reduction(s) as needed.</li> <li>4. As the train comes to a stop, use no more independent brake than necessary to maintain a slack bunched condition.</li> </ol>
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### C. Level or Ascending Grade, Slack Stretched

When stopping on level or ascending grade:

1. Gradually reduce the throttle.
2. Maintain sufficient power to keep slack stretched while allowing train to slow.
3. If necessary, make automatic brake pipe reduction(s) to reduce speed.
4. When train is approaching the stopping point, make a brake pipe reduction.
5. As train comes to a stop apply independent brake.
6. After the independent brake is fully applied, reduce the throttle to idle.

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## 34.2.9: Unplanned Stops

### 34.2.9

#### Unplanned Stops

##### 1. **Non-Emergency**

To stop in the shortest possible distance without using an emergency brake application, use the following procedure:

1. Make a minimum brake pipe reduction before making a throttle change. When exhaust stops, make additional brake pipe reduction(s) as necessary. Consider train make-up when determining the amount of additional brake pipe reduction(s) necessary to stop train safely.
  - If train slack is stretched:
    1. While brake pipe is exhausting, gradually reduce throttle to idle.
    2. Transition to dynamic brake, if conditions permit.
  - If train slack is bunched:
    1. Gradually increase dynamic braking effort as train brakes become effective.
    2. As brake pipe exhaust stops, make additional reduction(s) as necessary.
2. As train comes to a stop, apply independent brake.

##### 2. **Trackside Detectors**

When a detector is actuated, train must be stopped as soon as possible consistent with requirements contained in System Special Instructions governing trackside detectors. The type of detector, train makeup, slack condition, location of switches, grade and track curvature must be considered.

**WARNING:** Heavy brake applications may cause complete failure of a defective hot journal before train stops.



## 34.2.10: Emergency Brake Applications

### 34.2.10

49 CFR  
232.407-f

#### Emergency Brake Applications

When emergency braking is necessary to protect life or property, use the maximum braking effort available consistent with safe train handling techniques.

##### 1. Initiated by Engineer

When conditions warrant, use an emergency brake application without hesitation and comply with the following:

1. Make an emergency brake application by moving the automatic brake valve handle quickly to EMERGENCY, and leave it there until the train or locomotive stops.
2. Lift the red cover of the EMERGENCY SWITCH, and activate the emergency valve on the end-of-train device (EOT) if equipped.
3. Actuate and hold the independent brake handle in the actuate position, then move the independent brake handle to a position in the application zone that will develop the desired brake cylinder pressure without sliding wheels or developing excessive buff or draft forces.
4. If in power, return throttle to idle.

##### 2. Initiated by Other Than Engineer

Initiate an emergency brake application without hesitation, when:

- o Life or property is in danger.
- or
- o The engineer does not respond to warnings or signals to reduce train speed or stop the train.

Crew members must know the location of the emergency brake valves.

##### 3. Undesired Emergency

When an undesired emergency (UDE) brake application occurs, move the automatic brake valve handle to EMERGENCY until the train stops. Actuate and hold the handle in the actuate position, while moving the independent handle to a position in the application zone that will develop the desired brake cylinder pressure without sliding wheels or developing excessive buff or draft forces. Make throttle adjustments to control slack and prevent excessive buff or draft forces.

After stopping, if operating conditions permit, place the automatic brake valve handle in RELEASE to release the brakes and help locate the air hose separation or other problems. Promptly notify dispatcher of the occurrence.

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## 34.2.11: Shoving Equipment

34.2.11

### Shoving Equipment

When shoving equipment, use the lowest throttle position possible to avoid jackknifing, wheel climb, or rail turnover, when exceeding 12 equivalent axles of power.

#### A. Starting on Level or Ascending Grade

When starting a shoving movement on a level or ascending grade:

1. Release the automatic brake, and wait for slack to adjust.
2. Reduce the independent brake, and use the lowest possible throttle position to start the movement.
3. As speed increases, reduce the independent brake until it is fully released.
4. If you notice a significant increase in tractive effort or if train speed slows without a change in throttle position, stop immediately and determine the cause.

#### B. Starting on Descending Grade with Slack Stretched

When starting a shoving movement on a descending grade with slack stretched:

1. Ensure that the independent brake is fully applied.
2. Activate the dynamic brake to full.
3. Release the automatic brake, and wait for slack to adjust.
4. Reduce the independent brake gradually as the train begins to move.
5. Slowly release the independent brake as the dynamic brake becomes effective.

#### C. Stopping on Ascending Grade, Slack Bunched

When stopping shoving movements on an ascending grade with the slack bunched, do the following:

1. Use the lowest possible throttle position to maintain a slack bunched condition.

2. At a sufficient distance from the stop, make a minimum brake pipe reduction.
3. Make further split reduction(s) as needed.
4. Observe tractive effort and reduce the throttle as necessary to avoid high buff forces.
5. As the train stops, fully apply the independent brake.
6. After the independent brake is applied, reduce the throttle to idle.

#### **D. Stopping on Level or Descending Grade with Slack Stretched**

When stopping shoving movements on level or descending grade with the slack stretched, do the following:

1. If in power, gradually reduce the throttle to idle and allow the slack to adjust.
2. Activate the dynamic brake. If the dynamic brake is unavailable use the independent brake to maintain a slack-stretched condition.
3. Gradually increase braking to the desired level.
4. At a sufficient distance from the stop, make a minimum brake pipe reduction.
5. If needed, make further split reduction(s).

As the train comes to a stop, use independent brake as necessary to maintain a slack stretched condition.

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## **34.2.12: Switching Movements**

<b>34.2.12</b>	<p><b>Switching Movements</b></p> <p>When switching cars, the following must be considered:</p> <ol style="list-style-type: none"> <li>1. When starting, slowing, or stopping switching movements, gradually stretch or bunch slack.             <ul style="list-style-type: none"> <li>o When starting RCL movements, including light engine, use the "couple" setting.</li> </ul> </li> <li>2. Care must be taken to limit buff and draft forces and avoid damage to track and equipment when:             <ul style="list-style-type: none"> <li>o Using multiple locomotives in consist.</li> <li>o Switching with air brakes cut-in on one or more cars.</li> </ul> </li> <li>3. Do not use automatic brake to increase locomotive brake cylinder pressure.</li> </ol>
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## **34.2.13: Disturbed Track/Temporary Speed Restrictions/Heat Restrictions**

<b>34.2.13</b>	<p><b>Disturbed Track/Temporary Speed Restrictions/Heat Restrictions</b></p> <p>When proceeding through the limits of the track bulletin or wherever instructed to comply with Rule 34.2.13, the engineer must use the following train handling techniques to minimize in-train forces when possible:</p> <ul style="list-style-type: none"> <li>• Use throttle modulation or low dynamic brake amperage.</li> <li>• Avoid making slack adjustments.</li> <li>• Avoid applying or releasing automatic brakes.</li> <li>• Make power and brake adjustments before or after the restriction.</li> </ul> <p>When operating with distributed power at the rear of the train on:</p> <ul style="list-style-type: none"> <li>• Level or ascending grades, operate in synchronous mode with low throttle settings, or operate in independent mode with distributed power 1–3 throttle positions below the lead consist.</li> <li>• Descending grades, operate in synchronous mode with low dynamic brake settings, or operate in independent mode with distributed power 1–3 dynamic brake positions above the lead consist.</li> </ul>
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### 34.2.14: Thermal Misalignment

<b>34.2.14</b>	<p><b>Thermal Misalignment</b></p> <p>When an obvious thermal misalignment is observed ahead of a moving train, the train must be stopped, if possible, prior to the lead locomotive passing over the misaligned track. If the train cannot be stopped in time with service applications, to minimize additional buff forces imparted on the track, the preferred method for train handling is as follows:</p> <ul style="list-style-type: none"> <li>• When the train is equipped with a two-way EOT, stop the train using the emergency toggle switch on the HED to place the train into emergency from the rear end and control slack.</li> <li>• When the train is equipped with distributed power, stop the train using a full service brake application.</li> </ul>
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### 34.3: Grade Operations

<b>34.3</b>	<b>Grade Operations</b>  The following must be considered when operating in grade territory: <ul style="list-style-type: none"><li>• Tons per operative brake.</li><li>• Tons per dynamic brake axle.</li><li>• Percent of grade.</li><li>• Track curvature.</li><li>• Rail and weather conditions.</li><li>• Train speed, ensuring that maximum speed is consistent with grade limitations required by area timetables.</li></ul>
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### 34.3.1: Balance Braking

<b>34.3.1</b>	<b>Balance Braking</b>  When a constant speed on a grade is required for long distances, use a combination of train air brakes and dynamic brake as follows: <ol style="list-style-type: none"><li>1. Make a minimum brake pipe reduction when dynamic brake is not sufficient to maintain speed.</li><li>2. Use additional reductions until the desired speed is maintained.</li><li>3. If a greater than 18-psi brake pipe reduction is required to control train speed, stop the train using emergency application and inspect to determine reason before proceeding. <b>Exception:</b> If an 18-psi reduction is due to Equalizing Reservoir leakage, apply Item 4 below.</li><li>4. If equalizing reservoir leakage is discovered and speed is decreasing, stop and secure the train, if necessary. After placing the automatic brake handle in release, place the brake valve cutoff valve in PASSENGER, if equipped. While operating in PASSENGER, movement of the automatic brake valve handle toward RELEASE will release the brakes throughout the train.</li></ol> When practicable, use a combination of train air brakes and dynamic brake to control speed when operating on descending grades exceeding 1.75%.
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### 34.3.2: Recharging on a Grade

<p><b>34.3.2</b></p>	<p><b>Recharging on a Grade</b></p> <p>When necessary to recharge the air brake system while stopped on a grade and the independent brakes may not hold the train:</p> <ol style="list-style-type: none"> <li>1. Apply a sufficient number of hand brakes.</li> <li>2. Leave independent brake fully applied, and release the automatic brake.</li> <li>3. Recharge the air brake system.</li> <li>4. After recharging the system, make a sufficient brake pipe reduction to hold the train while releasing the hand brakes.</li> </ol> <p>Do not apply power to hold a train stationary on a grade unless:</p> <ul style="list-style-type: none"> <li>• All locomotive units in the consist are AC locomotives;</li> </ul> <p style="padding-left: 40px;">or</p> <ul style="list-style-type: none"> <li>• When DC locomotive(s) in consist are isolated, remaining AC locomotives may be used to hold train.</li> </ul>
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## 34.4: Delayed Departure

<p><b>34.4</b></p> <p>Reference Rule 33.8.4</p>	<p><b>Delayed Departure</b></p> <p>When stopped and movement is delayed, apply train brakes with at least a 10-psi brake pipe reduction when operating conditions permit.</p> <p>Do not release train brakes until ready to proceed except when:</p> <ul style="list-style-type: none"> <li>• Stopped on a grade where it will be necessary to reapply the brakes or will not require the brakes to be released to start the train.</li> <li>• Charging the brake system in heavy or mountain grade territory.</li> <li>• Making air test.</li> </ul> <p>When train is stopped and movement delayed, before moving, verify brake pipe continuity by releasing the air brakes (unless on descending grade and the train brakes will remain applied), and observe an increase in pressure on the EOT prior to moving the train.</p> <p>Distributed power trains must use the automated train check feature to verify brake pipe continuity.</p> <p>Suspect trainline blockage when a decrease in pressure occurs at the rear of the train that has not been initiated by a brake pipe reduction; cause must be determined before departing:</p>
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- Inspect train for cause of blockage.
- A visual observation of a set and release at the rear car is sufficient to determine that no blockage exists.

If excessive tractive effort is needed (based on existing conditions) to start the train, inspect the train to determine the cause.

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## 34.5: Car Air Brakes

### 34.5 Car Air Brakes

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### 34.5.1: Applying or Reapplying Automatic Brakes

#### 34.5.1

#### Applying or Reapplying Automatic Brakes

When applying or reapplying automatic brakes, make brake pipe reductions according to these guidelines:

- Make a minimum reduction followed by additional reductions, as necessary.
- Charged condition of brake pipe must be considered before reapplying air brakes.
- Make a final reduction when operating conditions permit as train is nearing a stop to prevent a run out of slack.

To prevent the locomotive brakes from applying during an automatic brake application, the independent brake valve handle must be actuated (bailed) when application is made and held in ACTUATE position until exhaust ceases.

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### 34.5.2: Releasing Brakes

<p><b>34.5.2</b></p>	<p><b>Releasing Brakes</b></p> <p>Before releasing the brakes, consider the following conditions to avoid damage to equipment, lading, or track:</p> <ul style="list-style-type: none"> <li>• Train speed.</li> <li>• Train makeup.</li> <li>• Weather conditions.</li> <li>• Physical characteristics of territory.</li> <li>• Amount of brake pipe reduction.</li> </ul> <p>Running release of the automatic train brakes must not be made when brake application exceeds 18-psi.</p> <p>When operating conditions allow releasing the brakes:</p> <ul style="list-style-type: none"> <li>• Make at least a 10-psi total reduction before releasing the brakes unless the brakes will be reapplied shortly.</li> <li>• Allow the exhaust at the automatic brake valve to stop before releasing the train brakes.</li> </ul>
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### 34.5.3: Unintentional Brake Release

<p><b>34.5.3</b></p> <p><i>49 CFR 232.103</i></p> <p>Reference Rule 32.7.1</p>	<p><b>Unintentional Brake Release</b></p> <p>If an unintentional brake release occurs while the brakes are applied, stop the train and determine the cause before proceeding. Promptly notify dispatcher of the occurrence.</p>
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### 34.5.4: Regulating Valve Braking

<p><b>34.5.4</b></p>	<p><b>Regulating Valve Braking</b></p> <p>Use of the regulating valve to control braking is prohibited.</p>
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## 34.5.5: Retaining Valves

<b>34.5.5</b>	<b>Retaining Valves</b>  Retainers may only be used after consulting with a Manager of Operating Practices for the location involved.  When retaining valves are used: <ul style="list-style-type: none"><li>• Retaining valves must be set in the "HP" (High Pressure) position on the entire train.</li><li>• Do not exceed 15 MPH.</li><li>• Freight car brake cylinder pressure is not retained until a brake pipe reduction of at least 10-psi has been made and released. Further brake pipe reductions will add to this pressure in the brake cylinder.</li></ul> When retaining valves are not in use, place them in EX (Exhaust).
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## 34.5.6: Use of Automatic Brakes During Cold Weather Conditions

<b>34.5.6</b>  <i>49 CFR 232.107</i>	<b>Use of Automatic Brakes During Cold Weather Conditions</b>  During extreme cold weather, (below 10 degrees F) when operating conditions and outstanding instructions permit, throttle manipulations and dynamic braking must be used in lieu of train air brakes whenever possible in controlling and stopping freight trains.
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## 34.6: Locomotive Operation

<b>34.6 Locomotive Operation</b>
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### 34.6.1: Independent Brake (Locomotive Brake)

<b>34.6.1</b>	<b>Independent Brake (Locomotive Brake)</b>  Use of the independent brake valve: <ul style="list-style-type: none"><li>• The independent brake valve on the controlling unit must be cut-in at all times, and the handle must not be blocked in actuate position.</li><li>• The independent brake must not be applied while power or dynamic brake is being used except when starting, stopping, or to control wheel slips at speeds below 15 MPH.</li><li>• When conditions require the independent brakes to be applied, brake cylinder pressure must be controlled to prevent overheating or sliding of the locomotive wheels, excessive slack action and high in-train forces. The independent brake must not be used when the same results can be obtained with the dynamic brake.</li><li>• When controlling the independent brake during an emergency brake application, actuate while applying the independent brake to the desired pressure, without sliding the locomotive wheels. When emergency brake cylinder pressure is desired, release the handle from the actuate position.</li><li>• The maximum independent brake cylinder pressure indicated for locomotive must not be exceeded.</li></ul>
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## 34.6.2: Throttle and Reverser Positions

<b>34.6.2</b>	<b>Throttle and Reverser Positions</b>  With the throttle open, the generator field switch must never be closed or moved to the "ON" position.  When moving, reverser handle must not be in a position other than the direction of travel, except when loading a bulk commodity unit train.  Reverser must be centered when locomotive is stopped. However, reverser may be left in forward position when train is stopped in ATC or ACS territory at locations where next signal is not visible.
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## 34.6.3: Dynamic Braking

<p><b>34.6.3</b></p> <p>49 CFR 232.109</p>	<p><b>Dynamic Braking</b></p> <p>When using dynamic brake, comply with the following:</p> <ul style="list-style-type: none"> <li>• When lead or remote consist includes a DC locomotive, pause for 10 seconds in idle before changing from power to dynamic braking.</li> <li>• Do not supplement the dynamic brake with the locomotive brakes unless in the process of starting or stopping and speed is below the effective range of the dynamic brakes in your locomotive consist.</li> <li>• Comply with Equivalent Dynamic Brake Axle limitations by cutting out trailing locomotives(s) or traction motor(s).</li> <li>• Approaching and operating through turnouts or disturbed track areas with train's air brakes released, limit retarding force to 50% of maximum. Continue to limit the braking effort until at least half the train has passed the restricted area.</li> </ul>
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### 34.6.4: Short Time Rating/Minimum Continuous Speed

<p><b>34.6.4</b></p>	<p><b>Short Time Rating/Minimum Continuous Speed</b></p> <p><b>A. Short Time Rating</b></p> <p>Short time rating limits for DC locomotives when necessary, are indicated on rating plate located near or on the load meter; short time rating must not be exceeded.</p> <p>If the locomotive exceeds the short time rating, stop the train and double the train over the grade or allow traction motors time to cool before continuing, unless otherwise instructed.</p> <p>To provide for sufficient cooling of traction motors, allow the locomotive a minimum of 20 minutes without a short time event.</p> <p><b>B. Minimum Continuous Speed</b></p> <p>Minimum continuous speed is the slowest speed at which a DC locomotive can operate continuously in throttle position 8 before overheating. The minimum continuous speed varies and is indicated by the rating plate on the locomotive.</p>
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### 34.6.5: Penalty Brake Application

**34.6.5**

49 CFR  
236.501  
236.503  
236.507  
236.511  
236.564  
238.237

**Penalty Brake Application**

A penalty brake application may be initiated by one of the following safety control devices:

- Alertness Device.
- Overspeed.
- Cab Signal.

If a safety control device sounds a warning or when a penalty brake application occurs, comply with the following:

1. Move automatic brake valve handle to SUPPRESSION position.
2. Hold the independent brake handle in the actuate position. Move the independent handle to a position in the application zone that will develop the desired brake cylinder pressure without sliding wheels or developing excessive buff or draft forces.

After train stops, reset PCS and release brakes when operating conditions allow.

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## Remote Control Operations - Chapter 35

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### 35.0: Remote Control Operations

35.0 Remote Control Operations
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### 35.1: Reference Materials

<b>35.1</b>	<p><b>Reference Materials</b></p> <p>Employees who set-up or operate remote control equipment must be familiar with the requirements and instructions for the type of system they will operate. While on duty, remote control operators must have available:</p> <ul style="list-style-type: none"> <li>• Remote Control Locomotive Technical Guide.</li> <li>• Remote Control Quick Reference Card for the type of system they are operating.</li> </ul>
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### 35.2: Remote Control Area

<p><b>35.2</b></p> <p>Reference Rule 6.7</p>	<p><b>Remote Control Area</b></p> <p>A. <b>Designated Remote Control Areas</b> Timetable Special Instructions will designate areas of remote control operations. Signs advising that remote control operations may be in effect will be posted at access locations to remote control areas.</p> <p>B. <b>Track Removed from Service or Working Limits Established</b> The RCO in control of a remote control locomotive must be notified of any track removed from service or working limits established for the protection of another craft. The RCO must conduct a job/safety briefing with all members of the crew.</p>
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### 35.3: Equipment

<p><b>35.3 Equipment</b></p>
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#### 35.3.1: Operator Equipment

<p><b>35.3.1</b></p>	<p><b>Operator Equipment</b></p> <p>Remote control operators are issued the following equipment:</p> <ul style="list-style-type: none"> <li>• A Union Pacific approved vest designed to hold the remote control transmitter; RCT must be securely attached to vest by using all 4 "D" rings.</li> <li>• At least one approved hands-free light. In case of failure, a lantern may be used in place of the hands-free light.</li> <li>• A hand-held radio equipped with a wired microphone. Radio must be holstered or affixed to a belt.</li> </ul> <p>Remote Control Transmitters are considered safety devices. Employees are prohibited from tampering with or disabling any remote control transmitter or safety feature except as provided for in RCO rules. Employees are prohibited from knowingly using a remote control transmitter with a disabled safety device.</p>
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**35.3.2: Remote Control Mode**

<p><b>35.3.2</b></p> <p>Reference Rule 5.13</p>	<p><b>Remote Control Mode</b></p> <p>Each locomotive in the remote control consist must have a tag placed in a visible location on the control stand indicating the locomotive is being used in remote control mode. Remove tag when the locomotive is placed in manual mode.</p>
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**35.3.3: Setup and Testing**

<p><b>35.3.3</b></p>	<p><b>Setup and Testing</b></p> <p>Prior to operating a remote control system, the RCO must ensure the equipment is properly setup and tested in accordance with prescribed procedures.</p> <p>When two remote control transmitters are utilized, the conductor/foreman must always link as "Operator A" and the second operator as "Operator B."</p>
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## 35.3.4: RCL Strobe Lights

35.3.4	<p><b>RCL Strobe Lights</b> Strobe lights must be on during Remote Control Operations.</p> <p>If both RCL strobe lights fail during a tour of duty, the locomotive may be used until end of the shift or the next daily inspection, whichever occurs first. Strobe lights must be repaired before locomotive is again used in remote service.</p>
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## 35.4: Operation

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### 35.4.1: Man-down Transmission

35.4.1	<p><b>Man-down Transmission</b></p> <p>The designated supervisor must monitor radio communications for man-down messages transmitted by remote control locomotive radios.</p> <p>If a man-down message is transmitted, the supervisor will immediately attempt to contact the crew whose RCL-equipped locomotive has transmitted the man-down message. If unable to determine the reason for the man-down message, 911 must be called immediately.</p> <p>At locations without supervisors, employees hearing a man-down message must determine the reason for the message and take appropriate action. This does not relieve nor prevent any employee from declaring an emergency and contacting 911 when such a message is heard.</p> <p>Employees must follow local emergency procedures when man-down message is transmitted.</p>
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## 35.4.2: Remote Control Transmitter Attachment

35.4.2	<p><b>Remote Control Transmitter Attachment</b></p> <p>When a linked RCT is attached to a vest, lean forward with RCT hanging freely until tilt warning is activated, then upright the RCT before timing out.</p> <p>When transferring linked RCT's to another crew, RCT "A" must be transferred to the primary/conductor/foreman operator and RCT "B" to the secondary/helper/switchman operator.</p>
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## 35.4.3: "Pitch and Catch" Operations

35.4.3	<p><b>"Pitch and Catch" Operations</b></p> <p>Either operator may initiate transfer of control after verbally verifying that the secondary operator is in position to assume control.</p> <p>Remote Control Transmitters must not be placed in "sleep" or "dismissal" mode in lieu of pitch and catch operation.</p>
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## 35.4.4: Operating the Equipment

35.4.4  Reference Rule 34.2.12	<p><b>Operating the Equipment</b></p> <p>When operating RCL equipment, comply with the following:</p> <ul style="list-style-type: none"><li>• Only licensed operators or RCO students may operate an RCT. Students or class 7 operators MUST be accompanied by a current class 6 operator.</li><li>• An RCO shall control only one locomotive consist at a time.</li><li>• Do not operate Remote Control Transmitter from a vehicle.</li><li>• Use "couple" setting when starting all movements, including light engine.</li><li>• Limit excessive buff and draft forces by moving the speed selector one setting at a time, unless kicking cars or in emergency conditions. (Moving the speed selector from any setting to the coast or coast B position is acceptable).</li><li>• After a penalty or emergency application of the brakes, if cars take longer than expected to move, stop and inspect that cars are properly positioned on the rail and that the brakes are released.</li></ul>
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### 35.4.5: RCL Fails to Respond to Stop Command

35.4.5	<p><b>RCL Fails to Respond to Stop Command</b></p> <p>If the locomotive fails to respond properly to a stop command from the remote control transmitter, the RCO must:</p> <ol style="list-style-type: none"><li>1. Place RCT in emergency.</li><li>2. Immediately power off the transmitter or remove RCT battery.</li></ol> <p>The RCO must then secure the equipment including the transmitter. The RCO must contact the manager on duty and not attempt to operate the locomotive until authorized by a DSRCO or Mechanical Department employee.</p>
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### 35.5: Securement

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#### 35.5.1: Securing Remote Control Equipment

35.5.1  Reference Rule 31.8.7.1	<p><b>Securing Remote Control Equipment</b></p> <p>Remote control locomotives and remote control transmitter(s) must not be left unattended unless secured. At the end of a shift, RCT's must be unlinked and stored in a locked cabinet with battery placed in charger unless transferred directly to another RCL job.</p> <p><b>A. Short Term Securement (90 minutes or less)</b></p> <p>The RCO will secure the remote control locomotive as follows:</p> <ol style="list-style-type: none"><li>1. Isolate and apply hand brakes on all locomotives.</li><li>2. Perform securement check before turning off the remote control transmitter.</li><li>3. RCO must maintain possession of the transmitter(s).</li><li>4. When equipment will be left for more than 15 minutes, comply with locomotive shutdown requirements.</li></ol>
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- Leave the Control and RCL circuit breakers ON and main battery switch closed to maintain the link.
- If linked to a control car or slug, the battery switch on the conventional unit must be closed to maintain the power supply.

**B. Long Term Securement (more than 90 minutes) or Ending Tour of Duty**

The RCO will secure the remote control locomotive as follows:

1. Isolate and secure consist.
2. Leave the RCL breaker on.
3. Place RCL in MANUAL mode as outlined in the RCL Technical Guide.
4. Remove remote control warning sign(s).
5. Ensure that one locomotive is set-up for lead unit operation.
6. Perform locomotive securement test.
7. Shut down the locomotive(s) as required.

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## 35.6: RCL Zone

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### 35.6.1: Positive Stop Protection (PSP)

<b>35.6.1</b>	<b>Positive Stop Protection (PSP)</b>
Reference Rule 6.7	The RCO must verify that the PSP is operational on initial movement into an activated RCL zone. Receiving a remote control transmitter message when entering the limits verifies that PSP is functioning properly.

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### 35.6.2: Overriding PSP

<b>35.6.2</b>	<b>Overriding PSP</b>  Use procedures in the RCL Technical Guide to override and reactivate PSP for each RCL system.  When PSP is overridden, point protection must be provided. PSP must be seen to be functioning as intended before it can be depended on to stop the locomotive again.
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### 35.6.3: Disabling PSP

<b>35.6.3</b>	<b>Disabling PSP</b>  PSP may only be disabled in the event of GPS or PSP failure.
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### 35.6.4: RCL Zones with Road Crossing Equipped with Cameras

<b>35.6.4</b>  Reference Rule 6.32	<b>RCL Zones with Road Crossing Equipped with Cameras</b>  When using cameras for movements over road crossings, movement must not exceed 4 MPH until crossing is occupied. An employee must observe the monitors to ensure that automatic crossing warning devices activate and remain active until the crossing is occupied.  If cameras are not used or are inoperative, employee must provide warning at the crossing.
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### 35.7: Main Track

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#### 35.7.1: Remote Control Main Track Operation

**35.7.1****Remote Control Main Track Operation**

Main track movements include train movements, yard transfers, etc.; it does not include doubling a train together, using the main track for head room or adding cars to a train on the main track, i.e., switching movements.

When main track movements exceed 1 mile, do not exceed the following limits:

- 12 equivalent powered axles (EPA).
- 60 cars/platforms/wells.
- 4,000 tons.

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### 38.0: Commuter/Business Train Air Brake Rules

<b>38.0 Commuter/Business Train Air Brake Rules</b>
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### 38.1: Passenger Equipment Inspections

<b>38.1</b>	<b>Passenger Equipment Inspections</b>  Inspect and test passenger equipment according to Federal Railroad Administration (FRA) regulations contained within these rules.
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#### 38.1.1: Inspections and Brake Tests

<b>38.1.1</b>	<b>Inspections and Brake Tests</b>  Inspections and brake tests must be performed on commuter/business passenger trains by a Qualified Maintenance Person or by a Qualified Person. <ul style="list-style-type: none"><li>• Only a Qualified Maintenance Person may perform a Class I brake test.</li><li>• Either a Qualified Maintenance Person or a Qualified Person may perform a Class IA or a Class II brake test.</li></ul>
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#### 38.1.2: Class I Brake Test



<p><b>38.1.2</b></p> <p><i>49 CFR 238.313</i></p> <p>Reference Rule 30.2.4</p>	<p><b>Class I Brake Test</b></p> <p><b>When to Perform a Class I Test</b></p> <p>A Class I brake test must be conducted on commuter/business passenger trains:</p> <ul style="list-style-type: none"> <li>• Once each calendar day that the train is placed or continues in service.</li> <li>• On each car added to a train at the time it is added to a train, unless documentation is provided to the train crew that a Class I brake test was performed on the car on that calendar day, and the car has not been disconnected from a source of compressed air for more than four hours prior to being added to the train. However, a Class IA test may be conducted on the car in lieu of the above.</li> <li>• The test may be performed in conjunction with the calendar day exterior mechanical inspection.</li> <li>• Except as provided in these rules, a train may not be used in passenger service or hauled from a location where a Class I brake test has been performed, or was required to have been performed, with less than 100% operative brakes.</li> </ul> <p><b>Notification of Completed Test</b></p> <p>A Qualified Maintenance Person that performs a Class I brake test on a train may notify the crew of the Class I brake test or place a written statement (see Appendix A) in the rear cab car's B-1 locker until the next Class I brake test is performed. The statement shall contain:</p> <ul style="list-style-type: none"> <li>• The date and the time the Class I brake test took place.</li> <li>• The location where the test was performed.</li> <li>• The identification number of the controlling locomotive of the train.</li> <li>• The total number of cars inspected during the Class I brake test.</li> <li>• The signature or employee ID of the inspector.</li> </ul>
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### 38.1.3: Class IA Brake Test

<p><b>38.1.3</b></p> <p><i>49 CFR 238.315</i></p> <p>Reference Rule 38.2.1</p>	<p><b>Class IA Brake Test</b></p> <p><b>A. When to Perform a Class IA Brake Test</b></p> <p>Either a Class I or Class IA brake test shall be performed prior to the first calendar day departure of each commuter/business passenger train, unless all of the following conditions are satisfied:</p> <ul style="list-style-type: none"> <li>• A Class I brake test was performed within the previous 12 hours.</li> <li>• The train has not been used in commuter/business service since the performance of the Class I brake test.</li> <li>• The train has not been off a compressed air source for more than four hours since the performance of the Class I brake test.</li> <li>• A commuter/business train that provides continuing late night service that began prior to midnight may complete its daily operating cycle without performing another Class I or Class IA brake test. A Class I or Class IA test shall be performed on such a train before it starts a new daily operating cycle.</li> </ul> <p>Either a Class I or Class IA brake test shall be performed prior to placing a commuter/business passenger train in service that has been off air for more than four hours.</p>
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### 38.1.4: Class II Brake Test

<p><b>38.1.4</b></p> <p>49 CFR 238.317</p> <p>Reference Rule 38.2.1</p>	<p><b>Class II Brake Test</b></p> <p><b>A. When to Perform a Class II Brake Test</b></p> <p>A Class II brake test shall be performed on a commuter/business passenger train when any of the following events occur:</p> <ul style="list-style-type: none"> <li>• Whenever the control stand used to control the train is changed or any time the controlling end is cut-out and then cut back in.</li> <li>• Prior to the first calendar day departure where a Class I brake test remains valid.</li> <li>• When cars that have received a Class I brake test within the previous calendar day and have not been disconnected from a source of compressed air for more than four hours are added to the train.</li> <li>• When cars or equipment are removed from the train.</li> <li>• Before a train enters the main track when a crew first takes charge of the train, except for face-to-face relief.</li> </ul>
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**38.1.5: Running Brake Tests**

<p><b>38.1.5</b></p> <p>49 CFR 238.319</p>	<p><b>Running Brake Tests</b></p> <p><b>When to Perform Test</b></p> <p>As soon as conditions safely permit, a running brake test shall be performed on a commuter/business train after the train has departed a point where:</p> <ul style="list-style-type: none"> <li>• A Class I, Class IA, or Class II brake test was performed.</li> <li>• Any angle cocks or cutout cocks have been closed.</li> <li>• A train has struck debris on the track.</li> <li>• A train reaches a point designated by the timetable or special instructions.</li> <li>• Locomotive or operating ends have been changed.</li> <li>• Crew changes are located.</li> <li>• Movement is being controlled with a back-up hose or valve. The back-up hose or valve must be used to conduct the test.</li> </ul>
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**38.2: Commuter Operation Air Brake Test and Inspections**

<p><b>38.2</b></p>	<p><b>Commuter Operation Air Brake Test and Inspections</b></p>
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**38.2.1: Passenger Air Brake Tests**

<p><b>Passenger Air Brake Tests</b></p>									
<p>Type of Test</p>	<p>Perform Walking Inspection</p>	<p>Brake pipe pressure set at 90-psi<sup>4</sup></p>	<p>Leakage test as required per rule 30.11.2 Part B. Leakage must not exceed 5 lbs/min.</p>	<p>20-psi brake pipe reduction</p>	<p>Check that brake shoes are properly fastened and seated against the wheel. Brake rigging does not bind or foul. Angle cocks are properly positioned.</p>	<p>When notified, release the brakes. Proper release of the brakes can be determined by observation of the clearance between the brake shoe and the wheel.</p>	<p>Verify brake pipe pressure changes at rear of train by observing gauge or application and release of rear car.</p>	<p>Verify the communicating signal system is tested and known to be operating as intended. Any one of the following meet this requirement: two-way radio system, electrical line</p>	<p>Verify the emergency brake application and deadman pedal or other emergency control devices</p>

					All cars	Car(s) picked up	Rear car	All cars	Car(s) picked up	Rear car		(buzzer) or PA system.	function as intended.
Class I <sup>1</sup>	X	X	X	X	X	X		X	X			X	X
Class IA <sup>2</sup>	X	X		X	X			X				X	
Class II <sup>2</sup>				X			X			X	X	X	
<b>Running Test</b>	Perform the test as follows: <ol style="list-style-type: none"> <li>1. Leave power in low throttle position.</li> <li>2. If operating from the locomotive, actuate the independent brake.</li> <li>3. Apply the train air brakes with enough force to determine the brakes are operating properly.</li> <li>4. If the train brakes are operating properly, release the brakes and proceed.</li> </ol> <p>If the air brakes do not operate properly, stop the train and contact Commuter Control or the Train Dispatcher for instructions. Be governed by the instructions in Defective Train Brake procedures (Rule 38.4.3).</p>												

<sup>1</sup>Cars must be inspected by a Qualified Maintenance Inspector.

<sup>2</sup>Cars must be inspected by a Qualified Maintenance Inspector or Qualified Person.

<sup>3</sup>Cars added enroute must be tested as outlined above. Cars are set out—determine that brake pipe pressure at the rear car has been restored.

<sup>4</sup> As indicated by the brake pipe gauge on the engine or cab car where the air brakes are being controlled.

49 CFR 238.313 / 238.315 / 238.317 / 238.319

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### 38.2.2: Procedure for a Running Brake Test

<b>38.2.2</b>  <i>49 CFR 238.319</i>  Reference Rule 38.4.1	<b>Procedure for a Running Brake Test</b>  Conduct the Running Brake Test as follows: <ul style="list-style-type: none"> <li>• Perform the test as soon as the train has enough speed to prevent stalling.</li> <li>• Use the train's automatic brake.</li> <li>• Do not use blended braking during the running test.</li> </ul> <p>Perform the test as follows:</p> <ol style="list-style-type: none"> <li>1. Leave power in low throttle position.</li> <li>2. If operating from the locomotive, actuate the independent brake.</li> <li>3. Apply the train air brakes with enough force to determine the brakes are operating properly.</li> <li>4. If the train brakes are operating properly, release the brakes and proceed.</li> </ol> <p>If the air brakes do not operate properly, stop the train and contact Commuter Control or the Train Dispatcher for instructions. Be governed by the instructions in Defective Train Brake procedures.</p>
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### 38.2.3: Changing Operating Ends on Trains Equipped with Cab Cars

<p><b>38.2.3</b></p> <p>Reference Rule 38.2.1</p>	<p><b>Changing Operating Ends on Trains Equipped with Cab Cars</b></p> <p>Use the procedures listed below to change operating ends on a commuter train.</p> <p><b>A. Cut-Out Operating Controls on a Locomotive or Cab Car</b></p> <p>Cutting out controlling locomotive:</p> <ol style="list-style-type: none"> <li>1. Apply sufficient hand brake(s) to hold train.</li> <li>2. Fully apply the independent brake.</li> <li>3. Make a 20-psi brake pipe reduction.</li> <li>4. Move the independent brake handle to release without actuating.</li> <li>5. Cut-out the automatic brake valve.</li> <li>6. Place the automatic brake valve handle in handle off position.</li> <li>7. Remove the reverser.</li> </ol> <ol style="list-style-type: none"> <li>1. Place switches and breakers in proper positions.</li> </ol> <p>Cutting out controlling Cab Car:</p> <ol style="list-style-type: none"> <li>1. Apply sufficient hand brakes to hold train.</li> <li>2. Fully apply the parking brake.</li> <li>3. Make a 20-psi brake pipe reduction.</li> <li>4. Cut-out the automatic brake valve.</li> <li>5. Place the automatic brake valve handle in handle off position.</li> <li>6. Release the parking brake.</li> <li>7. Remove the reverser.</li> <li>8. Place switches and breakers in proper positions.</li> </ol> <p><b>B. Cutting in Operating Controls on Locomotive or Cab Car</b></p> <p>Cutting in controlling locomotive:</p> <ol style="list-style-type: none"> <li>1. Fully apply the independent brake.</li> <li>2. Place the automatic brake valve handle in release.</li> <li>3. Cut-in the automatic brake valve.</li> <li>4. Insert the reverser.</li> <li>5. Place switches and breakers in proper positions.</li> <li>6. Release hand brake(s).</li> </ol> <p>Cutting in controlling Cab Car:</p> <ol style="list-style-type: none"> <li>1. Fully apply the parking brake.</li> <li>2. Place the automatic brake valve handle in release.</li> <li>3. Cut-in the automatic brake valve.</li> <li>4. Insert the reverser.</li> <li>5. Place switches and breakers in proper positions.</li> <li>6. Release hand brake(s).</li> </ol>
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### 38.2.4: Parking Brake and Hand Brakes

<b>38.2.4</b>	<p><b>Parking Brake and Hand Brakes</b></p> <p><b>A. Parking Brake</b></p> <p>Cab cars are equipped with a parking brake that has two positions:</p> <ul style="list-style-type: none"> <li>• Released.</li> <li>• Fully applied.</li> </ul> <p>When the cab car automatic brake is cut-out, the parking brake is inoperative.</p> <p>Except in an emergency, do not use the parking brake to slow or stop a train. It must be determined that the parking brake is released on the cab car prior to initiating movement.</p> <p><b>B. Hand Brakes</b></p> <p>It must be determined that hand brakes are released on all cars and locomotives prior to initiating movement.</p>
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### 38.2.5: Using Blended Braking

<b>38.2.5</b>  <i>49 CFR 238.231</i>	<p><b>Using Blended Braking</b></p> <p>Locomotives may be equipped with a combination air brake and dynamic brake system called blended braking. If so equipped, blended braking is the preferred method of slowing and stopping the train. The amount of blended braking varies with speed and amount of air brake application.</p> <p>Blended braking will occur with an automatic brake application if:</p> <ul style="list-style-type: none"> <li>• Blended brake cut-out switch is ON.</li> <li>• Throttle is in IDLE.</li> <li>• Independent brake valve handle on the locomotive is released and not actuated.</li> </ul>
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### 38.3: Operative Brakes

<b>38.3</b>	<b>Operative Brakes</b>
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#### 38.3.1: Defective Train Brakes

<p><b>38.3.1</b></p> <p>49 CFR 238.215</p>	<p><b>Defective Train Brakes</b></p> <p>Commuter/business equipment that develop inoperative brakes enroute may be moved in compliance with <b>Rule 38.3.4</b> when a tag or card is placed on both sides of the defective passenger equipment.</p> <p>The information on the tag or card must include:</p> <ul style="list-style-type: none"> <li>• Equipment number.</li> <li>• Railroad.</li> <li>• Location.</li> <li>• Date.</li> <li>• Nature of defect.</li> <li>• Destination for repair.</li> <li>• Signature and title of person reporting the defect.</li> </ul>
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### 38.3.2: Operative Brake Conditions

<p><b>38.3.2</b></p> <p>49 CFR 238.215</p>	<p><b>Operative Brake Conditions</b></p> <p>The following brake conditions do not render car air brakes inoperative for the purpose of calculating operative brakes:</p> <ul style="list-style-type: none"> <li>• Failure or cutting out of dynamic or blended brake systems.</li> <li>• Inoperative or otherwise defective hand brakes or parking brakes.</li> <li>• Piston travel in excess of the Class I brake test limits.</li> <li>• Power brakes overdue for inspection, testing, maintenance, or stenciling.</li> </ul>
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### 38.3.3: Operable Brakes

<p><b>38.3.3</b></p> <p>49 CFR 238.215</p> <p>Reference Rule 38.3.4</p>	<p><b>Operable Brakes</b></p> <p>When necessary to cut-out air brakes enroute on Commuter/Business trains, the crew must comply with the following restrictions when braking percentage drops below 100%:</p> <ul style="list-style-type: none"> <li>• 85 to 99% <ul style="list-style-type: none"> <li>◦ Operate at normal speed.</li> <li>◦ Continue normal operation to either next repair point or end of trip, whichever occurs first.</li> </ul> </li> <li>• 75 to 84% <ul style="list-style-type: none"> <li>◦ Do not exceed 40 MPH.</li> <li>◦ Discharge passengers at the next station where it is safe to do so.</li> <li>◦ Proceed to nearest repair point.</li> </ul> </li> <li>• 50 to 74% <ul style="list-style-type: none"> <li>◦ Do not exceed 20 MPH.</li> <li>◦ Discharge passengers at next forward station.</li> <li>◦ Proceed to nearest repair point.</li> </ul> </li> <li>• Less than 50% <ul style="list-style-type: none"> <li>◦ Train must not be moved with passengers on board.</li> <li>◦ Do not exceed 20 MPH to nearest repair point.</li> </ul> </li> </ul> <p>To calculate operable brake percentage:</p> <ol style="list-style-type: none"> <li>1. Determine total number of trucks in the train.</li> <li>2. Subtract the number of cutout trucks from the total number of trucks in the train. <ul style="list-style-type: none"> <li>◦ Count each cut-out locomotive truck as 2 cut-out trucks.</li> </ul> </li> <li>3. Divide the number of operative trucks by the total number of trucks in the train then multiply it by 100.</li> </ol>
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**Example:** Train Information – 1 Locomotive / 2 trucks and 5 Cars / 10 trucks

The crew is required to cut-out one truck on a car. Use the following formula to calculate the new braking percentage:

Locomotive trucks + car trucks       $2 + 10 = 12$  Total trucks

Subtract BO truck(s) = 1 from total trucks

$12 - 1 = 11$  Total operative trucks

Divide number of operative trucks by the total number of trucks in the train, then multiply by 100.

Operative trucks 11/ total trucks 12 =  $.916 \times 100 = 91.6\%$

**When Front or Rear Unit are Inoperative**

If power brakes on the front or rear unit are inoperative, the following shall apply:

- If the hand brake is located inside the interior of the equipment:
  - A Qualified Person must be stationed at the hand brake on the unit.
  - The car must be locked out and empty, except for the railroad employee manning the hand brake.
  - Comply with applicable speed restriction.
- If the hand brake is located outside the interior of the equipment or is inaccessible to a Qualified Person:
  - The car must be locked out and empty.
  - The train may be moved at Restricted Speed to the first location where car must be removed or repositioned in the train.
- Notify the Mechanical Department of the failure.

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**38.3.4: Defective Brake Chart**

38.3.4	Defective Brake Chart

## 49 CFR 238.15 Movement of Equipment with Power Brake Defects

Number of cut-out trucks on entire train  
(Each locomotive truck counts as two trucks)

Units	1	2	3	4	5	6	7	8
1	50%	0%	0%					
2	75%	50%	25%	0%	0%			
3	83%	67%	50%	33%	17%	0%	0%	
4	88%	75%	63%	50%	38%	25%	13%	0%
5	90%	80%	70%	60%	50%	40%	30%	20%
6	92%	83%	75%	67%	58%	50%	42%	33%
7	93%	86%	79%	71%	64%	57%	50%	43%
8	94%	88%	81%	75%	69%	63%	56%	50%
9	94%	89%	83%	78%	72%	67%	61%	56%
10	95%	90%	85%	80%	75%	70%	65%	60%
11	95%	91%	86%	82%	77%	73%	68%	64%
12	96%	92%	88%	83%	79%	75%	71%	67%
13	96%	92%	88%	85%	81%	77%	73%	69%
14	96%	93%	89%	86%	82%	79%	75%	71%

**If the brakes on the first or last unit in the train are completely inoperable:**

- Relocate passengers to other units and lock the car.
- Operate at 20 MPH or less
- Remove or reposition unit in the train when and where it is safe to do so.

<b>Under 50%</b>	<ul style="list-style-type: none"> <li>• Discharge passengers where it is safe to do so.</li> <li>• Proceed to the nearest repair point at 20 MPH or less.</li> </ul>
<b>50 to 74%</b>	<ul style="list-style-type: none"> <li>• Operate at 20 MPH or less.</li> <li>• Discharge passengers at the next station where it is safe to do so.</li> <li>• Proceed to the nearest repair point.</li> </ul>
<b>75 to 84%</b>	<ul style="list-style-type: none"> <li>• Operate at 40 MPH or ½ operating speed, whichever is less.</li> <li>• Discharge passengers at the next station where it is safe to do so.</li> <li>• Proceed to the nearest repair point.</li> </ul>
<b>85 to 99%</b>	<ul style="list-style-type: none"> <li>• Operate at normal track speed.</li> <li>• Continue normal operation forward to either the next open repair point or end of trip, whichever occurs first.</li> </ul>

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### 39.1: Freight Car Components

39.1 Freight Car Components

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## 39.1.1: Freight Car End and Platform Identification

39.1.1	<b>Freight Car End and Platform Identification</b>  Identify car ends as follows: <ul style="list-style-type: none"><li>• On cars with one hand brake, the "B" end of the car is the end with the hand brake. The other end is the "A" end.</li><li>• On cars with more than one hand brake, the letters "A" and "B" are stenciled on the appropriate ends of the car.</li><li>• On cars with more than one platform, each section is stenciled. Example: A five-platform articulated spine car is designated with an "A" platform on one end and the adjacent platform is designated as "E" then "D", then "C" and then "B" on the opposite end.</li></ul>
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## 39.1.2: Wheel and Journal Identification on Cars

39.1.2	<b>Wheel and Journal Identification on Cars</b>  To determine the correct wheel numbers on cars: <ol style="list-style-type: none"><li>1. Face the "B" end of the car.</li><li>2. From the "B" end of the car, identify the designation of wheels, journals, and axles as follows:<ul style="list-style-type: none"><li>○ Axles are designated from the "B" end of the car with "1" for the axle closest to the "B" end.</li><li>○ Wheels and journals are designated left or right as viewed from the "B" end.</li><li>○ Specific wheels are identified using the axle and wheel designation.</li></ul></li></ol>
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## 39.1.3: High Strength Couplers

39.1.3	<p><b>High Strength Couplers</b></p> <p>Each car is to be considered equipped with a standard type coupler unless it is known the car is equipped with high strength couplers.</p> <p>Coal cars, covered hopper cars and cars designed to carry TOFC vans and/or containers are equipped with high strength couplers. If it is not known that a car is equipped with high strength couplers, it can be determined by looking at the coupler casting identification located on top of the coupler.</p> <p>A high strength coupler will have the letter "E" or "EX" as the last character (s) of identification. Examples of high strength coupler identifications are E60HTE, SBE60CE, E60DE, EF512WEX.</p>
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### 39.1.4: Freight Car A-1 Reduction Relay Valve

39.1.4	<p><b>Freight Car A-1 Reduction Relay Valve</b></p> <p>Some long cars have an A-1 reduction relay valve that helps transmit a service or emergency brake pipe reduction by compensating for the added brake pipe length of the car.</p> <p>The relay valve functions as follows:</p> <ul style="list-style-type: none"> <li>• Service brake reductions are assisted through the B-1 quick service portion.</li> <li>• Emergency brake pipe reductions are transmitted by the No. 8 vent valve portion. If the No. 8 vent valve fails to reset after an emergency brake application, causing a continuous blow at the exhaust port, plug the valve by removing the vent protector and screwing in the threaded plug.</li> </ul> <p>The following freight cars are equipped with the relay valve:</p> <ul style="list-style-type: none"> <li>• Cars with AB or ABD control valves and more than 75 feet of brake pipe between hose couplings.</li> <li>• Cars with ABDW control valves and more than 100 feet of brake pipe between hose couplings.</li> </ul> <p><b>Note:</b> Cars with ABDW control valves having between 75 and 100 feet of brake pipe have a No. 8 vent valve added.</p>
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### 39.1.5: Freight Car Automatic Vent Valve

<b>39.1.5</b>	<p><b>Freight Car Automatic Vent Valve</b></p> <p>Some multi-platform cars are equipped with what is known as an automatic vent valve (AVV), which is an emergency portion of a control valve. This valve is used only to propagate an emergency brake application through the brake pipe. Should an AVV become defective, the cutout cock is used to cut it out.</p>
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## 39.1.6: Retaining Valves

<b>39.1.6</b>	<p><b>Retaining Valves</b></p> <p>The retaining valve on each car controls the brake cylinder pressure exhaust. All freight cars have retaining valves located at the "B" end of the car or at the side near the control valve. The retaining valve can be positioned to function as follows during a brake release:</p> <ul style="list-style-type: none"> <li>• Allow the exhaust of brake cylinder pressure to atmosphere.</li> <li>• Retain brake cylinder pressure while the system is recharged.</li> </ul> <p><b>A. Three-Position Retaining Valve</b></p> <p>The three-position retaining valve includes these positions.</p> <ul style="list-style-type: none"> <li>• DIRECT EXHAUST (EX)-Exhausts all brake cylinder pressure. Handle is turned down.</li> <li>• HIGH PRESSURE (HP)-Exhausts brake cylinder pressure to 20 psi. Handle is 45 degrees below horizontal.</li> <li>• SLOW DIRECT EXHAUST (SD)-Exhausts brake cylinder pressure for a blow down time of approximately 86 seconds and continues to exhaust until all pressure is vented. Handle is 45 degrees above horizontal.</li> </ul> <p><b>B. Four-Position Retaining Valve</b></p> <p>The four-position retaining valve includes the positions listed above and one additional position:</p> <ul style="list-style-type: none"> <li>• LOW PRESSURE (LP)-Exhausts brake cylinder pressure to 10 psi. Handle is horizontal.</li> </ul>
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## 39.1.7: Charging Time Chart

**39.1.7****Charging Time Chart**

When the brake system is uncharged and not equipped with an air flow meter, use the following chart to determine the minimum and maximum charging times:

<b>Minimum and Maximum Charging Times When Brake System is Empty</b>		
<b>Brake Pipe Length (in feet)</b>	<b>Minimum Charging Time (Minutes)</b>	<b>Maximum Charging Time (Minutes)</b>
2500 or less	8	25
3000	10	30
4000	15	35
5000	20	40
6000	26	55
7000	35	65
8000	45	75
9000	57	100
10,000	71	125
11,000	80	160

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**39.2: Locomotive Components****39.2 Locomotive Components**

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**39.2.1: Automatic Brake Valves**

## 39.2.1

### Automatic Brake Valves

#### A. 24RL-MC Automatic Brake Valve

The 24RL-MC automatic brake valve is a maintaining, non-self-lapping automatic brake valve. This brake valve maintains in LAP. Therefore, cut-out the maintaining feature during brake pipe leakage tests. Handle positions include:

- FULL RELEASE. Releases the train and locomotive brakes and charges the brake pipe through the regulating valve, preventing overcharge. When the handle is in this position, air is heard exhausting at the brake valve.
- RELEASE. Releases the train and locomotive brakes and charges the brake pipe through the regulating valve.
- FIRST SERVICE. Reduces the equalizing reservoir 6 to 10 psi at a service rate, then continues to reduce brake pipe pressure at a slow rate.
- LAP. Maintains brake pipe pressure at the same level as equalizing reservoir pressure.
- SERVICE. Reduces equalizing reservoir and brake pipe pressures at a service rate.
- EMERGENCY. Vents brake pipe pressure directly to the atmosphere, causing brakes to apply at an emergency rate.

#### B. 24RL-MC1 Automatic Brake Valve

The 24RL-MC1 automatic brake valve is a maintaining, non self-lapping automatic brake valve. This brake valve maintains in MAINTAINING. Use LAP during brake pipe leakage tests. Handle positions include:

- FULL RELEASE. Releases the train and locomotive brakes and charges the brake pipe through the regulating valve, preventing overcharge. When the handle is in this position, air is heard exhausting at the brake valve.
- RELEASE. Releases the train and locomotive brakes and charges the brake pipe through the regulating valve.
- MAINTAINING. Maintains brake pipe pressure at the same level as equalizing reservoir pressure. After making a brake pipe reduction, maintain brake pipe pressure by returning the automatic brake handle to MAINTAINING without pausing in LAP.

**Note:** Pausing in LAP may allow leakage to reduce brake pipe pressure below equalizing reservoir pressure. The brakes will release when you return the handle to MAINTAINING if equalizing reservoir pressure is above brake pipe pressure.

- LAP. Prevents air from leaving or entering the brake pipe at the automatic brake valve. All ports in the brake valve are closed. Brake pipe leakage will continue to reduce brake pipe pressure at the same rate as the leakage. This position is also used for conducting brake pipe leakage tests and recovering from a penalty application.
- SERVICE. Reduces the equalizing reservoir and brake pipe pressures at a service rate.
- EMERGENCY. Vents brake pipe pressure directly to the atmosphere, causing brakes to apply at an emergency rate.

## **C. 26C, 30CDW, Knorr CCB and WABCO EPIC Automatic Brake Valves**

These maintaining, self-lapping brake valves regulate brake pipe pressure, controlling both locomotive and train brakes.

### **Brake Valve Features**

These automatic brake valves have these features:

- The maintaining feature maintains constant brake pipe pressure unless the cutout valve is in OUT.
- The regulating valve controls the supply of air pressure to the equalizing reservoir, which regulates brake pipe pressure.

### **Handle Positions:**

- **RELEASE.** Charges the brake pipe to the regulating valve setting and releases the locomotive and train brakes.
- **MINIMUM REDUCTION.** Reduces equalizing reservoir and brake pipe pressures 6 to 8 psi.
- **SERVICE ZONE.** Gradually reduces equalizing reservoir and brake pipe pressures in increasing amounts as the brake handle is moved to the right.
- Moving the brake handle to the left with the brake valve cutout valve in **PASS** will increase equalizing reservoir and brake pipe pressures. Use extreme care when operating freight trains with the automatic brake valve cutout valve in **PASS**.
- **FULL SERVICE POSITION.** Reduces equalizing reservoir and brake pipe pressures to near equalization.
- **SUPPRESSION.** Restores control of the locomotive after a safety control (penalty) brake application. To recover control, leave the brake handle in this position for 60 seconds. Moving the brake handle farther to the right toward **HANDLE OFF/CONTINUOUS SERVICE**, reduces equalizing reservoir and brake pipe pressures at a service rate. Use this handle position for:
  - Trailing locomotives
  - Helper locomotives that do not control the air brake system
  - Locomotives hauled dead-in-train
- **EMERGENCY.** Vents brake pipe pressure directly to the atmosphere, causing brakes to apply at an emergency rate.

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## **39.2.2: Automatic Brake Valve Cutout Valve**

## 39.2.2

### Automatic Brake Valve Cutout Valve

The automatic brake valve cutout valve determines how and when the automatic brake controls brake pipe pressure.

There are two-position and three-position cutout valves. Because the cutout valve handle is spring-loaded, push it in before changing positions.

**Note:** EMERGENCY is always available regardless of the position of the automatic brake valve cutout valve.

#### A. Two-Position Cutout Valve

The two-position cutout valve has these positions:

- IN. Provides control of brake pipe pressure from the automatic brake valve. Equalizing reservoir and brake pipe pressures will increase when the automatic brake valve is in RELEASE.
- OUT. Disconnects control of brake pipe pressure from the automatic brake valve. Use this position when:
  - Not using the automatic brake valve to control brake pipe pressure (trailing locomotives or locomotives hauled dead-in-tow)
  - Conducting brake pipe leakage tests

#### B. Three-Position Cutout Valve

The three-position cutout valve has these positions:

- FRT. Same as IN position described in two-position cutout valve above.
- OUT. Same as OUT position described in two-position cutout valve above.
- PASS. Provides control of brake pipe pressure from the automatic brake valve. Equalizing reservoir pressure and brake pipe pressure will increase from any movement of the brake handle toward RELEASE. Use this position when operating passenger or commuter trains to utilize the graduated release feature.

**Note:** In freight service, if the equalizing reservoir is leaking, PASS may be used only if it is necessary to maintain constant brake pipe pressure during an automatic brake application. Because of the possibility of an undesired release, placing the three-position cutout valve in PASS position must only be done with the automatic brake valve handle in RELEASE position.

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## 39.2.3: Independent Brake Valves



**39.2.3****Independent Brake Valves**

The following describes the positions and functions of the independent brake valve:

- **RELEASE/ACTUATE.** Normal position to release the locomotive brakes. To release the locomotive brakes while an automatic brake application is in effect, depress the handle while it is in the RELEASE position (actuate).
- **APPLICATION ZONE.** All handle movements between RELEASE and FULL APPLICATION increase or decrease locomotive brake cylinder pressure as follows:
  1. Increase by moving the brake handle to the right (or forward).
  2. Decrease by moving the brake handle to the left (or back towards operator).
- **FULL APPLICATION.** Position for creating maximum locomotive brake cylinder pressure from the independent brake system.

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**39.2.4: MU-2A/Double-Ported Cutout Cock****39.2.4****MU-2A/Double-Ported Cutout Cock**

The handle for the MU-2A cutout cock is spring-loaded; push it in before changing positions.

The MU-2A valve has three positions:

**LEAD or DEAD.** Engages control of the independent brakes. Use when a locomotive is a single unit, a controlling unit, or is being hauled dead-in-tow.

**TRAIL.** Disconnects control of the independent brakes from the independent brake valve. Use when a locomotive is a trailing unit in a multiple-unit consist.

The double-ported cutout cock has two positions:

**IN.** Engages control of the independent brakes on a single locomotive or on the controlling locomotive of a multiple-unit consist. Use IN also when a locomotive is hauled dead-in-tow.

**OUT.** Disconnects control of the independent brakes from the independent brake valve. Use OUT when a locomotive is trailing in a multiple-unit consist.

## 39.2.5: Electro pneumatic Automatic and Independent Brake Valves

39.2.5	<p><b>Electro pneumatic Automatic and Independent Brake Valves</b></p> <p>Electro pneumatic automatic and independent brake valves (Knorr CCB or WABCO EPIC) are cut-in or cut-out through electronic display screens. The air brake setup screens options are:</p> <ul style="list-style-type: none"><li>• Independent Brake:<ol style="list-style-type: none"><li>1. Lead.</li></ol>Or<ol style="list-style-type: none"><li>2. Trail.</li></ol></li> <li>• Automatic Brake Valve:<ol style="list-style-type: none"><li>1. Pass (passenger-to be used only in passenger service).</li><li>2. Freight.</li></ol>Or<ol style="list-style-type: none"><li>3. Cut Out.</li></ol></li></ul> <p><b>Note:</b> To avoid an undesired emergency brake application when cutting in the automatic brake on these systems, cut-in the independent brake first by selecting "Lead" and saving changes before changing automatic brake valve setup to "Freight" (or "Pass"). Most units now have graceful cut-in eliminating this problem.</p>
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## 39.2.6: Locomotive Electronic Air Brake Computer Resets Resetting CCB Faults

39.2.6	<p><b>Locomotive Electronic Air Brake Computer Resets Resetting CCB Faults</b></p> <p>Knorr CCB systems may sometimes detect a system fault enroute or when setting up that may be cleared as follows:</p> <ol style="list-style-type: none"><li>1. Secure locomotive.</li><li>2. Close end cocks on affected unit, including main reservoir line.</li><li>3. Verify that air brake computer (CCB) circuit breaker is closed and remove reverser handle.</li><li>4. Set unit air brake setup to TRAIL. Note: If unit will not go to TRAIL, select LEAD, save and confirm. Try Step 4 again.</li><li>5. Place automatic brake valve handle in EMERGENCY position.</li><li>6. Place independent brake valve handle in RELEASE position.</li><li>7. After 60 seconds, place automatic brake valve handle in RELEASE position.</li><li>8. Change air brake setup to LEAD-CUT IN, and charge brake pipe to 90 psi.</li><li>9. Place automatic brake valve handle in SUPPRESSION position for</li></ol>
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10 seconds.

10. Return automatic brake valve handle to RELEASE position. Allow equalizing reservoir and brake pipe to FULLY charge and allow brake cylinder pressure to go to 0 psi.
11. Place independent brake valve handle in FULL APPLICATION position.
12. Place independent brake valve handle in RELEASE position.
13. ACTUATE (BAIL) for 10 seconds.
14. Place automatic brake valve handle in EMERGENCY position.
15. After 60 seconds, place automatic brake valve handle in RELEASE position.
16. Place independent brake valve handle in FULL APPLICATION position.
17. Faults should be cleared. If faults do not clear, follow message instructions on operator's display.

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## 39.2.7: Air Flow Meter

### 39.2.7

#### Air Flow Meter

The air flow meter measures the rate in cubic feet per minute (CFM) that air flows into the brake pipe. The Air Flow Method uses this meter to determine brake pipe leakage.

#### A. Air Flow Meter Readings

The air flow meter provides the following brake pipe flow information:

- As the brake system begins charging, a high flow into the brake pipe is indicated by:
  1. Higher numbers (more than 60 CFM).
  - or
  2. The pointer moving to the right.
- As the brake system becomes charged, a lesser air flow into the brake pipe is indicated by:
  1. Lower numbers (less than 60 CFM).
  - or
  2. The pointer moving to the left.
- If the air flow meter shows a reading (less than 60 CFM or left of the calibration mark) that is stabilized, the brake system is charged.

#### B. Air flow information

The air flow meter also provides the following information about the train's brake system:

- After a brake application and release, the air flow meter will

indicate high flow. As the brake system recharges, the brake pipe flow rate will decrease until the air flow pointer reaches the reference value, indicating that the brake system is recharged.

- Air flow less than the reference value may indicate a closed angle cock.
- Air flow greater than the reference value may indicate increased leakage to the brake system.
- With a brake application in effect, a decrease in air flow may indicate that an unintentional brake release is occurring.

Once the air flow meter shows a constant reading, the engineer should:

1. Note the rate of flow and use this number as a reference to determine when the brake system is charged.
2. If the air flow meter is equipped, adjust the reference pointer to agree with the flow pointer.

**Note:** This reading is a reference value to use to monitor fluctuations in air flow to the brake pipe.

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## 39.2.8: Overspeed Control

### 39.2.8

#### Overspeed Control

The overspeed control prevents the train from running at speeds higher than the safe mechanical limits of the traction motors. It functions as follows:

- If train speed increases to an unsafe level, the safety control device sounds a warning.
- If the train does not slow within 6 to 12 seconds of the first warning sound, the overspeed control device applies the train brakes and trips the PC switch.

**Exception:** Some BNSF locomotives allow an Overspeed Penalty Application to be prevented by placing automatic brake valve to MINIMUM position. When warning whistle is heard, move automatic brake valve to MINIMUM position. If speed reduces sufficiently, train brakes may be released, when desired. If Penalty Brake Application occurs as indicated by PCS open and service brake application, move automatic brake valve handle to SUPPRESSION to recover.

#### A. Slowing Train due to Overspeed Application

To slow the train when the safety control device sounds a warning, comply with the following:

1. On locomotives with 26L, 30CDW, and CCB brake equipment,

move the automatic brake handle to SUPPRESSION within the 6 to 12 second warning period.

2. On locomotives with other brake equipment, reduce the brake pipe pressure 6 to 8 psi, or more if necessary.

## **B. Recover Overspeed**

To recover when the overspeed control applies the train brakes:

1. On locomotives with 26L, 30CDW, and CCB brake equipment, move the automatic brake handle to SUPPRESSION.
2. On locomotives with other brake equipment, move the automatic brake handle to LAP.
3. Move the throttle to IDLE and wait 60 seconds.
4. After the train stops, move the automatic brake handle to RELEASE and note that:
  - o Brake pipe pressure is restored.
  - o PC light goes out.
  - o Brakes release.

**Note:** Some locomotive equipment has been modified to slow the train during the warning period with the automatic brake valve in MINIMUM REDUCTION. Unless the engineer knows that the locomotive being operated includes this modification, the SUPPRESSION position should be used.

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## **39.3: Charts and Diagrams**

### **39.3 Charts and Diagrams**

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### **39.3.1: Car Chart Components**

**39.3.1****Car Chart Components**

(To be used when notifying the Dispatcher's Office or others of location of defects, etc.)

To determine axle number, journal number, and wheel number on a car, stand facing the hand brake end of the car (the B end) and count the closest axle as number one and the wheels and journals on right and left sides as R1, R2, etc., and L1, L2, etc., respectively, as shown in the diagram.

**Note:** For all multi-unit articulated cars, the journal-wheel number will be stenciled on the side frame directly above the journal.

1. Horizontal end hand hold

2. Hand brake housing

3. End ladder tread

4. Hand brake wheel

5. Telescoping uncoupling rod

6. Uncoupling lever guide

7. Hand brake chain

8. End platform (combined crossover and brake step)

9. Bell crank

10. Vertical hand brake rod

11. Front draft gear stop

12. Striker

13. Coupler knuckle pin

14. Coupler knuckle

39. Brake shoe

40. Wheel

41. Axle

42. Truck live lever

43. Brake beam

44. Roller bearing adapter

45. Roller bearing end cap

46. End cap retaining bolt

47. End cap locking plate

48. Truck side frame

49. Truck spring

50. Truck bolster

51. Roller bearing assembly

52. Truck side bearing roller

53. Truck side bearing housing

54. Truck dead lever

55. Clevis at dead lever

56. Clevis at dead lever fulcrum

57. Dead lever anchor  $\frac{3}{4}$  underframe mounted

58. Center pin

59. Truck center plate cast integral with truck bolster

60. Air hose

61. Hand brake chain at bell crank

- |  |   |
|--|---|
| 15. Type E coupler head                | 62. Hand brake rod guide                    |
| 16. Coupler carrier                    | 63. Hand brake rod                          |
| 17. Coupler wear plate                 | 64. Hand brake chain at cylinder            |
| 18. Striker flange                     | 65. Cylinder push rod                       |
| 19. Angle cock                         | 66. Air brake cylinder                      |
| 20. Draft key washer                   | 67. Cylinder pipe, 3/4"                     |
| 21. Draft key                          | 68. Floating lever guide                    |
| 22. Draft key retainer                 | 69. Floating lever                          |
| 23. Brake pipe, 1-1/4" (Train line)    | 70. Pipe clamp, 3/4"                        |
| 24. Follower block                     | 71. Top rod "A" end                         |
| 25. Coupler yoke                       | 72. Branch pipe tee                         |
| 26. Draft gear                         | 73. Branch pipe tee support                 |
| 27. Rear draft gear stop               | 74. Combined dirt collector and cutout cock |
| 28. Rear draft gear stop reinforcement | 75. Connection hose                         |
| 29. Hydraulic piston                   | 76. Pipe clamp, 1-1/4"                      |
| 30. Center sill                        | 77. Retainer pipe                           |
| 31. Back stop plate                    | 78. Retainer valve                          |
| 32. Rear lug casting                   | 79. ABD control valve                       |
| 33. Striker casting                    | 80. Release rod                             |
| 34. Coupler key                        | 81. Auxiliary reservoir pipe, 3/4"          |
| 35. Cushioning unit                    | 82. Emergency reservoir pipe, 3/4"          |
| 36. Restoring mechanism                | 83. Reservoir support                       |
| 37. Inspection plate                   |   |

38. Rear cross key

84. Combined auxiliary and emergency reservoir

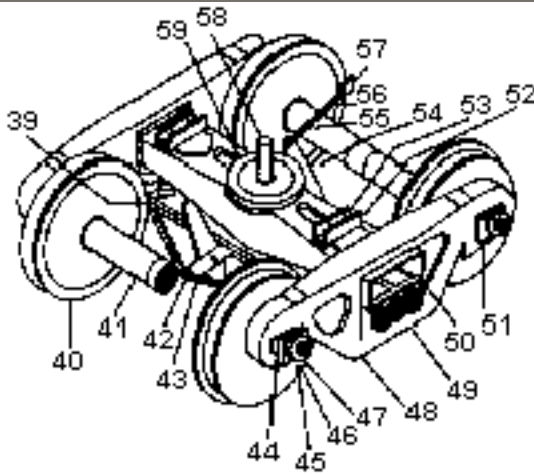
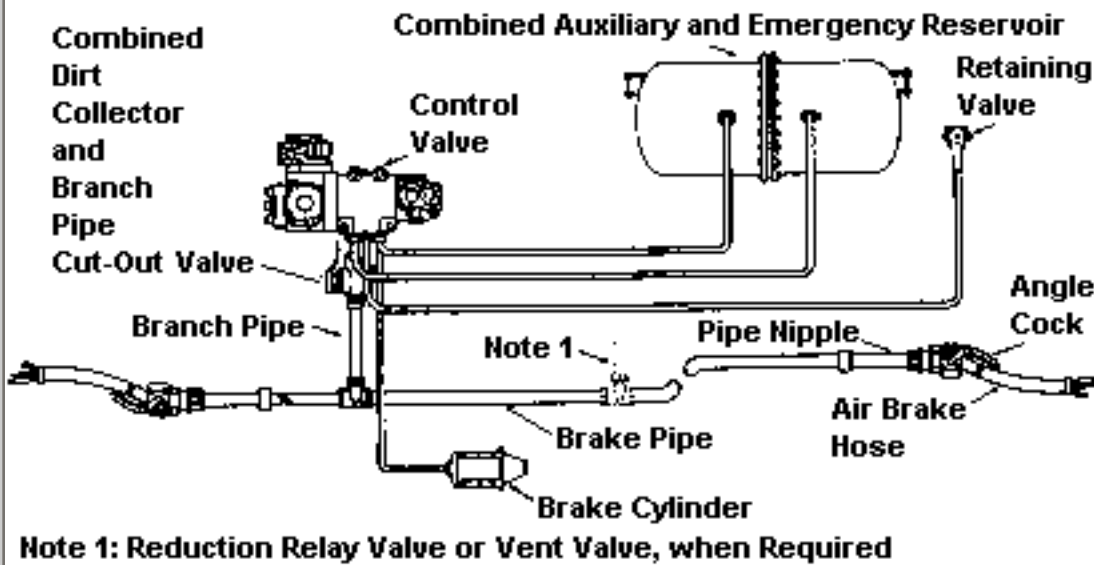
85. Cylinder lever guide

86. Brake lever fulcrum

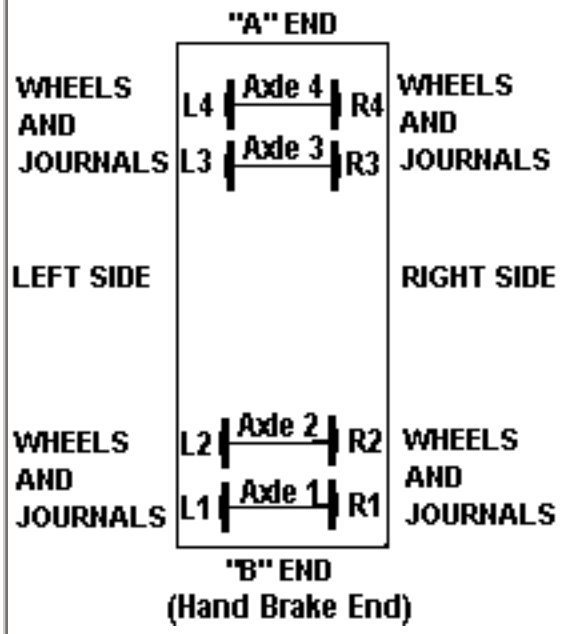
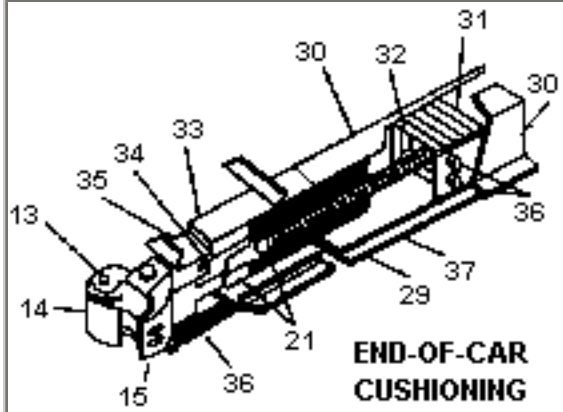
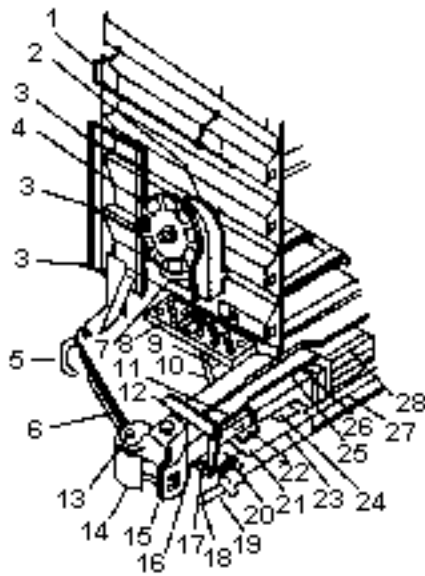
87. Brake slack adjuster

88. Cylinder lever

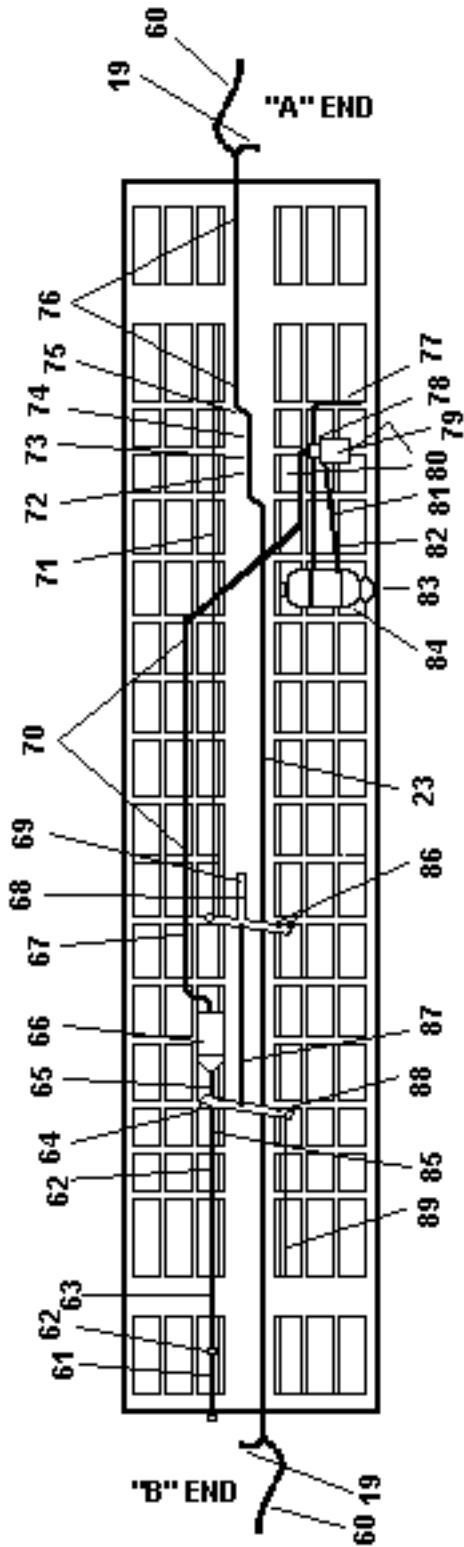
89. Top rod "B" end







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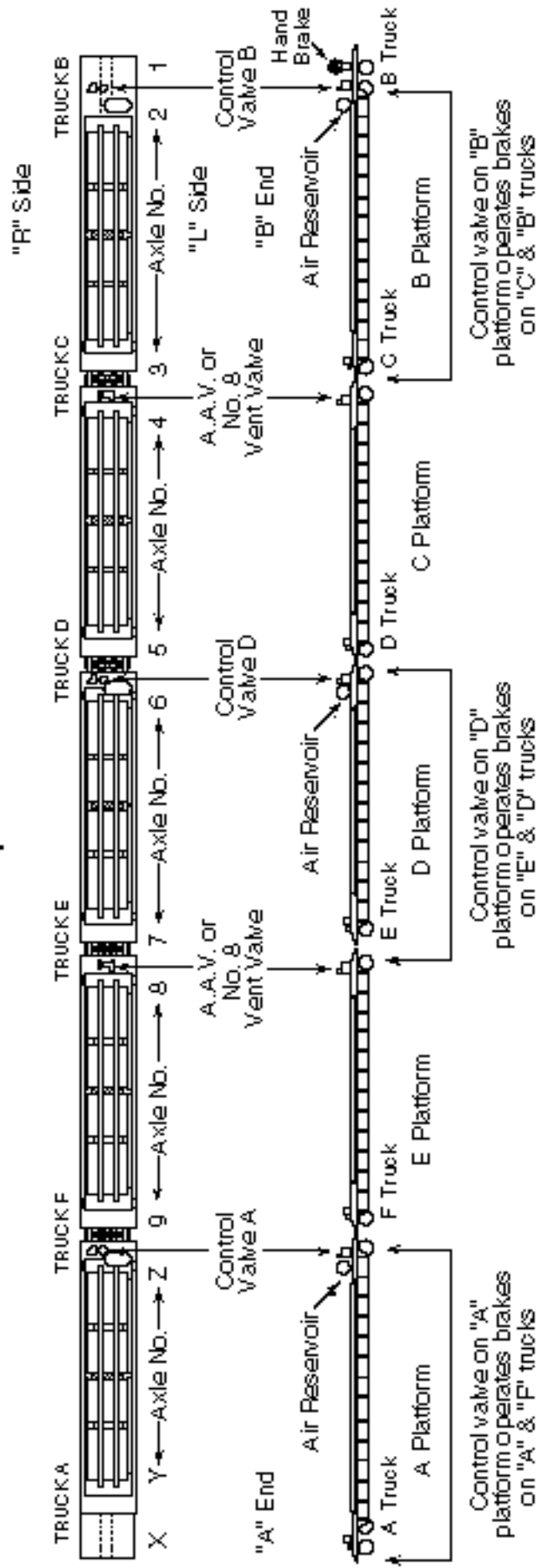


## 39.3.2: Terminology for Articulated Car Identification Diagram

39.3.2	<p><b>Terminology for Articulated Car Identification Diagram</b></p> <p><b>Control Valve</b> – Operates truck-mounted brakes. It consists of two valve portions bolted to a pipe bracket and has a cutout cock. It is located by the air reservoir. Each control valve operates the brakes on two trucks:</p> <ul style="list-style-type: none"><li>• The control valve on the A platform operates the brakes on A and F trucks.</li><li>• The control valve on the D platform operates the brakes on E and D trucks.</li><li>• The control valve on the B platform operates the brakes on C and B trucks.</li></ul> <p><b>A.A.V. (Accelerated Application Valve)</b> – Does not operate brakes, but does propagate the signal to operate brakes. It consists of one valve portion bolted to a pipe bracket and has a cutout cock. However, do not cut-out the A.A.V. unless there is a continuous blow of air through the valve.</p> <p><b>No. 8 Vent Valve</b> – Does not operate brakes but does propagate the signal to operate brakes. It consists of a single vent valve and does not have a cutout cock. It does have a plug that can be installed if there is a continuous blow of air through the valve.</p> <p><b>Hand Brakes</b> – Five platform cars have a hand brake on the B platform. Also, there may be a hand brake on the A platform. When there are hand brakes on both the A and B platforms, they are painted orange. If the car is set out and the use of hand brakes is necessary, apply both hand brakes.</p>
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**Truck, Axle, and General Brake Arrangement of:**

- Five-Platform Double-Stack Well Cars and
- Five-Platform Spine Cars



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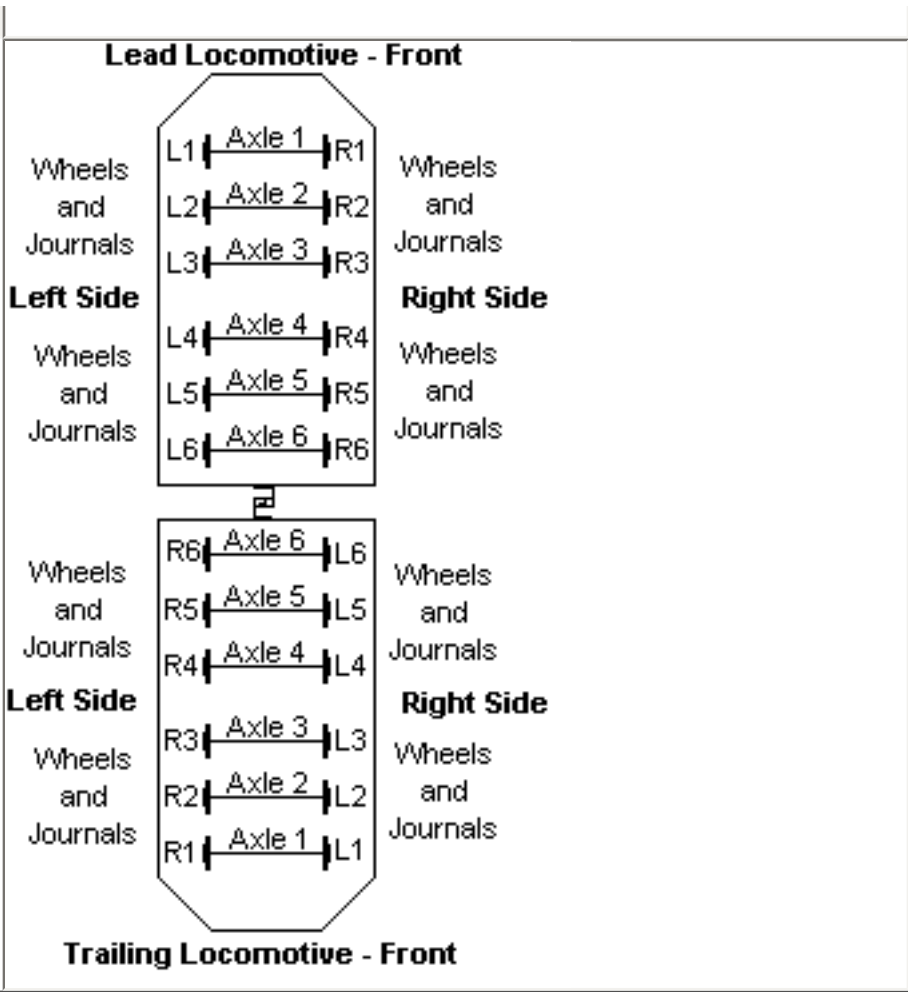
### 39.3.3: Coupler Diagram

39.3.3	<p><b>Coupler Diagram</b></p> <p><b>KNOW YOUR COUPLERS</b></p> <table><tr><td>KNUCKLES MARKED "E 50" FIT "E" TYPE COUPLERS</td><td>KNUCKLES MARKED "F 51" FIT "F" TYPE COUPLERS</td></tr></table> <div></div> <div>ROUND CORNER TYPE "E"</div> <div></div> <div>SQUARE CORNER TYPE "F"</div>	KNUCKLES MARKED "E 50" FIT "E" TYPE COUPLERS	KNUCKLES MARKED "F 51" FIT "F" TYPE COUPLERS
KNUCKLES MARKED "E 50" FIT "E" TYPE COUPLERS	KNUCKLES MARKED "F 51" FIT "F" TYPE COUPLERS		

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### 39.3.4: Locomotive Axle, Journal, and Wheel Identification Diagram

39.3.4	<p><b>Locomotive Axle, Journal, and Wheel Identification Diagram</b></p> <p>(To be used when notifying the Dispatcher's Office or others of location of defects, etc.)</p> <p>To determine axle number, journal number, and wheel number on a locomotive, stand facing the same direction as the specific locomotive is headed and count axles from the front of that locomotive as axle one, two, etc., and wheels and journals on the right and left sides as R1, R2, etc., and L1, L2, etc., respectively, as shown in the diagram.</p>
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### 39.3.5: Locomotive Air Brake Equipment

Place air brake valves in the proper position on freight and helper locomotives. To MU locomotives, position brake valves and cutout cocks as indicated in the following tables:

<b>26 and 30CDW Brake Equipment Positions</b>			
	<b>Lead</b>	<b>Trail</b>	<b>Helper</b>
Automatic Brake Valve	Release	Handle Off/Continuous Service	Handle Off/Continuous Service
Independent Brake Valve	Applied Full	Release	Release
	<b>LEAD OR DEAD</b>	<b>TRAIL</b>	<b>LEAD OR DEAD</b>

MU-2A Valve or Double-Ported Cutout Cock	In	Out	In
<b>CCB Brake Equipment Positions</b>			
	<b>Lead</b>	<b>Trail</b>	<b>Helper</b>
Automatic Brake Valve	Release	Handle Off/Continuous Service	Handle Off/Continuous Service
Independent Brake Valve	Applied Full	Release	Release
Air Brake Setup	Lead/Cut-in	Trail	Lead/Cut-out
<b>24RL Brake Equipment Positions</b>			
	<b>Lead</b>	<b>Trail</b>	<b>Helper</b>
Automatic Brake Valve	Release	Release	Lap
Independent Brake Valve	Applied Full	Release	Release
Automatic Brake Valve Cutout Valve	Open	Closed	Closed
Rotair Valve	Pass Frt	Frt Lap	Pass or Frt
MU-2A Valve	Lead or Dead	Trail	Lead or Dead

**Note:** On SD70ACe and C45 locomotives, when the locomotive is other than the controlling locomotive, the automatic brake valve pin, if available, must be inserted to insure the brake valve handle remains in the proper position. The engineers seat must be left secured/locked. This also applies when these locomotives are set out.

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Updated: 1/20/2012

# Glossary

- [GLOSSARY](#)

## GLOSSARY

### GLOSSARY

#### **Accelerometer**

An indicator that displays the predicted increase or decrease in speed in MPH per minute.

#### **AC Locomotive**

Alternating Current (AC) locomotives are equipped with AC traction motors and are not affected by maximum continuous current ratings or short-time operating ratings.

#### **Actuating**

Using a feature of the independent brake valve to charge the actuating pipe from the main reservoir and prevent or release a locomotive brake application initiated from a brake pipe reduction.

#### **Air Brake**

A system of compressed air devices controlled manually, electronically, or pneumatically that make the car or locomotive slow down or stop.

#### **Air Brake Equipment**

The equipment that supplies and exhausts air to and from the brake cylinders but does not include foundation brake gear and hand brakes.

#### **Air Brake Hose**

The flexible hose at each end of a car or locomotive that includes a coupling (glad hand) that fits into an identical coupling on the adjoining car or locomotive. The complete arrangement connects air between the brake pipes of the cars and the locomotives throughout the train.

#### **Air Brake System**

All of the devices for operating air brakes to control the speed of and stop a locomotive or train. The system includes the operating devices, pipes, hoses, fittings, and foundation brake gear.

#### **Air Compressor**

A locomotive device, powered by the diesel engine or an electric motor, that compresses air for operating the air brakes and all other air-operated devices on locomotives and cars.

#### **Air Compressor Control Switch**

A device that controls the loading and unloading of the compressor at the proper main reservoir pressures.



**Air Flow Indicator (AFI)**

A gauge installed in some locomotives that indicates the pressure differential of air flowing into the brake pipe through the automatic brake valve. It is not adjustable and cannot be used for air flow method leakage testing of trains or cars. This gauge is labeled on the face "AIR FLOW INDICATOR" and graduated from 0 to 14 in even numbers (0, 2, 4, 6, etc. to 14).

**AFM Indicator or Air Flow Measurement (AFM)**

A gauge installed in some locomotives that indicates the volume of air in cubic feet per minute (CFM) flowing into the brake pipe through the automatic brake valve. This gauge is calibrated every 92 days and can be used in the Air Flow Method of leakage testing on trains and cars. It is labeled on the face as "AFM INDICATOR" and is graduated in 10 CFM increments. The gauge is marked at 20, 40, 60, and 80, and lines mark the 10 CFM steps between those numerals.

**Air Flow Method**

Shortened name, or slang, for Air Flow Method of leakage testing. The method of train/car leakage testing to determine the amount of air in cubic feet per minute (CFM) flowing into the brake pipe through the automatic brake valve to maintain desired pressure against leakage.

**Air Gauge**

An instrument that indicates air pressure in pounds per square inch (psi).

**Alignment Control Coupler**

Specially equipped couplers installed on most locomotives that only allow the coupler in buff to move laterally within certain limits. This equipment minimizes rail turnover, wheel climb, and jackknifing.

**Ampere (Amperage, Amps)**

The standard unit for measuring electric current.

**Angle Cock**

A manually operated device located at each end of the brake pipe on locomotives and cars to permit or prevent air flow.

**Articulated Multi-platform Car**

A car with multiple units (segments) that have articulated couplings and in which the units share a common truck.

**Automatic Brake Valve**

A manually operated electronic controller or pneumatic valve on the locomotive that controls the train and engine brakes.

**Auxiliary Reservoir**

A storage volume, charged from the brake pipe, to receive and store air to apply brakes on a car or locomotive. In freight car equipment, the auxiliary reservoir and emergency reservoir are combined in one structure.

**"B" End (of car)**

The end where the hand brake is located unless otherwise identified.

**Back-up Valve or Hose**

A device, either portable or permanently connected to the brake pipe, which controls brakes from the car that it is attached to. The device can apply the brakes with a service or emergency application.

### **Balanced Braking**

The combined use of train air brakes and dynamic brake to stabilize, increase, or decrease train speed on a descending grade.

### **Bleed (Bleed-off)**

Venting air pressure to the atmosphere, such as venting air pressure from the brake cylinder of individual cars, by using the release valve.

### **Blended Brake**

The combination of air and dynamic braking by making an automatic service brake application with the throttle in idle.

### **Brake Application**

A brake pipe pressure reduction (no matter how made) that causes the control to move to the service or emergency position.

### **Brake Cylinder**

A cylinder containing a piston. Compressed air forces the piston outward to apply the brakes. When the air pressure is released, the piston returns to its normal position by a release spring coiled around the piston rod inside the cylinder.

### **Brake Pipe**

The section of air brake piping of a car or locomotive that supplies the reservoirs. It also connects the piping to allow the locomotive engineer to control the car brakes. The pipe is 1-1/4" in diameter and extends from one end of the car to the other. At the ends, flexible hoses connect the cars. When a train is made up and all brake pipes on the cars are joined together, the entire pipe line is called the brake pipe.

### **Brake Pipe Gradient**

The difference in brake pipe pressure between the locomotive (or source of supply) and the rear car of the train. Brake pipe gradients may be:

- **Normal:** The gradient that exists when the system is fully charged
- **False:** The temporary gradient that exists when the system is less than fully charged (For example, the exaggerated difference between the head end and rear end after a release)
- **Inverse:** The temporary condition when the brake pipe pressure is higher at the rear of the train than at the head end of the train (For example, during a service brake application)

### **Brake Pipe Pressure**

The amount of pressure in pounds per square inch (psi) in the brake pipe (commonly expressed in pounds).

### **Brake Valve Cutoff Valve**

A device on locomotives that can cut-out the charging and service functions of the automatic brake valve. This valve also properly positions the brake valve for passenger or freight operation.

### **Branch Pipe Cutout Cock**

A device on locomotives and cars that isolates the control valve from the brake pipe.

**Buff Forces**

A term used to describe compressive coupler forces in a train. Buff forces bunch the slack in a train.

**Cab Car**

Railroad rolling equipment intended to provide transportation for members of the general public that is without propelling motors but equipped with one or more control stands. Locomotive rules apply to cab car operation.

**Calendar day**

A time period running from one midnight (0001) to the next midnight on a given date.

**Code "L"**

Code "L" is used to identify territories or corridors with relatively light grades and low to moderate track curvature in the coupler limit tables.

**Code "H"**

Code "H" is used to identify territories or corridors with heavier grades and severe track curvature in the coupler limit tables.

**Compensated Grade**

A grade, the curved portion of which has been reduced by an amount sufficient to compensate for the resistance due to the curvature.

**Consist**

The term "consist" usually refers to a set of locomotives coupled together to pull a train. The term may also be used to refer to an entire train—its locomotives and all its cars.

**Control Valve**

A device on locomotives or cars that charges the reservoirs and applies or releases brake cylinder pressure when brake pipe pressure reduces or increases.

**Controlled Tractive Effort (CTE)**

CTE mode is a method of limiting maximum tractive effort to 110,000 lbs. at speeds below 14 MPH. CTE mode will affect all linked remote consists if the controlling locomotive on the remote is so equipped. The effect of CTE mode is shown in System Special Instructions under Locomotive Information.

**Conventional Car**

A car such as a gondola, hopper, intermodal flat car, box car, bulkhead flat car or single well car. Does not include multi-platform spine cars or multi-well cars (articulated cars).

**Coupler Limit**

The location in the train where maximum trailing tonnage allowed for standard or high strength couplers occurs. Helper locomotive(s) may be used to reduce the amount of tonnage handled by a consist.

**DC Locomotive**

Direct Current (DC) locomotives are equipped with DC traction motors and are affected by maximum continuous current ratings or short-time operating ratings.

**Dead Engine Feature**

A device used when a unit is handled dead-in-train. When the dead engine cutout cock is

opened, the main reservoirs are charged from the brake pipe to operate the engine brakes.

### **Distributed Power (DP)**

One or more locomotive consists that are remotely controlled from the lead locomotive.

### **Disturbed Track**

A section of passable track that has a temporary speed restriction imposed because various defects or track maintenance have affected the integrity of the track.

### **Draft Forces**

A term used to describe tension coupler forces in a train. Draft forces stretch out the slack in a train.

### **Draft Gear**

The connection between the coupler rigging and the center sill. This connection receives and cushions the shocks associated with in-train forces or coupling.

### **Drawbar Forces (In-train Forces)**

Forces at the couplers between cars and/or locomotives that may be either draft (stretched) or buff (compressed), depending on train operation.

### **Dynamic Brake**

An electrical device that converts some of the energy developed by a moving locomotive into an effective retarding force:

- **High Capacity Dynamic Brakes** – Provide approximately 13,500 lbs. of effort per axle instead of 10,000 lbs. per axle as other dynamic brake systems.
- **Flat (Grid Control) Dynamic Brake System** – A dynamic brake system that provides retardation that is controlled solely by the position of the dynamic brake lever. Maximum retardation occurs at Position 8.
- **Taper (Speed Control) Dynamic Brakes** – A dynamic brake system that provides retardation relative to both speed and dynamic brake handle position. The higher the speed, the greater the retarding force developed for a given handle position. At higher speeds, full dynamic brake effort is reached at Position 4.

### **Dynamic Brake Holding Feature**

A feature of the lead, controlling locomotive that allows dynamic braking effort when a PCS open condition exists.

### **Dynamic Brake Interlock (DBI)**

A device that will automatically keep the locomotive brakes from applying when automatic brakes are applied during dynamic braking.

### **Equalization**

A term used to describe the condition that exists when brake cylinder pressure and auxiliary reservoir pressure become equal.

### **Electronic Alertness Control**

A safety control system that senses the activity of the engineer. If activity or manual resetting of the device does not occur within a predetermined time frame, a penalty brake application is initiated.

### **Electronic Controlled Brakes**

An air brake system that can be controlled electronically is referred to as electronically controlled pneumatic brakes or ECP. The ECP systems that are being utilized are overlay brake systems. Overlay means the freight car brake system can be operated in either ECP or conventional pneumatic mode. All cars in the train must be equipped with ECP to operate in the electric mode.

### **Emergency Application**

A rapid reduction of brake pipe pressure that causes the control valves to move to the emergency position and the vent valves to open. This equalizes auxiliary reservoir, emergency reservoir, and brake cylinder pressures.

### **Emergency Brake Valve**

A manually operated device on equipment that initiates an emergency brake application.

**Emergency Reservoir**A storage volume, charged from the brake pipe, to receive and store air used during emergency brake applications and certain recharge features.

### **Engine/Locomotive**

A self-propelled unit of equipment designed for moving other railroad rolling equipment in revenue service including a self-propelled unit designed to carry freight or passenger traffic, or both, and may consist of one or more units operated from a single control.

### **End-of-Train Telemetry System**Telemetry Components

End-of-train telemetry device is a radio end-of-train telemetry system that consists of:

- End-of-train device (EOT) mounted on the trailing coupler of the last car or linked DP consist located on the rear of the train.
- Head-of-train device (HEU) in the locomotive.

A two-way EOT that has been armed (emergency enabled) provides the capability to initiate an emergency brake application at the rear of the train. An Emergency toggle switch associated with the HEU cab display is used to activate the EOT emergency valve. For this to happen, both the head-end and the rear-end units must be equipped for two-way communication and armed (emergency-enabled).

### **Equalizing Reservoir**

A small reservoir used in automatic air brake operations. It is only cut-in on the controlling unit. When a brake pipe reduction occurs, air is drawn from the equalizing reservoir. The reservoir then automatically draws the proper amount of air from the brake pipe. For this reason, the brake pipe pressure and the equalizing reservoir pressure are always the same, except when they are equalizing after a brake pipe reduction or when the brake pipe is charging/recharging.

### **Foundation Brake Gear**

The levers, rods, brake beams, etc. that connect the brake cylinder piston rod to the brake shoes so that when air pressure forces the piston out, the brake shoes are forced against the wheels.

### **Full Service Application**

A brake pipe reduction made only to the point at which the auxiliary reservoir and brake cylinder pressures equalize. From a 90-psi fully charged air brake system, service equalization will occur following a 26-psi brake pipe reduction, at 64-psi. Any further reduction in the brake pipe pressure, except an emergency application, will not affect the amount of pressure in the brake cylinder. Additional reductions greater than 26-psi may result in the loss of the ability to obtain an emergency brake application.

**Full Tractive Effort (FTE)**

Allows locomotive to operate at full tractive effort at speeds below 14 MPH.

**Grade (of Track)**

Grade is other than level track and is usually expressed as a percentage. The percentage is the number of feet the track rises or falls in a distance of 100 feet. For example, a 1% ascending grade means that the track rises 1 foot in elevation for every 100 feet the equipment travels on the track. Unsecured rail equipment may roll on a grade.

- Grade designations include the following:
  - Light Grade: Less than 1.0%
  - Heavy Grade: At least 1.0% for a distance of 3 miles or more
  - Mountain Grade: 2.0% or greater for a distance of 2 miles or more

**Hand Brake**

A mechanical arrangement of levers, chains, rods, gears, and fulcrum. When applied manually by wheel or lever, the hand brake forces the brake shoes against the braking surfaces (wheel tread or disc) to control car or locomotive movement.

**Head of Train Device (HEU)**

A radio device located in the locomotive cab that communicates with an End of Train Device (EOT) or distributed power (DP) consist. The HEU displays:

- Last car brake pipe pressure
- Last car motion status (moving or stopped)
- Marker light status (on or off)
- EOT battery status
- Communication Status with EOT
- Two-way Armed Status
- Distance measurement referenced to locomotive movement

And it provides:

- Audible alarms pertaining to status changes
- Arming capability to a selected two-way EOT
- Interface for Manual and Automatic initiated EOT emergencies

**Helper**

Distributed power or manned helper added to a train to assist movement.

**Head End Power (Passenger)**

Power generated on board the locomotive of a passenger train used for purposes other than propelling the train, such as heating, illumination, ventilation, and air conditioning.

**Horsepower Per Trailing Ton (HPT)**

The total horsepower of all working locomotives divided by the total trailing weight of the train in tons. For example, a train powered by 15,000 horsepower and having a trailing weight of 4,285 tons has a 3.5 horsepower per trailing ton ratio (15,000 HP divided by 4,285 tons).

**Independent Brake Valve**

A brake valve that controls the locomotive brakes independent of the automatic brake valve handle position.

**Independent Pressure Switch (IPS)**

A device on a locomotive that cancels the extended range portion of dynamic braking or all dynamic braking when a sufficient independent brake application occurs. This switch prevents the locomotive wheels from sliding because of excessive braking.

**Initial Terminal**

Means a location where a train is originally assembled.

**Interchange**

A location where railroads exchange cars and/or locomotives.

**Intercom System**

A two-way voice communication system through which voice communication is transmitted and received.

**Intermodal Equipment**

Equipment designed to carry trailers, containers, or automobiles. Intermodal trains are trains made up entirely of intermodal equipment.

**Isolation Switch**

A switch on diesel electric locomotives that has two or three positions. In the RUN position, the unit is "on the line," responds to control, and develops power. In the ISOLATION (or Stop-Start) position, the unit is isolated from the consist and does not develop power or respond to control.

**Linking**

The process of electronically connecting DP or RCL equipment:

- The controlling lead unit to the controlling distributed power unit on a distributed power train
- The controlling locomotive unit to the remote control transmitter(s)

**Light Locomotive**

One or more units, with or without a caboose, not coupled to cars.

**Jackknife**

Excessive lateral forces caused by heavy buff forces resulting in wheels lifting over the high rail or rail rolling over.

**Journal**

The part of a rail car axle on which the journal bearing rests or is mounted. Found at each end of each axle of a rail car.

**Main Reservoir**

An air reservoir on the locomotive for storing and cooling compressed air.

**Minimum Continuous Speed**

Minimum continuous speed is the slowest speed at which a DC locomotive can operate continuously in Throttle 8. Locomotive traction motors operating under these conditions develop the highest amperage possible before overheating. The minimum continuous speed varies and is indicated by the rating plate on the locomotive.

**Minimum Reduction**

The first position of the automatic brake valve that initiates a service application of 6 to 8-psi.

**Man Down Feature**

Safety feature on a remote control transmitter that transmits an emergency message over the radio when RCL transmitter is tilted beyond prescribed limits.

**Manned Helper**

A helper controlled by an engineer in the controlling unit of the locomotive helper consist.

**Multiple Unit (MU)**

Lead locomotive followed by one or more locomotives. Cables and hose connections between the locomotives allow control of the trailing units from the lead locomotive.

Note: Locomotive(s) handled DIC/Isolated at rear of consist will be considered MU'd when all air hose connections have been made and Rule 31.8.4 Locomotive Consist Air Brake Test performed.

**MU Cutout Cock (MU-2-A, Dual-Ported Cutout Cock)**

A device for cutting in or out the independent brake valve.

**Non-articulated Multi-platform Cars**

A car with multiple units (segments) that are connected with solid drawbars. Each unit is a stand-alone unit and does not share a common truck with another unit.

**Off Air**

Not connected to a continuous source of compressed air of at least 60 pounds per square inch (psi).

**Overcharge**

Brake equipment charged to a higher pressure than the regulating valve is adjusted for or can maintain. In such a condition, brakes on a portion of the train may not release.

**PA System (public address system)**

A one-way voice communication system.

**Parking Brake**

A Cab Car brake valve that controls the brakes on the lead truck of the Cab Car only and does not have the capability to actuate any brakes applied from the automatic brake valve handle.

**Penalty Brake Application**

An automatic full service brake application caused by various safety devices.

**Pitch and Catch**

Transferring controls of the locomotive to another linked RCT.

**Plug Door**

A type of side door used on insulated and refrigerator cars that fits flush with the side of the car when closed.



**Positive Stop Protection (PSP)**

Positive Stop Protection is designed to stop movements before reaching the end of a remote control zone if the RCO fails to control the movement.

**Power Cut-off Switch (PCS)**

An air-operated switch, activated by an emergency or penalty brake application, that drops the engine speed to idle on EMD locomotives or throttle notch 1 on GE locomotives.

**Power Holding Feature**

A feature of the lead, controlling locomotive that allows tractive effort to continue for approximately 20 seconds when a PCS open condition exists. This feature will not function when an emergency application is initiated by either the conductor's or the engineer's brake valve.

**Pressure Maintaining Braking**

Controlling train speed by making enough of a brake pipe reduction to stabilize speed on a grade, then allowing the automatic brake valve pressure maintaining feature to hold the brake application constant regardless of brake pipe leakage.

**Pressure Maintaining Feature**

A system designed to overcome brake pipe leakage both in the RELEASE and SERVICE positions of the automatic brake valve.

**Primary Remote Control Operator (Primary Operator)**

The employee operating the transmitter while controlling a remote control movement.

**Qualified Person (Freight)**

A train service employee given fundamental training on freight car inspections and air brake tests.

**Qualified Person (Passenger)**

A train service employee given fundamental training on passenger car inspections and air brake tests.

**Qualified Mechanical Inspector (Carman)**

A person, such as a carman, who has been given more extensive training that encompasses more detailed inspection and repairs.

**Qualified Maintenance Person (Passenger Car Inspector)**

A person, such as a carman, who has been given more extensive training that encompasses more detailed inspection and repairs and is qualified to conduct a Passenger Class I Brake Test.

**Remote Control Locomotive**

A locomotive equipped with radio control, operated by a remote control operator.

**Remote Control Operator (RCO)**

Employee trained in remote control operations who uses an RCT to operate a remote control locomotive and possesses a Class 6 or 7 operator's license.

**Remote Control Transmitter (RCT)**

A portable unit attached to an RCO vest. The RCT sends commands to the RC receiver on the locomotive.

**Reduction (of the brake pipe)**

A decrease in brake pipe pressure at a rate and of an amount sufficient to cause a train brake application to be initiated or increased.

**Reduction Relay Valve**

A device on long cars that helps reduce brake pipe pressure during service and emergency brake applications. The valve compensates for the added length of brake pipe on long cars.

**Regulating Valve**

The valve that reduces air pressure from the locomotive's main reservoir to the desired pressure in the brake pipe. The regulating valve will automatically maintain that pressure when the automatic brake valve is in the RELEASE position.

**Retaining Valve**

A manually operated valve used on cars to exhaust brake cylinder pressure completely or to maintain a predetermined pressure.

**Restricted Car Limits**

A defined number of cars immediately behind the lead locomotive consist, immediately ahead of and behind an entrained helper, or immediately ahead of a rear helper. The number of cars within a restricted car limit can change based on the train tonnage, territory type, and number of powered axles for each power consist.

**Restricted Car Placement**

When rules restrict the placement of cars, each platform or well is to be considered one car.

**Service Application**

When brake pipe pressure exhausts at a service rate to apply the train brakes.

**Slack Action**

Movement of part of a coupled train at a different speed than another part of the same train.

**Slug**

A unit with traction motors but no diesel engine and incapable of propelling itself. The unit receives electrical power through a power cable from an adjacent, specially equipped locomotive. Slugs are used where low speeds and high tractive effort are needed.

**Solid Block (of cars)**

One or more cars coupled together that:

- Are charged or have not been off air for more than 4 hours
- Have been tested as outlined in Rule 30.10.2 (Procedure for Inspection and Test)
- Have been inspected as outlined in Rule 1.33 (Inspection of Freight Cars)
- Have been inspected as outlined in Section III (Inspection) of Instructions for Handling Hazardous Materials

**Split Service Reduction**

A term describing a method of making an air brake application in two or more steps to produce a more uniform application.

**String-Lining**

Cars pulled off the inside of curves, trying to approach a straight line when the train is in draft.

### **Standard and High Strength Couplers**

Each car is to be considered equipped with a standard type coupler unless it is known the car is equipped with high strength couplers. Coal cars, covered hopper cars, auto rack cars, and cars designed to carry TOFC/COFC are equipped with high strength couplers. If it is not known that a car is equipped with high strength couplers, it can be determined by looking at the coupler casting identification located on top of the coupler. A high strength coupler will have the letter "E" or "EX" as the last character of identification. Examples of high strength coupler identifications are E60HTE, SBE60CE, E60DE, and EF512WEX.

### **Thermal Cracks (in wheels)**

Cracks in a railroad wheel, normally caused by heat generated on the tread and flange of the wheel from excessive braking.

### **Throttle Modulation**

The action of adjusting the throttle one notch at a time between idle and position 8 to control train speed without the application of air brakes.

### **Tons per Dynamic Brake Axle (TPDBA)**

The total gross trailing tonnage of the train divided by the number of axles of locomotives, including helper locomotives, operating in dynamic brake.

When making this calculation, include in the gross trailing tonnage the weight of any locomotive, including a helper locomotive, not operating in dynamic brake or with dynamic brake cut-out.

### **Tons per Operative Brake (TPOB)**

The gross trailing tonnage of the train divided by the total number of cars having operative brakes.

### **Tons per Equivalent Powered Axle (TPA):**

- **TPA** is calculated by dividing the total trailing tonnage by the total equivalent powered axles (includes lead and helper power). The weight of dead or isolated locomotives must be added to the total trailing tonnage before making this calculation.
- **TPA Limit** – The maximum tonnage per equivalent powered axle specified over a given route. Trains may not exceed maximum TPA at origin, unless there is a plan in place to pick up additional power or reduce tonnage (scheduled set-out) prior to reaching the ruling grade. TPA may only be exceeded enroute when authorized by proper authority. Train consist TPA numbers will govern any discrepancies.

### **Track-Train Dynamics**

A general term used to describe the interaction of a locomotive and cars with the track structure during the movement of a train. Track-Train Dynamics are affected by variables such as weather, speed, train make-up, train handling, condition of track and equipment, grade, curvature, and operating policies.

### **Transfer Train Movement**

An engine with one or more cars that travels between a point of origin and a point of final destination not exceeding 20 miles. Such trains may pick up or set out while enroute to destination.

### **Tread Build-up**

Tread build-up is the formation of metal on the running surface of a wheel. Tread build-up on

a car can occur due to:

- Failure to remove a hand brake
- Air brake system defect on the car
- Retainer left in the retaining position

### **Unattended**

Equipment is unattended when an employee is not in a position to immediately control the brake system (hand or air brakes).

Attended cars must be properly secured with hand brakes when:

- Air brakes are not applied in emergency.
- There are less than 5 cars.
- Standing on grade exceeding 1%.

### **Undesired Emergency (UDE)**

An unintentional emergency application of train air brakes.

### **Unit Train**

A train made up entirely of cars used to transport coal, grain, ore, potash, molten sulfur, soda ash, phosphate rock, oil, taconite, or other bulk commodities.

- Empty Bulk Commodity Unit Train is made up entirely of empty cars.
- Loaded Bulk Commodity Unit Train is made up entirely of loaded cars.

### **Unplanned Stop**

The shortest stop possible without using an emergency application

### **Vent Valve**

A valve attached to the brake system of a car or locomotive. The valve responds to an emergency brake pipe pressure rate of reduction by venting the brake pipe at each vehicle to the atmosphere. As a result, the emergency application spreads throughout the train.

### **Vestibule**

The area of a passenger car that normally does not contain seating and is used for passing from the seating area to side exit doors.

### **Wheel Sliding**

When the wheel rotates slower than lengthwise movement dictates.

### **Wheel Slipping**

When the wheel rotates faster than lengthwise movement dictates.

### **Yard Test Plant**

A system of piping and fittings that supplies air at convenient locations to charge and to test cars without a locomotive. Charging pressure must be adjusted to 90-psi.

Updated: 1/20/2012

## Statement of Safety Policy

- [Statement of Safety Policy](#)

## Statement of Safety Policy

It is the policy of the Union Pacific Railroad that its operations be conducted in a safe manner. As integral parts of this policy, the management of Union Pacific Railroad believes that:

- All injuries can be prevented.
- Management and employees at all levels are responsible for maintaining safe working conditions and preventing personal injuries.
- Carrying out work functions in a safe manner is equally as important as meeting deadlines, production schedules, and other non-safety criteria.

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Updated: 4/28/2010

## 70.0: GENERAL SAFETY INSTRUCTIONS

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### 70.1: Safety Responsibilities

Employees must:

- Be responsible for their personal safety and accountable for their behavior as a condition of employment,
- Take every precaution to prevent injury to themselves, other employees, and the public,
- Comply with all rules, policies, and outstanding instructions,
- Report, correct, or protect any unsafe condition or practice,
- Be aware of their surroundings and maintain situational awareness to avoid risks associated with required tasks and work within the limits of their physical capabilities and do not use excessive force to accomplish tasks.
- Use good judgment when assessing the safety of all tasks to avoid injury or damage to equipment. ~~in fulfilling job-responsibilities safely.~~
- Understand that Union Pacific has empowered each employee to work safely and risk free.

Past practices that do not conform to the rules are unacceptable.

## System Special Instruction

### 70.1 Safety Responsibilities

#### Change rule to read:

Employees must:

- Be responsible for their personal safety and accountable for their behavior as a condition of employment.
- Take every precaution to prevent injury to themselves, other employees, and the public.
- Comply with all rules, policies, and outstanding instructions.
- Report, correct, or protect any unsafe condition or practice.
- Be aware of their surroundings and maintain situational awareness to avoid risks associated with required tasks and work within the limits of their physical capabilities and do not use excessive force to accomplish tasks.
- Use good judgment when assessing the safety of all tasks to avoid injury or damage to equipment.
- Understand that Union Pacific has empowered each employee to work safely and risk free.

Past practices that do not conform to the rules or place an employee at risk are unacceptable.

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## 70.2: System Safety Policies

Several Safety Rules make reference to policies contained in company publications such as the *Safety Resource Manual and the Environmental, Law, Policies and Procedures Manual*. Other company or departmental policies are also in effect. Employees must be trained and be conversant with applicable policies and procedures related to their duties, and be governed by them. Employees will have access to this information available through their local manager.

Note: See Rule 1.13, *Reporting and Complying With Instructions*.

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## 70.3: Job Briefing

#### Use the Job Briefing process:



- Before work begins, when all persons, including employees and contractors, are present.
- After work begins, if person(s) arrive who missed the original job briefing.  
When changes occur to the work plan or conditions change.
- When working in groups. Be aware of the work and movement of other group members and equipment.
- As an avenue to discuss actions having the potential to place employees at risk and develop alternatives to accomplish such tasks safely.

Each work plan must consider hazards, assign specific responsibilities, and explain those assignments.

### **Plan the Job Briefing:**

A. Develop your own work plan.

B. Use the job briefing check list when applicable.

- Complete the check list as required.
- Sign the check list as required.

C. Consider existing and potential hazards that might be involved as a result of:

- Job and weather.
- The nature of the work to be done.
- The job location.
- The tools, equipment, and materials used.
- Safety or personal protective equipment required.

D. Consider how work assignments will be made:

- Group assignments and/or individual assignments.
- Abilities and experience of individuals.

### **Conduct the Job Briefing.**

A. Discuss existing or potential hazards and ways to eliminate or protect against them.

B. Make definite work assignments. (Make sure employees understand assignments.)

C. If special tools, materials, equipment or methods are to be used, make sure employees know how to proceed safely.

D. Issue all instructions clearly and concisely; check to see that they are understood.

E. For complex jobs:

- Brief only a portion of the job.
- Give additional briefing as the job progresses.

Use the Job Briefing process:

- Before work begins, when all persons, including employees and contractors, are present.
- After work begins, if person(s) arrive who missed the original job briefing.
- When changes occur to the work plan or conditions change.
- When working in groups be aware of the work and movement of other group members and equipment.

Each work plan must consider hazards, assign specific responsibilities, and explain those assignments.

Note: See *System Special Instructions Item 17, Job Briefing*.

## **System Special Instruction**

### **70.3 Job Briefing**

**Change rule as follows:**

**Use the Job Briefing process:**

- Before work begins, when all persons, including employees and contractors, are present.
- After work begins, if person(s) arrive who missed the original job briefing.
- When changes occur to the work plan or conditions change.
- When working in groups. Be aware of the work and movement of other group members and equipment.
- As an avenue to discuss actions having the potential to place employees at risk and develop alternatives to accomplish such tasks safely.

Each work plan must consider hazards, assign specific responsibilities, and explain those assignments.

### **Plan the Job Briefing:**

- A. Develop your own work plan.
- B. Use the job briefing check list when applicable.
  - Complete the check list as required.
  - Sign the check list as required.
- C. Consider existing and potential hazards that might be involved as a result of:
  - Job and weather.
  - The nature of the work to be done.
  - The job location.
  - The tools, equipment, and materials used.
  - Safety or personal protective equipment required.
- D. Consider how work assignments will be made:
  - Group assignments and/or individual assignments.
  - Abilities and experience of individuals.

### **Conduct the Job Briefing.**

- A. Discuss existing or potential hazards and ways to eliminate or protect against them.

- B. Make definite work assignments. (Make sure employees understand assignments.)
- C. If special tools, materials, equipment or methods are to be used, make sure employees know how to proceed safely.
- D. Issue all instructions clearly and concisely; check to see that they are understood.
- E. For complex jobs:
  - Brief only a portion of the job.
  - Give additional briefing as the job progresses.

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## 70.4: Lifting and Moving Material

Each person is responsible for determining their lifting limitations. Obtain additional help or mechanical assist device(s) to lift or handle heavy or awkward objects.

Observe the following principles of correct and safe lifting:

- ensure secure footing and a good grip on the materials,
- keep the object close to your body,
- keep your upper body erect,
- lift smoothly—do not use jerky motions,
- do not lift and twist at the same time.

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### 70.4.1: Steps to Safe Lifting

Observe the following steps when lifting any items:

1. Check the load for size, weight, stability, and grip.
2. Make sure the pathway to be used is clear of obstructions, debris or other conditions which may cause loss of footing.
3. Inspect the unlift areas for a clear unlift, preferably at knuckle height, without reaching.
4. Choose the right lifting technique (e.g., squat, semi-stoop, or balanced one-hand lift).

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### 70.4.2: Lifting with Two or More Employees

Conduct a job briefing before beginning a task and define responsibilities and techniques for the type of lift being performed. One individual will give commands for all movements (lifting, walking, lowering, or throwing). Place the individual at one end of the object being lifted. Avoid walking backward.

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## **70.5: Protection of Body Parts**

Do not place hands, fingers, feet, legs or any part of your body in a position where they might be struck, caught, pinched or crushed.

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### **70.5.1: Safety Around Machines and Equipment**

Do not enter areas where you could be caught in the operation of machinery or equipment. When tools, equipment or machinery becomes jammed or obstructed in any manner, it must be stopped and lockout / tagout procedures followed.

Note: See *Safety Resource Manual, Lockout / Tagout Policy, Section IV-H.*

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## **70.6: Door or Hatch**

When opening or closing a door or hatch, face it and use handle or grab iron. Use care and keep clear of the door side or edge.

Note: See *Rule 81.15, Car Doors and Rule 81.20, Moving In and Out of Equipment or On Equipment.*

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## **70.7: Building Safety**

The following rules apply to all buildings including offices, shops, crew rooms, towers or similar structures.

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### **70.7.1: Filing Cabinets**

The contents of filing cabinets must be arranged and distributed so as not to make the cabinet top heavy.

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### **70.7.2: Drawers**

Drawers on file cabinets, desks, tool boxes, etc., must be closed when not in use. Do not have more than one drawer open at one time.

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### **70.7.3: Paper Cutters**

Exercise caution while operating paper cutters, trimmers and power paper punches.

Keep fingers clear of the cutting blades and make sure blade guards are in position.

Paper cutter blades must be left in the closed position and secured after use.

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#### **70.7.4: Defects**

Report sharp edges, splinters or defective parts on office furniture or equipment so repairs can be made. If unsafe, appropriate action must be taken.

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#### **70.7.5: Cords**

Permanent installations of equipment with cords (telephone, electrical, computer, etc.) that are in walking areas must be encased. Action must be taken to protect temporary installations.

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#### **70.7.6: Chairs and Benches**

Do not stand on chairs and benches. Unsafe chairs or benches must not be used.

Chairs must not be repaired or altered in any way except by an authorized repair service.

While seated in a chair, all chair legs must remain in contact with the floor.

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### **70.8: When Warning Traffic at Grade Crossings**

When required to be on the ground at a grade crossing to warn traffic of an approaching movement, the employee must be in a safe location to avoid injury. Do not stand in traffic lanes.

~~When required to be on a grade crossing to warn traffic of an approaching movement, the employee must be in a safe location to avoid injury if the motorist fails to heed the warning. Do not stand in traffic lanes unless traffic has come to a stop.~~

~~Do not motion vehicles to proceed over grade crossings, except as provided in Chief Engineer's Instruction Bulletins and as per Rule 74.12, Railroad Crossing.~~

#### **General Order**

##### **Change rule to read:**

When required to be on the ground at a grade crossing to warn traffic of an approaching movement, the employee must be in a safe

location to avoid injury. Do not stand in traffic lanes.

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## **70.9: Removal of Unauthorized Persons**

Unauthorized persons or trespassers on company property must be told to leave the premises, unless confronting the person(s) would be unsafe. If the person(s) refuse to leave, or if confronting the person(s) would be unsafe, request immediate assistance from Railroad Police or local law enforcement authorities. When feasible, Railroad Police must be advised of all unauthorized persons or trespassers on company property.

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## **70.10: Criminal Activity**

Immediately contact Railroad Police or local law enforcement authorities to report any type of criminal activity or suspected criminal activity on company property. This includes, but is not limited to, trespassing, theft, burglary, assault, vandalism, switch tampering and arson.

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## **70.11: Housekeeping**

Good housekeeping must be maintained at all times. Dispose of garbage, water bottles, used batteries, or other refuse material (such as sun flower seeds, smoke-less tobacco residues, cigarette butts, etc.) in a proper manner and in appropriate disposal receptacles. Do not discard aerosol cans in containers that may be incinerated. Company refuse facilities are not to be used for personal use.

Do not place or allow tools, equipment or other materials to remain on floors, stairways, or walkways where they could cause a slip, trip or fall.

Note: See *Rule 1.24, Clean Property*.

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## **70.12: Protruding Nails**

Remove or flatten protruding nails or screws when removing boards or timbers or when you notice protruding nails or screws while performing duties.

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## **70.13: Turning on Power**

Inspect affected areas and ensure it is safe before turning on electricity, gas, steam, fuel oil, air, water or putting any machinery in operation.

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## 70.14: Warning Signs

Label damaged or defective machines, switches, valves, or other apparatus with a danger sign, tag, or banner. Danger signs must be placed at locations where there are exposed energized circuits. Only authorized personnel may remove the sign when safe conditions are restored. Do not operate machines, switches, valves, or other apparatus with attached danger signs, tags, or banners.

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## 70.15: Compressed Air/gas

Use of compressed air or any gas to blow dust or dirt from the body or clothing is prohibited. An air nozzle must not be placed against any portion of the body. Compressed air must not be used for cleaning purposes in shop areas, unless the hose nozzle is of the type which will reduce the pressure to 30 psi or less at the main opening when dead-ended or obstructed.

Inhaling purposely any type of compressed gas not specifically designated for inhalation is prohibited.

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## 70.16: Drop or Throw Objects

Do not drop or throw tools, materials or other objects that might cause personal injury, fire, or equipment or property damage.

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## 70.17: Rail Under Tension

Close observation must be made to determine whether rail is too tight to safely perform work:

- at point where there has been a derailment,
- in periods of high temperature,
- at location where rail is kinked or damaged,
- before beginning to renew rail or to remove part of fastenings from one or more rails.

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## 70.18: Fusees Storage

Fusees must be kept away from high temperatures, fire or open flame and stored:

- in approved containers in motor vehicles and other designated equipment,
- in flagging kits or racks in engines and cabooses,
- in the original shipping container in a storage cabinet.

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## 70.19: Fusee Use

Fusees must be:

- only used for signaling or flagging purposes,
- kept away from high temperatures, fire or open flame.

Do not place fusees where they may cause a fire.

Fusees are not to be placed in locations where they may become wet. Fusees showing evidence of having been soaked in water, oil, etc., or otherwise damaged, must not be used and must be disposed of properly.

To the extent practical, fusees must be kept where they cannot be obtained by unauthorized persons. Misuse or horseplay involving fusees is strictly prohibited.

When lighting fusees, hold the end to be lighted down and away from your body, striking away from the body to prevent burns to hands, feet or clothing.

Do not place lighted fusees on open bridge decks, trestles or approaches, or use them near flammable or combustible material.

Extinguish the fusee after giving hand signals.

### System Special Instruction

#### 71.19 Fusee Use

Change rule number to read:

#### 70.19 Fusee Use

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## 70.20: Confined Space Entry

Observe applicable confined space entry procedures when going into designated confined spaces, such as, sewers, manholes, tanks, pits, etc.

Note: See *Rule 79.7, Confined Spaces and Safety Resource Manual, Confined Space Entry Program, Section IV-G.*

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## 70.21: Air Contaminants

Take precautions to reduce exposure when working around gases, fumes, mists, vapors, or dusts emitted by equipment, vehicles or work processes. Do not enter a suspected or confirmed contaminated area without following prescribed procedures and using required personal protective equipment.

Note: See *Safety Resource Manual, Respiratory Protection Program, Section IV.E.*



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## 70.21.1: Internal Combustion Engines

Avoid excessive exposure to exhaust fumes from internal combustion engines. Such engines must not be allowed to run unless adequate ventilation exists. Do not expose fresh air intake systems to internal combustion engine exhaust.

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## 70.22: Spills

### 70.22: Chemical Spills

Avoid contact with spilled materials, or commodities at accident sites until the materials have been identified and safe handling procedures determined.

If safe to do so, take steps to stop the leak or contain the spillage of ~~In the event of an oil, hazardous material, or environmentally sensitive material spill from any source that will contaminate the ground or a waterway, if safe to do so, take steps to stop or contain the spillage:~~

It is the responsibility of the employee who discovers this spill to immediately notify the appropriate authority and RMCC 888-877-7267 (8-544-7622), advising:

- the location of the spill,
- material and amount spilled,
- distance to nearest public waters,
- any other information that may be pertinent.

If a fire or vapor cloud is visible from an unknown source or one known to be toxic, move yourself and others upwind to a distance of at least one half mile, further if deemed advisable, and contact RMCC at 888-877-7267 (8-544-7622); ~~until~~

Assist Emergency Response personnel and do not enter the area until have advised that the area is ~~again safe to enter~~.

## System Special Instruction

**Change tile and rule as follows:**

### 70.22: Spills

Avoid contact with spilled materials, or commodities at accident sites until the materials have been identified and safe handling procedures determined.

If safe to do so, take steps to stop the leak or contain the spillage of oil, hazardous, or environmentally sensitive materials spilled from any source.

It is the responsibility of the employee who discovers this spill to immediately notify the appropriate authority and RMCC 888-877-7267 (8-544-7622), advising:

- the location of the spill,
- material and amount spilled,
- distance to nearest public waters,
- any other information that may be pertinent.

If a fire or vapor cloud is visible from an unknown source or one known to be toxic, move yourself and others upwind to a distance of at least one half mile, further if deemed advisable, and contact RMCC at 888-877-7267 (8-544-7622).

Assist Emergency Response personnel and do not enter the area until advised that the area is safe.

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## 70.23: Skin Protection

- Do not clean any part of your body with gasoline, solvents or with oily or dirty rags.
- Do not wear clothing that is contaminated with gasoline, solvents or oils.

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## 70.24: Hazard Communication Standard

The Hazard Communication Standard (HCS), also known as Right to Know (RTK) was developed by the Occupational Safety and Health Administration (OSHA). It was designed to benefit employees and it is the responsibility of all employees to become familiar with and comply with the provisions of the HCS.

Employees must be familiar with the contents of chemical substances they work with as a preventative measure to avoid accidents and injury. Only chemicals, paints, compounds or other products approved by the company will be used. Before handling containers or using chemical substances, employees must be aware of the contents and any hazardous conditions that may exist. They must take all necessary precautions to ensure the safety of themselves and others, and must wear approved protective equipment that may be required.

Note: See *Safety Resource Manual, Hazardous Communication Program, Section IV-I*.

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## 70.25: Drums and Containers

Label all drums, totes, tanks and containers as to contents. Drums must be kept closed, except for immediate use. When opening drums that have been exposed to heat from the sun or other sources, use proper protective equipment, stand in the clear and open slowly until the pressure is released. Do not pour contents of drums or barrels on the ground or in drains. Be certain all contents are disposed of properly. If any doubt should arise as to proper disposal of drum or barrel contents, contact your supervisor. Drums that have bung holes that are recessed or level with the barrel rim must be positioned to the side with the barrel tipped at least one inch to prevent moisture from entering barrel.

Note: See *Environmental Laws, Policies, and Procedures Manual, Drum Storage, Reuse and Disposal*.

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## **70.26: Working with Refrigeration Systems**

Only qualified employees shall service or repair refrigeration systems and must follow manufacturer's instructions.

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Updated: 7/23/2010

## 71.0: PERSONAL PROTECTIVE EQUIPMENT

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- [71.1.1: Altering Personal Protective Equipment](#)
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### 71.1: General Guidelines

Only personal protective equipment (PPE) approved by the Safety Department will be used while on duty and only for the purpose intended. PPE must be used where conditions of the job require and in accordance with rules, instructions, or directions from supervisor. Anyone entering designated areas or working near others wearing PPE must also wear the required PPE. Keep all PPE issued to you in good order, properly fitted and replace as may be required to maintain intended protection.

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#### 71.1.1: Altering Personal Protective Equipment

Do not alter or use altered PPE.

Note: See *Safety Resource Manual, Personal Protective Equipment Approval Policy, Section IV-A*.

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## 71.2: Hearing Protection

Wear approved hearing protection devices, as specified by manufacturer, in areas designated by signs or outstanding instructions, or as specified by a supervisor. Approved hearing protection devices are stock devices defined in the Personal Protective Equipment Catalog. In some cases, wearing dual protection devices is required, which consist of ear plugs plus muffs.

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### 71.2.1: Service, Repair and Mechanical Facilities

Hearing protection is required when working in or around the following service, repair, or mechanical areas:

1. **Car and Locomotive Shop Buildings.** When working in open-sided or enclosed car and locomotive shop buildings.  
**EXCEPTION:** Persons in low noise areas, identified by Safety Department, are not required to wear hearing protection.
2. **Car Repair or Service Track Buildings.** When working in open-sided or enclosed areas where cars are repaired or locomotives are fueled or serviced.  
**EXCEPTION:** When in offices with doors and windows closed, these areas do not require hearing protection.
3. **Load Testing, Sand Blasting, or Grit Blasting Areas.** When working close to or within areas where load testing, sand blasting or grit blasting equipment is in operation.
4. **Mechanical Facilities.** When working in or around mechanical facilities designated by a sign or instructions.

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### 71.2.2: Locomotives

Employees must wear hearing protection anytime they are within a radius of 100 feet of a locomotive. However, hearing protection is not required for employees who are inside the cab with the cab doors and windows closed.

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### 71.2.3: Near Retarders

Hearing protection is required within 150 feet of master, group, or inert retarders during humping and trimming operations. Dual hearing protection (ear plugs and muffs) is required within 10 feet of these operations.

When near operating retarders:

- Engine windows and doors must be closed when passing through operating retarders. All occupants must be inside the locomotive cab.
- Do not ride a car through operating retarders.

**Exception:** Hearing protection is not required when riding through or working around Dowty or Inert retarders, unless protection is needed for other purposes.

### System Special Instruction

**Add "inert" in exception as shown:**

Exception: Hearing protection is not required when riding through or working around Dowty or Inert retarders, unless protection is

needed for other purposes.

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## 71.2.4: Roadway or Work Equipment

Hearing protection is required within 100 feet of operating roadway or work equipment.

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## 71.2.5: Jet Blowers or Pile Drivers

Hearing protection is required within 150 feet of operating jet blowers or pile drivers.

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## 71.2.6: Other Equipment and Tools

Hearing protection is required when operating or within 15 feet of any of the following equipment or tools in operation:

- Welding or cutting equipment (oxy-fuel, gas, or electric).
- Abrasive wheel grinder or sander (pedestal, bench, or portable).
- Air lance or nozzle (for blowing compressed air).
- Chain saw.
- Nail gun (air or powder-actuated).
- Power saw, planer, router, or joiner.
- Equipment or tools powered by:
  - Air
  - Combustion engine
  - Electricity
  - Hydraulic
  - Pneumatic
  - Steam

Note: See *Safety Resource Manual, Hearing Conservation Program, Section IV-D*.

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## 71.3: Gloves

Use appropriate hand protection when hands are exposed to:

- skin absorption of harmful substances,
- cuts, lacerations or abrasions,
- punctures,
- chemicals,
- temperature extremes.

*Note: See Safety Resource Manual, Personal Protective Equipment Approval Policy (6.0 Hand Protection), Section IV-A.*

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## 71.4: Hard Hats

Hard hats must be worn at all Locomotive, Car and Maintenance of Way facilities and work sites and in other designated hard hat areas as specified by department head.

Hard hat is not required in:

- office areas and lunch rooms,
- vehicles or equipment that provide overhead protection against falling objects,
- areas exempted with documentation by the appropriate department head.

Only liners that do not interfere with fit and function of the hard hat can be worn. Baseball or similar type caps must not be worn under hard hats. Altering of hard hats or hard hat suspensions is prohibited. Hard hats must not be worn backwards, unless attachments being used are designed for such use and suspension is reversed.

Bump caps will not be used to fulfill hard hat requirements.

### Exceptions:

1. A track welder, wearing a Powered Air Purifying Respirator (PAPR), will not be required to wear a hard hat when working in areas where there is no potential for injury to the head from falling objects.
2. Transportation employees are not required to wear hardhats when:
  - moving locomotives to or from locomotive service areas,
  - spotting cars within car or maintenance of way repair facilities.

*Note: See Safety Resource Manual, Personal Protective Equipment Approval Policy (4.0 Head Protection), Section IV-A.*

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## 71.5: Eye Protection

Wear company-approved eye protection in all designated areas or when specified by the appropriate department head. It is not required in:

- office areas and lunch rooms,
- enclosed vehicles (including locomotives).

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### 71.5.1: Areas that Require Eye Protection

**Safety Glasses.** Wear spectacle-type, 100-percent safety glasses with side shields when on duty at locomotive or car repair and servicing facilities and maintenance of-way work sites, shops, and facilities. Employees requiring corrective lenses must wear either company-approved prescription safety glasses or coverall-type safety goggles.

**Other Glasses.** As designated by the department head (Vice President Transportation), train, engine, yard and all other personnel on company property and on duty must wear glasses (FDA-approved or ANSI Z87.1-approved) They must be spectacle-type glasses that cover the entire eye area (no half glasses or granny glasses).

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## 71.5.2: Additional Eye Protection Requirements

### Rule 71.5.2 Additional Eye Protection Requirements

Change rule to read:

Specific work activities may require additional eye protection. Go to Safety Department web site "Safety Resource Manual, Personal Protective Equipment Policy (Assessment of Personal Protective Equipment), Section IV - A", for application of this rule to other specific tasks.

~~Wear additional eye protection when performing specific work activities and follow any additional procedures specified in outstanding instructions or rules:~~

<b>Task or Condition</b>	<b>Protection Required</b>
<del>Handling acids and caustics</del>	<ul style="list-style-type: none"> <li>• <del>Splash goggles with face shield</del></li> </ul>
<del>Fueling locomotives or work equipment</del>	<ul style="list-style-type: none"> <li>• <del>Splash goggles, or</del></li> <li>• <del>Face shield with safety glasses</del></li> </ul>
<del>Using powered chip-producing equipment (i.e., grinders, buffers, chippers, scalers, or railsaws) or chipping slag</del>	<ul style="list-style-type: none"> <li>• <del>Face shield with dust goggles, or</del></li> <li>• <del>Welding helmet with clear lens</del></li> </ul>
<del>Using or observing electric arc welding</del>	<ul style="list-style-type: none"> <li>• <del>Proper helmet with proper lens shade and safety glasses</del></li> </ul>
<del>Dusty environment created by windy condition</del>	<ul style="list-style-type: none"> <li>• <del>Dust goggles as needed</del></li> <li>• <del>Pyramex safety glasses</del></li> </ul>
<del>Removing components or working overhead when dust and debris may become loose; dust and debris, or the potential for such, in the facial area when using impact tools; sanding locomotives</del>	<ul style="list-style-type: none"> <li>• <del>Dust goggles required</del></li> </ul>
<del>Using explosive charged tools</del>	<ul style="list-style-type: none"> <li>• <del>Dust goggles, or</del></li> <li>• <del>Face shield with safety glasses</del></li> </ul>



Using chain saw	<ul style="list-style-type: none"> <li>• Dust goggles, or</li> <li>• Face shield with safety glasses</li> </ul>
Thermit welding and applying Cadwell bonds	<ul style="list-style-type: none"> <li>• See Rule 79.28 (Thermit Welding)</li> </ul>
Jump starting batteries with booster cables	<ul style="list-style-type: none"> <li>• Safety glasses required. Face shield recommended.</li> </ul>
Using a pick	<ul style="list-style-type: none"> <li>• <u>Face shield with safety glasses</u></li> </ul>
Using a spike maul or sledge hammer to strike other metal objects	<ul style="list-style-type: none"> <li>• <u>Face shield with safety glasses</u></li> </ul>

Note 1: Reference Safety Resource Manual, Personal Protective Equipment Policy (Assessment of Personal Protective Equipment), Section IV-A, for application of this rule to other specific tasks.

Note 2: It is essential that a good fit between the face and the contact surfaces of goggles is maintained. Safety glasses are not required when goggles are used.

## System Special Instruction

### Rule 71.5.2 Additional Eye Protection Requirements

Change rule to read:

Specific work activities may require additional eye protection. Go to Safety Department web site "Safety Resource Manual, Personal Protective Equipment Policy (Assessment of Personal Protective Equipment), Section IV - A", for application of this rule to other specific tasks.

### ~~71.5.2 Additional Eye Protection Requirements~~

~~Add as part of second entry in table "or work equipment".~~

**Add two additional entries to table as shown:**

Using a pick	<ul style="list-style-type: none"> <li>• Face shield with safety glasses</li> </ul>
Using a spike maul or sledge hammer to strike other metal objects	<ul style="list-style-type: none"> <li>• Face shield with safety glasses</li> </ul>

## General Order

### Rule 71.5.2 Additional Eye Protection Requirements

Change rule to read:

Specific work activities may require additional eye protection. Go to Safety Department web site "Safety Resource Manual, Personal Protective Equipment Policy (Assessment of Personal Protective Equipment), Section IV - A", for application of this rule to other specific tasks.

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### 71.5.3: Contact Lenses

Do not wear contact lenses when working in areas where wind, dust, and other foreign matter constitute a hazard or when chemicals may cause a splash, mist, or vapor hazard.

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### 71.5.4: Dark Lenses

The wearing of dark lenses under insufficient lighting conditions is prohibited, except when engaged in an operation requiring dark lenses.

Note: See *Safety Resource Manual, Personal Protective Equipment Approval Policy (2.0 Eye and Face Protection), Section IV-A.* and *Safety Resource Manual, Eye Protection Policy, Section IV-B.*

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## 71.6: Proper Attire

### 71.6 Proper Attire

Wear clothing that allows you to perform your duties efficiently and safely.

Clothing must not:

- Interfere with vision, hearing and free use of hands and/or feet.
- Block peripheral vision. When hooded sweatshirts and/or coats or similar type clothing are worn, they must be secured around the face to prevent the blocking of peripheral vision.
- Be torn, baggy, or ragged.
- Be so loose that it will snag easily or catch on cars, engines, tools, machinery or other equipment but must allow freedom of movement.
- Be worn so it creates the possibility of being caught or may affect one's safe performance of their duties i.e. neckties or similar clothing.

Shirts must:

- Have at least quarter-length sleeves and cover the back, shoulders, chest and abdomen.
- Provide protection from sun, insects, abrasions or scratches.
- Be buttoned. Anyone working around equipment or moving machinery in which a shirt might become entangled must have their shirt tails tucked into their trousers.

When working outside, employees must wear:

- Trousers which cover the legs.
- ANSI Class II/III highly visible outer wear:
  - Engineering employees must wear orange outer wear with reflective striping.  
However:
    - o Welders must wear required protective clothing when welding.

o Lookouts must wear yellow/green vest with orange reflectorized striping , with "Lookout" printed on the vest. All other employees must wear green/yellow outer wear with reflective striping. However, remote control operators working as a RCO may wear an orange RCO vest.

Exception: Highly visible outer wear is not required when in:

- \* Office areas and lunch rooms.
- \* Enclosed vehicles (including locomotives).
- \* Parking lots when tracks will not be fouled.
- \* Areas specifically designated by the department head.

Note: Vests used by employees working on railroad cars and engines must be the 5-point, tear-away vests certified for use by Union Pacific.

~~Orange RCO vest may also be worn as outer wear. Exception: Highly visible outer wear is not required when:~~

- ~~• Inside the cab of a locomotive, inside a company or contract vehicle, and when tracks will not be fouled while walking to or from buildings or vehicles.~~
- ~~• Mechanical employees are working within designated repair / servicing areas.~~

Jewelry that may affect one's safe performance of their duties must not be worn.

Hair, including beards, must be worn in a manner to permit safe performance of duties.

## **System Special Instruction**

### **Change rule to read:**

Wear clothing that allows you to perform your duties efficiently and safely.

Clothing must not:

- Interfere with vision, hearing and free use of hands and/or feet.
- Block peripheral vision. When hooded sweatshirts and/or coats or similar type clothing are worn, they must be secured around the face to prevent the blocking of peripheral vision.
- Be torn, baggy, or ragged.
- Be so loose that it will snag easily or catch on cars, engines, tools, machinery or other equipment but must allow freedom of movement.
- Be worn so it creates the possibility of being caught or may affect one's safe performance of their duties i.e. neckties or similar clothing.

Shirts must:

- Have at least quarter-length sleeves and cover the back, shoulders, chest and abdomen.
- Provide protection from sun, insects, abrasions or scratches.
- Be buttoned. Anyone working around equipment or moving machinery in which a shirt might become entangled must have their shirt tails tucked into their trousers.

When working outside, employees must wear:

- Trousers which cover the legs.
- ANSI Class II/III highly visible outerwear:

- - Engineering department employees must wear orange outerwear with reflective striping. However:
  - o Welders must wear required protective clothing when welding.
  - o Lookouts must wear yellow/green vest with orange reflectorized striping , with "Lookout" printed on the vest.
- - All other employees must wear green/yellow outer wear with reflective striping. However, remote control operators working as a RCO may wear an orange RCO vest.

Exception: Highly visible outer wear is not required when in:

- Office areas and lunch rooms.
- Enclosed vehicles (including locomotives).
- Parking lots when tracks will not be fouled.
- Areas specifically designated by the department head.

**Note:** Vests used by employees working on railroad cars and engines must be the 5-point, tear-away vests certified for use by Union Pacific.

Jewelry that may affect one's safe performance of their duties must not be worn.

Hair, including beards, must be worn in a manner to permit safe performance of duties.

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## **71.7: Footwear**

When working on uneven terrain, on or near tracks, on cars, engines or other equipment wear footwear that affords support and protection. Footwear must have soles that provide good traction and thick enough to withstand punctures.

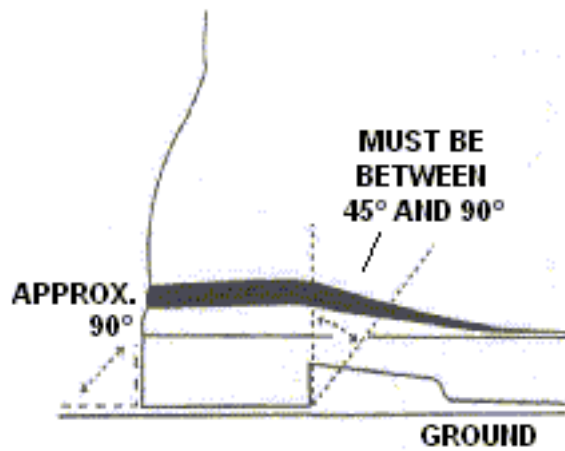
Footwear with laces or buckles must be tied or buckled. Do not wear excessively worn footwear or footwear with loose soles or heels.

Unless you work exclusively in an office, you must not wear thin-soled or high-heeled shoes, sandals, athletic (sports) shoes or similar footwear.

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### **71.7.1: Defined Heel**

All employees, except office workers are required to wear footwear with a defined heel. A "defined heel" means that the back of the heel is at an approximate right angle from the sole of the shoe and from the ground when standing. The front of the heel must not be at an angle of less than 45 degrees from the sole of the shoe to the ground. Footwear with heels commonly called "riding heels" are not appropriate footwear and do not satisfy this requirement. However, approved snow packs are acceptable.



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### 71.7.2: Covers the Ankle

Footwear that covers the ankle will be a boot (either slip on or lace up) of approximately 6 inches or more in height. Employees who routinely work in the field must wear footwear that covers their ankles. Lace-up boots are required for Transportation Department employees. Intermodal employees that load and unload trailers/containers are required to wear 6 inch lace-up safety toed footwear that meets OSHA requirements.

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### 71.7.3: OSHA Required Footwear

When working in areas where there is a danger of foot injuries due to falling or rolling objects, or objects piercing the sole of the foot or electrical hazard, protective footwear as defined by the OSHA Standard 1910.136 is required. All safety toe footwear must meet ANSI Z41.1, Standard Class #75. OSHA required footwear is required for the following departments:

- Engineering
- Locomotive
- Car
- Supply
- Telecommunications
- Intermodal

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### 71.7.4: FRA Required Footwear

Bridge workers are required to wear safety footwear that conforms to FRA footwear requirements.

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### 71.7.5: Visitors and Contractors

Visitors and contractors must wear the same type of footwear as those with whom they are working. The individual responsible for

the visitor shall ensure compliance.

Note: See *Safety Resource Manual, Personal Protective Equipment Approval Policy (5.0, Foot Protection), Section IV-A and Safety Resource Manual, Safety Shoe Policy and Guidelines, Section IV-C.*

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## **71.8: Respirators**

When conditions require use of respiratory protection, refer to the Safety Resource Manual, Section IV-E, Respiratory Protection Program. Before a UP employee is fit-tested with or issued a respirator, medical evaluation and respirator training is required. ~~Medical re-evaluation is required every six years.~~ The employees' medical condition will be reviewed (questionnaire-based) annually. Respirator training is required annually. Tight-fitting half or full face air purifying respirators require annual quantitative respirator fit-testing. Loose-fitting helmet or hood type respirators do not require fit testing, but all other requirements apply. Employees using tight-fitting half or full face air purifying respirators must not have facial hair that protrudes under the respirator seal or interferes with respirator valve functions. Employees using loose-fitting respirators must not have facial hair that interferes with respirator valve functions.

Note: See *Safety Resource Manual, Section IV-A, Personal Protective Equipment Approval Policy Paragraph 3.0 Respiratory Protection; Section IV-E, Respiratory Protection Program; and Section IV-AC, "Lead In Construction Program.*

### **System Special Instruction**

#### **71.8 Respirators**

**Change third sentence to require annual medical review as follows.**

The employees' medical condition will be reviewed (questionnaire-based) annually.

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Updated: 1/28/2011

## 72.0: FIRE PREVENTION

Note: See *Safety Resource Manual, Fire Protection Policy and Guidelines, Section IV-AH*.

- [72.0: FIRE PREVENTION](#)
- [72.1: Sounding Alarm](#)
- [72.2: Operating Fire Equipment](#)
- [72.3: Fire Protection](#)
- [72.4: Fire Doors and Stops](#)
- [72.5: Fire Exits and Passageways](#)
- [72.6: Questionable Fire Hazards](#)
- [72.7: Fire Protection Devices](#)
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- [72.7.2: Mobile Equipment](#)
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- [72.9: Right-of-Way Fire](#)
- [72.10: Starting Fires](#)
- [72.11: Open Burning Prohibited](#)
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- [72.14: Flammable and Combustible Liquids Storage](#)
- [72.14.1: LPG Tanks](#)
- [72.15: Handling Flammable Liquids](#)
- [72.16: Cleaning and Polishing](#)
- [72.17: Fueling Track Cars, Roadway Machines, and Automotive Units](#)
- [72.17.1: Fueling Portable Power Equipment](#)
- [72.17.2: Fueling LPG tanks](#)
- [72.18: Building or Outfit Cars](#)
- [72.19: Open Flame Starting](#)
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- [72.21: Water Flash Back Protection](#)

## 72.0: FIRE PREVENTION

Note: See *Safety Resource Manual, Fire Protection Policy and Guidelines, Section IV-AH*.

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### 72.1: Sounding Alarm

Sound the fire alarm and summon help, when available; attempt to control and extinguish a fire only if it can be done without personal injury.

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## **72.2: Operating Fire Equipment**

Know how to operate the fire protection equipment at the work location.

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## **72.3: Fire Protection**

Fire prevention is accomplished by maintaining good housekeeping procedures. Eliminate all rubbish, trash, oily rags and towels. Do not allow the accumulation of combustible materials and debris.

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## **72.4: Fire Doors and Stops**

Ensure that doors, shutters, and windows used as fire stops are in good condition and that no obstructions interfere with or prevent required operation.

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## **72.5: Fire Exits and Passageways**

Keep all fire escapes, ladders, stairways, doorways, passageways, roadways and approaches free from obstruction and in good repair to ensure safe exit from buildings and easy access to fire-fighting equipment.

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## **72.6: Questionable Fire Hazards**

Immediately correct and/or inform the supervisor if you question the safe condition of gas connections, motors, wiring, gasoline or oil burning devices and vehicles or tools and equipment.

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## **72.7: Fire Protection Devices**

Fire protection devices must be provided, inspected and maintained as required by local, state and federal fire codes and regulations. Tampering with such devices is strictly prohibited.

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### **72.7.1: Fixed Facilities**



Extinguishers must be visually inspected monthly and subjected to an annual maintenance check by a qualified person. A qualified person will make a monthly inspection to determine that:

- there is no evidence of physical damage,
- the seal is not broken,
- the extinguisher is fully charged,
- the extinguisher is properly tagged with inspection date noted on tag.

Fire extinguishers in buildings must be properly marked to indicate location.

Access to fire extinguishers, alarm boxes and other fire protection devices must be kept clear.

Vehicles must not be parked or material placed or stored that block fire hydrants.

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## 72.7.2: Mobile Equipment

Company vehicles (except automobiles), mobile shop equipment, and ride-on-track equipment must carry a properly maintained and inspected fire extinguisher of the correct class to aid in fire suppression.

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## 72.8: Fire Classifications

The four fire classifications and the type of extinguishing medium necessary to extinguish them include:

**Class A.** Fires in ordinary combustible materials (e.g., wood, fabrics, paper, plastics, etc.). Extinguish with water, multipurpose dry chemical, or any fire extinguisher rated for Class A fires.

**Class B.** Fires in flammable and combustible liquids (e.g., gasoline, oil and grease, and gases). Extinguish with ordinary or multipurpose dry chemical, Halon 1211, or carbon dioxide, all rated for Class B fires. Sand or dirt may also be used.

**Class C.** Fires in energized electrical equipment. Use only nonconducting extinguishing agents rated as safe for Class C fires (e.g., ordinary or multipurpose dry chemical, Halon 1211, or carbon dioxide). If electrical equipment is involved in a fire, de-energize it as quickly as possible.

**Class D.** Fires in combustible metal. Use only nonconducting extinguisher agents rated as safe for Class D fires (e.g. foundry flux, lith-x powder, TMB liquid, pyromet powder, TEC powder, dry talc, dry graphite, powder, dry sand, etc.). If electrical equipment is involved in a fire de-energize it as quickly as possible.

Do not use water to extinguish Class B, C, and D fires.

Employees not experienced in handling energized electrical circuits must not attempt to extinguish fires on power line poles or directly connected equipment.

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## 72.9: Right-of-Way Fire

Crew members must promptly report to the train dispatcher fires on or near the right-of-way unless the fire is being controlled. If the fire may spread to a bridge or other structure, train must stop and crew members help extinguish the fire.

If employees know that a train has started a fire, they must promptly notify the train dispatcher and, if possible, the engineer. All other known fire causes should be reported to the train dispatcher.

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## 72.10: Starting Fires

Flammable liquid must not be used to start or intensify a fire.

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## 72.11: Open Burning Prohibited

Burning of any kind (i.e., ties, trash, for warming, etc.) is *not* allowed without written approval from the superintendent level or above. Approval will not be granted until the employee obtains the necessary environmental and fire permits from state and local authorities. Compliance with all fire permit provisions is essential. A fire permit alone will not be sufficient. A fire must be attended until it is completely out.

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## 72.12: Ignition Sources

Do not smoke or use open fire:

within 50 feet of areas where flammable or combustible liquids are being handled or stored,

near oil storage tanks,

in areas where LPG powered units are being serviced or stored,

when working on or near storage batteries,

in any designated non-smoking area.

When welding, heating or cutting on or near equipment with fuel tanks conduct a job briefing and ensure that appropriate fire prevention measures have been implemented.

Note: See *Rule 79.3, Fire Protection*.

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## 72.13: Use and Handling of Liquefied Petroleum Gas (LPG)

Units powered by LPG must not be subjected to extreme heat in areas near ovens, furnaces or other sources of high temperature.

At the end of a day's operation, valves on tanks of LPG-powered equipment must be turned off to prevent leakage and potential explosion.

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## 72.14: Flammable and Combustible Liquids Storage

Flammable liquids (including paints) and combustibles, must be stored in approved cabinets or designated areas and in approved and properly labeled containers. Store all spray cans in a cool place away from direct sunlight, radiators, stoves and other sources of heat. Do not puncture, incinerate or store above 120 degrees Fahrenheit.

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### 72.14.1: LPG Tanks

Tanks containing LPG must be stored in an outdoor, ventilated, sheltered area, properly secured and clearly marked "No Smoking-Keep Lights and Fires Away."

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## 72.15: Handling Flammable Liquids

Use approved containers and non-sparking tools when handling gasoline and other flammable liquids.

Label all drums, totes, tanks and containers as to contents.

Note: See *Rule 70.25, Drums and Containers*.

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## 72.16: Cleaning and Polishing

Do not use gasoline for cleaning or polishing purposes. When using other flammable or combustible liquids for cleaning and polishing use:

- approved liquids and compounds in well-ventilated areas,
- approved storage methods for cloths, waste or other materials used in cleaning operations,
- approved cleaning tanks with self-closing lids when using solvents.

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## 72.17: Fueling Track Cars, Roadway Machines, and Automotive Units

When fueling mobile equipment, other than locomotives, employees must:

1. Move equipment out of enclosed area before fueling the vehicle. (This does not apply to equipment in the shop for repair.)
2. Stop the vehicle's engine before refueling.
3. Make sure the hose nozzle on the refueling can is always touching the side of the fill opening of a tank to prevent a hazardous static electric charge. If employees use a gasoline can, it must be equipped with a standard pouring spout.
4. Avoid spilling fuel. If fuel does spill, it must be cleaned up or allowed to dissipate before starting the engine.
5. If artificial light is necessary to fill the fuel tank, use an electric lantern or flashlight.
6. Smoking or open fires near fueling operations is prohibited.

Note: See *Environmental Laws, Policies and Procedures Manual, Spill Prevention Control and Countermeasures (SPCC)*

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## **72.17.1: Fueling Portable Power Equipment**

When fueling is necessary during use, the engine must be stopped and sufficient time allowed to cool. Tool must be removed from the immediate work area and placed where fuels cannot spill on any hot surfaces or ignition sources. Move fuel containers at least 20 feet from the work area before starting engine.

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## **72.17.2: Fueling LPG tanks**

Fueling of LPG tanks must be done outdoors at a location at least 15 feet from storage tanks at the end opposite from the relief valve. Portable tanks must be changed out-of- doors, where possible, and at least 50 feet from an open flame, except on outfit cars with kitchen facilities. When placing LPG tanks on motor vehicles, the engine must be stopped.

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## **72.18: Building or Outfit Cars**

Obtain authorization before installing any non-company-furnished heating or lighting devices or appliances in company buildings or outfit cars. Do not use gasoline or alcohol stoves or lamps in company buildings or outfit cars.

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## **72.19: Open Flame Starting**

Do not use an open flame to warm cylinders, manifolds, carburetors, or other internal combustion engine parts before starting the engine.

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## **72.20: Exhaust System**

Maintain the exhaust system of internal combustion engines in a safe condition. Ensure that catalytic converters, exhaust systems and exhaust gases do not come in contact with dry grass, weeds, or flammable material.

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## **72.21: Water Flash Back Protection**

Water flash back protection device must be filled to the required level with water each week. Flash back water seals on hydraulic back pressure valves located on permanent lines through shops must be inspected at least once each week and water kept at proper level. Water seals of hydraulic back pressure valves must be tagged to show date inspected. Inspect back flow-check valve outlets at all stations on a weekly basis to determine that they will properly function.

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Updated: 4/28/2010

## 73.0: EXPLOSIVES

- [73.1: Authorized Personnel](#)
- [73.2: Transporting](#)
- [73.3: Caution Open Flames](#)
- [73.4: No Smoking](#)
- [73.5: No Dropping](#)
- [73.6: Not Carried in Pocket](#)

### 73.1: Authorized Personnel

Only qualified and properly licensed personnel are permitted to use explosives. These persons must comply with the rules and regulations of the Bureau of Alcohol, Tobacco and Firearms (BATF) and the safety standards of the National Fire Protection Agency (NFPA). They must also observe all federal or state laws or city ordinances that cover handling, storing, and using explosives.

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### 73.2: Transporting

When transporting explosives in railroad cars, trucks, automobiles, or other vehicles, use proper care and follow Department of Transportation (DOT) and BATF instructions.

Except in an emergency, do not transport explosives on track cars.

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### 73.3: Caution Open Flames

Do not handle explosives near open flame, lights or fires. Use an electric flashlight or electric lantern if artificial light is necessary.

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### 73.4: No Smoking

Do not smoke around explosives (smoking is prohibited on company property). The person lighting the fuse is the only one allowed to carry matches, lighters or other flame-producing devices.

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### 73.5: No Dropping

Do not drop packages or cases of explosives or handle them roughly.

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## **73.6: Not Carried in Pocket**

Do not carry caps, electric primers, or other explosives in your pockets.

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Updated: 4/28/2010

## 74.0: AUTOMOTIVE EQUIPMENT

### Vehicles

- [74.1: Vehicle Maintenance](#)
- [74.2: Driver Requirements](#)
- [74.2.1: DOT-Qualified Drivers](#)
- [74.3: Driver Responsibility](#)
- [74.4: Impaired Driver](#)
- [74.5: Tools and Material](#)
- [74.6: Clearing Obstructions](#)
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- [74.8: Seat Belts](#)
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- [74.10: Headlights On](#)
- [74.11: Back-Up Moves](#)
- [74.12: Railroad Grade Crossing](#)
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- [74.14: Parked Vehicle](#)
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- [74.16: Working under Vehicles/Trailers](#)
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### Batteries

- [74.18: Battery Inspection](#)
- [74.19: Charging Batteries](#)
- [74.20: Jump Starting](#)

### Vehicles

#### 74.1: Vehicle Maintenance

Driver or supervisor assigned to a vehicle is responsible for lubrication and proper maintenance per vehicle maintenance or leasing company specifications. Drivers must record vehicle maintenance information and retain the maintenance record inside the vehicle.

Driver must know that the vehicle is in good working order and free of any defects. They must notify their supervisor if the vehicle becomes defective. Required repairs must be completed before the vehicle is returned to service.

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#### 74.2: Driver Requirements



Only authorized employees may operate company vehicles. All employees who drive company vehicles must:

- possess a current, valid driver's license or commercial driver's license (CDL),
- notify their supervisor and discontinue operating vehicles at any time their license or permit has expired, been suspended, revoked or restricted.

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## 74.2.1: DOT-Qualified Drivers

Drivers of company vehicles that meet one or more of the following criteria will be required to become UPRR ~~pass a knowledge and skills (driving) test to become~~ Department of Transportation (DOT) qualified:

- Operate a vehicle with gross vehicle weight rating (GVWR) of 10,001 lbs or more (single truck or a combination of truck and trailer), ~~combination weight of 26,001 pounds or more,~~
- Operate a vehicle designed to carry 16 or more persons, including the driver,
- Operate a vehicle placarded under the hazardous materials regulations because of its hazardous cargo.

Drivers must have in their possession at all times when driving a commercial motor vehicle:

- Valid Commercial Drivers License (CDL), for vehicles with a gross vehicle weight rating (GVWR) greater than 26,000 lbs.
- Valid Commercial Driver License (CDL) with a hazardous material endorsement for any vehicle placarded under the hazardous materials regulations because of hazardous cargo.
- Valid Drivers License (CDL), for vehicles with a gross vehicle weight rating (GVWR) less than 26,000 lbs.
- Valid copy of medical examiners certificate card when driving a commercial motor vehicle with a gross vehicle weight rating (GVWR) greater than 10,000 lbs.
- Current day and previous seven days hours of service (HOS) logs when driving a commercial motor vehicle with a gross vehicle weight rating (GVWR) greater than 10,000 lbs.

Drivers of vehicles with gross vehicle weight rating (GVW) of more greater than 10,000 pounds must be qualified by UPRR DOT and familiar with Federal Motor Carriers Safety Regulations. Federal Motor Carriers Safety Regulations requires UPRR to have on file, a completed driver's qualification file that includes: which require that drivers have the following photocopies at company headquarters:

- Driver's DOT application for employment.
- Copy of motor vehicle record (MVR) by each state for the past three years.
- Current medical examiner's certificate card,
- Certificate of road test certificate for DOT certified drivers who do not possess a CDL license,
- Annual review of driving record (MVR),
- Drivers Operator's license,
- Waiver of Physical Disqualification, if applicable,
- Driver's Application for Employment, if the application included a prior driving record (If not, a new application must be completed and included in the operator's DOT file),
- Annual Review of Driving Record (required every 12 months).

## General Order

### Change rule to read:

Drivers of company vehicles that meet one or more of the following criteria will be required to become UPRR Department of Transportation (DOT) qualified:

- Operate a vehicle with gross vehicle weight rating (GVWR) of 10,001 lbs or more (single truck or a combination of truck and trailer), operate a vehicle designed to carry 16 or more persons, including the driver,
- Operate a vehicle placarded under the hazardous materials regulations because of its hazardous cargo.

Drivers must have in their possession at all times when driving a commercial motor vehicle:

- Valid Commercial Drivers License (CDL), for vehicles with a gross vehicle weight rating (GVWR) greater than 26,000 lbs.
- Valid Commercial Driver License (CDL) with a hazardous material endorsement for any vehicle placarded under the hazardous materials regulations because of hazardous cargo.
- Valid Drivers License (CDL), for vehicles with a gross vehicle weight rating (GVWR) less than 26,000 lbs.
- Valid copy of medical certificate card when driving a commercial motor vehicle with a gross vehicle weight rating (GVWR) greater than 10,000 lbs.
- Current day and previous seven days hours of service (HOS) logs when driving a commercial motor vehicle with a gross vehicle weight rating (GVWR) greater than 10,000 lbs.

Drivers of vehicles with gross vehicle weight rating (GVW) greater than 10,000 pounds must be qualified by UPRR DOT and familiar with Federal Motor Carriers Safety Regulations. Federal Motor Carriers Safety Regulations requires UPRR to have on file, a completed driver's qualification file that includes: Driver's DOT application for employment.

- Copy of motor vehicle record (MVR) by each state for the past three years.
- Current medical examiner's certificate card,
- Certificate of road test for DOT certified drivers who do not possess a CDL,
- Annual review of driving record (MVR),
- Annual Review of Driving Record.

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## 74.3: Driver Responsibility

- Know and observe all local, state, and federal laws and regulations governing vehicle operation.
- Use courtesy, consideration, and common sense to prevent accidents and control situations encountered that cannot be provided for in the law.
- Obey posted speed limits. Regardless of posted speed limits, drivers must not exceed a safe and prudent speed for their vehicle when weather, traffic, road conditions, vehicle load or any other prevailing conditions necessitates operating at a lower speed.
- Ensure that required emergency equipment and tools are on the vehicle.
- Use of cell phones is prohibited while operating a motor vehicle unless hands free device is used. This includes dialing, unless voice activated dialing or speed dialing is available, texting or reading text messages. Cell phones may be used when stopped on other than a roadway.

## System Special Instruction

### 74.3 Driver Responsibility

Add new bullet reading:

- Use of cell phones is prohibited while operating a motor vehicle unless hands free device is used. This includes dialing, unless voice activated dialing or speed dialing is available, texting or reading text messages. Cell phones may be used when stopped on other than a roadway.

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## 74.4: Impaired Driver

Do not drive when suffering fatigue, illness, lack of sleep or any other physical condition which may affect alertness and ability to operate the vehicle safely.

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## 74.5: Tools and Material

Good housekeeping must be maintained in the vehicle at all times. Loose items must not be kept on the dash or on rear window shelf. Tools, equipment, material and freight must be properly secured. Gross Vehicle Weight (GVW) of vehicle must not be exceeded. Do not exceed load limit of trailers.

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## 74.6: Clearing Obstructions

The driver must know the vehicle and load will clear all obstructions or close clearances. Do not park the vehicle foul of any railroad track. Do not park vehicle foul of the traveled portion of a roadway unless proper warning to approaching traffic is provided.

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## 74.7: Passengers

Only employees or authorized passengers are permitted to ride in company vehicles.

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## 74.8: Seat Belts

All vehicle occupants must use seat belts, where provided. This includes Company vehicles, privately-owned vehicles used on Company business, leased, rented or contract vehicles, and hi-rail vehicles on and off the rail. Driver must not move a vehicle until assured all passengers are seated and have their seat belts fastened in proper restraining position.

Seat belts will be inspected prior to use. Seat belts will not be removed from vehicles to avoid use. Missing or defective seat belts will be replaced immediately or the vehicle will be removed from service.

Seat belt use is required while operating material handling or utility type vehicles, if so equipped, i.e., forklifts, mobile cranes, mules, utility trucks, etc.

**Exception:** Seat belt use is not required if vehicle is not exceeding 5 mph and vehicle is used during the task of inspecting cars, coupling air hoses or changing brake shoes.

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## 74.9: Seating, Transporting

Passengers must be seated on approved seats. Do not project body parts beyond the sides or rear of the vehicle. Passengers must not be transported in truck beds.

Getting on or off moving vehicles is prohibited.

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## 74.10: Headlights On

Vehicle headlights will be illuminated while vehicles are in operation.

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## 74.11: Back-Up Moves

On Union Pacific property work must be planned to minimize back-up moves and to avoid driving into areas requiring back-up moves. No back-up move is allowed when a forward move can safely be made.

Employee(s) in the cab of a vehicle, must not speak to or distract the driver until the back-up move is completed, except in case of emergency.

Before initiating a back-up move driver must:

- Walk around the vehicle and confirm that it is safe to move.
- Look in the direction of movement.
- Sound horn prior to back up move if back up alarm is inoperative or unavailable.
- Not exceed 5 MPH, conditions may require a lower speed.

When rearward vision is impaired, when equipment is standing on one or more tracks adjacent to the road, or in a Union Pacific parking lot, the following applies:

- When a second person is available:
  - A job briefing must be performed prior to movement, addressing the direction of move and position of person protecting the move.
  - The second individual, when safe to do so, must be near the rear of the vehicle to direct the movement.
  - Driver must immediately stop if the person who is directing the movement disappears from the driver's view.
- When a second person is not available:
  - The driver must stop every 150 feet, secure the vehicle and visually confirm that nothing has entered the path of the rearward movement of vehicle.
  - This will be repeated consecutively every 150 feet or until back-up move is no longer required.

~~Work must be planned to minimize backing movements.~~

~~Before driving a vehicle, drivers must walk around the vehicle (except for automobiles) and make sure it is safe to move. When backing up, drivers must look in the direction of movement.~~

~~When a driver is backing up and rear-ward vision is impaired, a second individual, when available, must be near the rear of the vehicle and guide the vehicle to protect the movement. If the person who is protecting the movement disappears from the driver's view, the driver must immediately stop the movement.~~

## System Special Instruction

### Change rule as follows:

On Union Pacific property work must be planned to minimize back-up moves and to avoid driving into areas requiring back-up moves. No back-up move is allowed when a forward move can safely be made.

Employee(s) in the cab of a vehicle, must not speak to or distract the driver until the back-up move is completed, except in case of emergency.

Before initiating a back-up move driver must:

- Walk around the vehicle and confirm that it is safe to move.
- Look in the direction of movement.
- Sound horn prior to back up move if back up alarm is inoperative or unavailable.
- Not exceed 5 MPH, conditions may require a lower speed.

When rearward vision is impaired, when equipment is standing on one or more tracks adjacent to the road, or in a Union Pacific parking lot, the following applies:

- When a second person is available:
  - A job briefing must be performed prior to movement, addressing the direction of move and position of person protecting the move.
  - The second individual, when safe to do so, must be near the rear of the vehicle to direct the movement.
  - Driver must immediately stop if the person who is directing the movement disappears from the driver's view.
- When a second person is not available:
  - The driver must stop every 150 feet, secure the vehicle and visually confirm that nothing has entered the path of the rearward movement of vehicle.
  - This will be repeated consecutively every 150 feet or until back-up move is no longer required.

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## 74.12: Railroad Grade Crossing

Drivers must approach railroad crossings prepared to stop.

Before crossing track(s) where visibility is impaired by railroad equipment or other obstruction that prevents a clear view of approaching trains, the driver of the vehicle must:

- Stop the vehicle and verify (by either a flagman or personal observation) that there will be no movement on the track(s) being crossed.
- or
- Use alternate crossing.

Vehicles designed to transport 16 or more passengers including the driver or placarded vehicles must stop at all highway railroad crossings at grade.

~~Drivers must approach railroad crossings prepared to stop. Vehicles designed to transport 16 or more passengers including the driver or placarded vehicles must stop at all highway railroad crossings at grade.~~

~~When crossing tracks in train yards and visibility is blocked by railroad cars or locomotives, the driver of the vehicle must:~~

- ~~• use alternate crossing or,~~
- ~~• stop the vehicle and verify (by either a flagman or personal observation) that there will be no movement on the tracks being crossed.~~

~~Drivers of vehicles transporting train, engine and yard (TE&Y) employees, must stop and look both ways, before proceeding over any crossing in a train yard.~~

## General Order

### 74.12 Railroad Grade Crossing

Change rule to read:

Drivers must approach railroad crossings prepared to stop.

Before crossing track(s) where visibility is impaired by railroad equipment or other obstruction that prevents a clear view of approaching trains, the driver of the vehicle must:

- Stop the vehicle and verify (by either a flagman or personal observation) that there will be no movement on the track(s) being crossed.  
or
- Use alternate crossing.

Vehicles designed to transport 16 or more passengers including the driver or placarded vehicles must stop at all highway railroad crossings at grade.

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## 74.13: Hazardous Materials

Do not place gasoline or other hazardous materials, including oxygen and fuel gas, in a bus or truck compartment occupied by the driver or other persons. This requirement does not apply to transporting railroad flagging kits. Do not transport gasoline or other flammables in an automobile trunk except in an emergency and then only in an approved container secured against movement.

When vehicles are required to transport flagging kits, a copy of the DOT Exemption 7991 must be in the vehicle.

When transporting hazardous material, the responsible employee must obtain and fill out Form 70056, "Shipping Papers for Hazardous Materials". If form is not available it can be obtained in "TCS" under: SW USE FORM70056 STUDENT. Material Safety Data Sheet (MSDS) Book must be carried in the vehicle.

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## 74.14: Parked Vehicle

If necessary to leave the vehicle motor running, the parking brake must be firmly set and the transmission is placed in neutral (manual transmissions) or park (automatic transmissions) to prevent movement.

When vehicles are parked and left unattended, standard transmissions must be placed in low gear, automatic transmissions in park, emergency brake set and the motor stopped.

Ignition key must be removed, windows closed and doors locked. In addition, when vehicles or trailers are parked on a grade, precautions must be taken to ensure they cannot roll unexpectedly.

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## 74.15: Trailers

Before towing trailers drivers must inspect:

- tires,
- hitches and safety chains,
- lights,
- equipment or material loaded on the trailer.

Any unusual condition noted must be corrected before towing is undertaken. If a trailer is equipped with brakes, the braking system must be operable. Safety chains, where required, must be used. Trailers must be equipped with required and operable stop, tail, directional and clearance lights. Electrical connectors on trailers and vehicles must be compatible and must be connected before towing.

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## 74.16: Working under Vehicles/Trailers

Sitting or lying underneath vehicles or trailers is prohibited except when making inspection or repairs and then only when the brakes are set, wheels blocked and the engine stopped and keys removed. Do not position yourself under any raised vehicle or trailer, unless proper support stands are in place.

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## 74.17: Train Yard or Utility Type Vehicles

Only authorized drivers are permitted to operate train yard vehicles. Compliance with other vehicle rules, i.e., speed, inspection, etc. also apply to operating this type of vehicle. When rules for operation and care are furnished by the manufacturer they must be observed. Reckless or careless driving is prohibited. Operators of vehicles must:

- maintain control at all times,
- be prepared to stop within one half their range of vision short of any person or object,

- avoid striking standing or moving equipment or being struck by moving equipment,
- maintain sufficient clearance to tracks and equipment on those tracks. (If tracks must be fouled or proper clearance cannot be maintained, movement must be protected.),
- operate only in designated areas and over designated crossings, pathways and road ways.

Riders shall not be permitted on vehicles unless provided with a seat. Riding side saddle on yard vehicles is prohibited. Vehicles designed for one person must not be occupied by more than one person. Where provided seat belts will be worn.

Do not make adjustments or disable any speed limiting device.

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## Batteries

### 74.18: Battery Inspection

Inspect batteries as required.

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### 74.19: Charging Batteries

When charging batteries, keep the vent caps in place to avoid electrolyte spray. Maintain vent caps in functioning condition. If necessary to bring the liquid to the correct level, use approved water. Charger must be turned off or unplugged before connecting to or disconnecting from battery. Hook the charger to the positive post first and the negative post last. When removing the charger, disconnect the negative post first and the positive post last.

Smoking is prohibited in battery charging areas. Precautions must be taken to prevent open flames, sparks, or electric arcs in battery charging areas or around exposed batteries. The area must be adequately ventilated.

Emergency eye wash stations/showers must be located at or near permanent battery charging installations and must be inspected weekly. Plumbed systems must be flushed in conjunction with the inspection. Access must be kept clear.

Tools and other metallic objects must be kept away from the top of uncovered batteries.

During cold weather, keep storage batteries maintained in a fully charged condition.

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### 74.20: Jump Starting

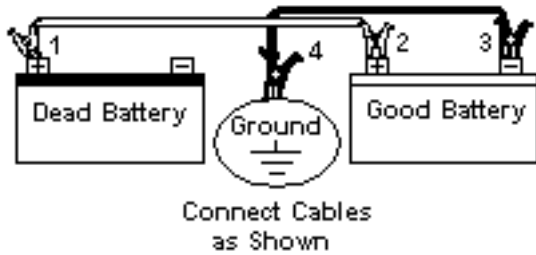
When necessary to jump a vehicle battery, the following procedure must be followed:

1. Turn off all electrical accessories in both vehicles, including Company radio. Start the engine of the booster vehicle to keep its battery from being discharged.
2. Make sure the vehicles are not touching. If possible, boost on-track machines from a non-rail source (off-track vehicle/machine, booster pack or spare battery). If this is not possible, jump start the on-track machine from another on-track machine or vehicle using two sets of jumper cables to keep sparks away from either battery. After connecting one set of



jumper cables to each battery, connect the negative ends of the jumper cables together first, followed by the positive ends. After starting machine, disconnect the positive ends first, followed by the negative ends.

3. Shift both vehicles into neutral or park and set the emergency brakes.
4. Check to be sure that both batteries are the same voltage.
5. Check to see that the fluid level is correct. If the fluid is frozen, do not attempt to start the vehicle.
6. Clamp one jumper cable to the positive (+) terminal of the dead battery (position 1 on diagram). Do not allow positive cable clamps to touch any metal other than battery terminal. Connect other end of positive (+) cable to positive (+) terminal of good battery (position 2 on diagram).
7. Connect one end of the second cable [negative (-)] to other [negative (-)] of good battery (position 3 on diagram). Make final connection on engine block of stalled engine (not to negative post) away from battery, carburetor, fuel line, any tubing or moving parts (position 4 on diagram).



8. Stand back from both vehicles. Start vehicle with good battery—then start the disabled vehicle.
9. Remove cables in reverse order of connections beginning by first removing cable from engine block or metallic ground.

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Updated: 7/29/2011

## 75.0: MATERIAL HANDLING

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### 75.1: Material Storage

When stacking or storing materials and freight:

- it must be placed safely, securely and where it will not create hazardous conditions,
- do not store heavy materials on top of fragile or crushable materials,
- store heavier, bulkier materials at a height between the shoulders and mid-thigh to minimize lifting effort from bending or reaching too high,
- place in locations where people will not step on, trip over or fall on them,
- keep out of walkways and passageways, doorways, fire lanes and truck spaces,
- keep a safe distance from the edge of pits, ledges and platforms,
- place it where it will not block access to fire extinguishers, electrical panels, emergency eye washes, showers or exits,
- material stored higher than 6 feet from the ground must be palletized and should be retrieved with a forklift whenever possible,
- do not overload storage racks or areas.

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### 75.2: Pallets

Only pallets in good condition are to be used. If material is to be banded to the pallet, care must be exercised to apply sufficient tension to secure the load, but not to the point of breaking the bands or damaging the pallets. In stacking loaded pallets, consideration must be given to the supporting ability of the material and packaging. Stack only to the height that can be safely supported by the material on the bottom of the stack. Pallets must not be stood or stored on end. The forklift operator must caution others working in the vicinity of the stacking operations.

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## 75.3: Moving Materials

Keep material being moved under control and be prepared to stop short of obstructions or persons. Keep feet and hands clear of rollers or dollies under the load.

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## 75.4: Other Protruding Objects

Before handling materials or supplies, remove or flatten sharp edges, protruding nails, screws, staples or loose ends of metal bands or wire.

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## 75.5: Transfer Plates and Loading Ramps

When working with transfer plates, loading ramps, gang planks or skids:

- ensure that they are strong enough for the load,
- properly place and secure devices before using,
- when placing them between a car and platform, lower them by hand or slide them into position unless using a lift truck,
- when lifting or placing transfer plates, prevent the plate from slipping or falling and keep hands and feet clear of the plates,
- when removing gang planks, transfer plates or skids remove nails, cleats or other fastening devices and dispose of properly.

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## 75.6: Loading and Unloading Materials

Inspect decks or floors of trucks, trailers or railcars. If unsafe, do not move material by occupying deck or using a fork truck until condition is corrected or other means employed to handle material.

Ensure that no one is on the ground where material is being unloaded. Do not work on the ground near others who are unloading material.

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## 75.7: Loading and Unloading Truck Trailers

Do not load or unload a truck trailer while the tractor is being coupled or uncoupled or when a tractor is coupled and the engine is running, unless necessary to operate attached boom/hoisting equipment.

The brakes of highway trucks must be set and wheel chocks placed under the rear wheels to prevent trucks from rolling while they are boarded with powered industrial trucks.

- If present, trailer to dock locking devices must be used and checked to see that the lock is securely attached to the trailer before proceeding to unload.
- If trailer to dock locking devices are not present, the rear wheels of the trailer must be chocked on both sides of the trailer by placing approved wheel chocks securely against the tires. Only those wheel chocks designed and manufactured for this specific purpose should be used, and then only those with gripping surface. Make-shift chocks must not be used.
- Trailers that have been spotted and the tractor has been disconnected must have an approved trailer stabilizing jack placed underneath the nose and directly in the center of the trailer. If the load appears to be exceptionally heavy, has shifted to one side, or in the event there could be a possible defect with the landing gear, it will be necessary to place a jack under both front corners of the trailer.
- Trailers with tractor attached require the locking device or the rear wheels chocked and ensure the brakes are set.
- Visually inspect the floor of trailers prior to entry with fork truck. Any defects detected must be reported to immediate supervisor. Do not exceed the capacity of the floor.

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## 75.8: Load Binders

The use of lever action load binders, i.e., break over binders, cam-lock binders, chain boomer, etc., are prohibited. Do not assist others in the operation of lever action load binders. Ratchet action load binders are the preferred alternative. All binders must be inspected and in good condition for use.

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## 75.9: Drums and Barrels

When handling drums or barrels:

- test the weight of a drum before attempting to handle it,
- use approved drum handling equipment,
- assure sufficient clearance before pulling drum over on side,
- do not use feet to roll drums,
- do not attempt to up-end a filled drum without assistance or mechanical equipment.

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## 75.10: Wheel Sets

Stopping movement of mounted wheels by holding the flange is prohibited. Flanges can be very sharp. Wear cut resistant or leather gloves when handling wheels. Walking in front of rolling mounted wheels is prohibited.

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## 75.11: Forklifts

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### 75.11.1: Training

Only employees that have been trained may operate a fork-lift.

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## 75.11.2: Inspection

Inspect forklift prior to operation. Any unusual condition must be corrected or the forklift must be removed from service.

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## 75.11.3: Operation

Forklift operators must comply with the following:

- operate at a speed that will permit stopping short of objects or persons,
- cross tracks diagonally, when possible,
- forklift with a load must be backed down ramps or inclines,
- highway vehicles and rail cars must have wheels blocked and brakes set before loading or unloading,
- travel with load as low as practical, against mast. Load must not be lifted while traveling. For clear vision, travel backwards with bulky loads,
- watch for impaired overhead clearance and rear end swing, avoiding sudden stops, jerks, turns and rough terrain,
- keep forklift clear of edge of loading docks, platforms and gangboards,
- do not use forklifts as a platform to raise or lower employees, except where an approved cage, secured to the forks and /or lifting carriage is provided,
- only the operator is allowed to ride a forklift, except where a second seat or an approved cage is provided,
- getting on or off a moving forklift is prohibited. When stopping to open or close gates or doors, adjust loads, etc., the forklift must be stopped in the clear with the hand brake set and the forks lowered to the floor or ground.

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## 75.11.4: Unattended

A forklift is unattended when the operator is more than 25 feet from the machine or the operator is not in view of the machine. If the forklift is to be left unattended:

1. lower forks to ground,
2. shut off engine,
3. apply hand brake,
4. leave automatic transmissions in "park" or leave manual transmissions in low gear,
5. do not park closer than ten (10) feet to any tracks;
6. do not park on inclines.

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## 75.11.5: Wagon Tongue Equipment

A self-propelled lift truck or similar self-propelled equipment with "wagon tongue" type handle must be operated from a trailing position. Do not ride on any part of equipment of this type.

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Updated: 4/28/2010

## 76.0: TOOLS AND MACHINERY

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## General

### 76.0: TOOLS AND MACHINERY

Rules in this chapter, if applicable, apply to both hand and power tools, equipment or machinery.

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### 76.1: Use of Tools and Equipment

Give the operation of tools, equipment and machinery your full undivided attention and wear required personal protective equipment (PPE). Use the correct tool or equipment for the task to be accomplished in accordance with the manufacturer's operating instructions. Improvised, altered or shop made tools or equipment are prohibited unless approved through departmental procedures. Unauthorized use of tools, equipment and machinery is prohibited.

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### 76.2: Inspection of Tools and Equipment

Be familiar with the manufacturer's and/or the company's inspection/operating procedures and specific safety rules for the tools and equipment to be used. Prior to use, tools and equipment must be inspected for conditions that might cause the tool or equipment to fail. Conditions to inspect for include, but are not limited to:

- broken, bent, frayed, deformed, cracked, loose, improperly wedged, or damaged handles (wooden handles must not be taped.),
- cracks, burrs or mushrooming,
- excessive wear or cuts,



- unapproved repairs,
- missing guards or parts,
- exposure to excessive heat (as noted by difference in color, warped, etc.) that could affect the hardness or temper of the equipment or tool,
- damage from welding or cutting (as noted by cut marks, pits, gouges, etc.).

Chip protectors must be used on track chisels, drift pins, or similar struck tools.

Note: See *Rule 1.1.4, Condition of Equipment and Tools*.

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## 76.3: Safety Guards

Portable power tools, machinery and equipment must not be operated without required safety guards.

All belts, shafts, gears and other moving parts on machinery must be fully enclosed and guarded.

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## 76.4: Assigned Places

Keep tools, materials and supplies in assigned places. Tools and equipment must be returned to storage position when work has been completed. Tools, equipment and materials must be safely and neatly arranged in storage areas, tool bins or designated locations. Hoses and extension cords must be arranged so they will not be a tripping hazard.

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## 76.5: Tool Placement

Place tools in safe, secure locations and avoid doing the following:

- placing objects where they are likely to fall or be knocked off,
- placing tools or other objects on ladder rungs, hand holds, running boards, steps, uncoupling levers or other safety appliances,
- sharp edged tools should not be left lying on benches or in other places where they may cause injury, i.e., under scrap paper or rags or among tools in drawers or tool boxes.

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## 76.6: Set Screws

Set screws or keys in revolving spindles or shafts and chucks must be flush, countersunk or protected by a collar unless fully enclosed and guarded from exposure.

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## 76.7: Chuck Wrenches

Remove wrenches used to tighten chucks on boring mills, lathes, or drills (including portable drills) before operating the machine.

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## Hand Tools

### 76.8: Purpose

Use tools only for the purpose for which they are designed. When in doubt as to the correct use of a tool, consult your supervisor.

The use of pipes or improvised extensions on tools, wrenches or other devices to gain leverage is prohibited.

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### 76.9: Swinging Tools

Stay clear of the swing arc of tools. When using swinging tools, warn others to keep clear. Stand in a position that will direct the tool away from your body in the event the tool strikes a glancing blow. Do not stand on the same side as striker when holding a bar, cutter or punch.

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### 76.10: Hammers

Hammers must be used only for their intended purpose.

Type	Intended Use
Claw	For use on soft steel, such as nails. Nails or spikes must be well started before a full blow is struck.
Ball Peen	For use on hard metal, such as a chisel.
Caboose	For emergency use by operating employees.
Sledge	For use on hardened steel.
Rubber Mallet	For use on hard metals.
Soft Metal Hammers	Special applications to prevent damage, i.e. Brass, Aluminum, such as striking reamers, taps, drills, copper, etc. Cutters or other hardened steel tools.

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### 76.11: Spike Maul

Inspect the tie plate area and brush away any loose material that might fly on impact. When possible set the spike from the same side of the rail you are standing on, holding the spike palm side up. Strike light blows until the spike is firmly set. Establish good footing, take a firm grip on the handle, keep your eyes on the spike head and spike by swinging the maul in a smooth arc at an even rhythm. Spike mauls must only be used for setting and driving railroad spikes. When two employees are spiking along the same rail,

each must spike on their side of the rail, and both must face the same direction. One employee spiking alone may spike over the rail.

## System Special Instruction

### Change rule to read:

Inspect the tie plate area and brush away any loose material that might fly on impact. When possible set the spike from the same side of the rail you are standing on, holding the spike palm side up. Strike light blows until the spike is firmly set. Establish good footing, take a firm grip on the handle, keep your eyes on the spike head and spike by swinging the maul in a smooth arc at an even rhythm. Spike mauls must only be used for setting and driving railroad spikes. When two employees are spiking along the same rail, each must spike on their side of the rail, and both must face the same direction. One employee spiking alone may spike over the rail.

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## 76.12: Hand Adze

Remove nails, dirt, stones and other debris from the item to be adzed. Straddle the item, when possible, and work the adze between the legs, keeping good control to prevent glancing blows. Cut with the grain, notching and chipping out pieces if a considerable amount is to be removed. Keep the cutting edge sharp and free of chips and use special caution when cutting cross-grained lumber, knots, etc.

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## 76.13: Sharp Edged Tools

Use the proper tool for the job.

Tool	Intended use and/or special instruction
Wire Stripper	Used to cut wire. Hold the short end of the wire to reduce the danger of flying bits. Always cut at right angle. Cutters are dulled by rocking from side to side or bending the wire back and forth against the cutting blade.
Compound leverage	Used to cut chain, bolts or heavy gauge cutter or bolt cutters wire.
PVC / Hose Cutter	Use for cutting pvc pipe or any hoses especially oxy-acetylene hoses.
Banding cutters	Used to cut bands.
Utility Knives	Safer than hooked or pocket knives for opening cartons. They not only protect the user, but also eliminate deep cuts that could damage the carton contents.
Pocket Knives	<del>Use knives designed with a locked blade no longer than 3 inches in length. Knives must not be used as a substitute for can openers, screwdrivers, ice picks or other tools designed for cutting various material.</del>
Chisel	Mushroomed or damaged chisels must be redressed or destroyed

**Note:** Use of personal knives is prohibited while on duty or on company property.

~~The use of pocket knives for cutting or removing gaskets is prohibited.~~ Use chemical gasket remover where possible to soften the old gasket and then use a scraper or putty knife to remove the gasket. A gasket grinder may also be used to remove old gaskets. Use a retractable blade utility knife to cut new gaskets. Use clamps to hold down both the template and the gasket material.

When using shape edged tools ~~tools such as sknives, chisels and screwdrivers,~~ the cutting edges must be directed away from the body or hands. If that is not possible, then the free hand and body should be in a position that place them clear of the blade stroke,

and protective clothing should be worn. When wiping the blade, use a towel or cloth (not your own clothing) with the sharp edge turned away from the wiping hand.

## **System Special Instruction**

### **76.13 Sharp Edged Tools**

**Change rule to read.**

**Delete:** Pocket Knives from table:

**Add Note under table:**

Use of personal knives is prohibited while on duty or on company property.

**Delete first sentence first paragraph that reads:**

The use of pocket knives for cutting or removing gaskets is prohibited.

**Change first sentence of second paragraph to read:**

When using sharp edged tools, the cutting edges must be directed away from the body or hands.

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## **76.14: Drift Pin**

Use a drift pin when necessary to align holes for the insertion of rivets, bolts or pins. Fingers must not be used to align holes. Use a hammer to strike the pin. Hit the pin with light blows until it is securely seated in the hole. Be alert when driving a drift pin or bolt to make sure no one is positioned in line with it should it fly out.

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## **76.15: Banding Tools**

Use caution when handling banding materials and tools. When applying banding, have a firm grip on the bander and do not apply undue tension to the bands. Do not stand in direct line of bands under tension.

Bands must be cut back, secured or removed to prevent cutting or tripping hazards. Scrap banding must be placed in suitable containers for disposal or moved to a safe area. Band cutters must be used to cut band. When cutting bands from bundles, position yourself so that you will not be struck should material fall from the stack.

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## **76.16: Files**

Files must be cleaned by using a wire brush and not by striking against a vise or other metal object. They must not be hammered or used as a pry, punch, chisel or any other type of tool. Files must have wooden or plastic handles attached.

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## **76.17: Carrying Tools**

Long handled tools must not be carried in such a manner that will present a hazard to yourself or others. Carrying file, ice pick or other pointed tool, unless point is protected is prohibited.

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## 76.18: Bars and Levers

Do not sit, stand on or straddle a bar or lever. While using bars, levers or tools:

- brace yourself,
- be alert to the bar or lever slipping or moving unexpectedly,
- place hands and feet to prevent injury,
- do not over exert.

Do not use bars that are broken, bent, chipped or that have been welded on.

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## 76.19: Use of Claw Bars

Place the claw securely under the spike head. If you are unable to get the claw under the spike head, use the pointed end of the bar and pry up the edge of the tie plate enough to permit the claw to seat completely under the spike head, or use a spike lifter. With firm footing, stand beside the claw bar and position your hands below the notch in the handle to prevent striking hand on opposite rail, should the spike break or release suddenly. Work the spike up with short, firm thrusts. If additional leverage is needed, use a piece of wood under the heel of the claw bar. When using the claw bar to nip tie plates, be sure the end is well underneath so it will not slip. Do not strike the handle of a claw bar with another tool.

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## 76.20: Lining Bars

When nipping ties or lining track, make sure the bar is placed in the ballast sufficient to prevent it from slipping out when force is applied. Apply force smoothly and assume a firm stance to maintain balance should the bar slip.

Use a piece of wood as a fulcrum to multiply your force on the tie.

Do not use a lining bar to turn a rail.

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## 76.21: Rail Turners

The ratchet rail turner or rail fork is the only hand tool that may be used to turn a rail.

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## 76.22: Track Jack

Track jack must be inspected before using for:

- cracked base,
- broken pawl lever,
- missing ratchet or operating lever pins,
- any debris in the ratchet mechanism.

Do not strike the jack with tools to force it under a load. The jack base must be placed on an even and firm surface to prevent shifting or kicking out. The lifting surface must be placed fully under the load. No more than two people may operate the jacking lever.

A lining bar must be the only bar used to operate a mechanical track jack. Stand beside the bar and assume a stable position and pump it in an even rhythm. Do not straddle, sit or stand on the lining bar. Keep body clear of pinch points. Remove the lining bar from the jack when the jack is not being operated.

Before tripping or lowering the jack under load, make certain that all employees, tools and materials are in the clear. Jack must not be set for tripping until ready to release the load. Do not walk track jack down.

Mechanical track jack or step jack must not be used by the Locomotive and Car Departments.

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## 76.23: Jacking Equipment

Only approved jacks will be used to lift cars or locomotives. When necessary to jack a locomotive, car or other heavy equipment in order to remove trucks, wheels, couplers, etc.:

- Jacks must be of sufficient capacity to handle the lift.
- Jack pad or footing under jack must be sufficient to handle the lift. If blocking is used, it must be capable of handling the lift.
- Jack must be level and the jack head must contact the jacking point as completely as possible.
- Jack or secondary support must be positioned under the load at a location where there is sufficient strength to support the equipment.
- A five minute settling period must be observed when jacking on unpaved or uneven surfaces.

Do not jack metal against metal, except when using track jacks or vehicle jacks. When mechanical, hydraulic or air jacks are used, a piece of wood, a minimum of one-half inch and a maximum of one inch thick, large enough to cover the jack head, must be inserted between the jack head and the load. Approved rubber pads may be used when using stationary jacks.

Do not go under or place any part of your body under the load or in line of applied force, unless equipment or load is secured as per Rule 76.24.

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## 76.24: Securing Jacked Equipment

Follow these precautions when jacking equipment:

1. Wheels must be chocked to prevent equipment movement, except where one-spot in-floor jacks are being used.
2. Do not go under or place any part of your body under equipment unless it is secured from movement and has proper secondary support in place. Secondary support shall consist of:
  - o Stands or blocking of sufficient capacity to support the load.
  - o In rip track or shop applications, using in-floor jacks with positive stop features ~~or concrete jacking pads, self-locking mechanisms or load holding rings~~ will be considered the same as using secondary support; otherwise, stands or blocking must be used.
3. To be effective, load must be lowered until a portion of it rests on the secondary support.
4. Always consider other options and methods to preclude having to place any part of your body under a jacked load or in line of applied force. When trucks are under car, use the proper tool to remove or position the center pin.

**Note:** Car shops using in-floor jacks with self-locking mechanism and rip tracks using concrete jacking pads with stands or blocking will be considered secondary support. Portable jacks with locking rings (i.e. electric powered hydraulic jack) will not be used as secondary support or a jack stand.

## System Special Instruction

### 76.24 Securing Jacked Equipment

**Under part 2. change second bullet to read:**

- In rip track or shop applications, using in-floor jacks with positive stop features will be considered the same as using secondary support; otherwise, stands or blocking must be used.

**Add Note:** Car shops using in-floor jacks with self-locking mechanism and rip tracks using concrete jacking pads with stands or blocking will be considered secondary support. Portable jacks with locking rings (i.e. electric powered hydraulic jack) will not be used as secondary support or a jack stand.

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## 76.25: Use of Wrench

Take the following precautions when using wrenches:

- Place the wrench so the turn will be toward the open end of the jaws.
- Select the proper size wrench for the job. Do not use any object as a shim between the wrench jaws and the nut and bolt head, or use another object to make the wrench fit.
- Brace your body securely to prevent injury in case the wrench slips or the wrench, bolt, nut or other object fails.
- Make sure the wrench is pulled toward the body, whenever possible.

Note: See Rule 76.8, Purpose.

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## 76.26: Use of Tie or Timber Tongs

Tongs must be set firmly and a steady force applied. When making pull, stand braced with your feet apart and with one foot behind the other. Use tie tongs when handling individual ties.

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## Portable Power Tools

### 76.27: Authorized Employees

Only authorized employees are permitted to operate portable power tools.

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### 76.28: Fueling

Note: See *Rule 72.17.1, Fueling Portable Power Equipment*.

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### 76.29: Securing Hose Connections

Air connections must be secured and must not be uncoupled without first closing the air valve and relieving line pressure, unless equipped with quick disconnect. Whip checks or hoses equipped with check valves in both ends must be used. Wire must not be used in air or hydraulic couplings in place of clip pins.

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### 76.30: Insulation/Grounding

Power cord insulation and connections on electrically powered tools shall be frequently inspected and maintained in a safe condition. Unless the tool is of the double insulated type, electric power tools must be grounded. If so equipped, the ground prong must be used.

Note: See *Rule 78.2, Electrical Cords*.

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### 76.31: Laying Tools Down

Do not lay down a pneumatic, electric or other power tool with the motor running. Power tools must be placed so they will not be started accidentally. When unattended, the power source must be disconnected.

Do not lay power tools on wet surfaces or in loose soil.

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### 76.32: Impact Wrenches

Do not use hand sockets on impact wrenches. Nails, wire or cotter pins must not be used to hold sockets in place.



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## 76.33: Huck Guns

Huck guns and all hydraulic two-piece rivet guns must be held perpendicular to the surface to which the bolt is being applied. Hands and fingers must not be placed between the huck tools and/or parts being fastened as the tool tightens the collar.

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## 76.34: Nail/Staple Guns

Keep nail/staple guns pointed away from the body and other persons. Ensure that no one is located behind the object being nailed or stapled into.

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## 76.35: Powder-Actuated Tools

Only authorized employees are permitted to use powder-actuated tools (i.e., Hilti guns, nail guns, etc) and must follow manufacturer's instructions. Treat powder actuated tools with the same respect extended to firearms.

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## 76.36: Chain Saw

Follow the manufacturer's instructions when operating chain saws. Operators must wear:

- Dust goggles or face shield with safety glasses.
- Gloves.
- Long-sleeved shirt.
- Chain saw chaps.
- Hearing protection.

Before employees use a chainsaw they must be trained.

### Standing Trees

Employees must not fell standing trees that are greater than 6 inches in diameter at mid chest height. If the tree is leaning, extreme care should be used when cutting and consideration should be given to having the tree cut by an outside service provider. Standing trees that are greater than 6 inches in diameter that need to be felled must be removed by an outside service provider.

### Fallen Trees

Employees must do a thorough risk assessment of the scene where a tree is fouling any of our tracks or structures before using a chainsaw. This assessment must include evaluation of the position and orientation of the trunk and limbs of the fallen tree to identify any stress in the tree components due to said position and orientation (i.e. twisting or leaning against another tree or object).

All chain saws should have a chain brake. Those saws not equipped with a chain brake must have a tip protector.

Be alert for conditions which may adversely affect footing and safe operation of the saw. Avoid cutting directly overhead. Where there is a fire hazard, a fire extinguisher and shovel must be immediately available when using a chain saw.

## General Order

### Change rule to read:

Follow the manufacturer's instructions when operating chain saws. Operators must wear:

- Dust goggles or face shield with safety glasses.
- Gloves.
- Long-sleeved shirt.
- Chain saw chaps.
- Hearing protection.

Before employees use a chainsaw they must be trained.

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Employees must not fell standing trees that are greater than 6 inches in diameter at mid chest height. If the tree is leaning, extreme care should be used when cutting and consideration should be given to having the tree cut by an outside service provider. Standing trees that are greater than 6 inches in diameter that need to be felled must be removed by an outside service provider.

### Fallen Trees

Employees must do a thorough risk assessment of the scene where a tree is fouling any of our tracks or structures before using a chainsaw. This assessment must include evaluation of the position and orientation of the trunk and limbs of the fallen tree to identify any stress in the tree components due to said position and orientation (i.e. twisting or leaning against another tree or object).

All chain saws should have a chain brake. Those saws not equipped with a chain brake must have a tip protector.

Be alert for conditions which may adversely affect footing and safe operation of the saw. Avoid cutting directly overhead. Where there is a fire hazard, a fire extinguisher and shovel must be immediately available when using a chain saw.

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## 76.37: Weed/Brush Cutting

Before operating grass, weed or brush cutting devices make sure guards are in place.

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## 76.38: Rail Saws

A rail saw can be powered by gasoline, hydraulic or electric. Rail saws are only to be used to cut rail. When operating a rail saw:

- Do not operate a rail saw unless you have been properly trained in its safe use and follow all of the manufactures instructions.
- The guide support arm must be used when cutting rail (freehand cutting is prohibited).
- Warn others that you are about to begin cutting rail.

- Personnel are prohibited from standing in front of the rail saw when rail is being cut.
- Required Personnel Protective Equipment (PPE) must be used when operating a rail saw.
- Inspect equipment regularly to ensure it is operating safely and efficiently.
- Do not fuel a gasoline powered rail saw closer than 20 feet from where the rail is to be cut.

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## Fixed Machinery/Portable Equipment

### 76.39: Authorized Employees

Only authorized employees are permitted to operate machinery or equipment.

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### 76.40: Servicing Machines

Follow manufacturer's recommendations for servicing machinery. Ensure that all safety guards or safety devices are replaced and operable before machine is returned to service. Follow Environmental Guidelines to dispose of waste products.

Note: *Safety Resource Manual, Lockout/Tagout Policy, Section IV-H.*

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### 76.41: Left Unattended

Do not leave running machines unattended.

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### 76.42: Band Saws

The length of blade exposed must be no greater than the thickness of the stock being cut plus one-half inch. Stock must be fed gradually and steadily. The blade must not be twisted or crowded.

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### 76.43: Woodworking Machines

Exercise caution when operating woodworking machines:

- Stand to one side and not directly in back of the material being fed to any saw.
- Use a push stick to feed narrow material.
- Do not reach over circular saws.
- Do not operate circular rip saws with the hood, spreaders or kick back devices removed or rendered inoperative.
- Provide an adjustable stop to prevent the forward travel of the blade beyond the position necessary to complete the cut in

repetitive operations with circular saws.

- An effective device must be provided to return the radial saw automatically to the back of the table when it is released at any point of travel.
- Joiner must have a guard that automatically adjusts itself to cover the part of the cutting head not protected by the material being processed. The guard must provide protection for the entire length of the cutting space. The exposed part of the cutting head at the rear of the fence must be covered, and the knife must not project more than one-eighth inch beyond the cylindrical body of the cutting head.
- Dead plates on planers must not be lowered while material is in the machine and the machine is running.

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## **76.44: Clamping Material**

Material must be firmly clamped to the machine before work is performed, where required.

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## **76.45: Removing Chips**

Do not remove chips or shavings from a drill press lathe or other machine by hand. Use a brush, vacuum equipment or tools made for that purpose.

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## **76.46: Pedestal or Bench Mounted Abrasive Grinders**

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### **76.46.1: Mounting**

Prior to mounting, all wheels must be inspected for damage and cracks. Wheels which show any evidence of cracks, abusive handling or abusive storage shall not be mounted. Before mounting, spindle speed of grinder must be checked to ensure that it does not exceed the maximum operating speed marked on the wheel.

Blotters must be used between flanges and abrasive wheel surface to insure uniform distribution of flange pressure. Flanges must be the same size and shall not be less than one-third the wheel diameter. The blotters shall cover the entire contact area at the wheel flanges.

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### **76.46.2: Crack Detection Test**

When performing a Ring Test:

- The ring test depends on the damping characteristics of a wheel to alter the sound emitted when the wheel is tapped lightly.
- To perform the ring test, wheels should be tapped gently with a light non metallic tool, such as the handle of a screwdriver.
- Support the wheel through the center hole with a non-sound conducting holders such as a wooden dowel.
- Tap wheel about 45 degrees each side of the vertical center line and about one or two inches from the periphery.

- Rotate the wheel 45 degrees and repeat the test.
- This will result in four locations on the wheel being tested.
- A sound and undamaged wheel will give a clear tone. If cracked, there will be a dead sound. If this occurs, the wheel must not be used.
- Wheels must be dry and free from sawdust when applying the ring test.

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## 76.46.3: Using Grinders

When using grinder:

- Prior to doing any work with the grinder, it must be run for one minute. During this period of time, the operator must stand to the side of the machine and check for excessive vibration. Should there be excessive vibration, the machine must be shut down and supervisor notified.
- When wheel is cold, apply grinding force gradually and uniformly to prevent thermal shock which may cause wheel to break.
- Do not grind on sides of abrasive wheels.
- Do not allow the tool rest to be more than one-eighth inch from the stone.
- Do not allow the distance between the wheel periphery and the adjustable tongue to be more than one-fourth inch.
- Immediately report and replace broken or missing shields.
- If needed, protect arms with a long sleeved shirt and use leather gloves to hold material while grinding. However, glove fingertips must not extend past the outer edge of the tool rest.
- Do not use welding gloves or rags to hold material while grinding.
- Only grind material for which the wheel is designed. Do not grind non-ferrous material (i.e., aluminum, brass or plastic) on wheels designed for grinding steel.

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## 76.47: Anvils—Dies—Trip hammers

Do not use your hands to place blocks, tools or other material on anvils, dies or Trip hammers.

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Updated: 11/09/2011

## 77.0: MECHANICAL LIFTING/PULLING OPERATIONS

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## General

### 77.1: Authorized Employees

Only authorized employees are permitted to operate cranes, hoists, and mechanical lifting/pulling devices. Before authority is granted, employees must be trained in the rules and procedures regarding the equipment's operation and use.

When rules for operation and care are furnished by the manufacturer, they must be observed.

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### 77.2: Inspection

All hoisting equipment and rigging must be inspected daily before use and periodically as required. If defects are found, they must be corrected or equipment must be removed from service. Maintain a record of inspections on equipment and have records available upon request.

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### 77.3: Safe Load

Do not overload hoisting and rigging equipment.

Do not side-load or drag a load with hoisting equipment.

Raise and lower the load steadily and gradually and do not drop or jerk the load or tackle.

Remove buckets or magnets from crane when handling loads with slings.

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## 77.4: Groundman

When a crane or similar unit is being used, when needed, the helper or supervisor in charge, must act as groundman or assign a competent person as groundman.

The groundman is responsible for directing and safe-guarding all machine movements. Before signaling boom or machine movement, the ground man must see that the load, cab or boom will not come in contact with nearby wires, structures or other objects and persons. Groundmen required to move cars or on-track equipment must be qualified on the use of their braking systems.

Note: See *Rule 78.7, Proper Clearances*.

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## 77.5: Crane Operator

The crane operator is responsible for the safety of the crane and for the safety of employees working in the vicinity. He will only take signals given by the groundman, unless the signal is a stop signal.

Equipment controls must not be left during a lift or when a load is suspended; or with the master clutch engaged.

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## 77.6: Signals

Use the following signals while operating cranes and hoists. Hand signals must be used whenever possible. If crane hand signals cannot be used, crane audio signals may be used. The crane operator and groundman must agree beforehand on the signals to be used and must use only these approved signals. The crane operator is governed by these signals:

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### 77.6.1: Crane Hand Signals

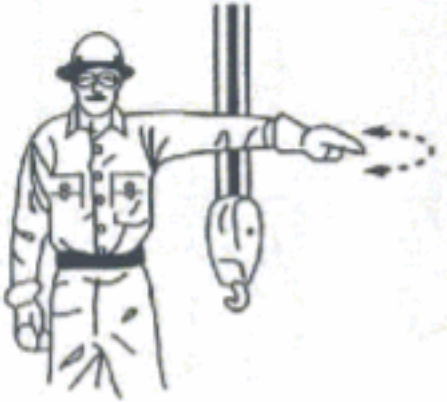
The person giving signals must:

- make sure signals can be plainly seen,
- give signals clearly so they can be understood.

If the person giving signals disappears from the view of the crane operator, movement must be stopped.



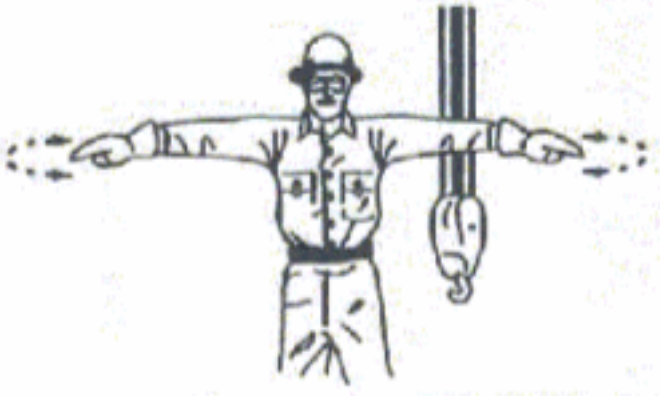
# STOP



**Stop:** Arm extend, palm down, move arm back and forth horizontally.

#####

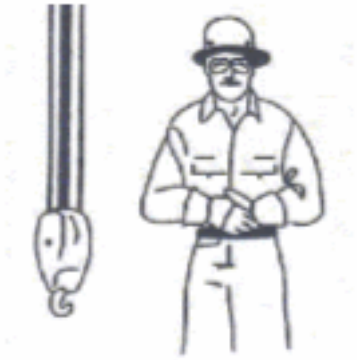
# EMERGENCY STOP



**Emergency Stop:** Both arms extend, palm down, move arms back and forth horizontally.

#####

# DOG EVERYTHING



**Dog Everything:** Clasp hands in front of body.

#####

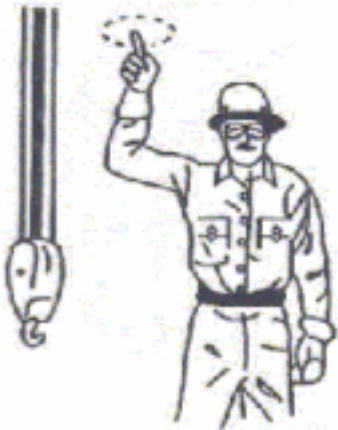
# MOVE SLOWLY



**Move Slowly:** Use one hand to give motion signal and place other hand motionless in front of hand giving the motion signal.

#####

# HOIST



**Hoist:** With forearm vertical, forefinger pointing up, move hand in small horizontal circle.

#####

# LOWER



**Lower:** With arm extended downward, forefinger pointing down, move hand in a small horizontal circle.

#####

## USE MAIN HOIST



**Use Main Hoist:** Tap fist on head, then use regular signals.

#####

## USE WHIP LINE



**Use Whip line:** (auxiliary Hoist)  
tap elbow with one hand, then  
use regular signals.

#####

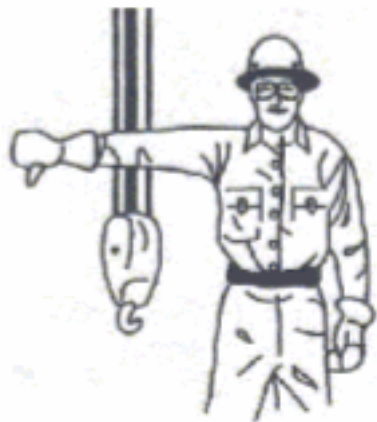
# RAISE BOOM



**Raise Boom:** Arm extended, fingers closed, thumb pointing upward.

#####

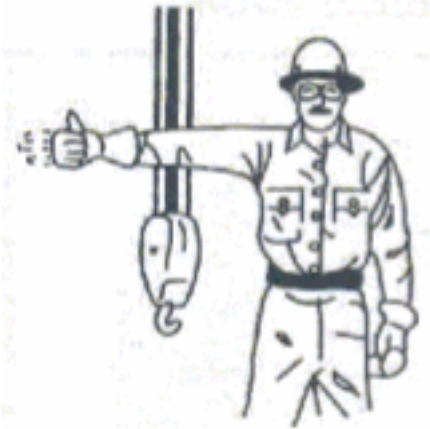
# LOWER BOOM



**Lower Boom:** Arm extended, fingers closed, thumb pointing downward.

#####

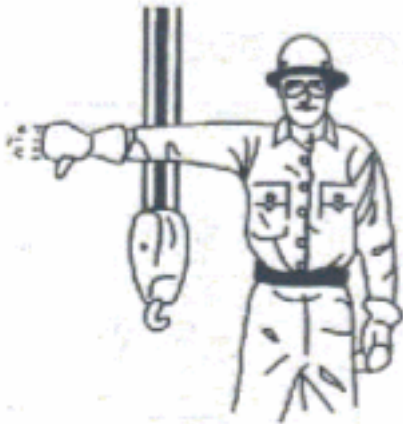
# RAISE THE BOOM AND LOWER THE LOAD



**Raise Boom and Lower the Load:** With arm extended, thumb pointing up, flex fingers in and out as long as load movement is desired.

#####

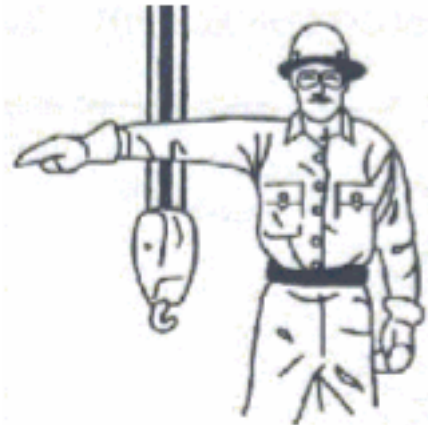
# LOWER THE BOOM AND RAISE THE LOAD



**Lower Boom and Raise the Load:** With arm extended, thumb pointing down, flex fingers in and out as long as load movement is desired.

#####

# SWING



**Swing:** Arm extended, point with finger in direction of swing of boom.

#####

# RETRACT BOOM

(Telescoping Boom)

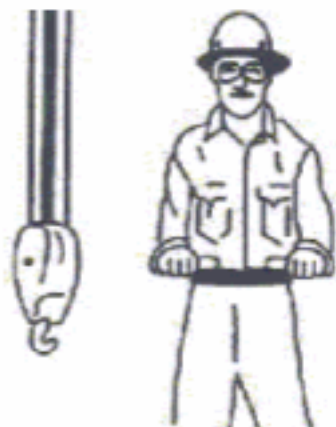


**Retract Boom:**  
(telescoping booms) One hand signal, fist in front of chest, thumb extended out, heel of fist tapping chest.

#####

## RETRACT BOOM

(Telescoping Multiple Booms)



### **Retract Boom:**

(telescoping booms)  
Both fists in front of  
body with thumbs  
pointing toward each  
other.

#####

## EXTEND BOOM

(Telescoping Boom)



### **Extend Boom:**

(telescoping boom)  
One hand signal, fist  
in front of chest,  
thumb extended  
and tapping chest.



#####

# EXTEND BOOM

(Telescoping Multiple Booms)



**Extend Boom:** (telescoping booms) Both fists in front of body with thumbs pointing outward.

#####

# TRAVEL

(One track. For crawler cranes only.)



**Travel:** (one track crawler cranes) Lock the track on the side indicated by the raised fist, and travel opposite track in direction indicated by circular motion of other fist rotated vertically in front of body.

#####

## TRAVEL

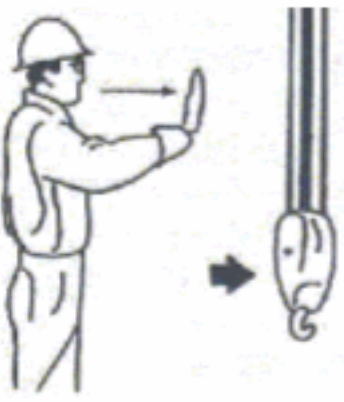
(Both tracks. For crawler cranes only.)



**Travel:** (both tracks crawler cranes) Use both fists in front of body, making a circular motion about each other, indicating direction of travel, forward or backward.

#####

## TRAVEL



**Travel:** Arm extended forward, hand open and slightly raised, make pushing motion in direction of travel.

## 77.6.2: Crane Audio Signals

If voice communication is utilized, the voice commands by the groundman to the crane operator shall be in a continuous manner with a pause between a common command of approximately one second in duration per ten feet to the desired lift height. If the proper communication stops, or is not understood, all crane movements shall stop immediately. If special voice commands are required to perform the lift, they shall be mutually agreed upon between the groundman and the crane operator before lifting begins.

Voice Commands shall be as follows:

UP ON THE LOAD,  
DOWN ON THE LOAD,  
BOOM UP,  
BOOM DOWN,  
BOOM UP AND LOWER THE LOAD,  
BOOM DOWN AND RAISE THE LOAD,  
SWING LEFT,  
SWING RIGHT,  
EXTEND OUT,  
RETRACT IN,  
STOP.

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## 77.7: Emergency Stop Signals

Anyone can give emergency stop signals. The crane operator must immediately recognize and act upon any stop signal or any other motions or movements that might indicate such action is necessary.

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## 77.8: Positioning

When working with cranes or other hoisting devices, the groundman and those in the vicinity must:

- position themselves where they cannot be caught between the load being handled and an obstruction,
- stay clear of loads being suspended,
- not be under the crane boom or similar machine
- when it is lifting or suspending a load,
- not stand near or in line with a cable, rope or chain under tension or one that might be tightened at any moment,
- not walk or stand in the path of a load being handled by a crane, hoist or wrecker.

When equipment is being handled by chains, cables or wire ropes, care must be taken to avoid injury in case of breakage. Loads must not be suspended from booms unless the work requires.

In such cases, keep the load secured and as close to the ground as possible. Loads being transported from one point to another must be landed on a flat car or other conveyance to release the weight from the boom during transit.

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## 77.9: Raising Personnel

Do not use cranes and derricks to raise or lower persons or any personnel platforms. Only raise and lower persons in an approved aerial basket designed for that purpose. Do not ride on loads or rigging.

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## 77.10: Operation with Trains Passing

When trains are passing on adjacent tracks, if any part of equipment or load can foul adjacent tracks, crane operators must make sure:

- work is stopped,
- swing brakes on machines (so equipped) are set,
- tongs, buckets, loads, or lines come to rest on the ground or car.

Note: See *MOWR Rule 43.10, Protecting Against Passing Trains*.

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## 77.11: Load Control

A load that is suspended or being lifted should be pushed instead of pulled. Hands must not contact wire rope or sheaves on hoisting equipment with load attached unless absolutely necessary, and then only after notifying operator. Where necessary, use non-conductive tag lines or a non-conductive push stick to prevent uncontrolled movement.

Precautions must be taken to ensure against load swaying or turning. Crane, hoist or wrecker must not be moved if load is swaying or turning excessively.

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## 77.12: Avoiding Falls

Maintain secure footing and a firm hand hold to avoid falling when standing on load to adjust cable, chain, sling or hook.

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## 77.13: Pulling Applications

When wire rope, chain, synthetic tow straps or similar devices are used for pulling applications (i.e., dragging rail, straightening safety appliances, aligning drawbars, towing vehicles, etc.), take precaution to avoid personal injury or property damage.

- Inspect the equipment to ensure it is in good condition and has the capacity to handle the task.
- Protect pulling device from sharp corners or objects.
- Do not jerk against the load being pulled. Make all movements smoothly.
- Position yourself and others where no one can be struck or injured should the pulling device or attachments fail. Protect yourself from possible whipping or recoil action should the device release suddenly.

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## Mobile Cranes

### 77.14: Safe Load Placard

Equipment for lifting, hoisting or handling material must have a placard posted where it is visible to the crane operator. The placard indicates the safe loads at various radii. Crane operators must be familiar with the safe lifting capacity, at minimum and maximum radius and with or with out outriggers, as specified on the placard. **Do not handle loads that exceed the load chart capacities.**

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### 77.15: Boom Inspection

Booms must be lowered for inspections, lubrication and repairs.

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### 77.16: Handling Equipment in Work Train

When equipment with booms, leads or other attachments is being handled in work train service, the crane operator must remain on the machine during all movements of the train unless the machine has been securely blocked to protect against swinging or other movements that may cause an accident.

Properly block machines mounted on top of or working from flat cars to prevent the machine from moving when cars are being switched or moved. Do not block the machine when it is being used and is under the control of a crane operator.

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## Overhead Cranes/Hoists

### 77.17: Test Crane/Hoist

Test Crane/Hoist at the beginning of each shift or prior to first use. Notify personnel in the area that the crane/hoist will be tested and to stay clear. Verify that crane/hoist is operable and the hook is free of obstructions and is not attached to a load. Test operating controls to ensure trolley, bridge, and hoist movements and brakes are properly adjusted.

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### 77.18: Load Movement

When traveling, sound alarm frequently if not automatically actuated. Suspended load must not pass over any individual or come in contact with equipment or other objects along the load path.

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# Wire Rope

## 77.19: Wire Rope

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### 77.19.1: Wire Rope Working Loads

Use only the wire rope recommended by the manufacturer. Ensure that the wire rope has the required certification paper detailing size, construction, type of lay, breaking strength and other pertinent information.

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### 77.19.2: Wire Rope Inspection

Visually inspect all running ropes in use once every working day. Thoroughly inspect all ropes in use at least once a month.

Note any defects, such as those described below to determine whether using the wire rope would be unsafe.

- Rope diameter below nominal diameter because of:
  - Loss of core support
  - Internal or external corrosion
  - Stretch or wear of outside wires
- A number of broken outside wires, or inside valley wires, with large concentrations of broken wires distributed throughout.
- Worn outside wires.
- Corroded or broken wires at end connections.
- Corroded, cracked, bent, worn, or improperly applied end connections.
- Severe kinking, crushing, cutting, or unstranding.

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### 77.19.3: Wire Rope Replacement

If any of the following conditions exist, replace the wire rope:

- In running ropes, six or more randomly distributed broken wires in one lay or three or more broken wires in one strand in one lay. (One lay of wire rope is the distance along the wire rope in which one strand makes a complete revolution around the rope.)
- Wear of one-third of the original diameter of outside individual wires.
- Kinking, crushing, bird-caging, or any other damage that distorts the wire rope structure.
- Evidence of any heat damage.
- Nominal diameter reduced by more than:
  - 3/64 inch for diameters up to and including 3/4 inch.
  - 1/16 inch for diameters 7/8 inch to 1-1/8 inches.
  - 3/32 inch for diameters 1-1/4 inches to 1-1/2 inches.
- In standing ropes, more than two broken wires in one lay in sections beyond end connections.
- For any wire rope, one or more broken wires at an end connection. For this type of break, if the wire rope is long enough, cut off 6 to 8 feet of rope from the end connection and make a new connection.
- One or more broken wires in running rope, with breaks in the valleys between strands.

**Exception:** Wire rope, removed from service, may be used in non-critical applications such as tie downs, closing line for buckets, etc.

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## 77.19.4: Wire Rope Handling

Handle wire rope as follows before and during installation:

- Store wire rope to prevent damage or deterioration and lubricate to prevent corrosion or rust.
- Unreel or uncoil wire rope as recommended by the rope manufacturer. Handle wire rope with care to avoid kinking or causing a twist.
- Before cutting a wire rope, place seizings on each side of the spot where the wire rope will be cut to prevent the strands from unlaying. Place the seizings as follows:
  - On preformed wire rope, place one seizing on each side of the cut.
  - On non-preformed wire ropes of 7/8-inch diameter or smaller, place two seizings on each side of the cut.
  - For non-preformed wire ropes 1 inch or larger, place three seizings on each side of the cut.
- During installation, avoid dragging the wire rope in dirt or around objects that will scrape, nick, crush or cause sharp bends in the wire rope.

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## 77.19.5: Wire Rope Maintenance

Keep wire rope well lubricated to reduce internal friction and prevent corrosion. Verify that the lubricant is compatible with the original lubricant by consulting the wire rope manufacturer. When lubricating the wire rope, pay particular attention to sections of the wire rope located over sheaves or otherwise hidden during inspection and maintenance procedures. Periodic field lubrication is particularly important for non-rotating wire rope.

Minimize excess lubricant, which could cause safety or environmental hazards.

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## 77.19.6: Drum Fastening

Securely fasten one end of the wire rope to the drum or reel. Do not allow the wire rope to fully unwind; at least two full turns must always remain on the drum or reel. Securely fasten the lifting or "dead" end of the wire rope to the block, device or reel with a tapered socket or an oval thimble.

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## 77.19.7: Sockets, Clamps, and Thimbles

Use wire rope sockets on all hoisting lines at the bucket or hoist hook end, where facilities permit proper application. Otherwise, use the proper size of thimbles and apply:

- Three properly sized clamps on 3/4-inch wire ropes and under.
- Four clamps on 7/8-inch wire ropes.
- Five clamps on 1-inch to 1-1/4 inch wire ropes, inclusive.
- Six clamps on 1-3/8 inch and larger wire ropes. Make sure clamp spacing is no less than six times the diameter of the wire rope. Apply U-bolt over dead end of the wire rope. Live end of the wire rope rests in the saddle. Clamps must be retorqued a second time after lifting first load. "Never saddle a dead horse."

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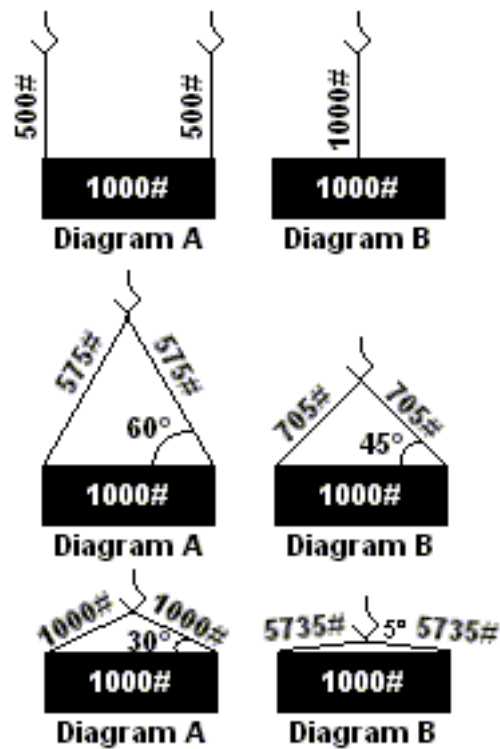
## Rigging

### 77.20: Rigging

Use slings, either wire rope, chain or synthetic fiber that are certified to handle the load.

While determining the strength of the sling, consider that the stress in a sling varies with the angle of its legs.

The following diagrams illustrate how the stress is increased as the angle of the legs with the horizontal is decreased. Stress for any other load will be directly proportional.



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### 77.21: Fittings

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## 77.21.1: Fitting Inspection

Fittings shall be inspected:

- upon purchase,
- prior to each use.

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## 77.21.2: Fitting Replacement

Conditions such as the following are reasons for replacement:

- Any significant permanent deformation, or change in shape, indicates it has been overloaded.
- No more than 10% wear of any sectional dimension. This is measured by comparing to a section of fitting that has no wear, or to catalog dimensions.
- Any crack, sharp nick or gouge in the surface of any fitting.
- Any modification of any fitting is cause for removal from service. Welding or heating, substitution of parts and bending on any fitting are examples of modifications.
- More than one broken wire at any (within one wire rope diameter of the fitting) termination is cause for removal from service.

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## 77.21.3: Hooks and Attachments

Non-alloyed carbon-steel hooks, repair links or other attachment must not be used. Homemade or makeshift bolts, rods, shackles, hooks or other attachments must not be used unless approved through departmental procedures. Handles and other attachments must not be welded to hooks. Hooks must be replaced if they have a twist of 10 degrees or more or a 15% increase in the throat opening.

Hooks equipped with safety latches must have them in place prior to use.

Dye penetrant or equivalent testing must be conducted on crane hooks annually. Hooks purchased after Sept. 30, 1991, require a dated record of proof load testing.

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## 77.22: Wire Rope Slings

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### 77.22.1: Wire Rope Sling Inspection

Inspect wire rope slings prior to each use. In addition, a periodic inspection shall be performed by a designated person and shall include a record of the inspection. Inspection shall look for:

- distortions of the wire rope in the sling such as kinking, crushing, unstranding, birdcaging, main strand displacement or core protrusion,
- general corrosion,
- broken or cut strands,
- number, distribution and type of visible broken wires,
- loss of wire rope diameter in short rope lengths or unevenness of outer strands.

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## **77.22.2: Wire Rope Sling Replacement**

Conditions such as the following are reasons for replacement:

- For strand laid and single part slings ten randomly distributed broken wires in one wire rope lay, or five broken wires in one rope strand in one rope lay.
- Severe localized abrasion or scraping.
- Kinking, crushing, birdcaging, or any damage resulting in distortion of the wire rope structure.
- Evidence of heat damage.
- End attachments that are cracked, deformed or worn to the extent that the strength of the sling is substantially affected.
- Severe corrosion of the wire rope or end attachments.

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## **77.23: Chain Slings and Chain**

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### **77.23.1: Chain Inspection/Replacement**

Check chain and attachments prior to each use. Conditions such as the following are reasons for replacement:

- Wear, nicks, cracks, breaks, gouges, bends and weld splatter.
- Elongation: must not exceed 15%.
- Discoloration from excessive temperature and throat openings of hooks.
- Chain links and attachments do not hinge freely to adjacent links.
- Latches on hooks, if present, do not hinge freely, seat properly or are permanently distorted.
- Missing or unreadable sling identification tag.

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### **77.23.2: Chain Working Loads**

Grade 80 or above high-strength alloy is the only chain to be used for lifting, hoisting, pulling or any other load bearing application; unless the chain is supplied and certified by a manufacturer as a part of a manufactured device, i.e., a lifting sling, chain hoist, etc.

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### **77.23.3: Chain Lifting Devices**

All lifting devices, such as hooks, links, pins, etc., must be made of alloy steel. Do not use lifting devices made of mild steel or rolled steel under any circumstances.

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## 77.23.4: Chain Use

To avoid personal injury or chain damage:

- Keep chains free of twists, kinks or knots and make sure grab hooks fit the chain and are placed on the hitch so that no side strain occurs during the lift.
- Do not impact load or jerk chain. Apply load slowly.
- Protect chain from sharp corners and objects. Protect chain from corrosion and high temperature.
- Do not use "patent links," "repair links," or "figure eight" links when repairing lifting chains.

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## 77.23.5: Chain Lubrications

Lubricate chains as required when operating them over sheaves or pulleys. Use an approved lubricant to ensure maximum chain life. Minimize excess dripping of lubricant.

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## 77.24: Synthetic Slings

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### 77.24.1: Synthetic Sling Inspection

Inspect synthetic slings prior to each use. In addition, a periodic inspection shall be performed by a designated person and shall include a record of the inspection.

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### 77.24.2: Synthetic Sling Replacement

Conditions such as the following are reasons for replacement:

- acid or caustic burns,
- melting or charring of any part of the sling,
- tears, cuts, or snags,
- broken or worn stitching in load bearing splices,
- excessive abrasive wear,
- knots in any part of the sling or slings tied together,
- excessive pitting or corrosion, or cracked, distorted or broken fittings,

- other visible damage that causes doubt as to the strength of the sling,
- missing or unreadable sling identification.

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## 77.25: Webbing and Round Slings

All of the fibers in a webbing sling are load bearing. In a round sling, the load bearing fibers are "wound" within a protective jacket. The protective jackets are not load bearing and protect the load bearing fibers. Do not bunch or pinch the sling in fittings.

Conditions such as the following are reasons for replacement:

- missing or unreadable tags,
- melting, charring or weld splatter of any part of round sling,
- holes, tears, cuts, embedded particles, abrasive wear, or snags that expose the core fiber,
- broken or worn stitching in the cover which exposes the core fibers.

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## 77.26: Eye Bolts and Hoist Rings

The use of eye bolts at the load connection causes the horizontal sling angle to become smaller as the loads on each leg and each eye bolt increases. As the eye bolt becomes side loaded, the eye bolt loses strength. Select the proper size swivel hoist ring to allow for load in sling leg. Follow these guidelines:

- do not exceed working load limits,
- do not use regular nut eye bolts for angular lifts,
- always use shoulder nut eye bolts for angular lifts,
- always tighten nuts securely against the load,
- always apply load to eye bolt in the plane of the eye,
- when using lifting slings of two or more legs make sure the forces in the leg are calculated.

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## 77.27: Ropes

Inspect all manila, hemp, or synthetic fiber ropes before they are used for lifting. Remove any frayed, cut, or defective rope from service immediately.

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Updated: 4/28/2010

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### 78.1: Authorized Employees

Only authorized employees are permitted to:

- work on electrical apparatus of equipment,
- to climb poles and replace fuses on power poles or work on transformers,
- work on lines or equipment energized in excess of 50 volts phase to ground.

Note: See *Safety Resource Manual, Electrical and High Voltage Policy, Section IV-AB and Section IV-AF.*

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### 78.2: Electrical Cords

Inspect electrical cords and make sure they are in good condition and have a ground. Follow these guidelines for using cords:

Use cords in an approved manner. Electric power tools must not be picked up or lowered by the power cord.

- Do not remove the grounding prong.
- Do not overload electrical outlets. The use of a ground fault circuit interrupter (GFCI) is required for use in any work environment that is or may become wet and any other areas that are highly grounded.

The use of a ground fault circuit interrupter (GFCI) is required for use in any work environment that is or may become wet and any other areas that are highly grounded. For example, a work area with a metal floor.

Note: See *Rule 76.30, Insulation/Grounding.*

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## 78.3: Electrical Panels

In shop areas, the floor area in front of electrical control boxes must be kept clear of any obstruction. The cleared surface must be painted red with a white border to extend a minimum of 36 inches forward of the control box and a minimum of 36 inches wide, or the width of the box, whichever is greater, and stenciled with wording "KEEP CLEAR."

Circuit breakers must be properly labeled as to the circuit controlled.

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## 78.4: Voltage Rated Rubber Gloves

Wear voltage rated rubber gloves when working on energized circuits of 300 volts or more.

Gloves must be tested before use by inflating with air. If there are any leaks, a glove finger must be removed so the glove cannot be used.

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## 78.5: Shorting Electrical Circuits

Use only approved nonmetallic cased flashlights around electrical equipment. Conductive articles of jewelry and clothing must not be worn in locations with exposed energized parts. Examples of conductive articles are metal watches, rings, bracelets, metal headgear or clothing with conductive thread.

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## 78.6: Working Near Power Lines

When performing work near electrical power lines, the clearance shown below must be maintained between personnel, their tools and equipment, and the nearest power line. When booms are used in the vicinity of power lines, Rule 78.7, Booms Near Power Lines, applies.

Operating Voltage	Distance in Feet
0-5,000	4
5,000-15,500	6
15,500-25,000	7-1/2
25,000-35,000	9
35,000-50,000	12

Note: For voltages over 50,000 volts, add 1.2 inch for each KV (1,000 volts).

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## 78.6.1: Measuring Overhead Clearance

A qualified person is required to measure overhead clearances using the proper instruments. Do not use steel or cloth tapes, ropes or strings to measure overhead clearance.

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## 78.7: Booms Near Power Lines

Do not operate booms over power lines at any time. Do not operate them under power lines unless proper clearance is maintained.

If proper clearance cannot be maintained, shut off the power and ground power lines before performing work.

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### 78.7.1: Proper Clearances

If booms must be operated near energized lines, the following clearances must be maintained:

- Lines rated 50 KV (50,000 Volts) or less, minimum clearance between the lines and any part of the crane or load must be 10 feet.
- Lines rated over 50 KV (50,000 Volts) and less than 170 KV (170,000 Volts), minimum clearance between the lines and any part of the crane or load must be 15 feet.
- Lines rated over 170 KV (170,000 Volts), minimum clearance between the lines and any part of the crane or load must be 15 feet plus 1/2 inch per KV in excess of 170 KV(170,000 Volts).
- When in transit, with no load and boom lowered, the equipment clearance must be a minimum of 8 feet for voltages less than 15 KV and 10 feet for voltages 15 to 50 KV. For voltages 50 to 470 KV, the clearance must be increased 1/2 inch per KV in excess of 50 KV.

A groundman must be designated to observe equipment clearance and give timely warning for all operations when it is difficult for the operator to observe clearance.

Note: See *Rule 77.4, Groundman*.

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### 78.7.2: Stationary Worksites

At stationary worksites, crane operators must place at least three orange cones along the minimum clearance line to mark the minimum safe working distance to overhead power lines.

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## 78.8: Power Supply Turned Off

When necessary to perform work that will not permit maintaining the clearance outlined in the previous rules, notify the power company or controlling authority and have them turn off the power supply for the affected district. Do not start any work until authorized by the power company or controlling authority. Do not turn the power back on until authorized by a supervisor.

When performing work near a 2,400-volt or greater signal line that will not permit the clearance outlined, notify the signalman to switch the power off to that portion of line. Do not start work until the signalman says that the power has been switched off. Make sure the signalman understands not to switch power on again until advised by the supervisor in charge of the work.

If the power must be switched off, equipment must be kept at least one half the clearance distance indicated, but in no case may the clearance be less than 4 feet.

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## **78.9: Handling Electrical Wires**

Immediately report electrical wires found broken, crossed or on the ground to the train dispatcher or proper authority. Do not consider any electrical wire dead until positive information has been received that it has been de-energized and is safe to handle. If an emergency requires an employee to separate live electrical wires, the employee must be able to grab onto a dry hand line or other dry rope while standing on a dry board or pole and must not get closer than 5 feet to the electrical wire being handled.

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## **78.10: Lockout/Tagout**

Lockout or tagout a disconnected electrical switch before doing maintenance or repair work. Do not remove warning signs or blocks placed on locks by other employees or close any switch so protected, unless authorized to do so by the employee(s) who placed it there for his or her protection.

Note: See *Safety Resource Manual, Lockout / Tagout Policy, Section IV-H*.

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Updated: 4/28/2010



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## Cutting, Welding or Heating

### 79.0: WELDING

#### *CUTTING, WELDING OR HEATING*

Rules in this chapter, if applicable, apply to both oxygen and fuel gas operations as well as electric welding.

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### 79.1: Authorized Employees

Only authorized employees are permitted to use welding equipment. Welding, cutting and heating will be done only by or under the direct supervision of a qualified employee and comply with manufacturer's instructions.

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### 79.2: Protective Equipment

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#### 79.2.1: Eye Precautions

All persons performing or observing cutting, welding or heating operations must wear proper eye protection and other personal protective equipment. They must not look at electric arc or oxyfuel flame unless properly protected and must warn others against looking at the arc or flames.

Refer to the following chart for minimum shade requirements of eye protection while cutting or welding.

Welding Operation	Shade No.
Shielded Metal — Arc Welding — Electrodes up to and including 5/32 inch diameter	10
Gas Tungsten — Arc Welding (non-ferrous) and Gas-shielded Arc Welding (non-ferrous) — Electrodes up to and including 5/32 inch diameter	11
Gas Tungsten — Arc Welding (ferrous) and Gas-shielded Arc Welding (ferrous) — Electrodes up to and including 5/32 inch diameter	12
Shielded Metal — Arc Welding: Electrodes 3/16 through 1/4 inch diameter	12
5/16 through 3/8 inch diameter	14
Carbon — Arc Gouging — For most application	12
Large diameter carbon electrodes	14
Soldering	2
Performing oxygen — fuel gas brazing — cutting — heating	5
Light Cutting up to 1 inch	4
Medium Cutting, 1 inch to 6 inches	5
Heavy Cutting, 6 inches and over	5 or 6
Gas Welding (light) up to 1/9 inch	5
Gas Welding (medium) 1/8 inch to 1/2 inch	5 or 6
Gas Welding (heavy) 1/2 inch and over	6 or 8

Cracked filter glasses (lens shade) must be replaced immediately. Shade number of filter plates are not additive. For example, a Number 6 and Number 8 filter do not have the same effective density as a Number 14 filter.

Note: See Rule 71.5.2, *Additional Eye Protection Requirements*.

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## 79.2.2: Shielding

Welders must shield the welding arc from the view of others whenever possible.

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## 79.2.3: Proper Clothing

When cutting, heating or welding wear hearing protection, high top boots, leather welding gloves or leather welding mittens and flame resistant clothing. When performing overhead electric arc or oxy/fuel operations wear, ~~as a minimum~~, an approved full leather welding jacket.

Always wear flame resistant clothing. Flame resistant clothing should not be synthetic, synthetic blends such as nylon, rayon, polyester, etc. Clothing should protect the skin from infrared and ultraviolet radiation, as well as reduce the possibility of it catching fire or melting from hot sparks or hot slag.

Additional protective outerwear such as leather aprons, leather jackets, leather leggings, spats or sleeves shall be worn for overhead

welding and for any other applications where clothing or body is in danger of being exposed to sparks or hot slag. Kevlar jacket or kevlar jacket with leather sleeves may be worn for lightweight cutting or welding and are not intended for overhead welding.

Arms must be covered; tee shirts are not acceptable. All buttons on jackets must be buttoned. Sleeves and pockets must be secured against sparks or hot slag. Clothing must be free of oil or grease and trousers or overalls must be without cuffs.

Do not carry cigarette lighters or matches where they may be exposed to sparks or excessive heat.

## **System Special Instruction**

### **79.2.3: Proper Clothing** **Change rule to read:**

When cutting, heating or welding wear hearing protection, high top boots, leather welding gloves or leather welding mittens and flame resistant clothing. When performing overhead electric arc or oxy/fuel operations wear an approved full leather welding jacket.

Always wear flame resistant clothing. Flame resistant clothing should not be synthetic, synthetic blends such as nylon, rayon, polyester, etc. Clothing should protect the skin from infrared and ultraviolet radiation, as well as reduce the possibility of it catching fire or melting from hot sparks or hot slag.

Additional protective outerwear such as leather aprons, leather leggings, spats or sleeves shall be worn for overhead welding and for any other applications where clothing or body is in danger of being exposed to sparks or hot slag.

Kevlar jacket or kevlar jacket with leather sleeves may be worn for lightweight cutting or welding and are not intended for overhead welding. Arms must be covered; tee shirts are not acceptable.

All buttons on jackets must be buttoned. Sleeves and pockets must be secured against sparks or hot slag. Clothing must be free of oil or grease and trousers or overalls must be without cuffs.

Do not carry cigarette lighters or matches where they may be exposed to sparks or excessive heat.

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### **79.2.4: Cleaning Work Area**

Do not use your hands, whether gloved or not, to brush slag or metal from material being welded or cut.

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## **79.3: Fire Protection**

Use shields or other protective devices to prevent setting fire to or damaging bridges, structures, or other material.

Fire extinguishers, fire hose or other suitable fire extinguishing equipment must be on hand during welding, cutting, and other open flame torch operations.

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### **79.3.1: Protecting Area**

Before leaving the work site, the person in charge must check to see that no fire or fire hazard exists and comply with their departmental fire prevention plan.

~~Before leaving the work site, the person in charge must check to see that no fire or fire hazard exists. If a potential fire hazard exists, the worker in charge must assign a watchman equipped with a fire extinguisher or ample water supply to stay in the area for a minimum of 2 hours after the last weld is completed.~~

#### **General Order**

##### **Change rule to read:**

Before leaving the work site, the person in charge must check to see that no fire or fire hazard exists and comply with their departmental fire prevention plan.

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### **79.3.2: Welding, Heating or Cutting on Freight Cars**

When welding, heating or cutting on freight cars (all types):

1. A thorough job briefing must be conducted before work is started to include what the car contains, or last contained if empty, and any special safety precautions needed to perform the required work.
2. Prior to working on a car, a fire extinguisher of the proper class must be in the immediate vicinity of the work.
3. Care must be taken to ensure lading or equipment is not damaged by the work.
4. Where repairs to the car include welding, heating or cutting and before leaving the worksite, it must be known that no fire exists. Re-check cars that have received welding or burning earlier in the shift. Make turnover to subsequent shifts of cars that have received welding, heating or cutting.
5. Welding, heating or cutting should be held to that which is necessary to meet the company, FRA and AAR criteria for safety and interchange ability.
6. If required, adequate ventilation and/or respiratory equipment must be provided.
7. When welding, heating or cutting on a loaded boxcar, the door must be open and interior of car continuously monitored until no threat of fire exists.
8. Ensure cars are set on their trucks at the close of work, whenever possible.
9. Cars that are subject to welding, heating or cutting should be placed at the end of the shop, when possible.
10. All cars that have had welding, heating or cutting and will stay under shop roof should have the doors closed.
11. Stop welding, heating or cutting 1/2 hour (30 minutes) before close of shift.
12. In the event of a freight car fire, if possible, without causing injury, car doors should be closed and car moved outside shop to be extinguished.
13. Extinguish fire only if injury can be prevented. Contact local emergency authorities, if necessary, to safely extinguish fires.

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### **79.3.3: Welding, Cutting or Heating on Tank Cars**

When making repairs to tank cars, other than maintenance of way water cars, follow precautions outlined in Rule 79.3.2, Welding, Heating or Cutting on Freight Cars. Also follow departmental policy, and other applicable policies, i.e., Confined Space Entry, Respiratory Protection, Hazard Communication Standard, etc. In addition, follow these procedures:

1. Determine car's contents, or if empty, it's last contents.
2. Consult the hazardous material information, or information available on precautions to be taken with the material involved. Comply with those instructions.
3. Prior to performing any repairs that require welding, cutting, or heating on a tank car that contains or last contained flammable gas, flammable liquid, flammable solid poison gas, chlorine, corrosives or explosives; the car will be inspected for physical signs of content leakage, and checked with a flammable gas detector. If leakage exists, follow procedures outlined in your response plan and Rule 70.22, Chemical Spills. Leakage must be stopped before making repairs.
4. Repairs to the top dome areas or near the bottom outlet must be restricted to those necessary for safe movement only. Welding, Cutting and/or heating is not permitted in these areas. Welding or use of a cutting torch directly on either the inner or outer tank shell jacket is prohibited as well, unless departmental instructions make provisions for such work.
5. These instructions apply to tank cars that are in close proximity to welding or torch burning repairs being performed on other equipment.

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## 79.4: Repairs or Alterations

Do not make repairs or alterations to cylinders, valves or torches. Defective regulators, torches or other equipment must not be used and must be returned to designated point for repair. Hose showing leaks, burns, worn places, evidence of damage from flashback or other defects must be replaced.

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## 79.5: Equipment Condition

Inspect all equipment and know it is free of defects and in proper working condition.

Torch test must be conducted:

- prior to initial use each day or shift,
- when combination torches have been converted or altered,
- when the torch equipment has been dropped or is suspected of being damaged,
- when a flashback has occurred.

Torch test must be conducted in a well ventilated area with no ignition sources present.

Test will be conducted in accordance with departmental instruction.

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## 79.6: Ventilation

Work in areas that have ventilation.

Exposure to lead, zinc or other welding fumes requires use of an approved respirator. Spray or dust respirators are not suitable and must not be used.

Note: *Safety Resource Manual, Respiratory Protection Program, Section IV -E.*

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## 79.7: Confined Spaces

When working in a building or in a confined space, place fuel-driven welding machines where exhaust fumes can be safely dissipated. Make certain that the exhaust fumes are not directed toward or into air intake parts on ventilation systems or air supplying equipment (e.g., compressors).

Note: See Rule 70.20, *Confined Space Entry and Safety Resource Manual, Confined Space Entry Program, Section IV-G.*

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### 79.7.1: Safety Precautions

Follow confined space entry procedures when working in tanks, vats, boilers, sewers, etc.

- Provide general mechanical or local exhaust ventilation before and during the welding operation.
- Use respiratory protection.
- Know emergency evacuation measures.
- Test the welding equipment for leaks before entering a confined space.
- Test the atmosphere inside the tank, vat, etc.
- Keep oxygen/fuel-gas cylinders outside the confined space.
- Remove oxygen/fuel gas equipment, or inert gas used for electrical welding, from confined space when not in use.

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## 79.8: Hot Work

Do not weld, grind, rivet, solder, or cut on any new or used piston heads, hollow casting, or containers such as drums, barrels, or tanks until the following conditions have been met:

1. Determine what the container last held. Thoroughly steam and wash out any container that held volatile or flammable materials.
2. Prior to grinding, heating, cutting or welding on any new or used container, trained personnel, using a Combustible Gas Indicator, will test the containers. The LEL must be <10% prior to and during any hot work activity.
3. After thoroughly cleaning, remove plugs or caps and further safeguard the container by filling it with water, if possible, before performing any welding, cutting, soldering or open flame work. In addition, if the container last held a gas or liquid which may not readily dissolve in water, an inert gas should be used to evacuate any flammable gas or vapors from the container. Ensure that the container has a vent or opening to allow heated air to escape.

Note: *For procedures on inerting diesel fuel tanks, refer to Locomotive Maintenance Instructions (LMI) 2501.*

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## 79.9: Use of Oxygen

Oxygen must not be used for compressed air as a source of pressure or to "dust" clothing.

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## 79.10: Oil and Grease

Do not allow oil and grease to come in contact with oxygen.

- Keep hands, gloves, and clothes, as well as welding equipment, free of oil and grease to prevent fires.
- Do not allow oil and grease to touch regulators, valves or connections.

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## 79.11: Hot Metal Precautions

When cutting, take precautions, such as barrier or spark guard, to prevent sparks, hot metal or severed sections from contacting cylinders, hose, cable or other flammable material. Do not lay object or material to be heated, cut or welded across a cylinder or on concrete.

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## 79.12: Exposure to Excessive Heat

Do not allow cylinders to be exposed to sparks, hot slag, open flame and other sources of excessive heat.

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## 79.13: Cutting Under Tension

When cutting twisted rail or other damaged steel sections, take precautions to prevent personnel from being struck by severed sections. Special equipment, such as burning bars, are available for this operation and should be used.

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## 79.14: Cylinders

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### 79.14.1: Storing Cylinders

When storing fuel gas and oxygen cylinders:

- Handle cylinders with extreme caution to avoid dropping and damaging valves.
- Separate oxygen cylinders from fuel gas cylinders. Maintain a minimum distance of 20 feet or place a barrier of noncombustible material that is at least 5 feet high and has a fire resistance rating of at least 1/2 hour between the oxygen and fuel gas cylinders.
- Store fuel gas or oxygen cylinders in upright positions on approved racks and properly secured. Keep valve ends up. Cylinders must be secured, whether they are being transported or put in storage. Store oxygen cylinders separate from fuel



gas cylinders.

- Store cylinders in cool, well ventilated buildings away from elevators, stairs and passageways, when possible. Place them near exits for easy removal in case of fire.
- Store cylinders in the open when the cylinders can be protected against freezing or direct sunlight.
- Do not smoke or use matches or open-flame lights or torches in buildings where cylinders are stored. NO SMOKING and KEEP OPEN LIGHTS AND FIRES AWAY signs must be posted on all visible sides.
- When not in use, all outlet valves should be kept tightly closed, even though cylinders are considered empty. Valve caps must be kept in place.
- Fuel gas and oxygen cylinders, connections and appliances must be kept free from oils and greases. Do not handle cylinders with oily hands or gloves. Keep the cylinders away from combustible materials (e.g., oils, paints, shavings, and other flammable materials).

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## 79.14.2: Working with Cylinders

When working with cylinders:

- Do not place cylinders where they may become part of an electrical circuit. Avoid placing cylinders near wires and electrical welding circuits.
- Do not strike an arc on or tap an electrode against a cylinder.
- Fuel gas and oxygen cylinders must be used in an upright position.
- Do not throw, drop or otherwise roughly handle cylinders.

Compressed gas cylinders shall be secured in an upright position at all times except, if necessary, for short periods of time while cylinders are actually being hoisted or carried.

Cylinders may be lifted by a crane, derrick or hoist only when a company-approved lifting device is used, and employees have been instructed on its use. Do not use an electric magnet to lift cylinders.

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## 79.14.3: Transporting Cylinders

Remove gauges and regulators and apply caps before transporting oxygen or fuel gas cylinders, unless valves are covered by a DOT approved safety cap or device designed for that purpose. Caps need not be applied to complete a single series of welding operations.

When carrying oxygen cylinders in tool cars or in isolated compartments, make sure ventilation is provided.

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## 79.14.4: Empty Cylinders

When cylinders become empty:

- Close the cylinder valve before disconnecting the hose. Valves must remain closed when cylinders are not in use.
- Cap empty cylinders when a cap is provided.
- Tear off the bottom half of the tag when provided (red on acetylene cylinders, green on oxygen cylinders).
- Separate empty cylinders from full cylinders.
- Promptly exchange empty cylinders at the supply point.

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### **79.14.5: Leaking Cylinder**

When a leaking cylinder is discovered, move it to an open area away from possible sources of ignition until the cylinder becomes empty.

Mark the cylinder, indicating the defect, so the supplier can take necessary corrective action.

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### **79.14.6: Changing Cylinders**

Before a regulator is removed from a cylinder valve, the cylinder valve must be closed and the gas released from the regulator. Drain both hoses, oxygen side first, in order to remove any possible gas mixture.

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## **79.15: Regulators**

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### **79.15.1: Proper Regulator**

Do not use a regulator with a gas not intended for that regulator.

Each oxygen/fuel gas station must have a shut off valve and be controlled with a pressure reducing regulator to obtain the recommended test pressures. Regulators must have operable gauges. Regulators without gauges are not approved for service and provide no means to check pressures.

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### **79.15.2: Connections and Adapters**

Do not force connections. If the thread does not run easily, usually the wrong sized regulator is being applied. Use a standard adapter between the cylinder and the regulator if required. "Tee" or "Y" type connectors are not allowed.

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### **79.15.3: Connecting Regulators**

Before connecting regulators to cylinders, welders must crack the cylinder valve slightly to blow out any foreign matter. The valve should be opened approximately one-quarter of a turn and closed immediately.

Do not open a fuel gas valve near other welding work or near sparks, flame or other possible sources of ignition.

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## **79.15.4: Protecting Regulators**

Protect regulators when not in use by first closing cylinder valves, draining hoses at the torch, then releasing pressure on the diaphragm. Prevent a gas mixture from accumulating in the hose when either is being relieved of pressure by closing the valve of the other hose. This will prevent flashback which could damage the torch, hose or pressure regulator.

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## **79.16: Valves**

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### **79.16.1: Opening Cylinder Valves**

Pressure adjusting screws must be fully released before attaching regulator to cylinder. When opening a cylinder valve, stand to one side, away from the gauge faces and the front of the regulator. Wrenches or other tools which damage regulator connections must not be used. Where a special wrench is required, it must be left in position on the stem of the valve while the cylinder is in use, so that the fuel gas flow can be quickly turned off in case of emergency.

Return the cylinder to the vendor if oxygen valve cannot be opened by hand. Do not use hammer or wrench to open an oxygen cylinder valve.

#### **Oxygen Cylinder Valve**

Slowly open the oxygen cylinder valve until the high-pressure gauge indicates full pressure. Then fully open the valve.

#### **Acetylene Cylinder Valve**

Do not open an acetylene cylinder valve more than 1 and 1/2 turns. Leave the T wrench on the acetylene cylinder valve stem in case an emergency arises.

Do not use the recessed top of a cylinder as a receptacle for tools or other articles, since this might damage the safety plugs or interfere with closing the valve quickly.

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### **79.16.2: Closing Valves**

Valves of cylinders and stations on piped and manifold systems must be closed when not in use. When work is stopped or completed, or when the operator leaves the equipment, valves must be operated to relieve pressure on regulators and hoses.

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### 79.16.3: Clogged Valves

If acetylene cylinder valves become clogged by ice or snow, use warm or medium hot water to thaw them. Do not use boiling water, since it may loosen fusible plugs. Do not use any type of flame to thaw acetylene cylinder valves.

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### 79.16.4: Torch Valves

Make sure torch valves are open when changing or adjusting pressure on regulators. Do not exceed pressure authorized for welding or cutting.

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## 79.17: Hoses

When using oxy-fuel equipment, use only equipment designed for the particular fuel gas being used. When not in use, oxygen and fuel gas hoses must be properly stored to prevent damage.

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### 79.17.1: Hoses and Color Codes

Oxygen-fuel gas hoses must be inspected prior to each use. Hose(s) showing leaks, worn places or other defects must be repaired or replaced.

Long lengths of hose are not desirable. When long lengths are necessary, all connections must be tight and hose must be protected from being stepped on, run over, kinked or tangled.

When lengths of oxygen and acetylene hose are taped together for convenience and to prevent tangling, not more than 4 inches out of 12 inches shall be covered by tape.

Use T-Grade welding hose for welding. Where possible, 3/8 inch hose will be used to reduce pressure drop. Color codes for hose are:

	Red -----	Combustible gases
	Green --	Oxygen

Hose must be used only with the gases for which it is intended. Do not interchange hose or use it for other purposes.

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### 79.17.2: Hose Connections

Blow out new hose, with gas for which the hose will be used, to remove talc. In making up hose connections, only crimp ferrules will be used and no more than two splices will be used for any length hose. Tape or wire will not be used to repair hose. Approved

reverse flow devices must be used. Quick disconnect may be used and must be positive locking and approved for oxy-fuel use only.

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## **79.18: Torches**

Torches must be maintained in good condition and carefully handled. Use proper torch and tips designed for the fuel gas (Acetylene, Natural Gas, MAPP, Propylene). A lighted torch must not be laid down, passed from one person to another, or kept in your hand when climbing. When not in use, valves must be closed and torch stored in a safe place.

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### **79.18.1: Torch Precautions**

When working with torches:

- Make sure that the gas stream is not directed toward yourself or others.
- Keep the flame and sparks directed away from personnel, flammables, and equipment.
- Torch should be momentarily purged prior to lighting to ensure flow of oxygen and fuel gas.

Do not use the torch as a hammer.

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### **79.18.2: Lighters**

Use a standard friction lighter to ignite all oxygen fuel gas equipment or fuel gas equipment. Do not use matches or other means to ignite a blow pipe.

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## **79.19: Use of Natural Gas**

When heating with natural gas, welders may use a regular welding torch with natural gas heating heads. Do not use natural gas for welding.

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## **Electrical Welding**

### **79.20: Maintenance and Repair**

Only a qualified mechanic or electrician may make repairs or adjustments to electrical welding equipment.

**EXCEPTION:** Welders may make routine operating adjustments.

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## 79.21: Cable Insulation

Make sure electrode and ground cables are completely insulated throughout their entire length. Do not allow the welding cable to contact or be pulled through pools of water or dip the electrode holder into water for cooling.

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## 79.22: Cable Connection

Use approved cable connections with insulated covering. Cables must be in continuous lengths without splices or taps.

Use correct cable size. Sustained overloading will cause cable failure and result in possible electrical shock or fire hazard. Ground cable should be the same rating as the electrode cable.

When repairing cables or cable ends, disconnect the cable at the first joint. Coil the cable to ensure that it cannot be reconnected while repairs are in progress.

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## 79.23: Portable Welding Machines

Power supply cables to portable welding machines must include a conductor (colored green) for grounding protection. One end of this conductor must be connected to the machine frame. The supply end must be connected to a suitable grounding connection (e. g., underground piping system or a copper-coated ground rod).

Set the disconnect switch to the OFF position before plugging or unplugging welding machines.

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## 79.24: Grounding Electrical Arc Welding

When performing electrical arc welding on machinery or equipment of any kind, apply the ground cable to the particular part or piece of machinery or equipment being welded and as near as possible to the point being welded.

Note: Ground cable clamps must provide good mechanical and electrical contacts with enough carrying capacity to handle welding current without undue heating.

Do not permanently bond the welding ground lead to any rail, building steel, or other structure.

Fixed electrical welding equipment must be permanently grounded on the service side to the ground system.

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## 79.25: Protect from Electrical Shock and Moisture

Protect yourself from possible dangerous electrical shock. The electrode and work (or ground) circuits are electrically "hot" when the welder is on.

- Do not permit contact between "hot" parts of the circuits and bare skin or wet clothing.
- Do not simultaneously touch electrically "hot" parts of electrode holders connected to 2 welders because voltage between the two can be the total of the open circuit voltage of both welders.
- Wear dry, hole-free, approved welding gloves to insulate hands.
- Insulate yourself from the work and ground by using dry insulation.
- When welding in damp locations, on metal floors, grating or scaffolds, and when in positions (such as sitting or lying), make certain the insulation is large enough to cover your full area of physical contact with the work and ground.
- Maintain the electrode holder, work clamp, welding cable and welding machine in good, safe operating condition.
- When using the welding machine as a power source for mechanized welding, the above precautions also apply for the welding wire, wire reel, welding head or nozzle.
- When working above floor level, protect yourself from a fall should you be shocked.
- Do not loop or coil electrode cables around the body.
- During inclement weather, electrical welding equipment must be properly protected from moisture. Electric welding machines that have become wet, must be thoroughly dried and tested before being used.

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## 79.26: Electrodes

When not welding, make certain no part of the electrode circuit is touching the work or ground. Accidental contact can cause overheating and create a fire hazard.

Electrodes must be removed from their holders when not in use. Holders shall be so placed or protected that they cannot make electrical contact with employees or conducting objects.

Electrodes must be stored where they can be kept free of moisture.

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## 79.27: Polarity Switch

Because of the danger of arcing and damage to the polarity switch, setting of the polarity switch on a welding machine must not be changed while it is operating under welding current load.

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## 79.28: Thermit Welding

Only authorized employees are permitted to perform thermit welding. During the thermit welding process:

- Wear goggles and face shield while making the pour. One form of eye protection must have a number 5 lens or greater. Any employee within 15 feet of the weld being poured must wear a face shield with safety glasses at all times.
- Dust goggles or face shield with safety glasses must be worn when removing the mold and cleaning the weld.
- Do not dump hot slag on wet soil, snow or throw in water.

- Waste slag must be properly disposed of by burying.

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Updated: 8/09/2010



## 80.0: WALKING/WORKING SURFACES

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- [80.2: Precautions Against Slips, Trips, and Falls](#)
- [80.3: Stairs](#)
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- [80.23: Fall Protection](#)

### 80.1: Avoiding Slips, Trips and Falls

Observe safety practices that eliminate slips, trips and falls.

- Perform your work to avoid creating hazards.
- Maintain good housekeeping.
- Clean up spills.
- Erect barricades, signs, or cones where appropriate.

Avoid objects, obstructions, holes and openings and be alert to underfoot conditions. Aisles, stairways and walkways must be kept free of tools, trucks, materials, equipment and obstructions.

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### 80.2: Precautions Against Slips, Trips, and Falls

Take precautions to avoid slipping on:

- Slick surfaces such as recently washed, waxed floors, oil, grease or soap on the walkway.
- Snow, ice, wet spots or other hazards caused by inclement weather. Use appropriate footwear and accessories and/or spread sand/salt mixture (as appropriate) on ice before proceeding when icy conditions exist.

When walking keep your eyes on the pathway and if hazardous under foot conditions exist:

- Keep your hands out of pockets for balance.
- Take short, deliberate steps with toes pointed outward.
- When stepping over objects, such as rails, be sure your front foot is flat before moving your rear foot.

Employees are prohibited from running except when necessary to prevent injury to themselves or others.

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### **80.3: Stairs**

Do not run up or down stairs, through halls or passageways, or around corners. Do not ascend or descend stairways with hands in pockets and use the handrail where provided.

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### **80.4: Look Both Directions**

Look in both directions and know the way is clear when walking out of doorways or going around corners or obstructions.

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### **80.5: Jumping**

Do not jump from equipment or structures such as docks, trucks, rail cars, platforms, etc. or across ditches, pits, manholes or other openings.

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### **80.6: Working at Night or Low Light Level**

Carry a light, or use additional lighting, when working at night or where there is a low or inadequate level of lighting.

Exercise care to avoid hazards caused by shadows resulting from the use of lights.

Lighting requirements for use in:

- Through freight, local or road switcher service:
  - Trainmen - Lantern
  - Engineer - Flashlight or LanternTrainmen and Engineers may use a hands free light in addition to required lighting.
- Remote Control Operator:

- Hands free light

- Lantern may be used if hands free light fails or as an auxiliary light.

## General Order

### 80.6 Working at Night or Low Light Level

Add new last paragraph reading:

Lighting requirements for use in:

- Through freight, local or road switcher service:
  - Trainmen - Lantern
  - Engineer - Flashlight or LanternTrainmen and Engineers may use a hands free light in addition to required lighting.
- Remote Control Operator:
  - Hands free light
  - Lantern may be used if hands free light fails or as an auxiliary light.

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### 80.7: Conveyors

Do not ride on or step across conveyors.

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### 80.8: Safe Distance from Edge

Keep a safe distance from the edge of pits, turntables, platforms or trenches. Exercise caution when working on or near steep slopes.

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### 80.9: Turntables

Do not get on or off moving turntables or transfer tables.

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### 80.10: Overhead Hazards

Avoid overhead hazards and do not work, walk or stand under workmen (ladders, platforms or scaffolds) from which objects could fall. If required to work under overhead hazards, wear the proper protective equipment (e.g., hard hats).

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### 80.11: Approved Ladders

Use only single person ladders which are rated 1A or 1AA or that have been approved by the Safety Department. Standing on boxes, barrels, chairs or other improvised supports is prohibited. Only equipment approved for this purpose may be used. Stepladders that are two sided and can accommodate two people at one time must have a minimum total capacity rating of 500 pounds.

Ladders or specially designed platforms are required to service, maintain or repair elevated locations on locomotives. Do not stand on locomotive handrails.

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## **80.12: Inspection**

Before a ladder, scaffold, platform or elevated board is used, check to ensure that it is securely placed and capable of supporting the load. Before using a ladder, inspect it for broken or missing steps, rungs, cleats, broken side rails or other defects. Do not use a defective ladder. Defective ladders must be removed from service and tagged, "OUT OF SERVICE."

Before using a portable ladder, inspect it for defects and ensure that it is equipped with spikes or non-slip feet suitable for the surface on which it will be used.

Portable ladders that are used in areas where they could contact exposed energized parts must have nonconductive side rails.

Wooden ladders must not be painted.

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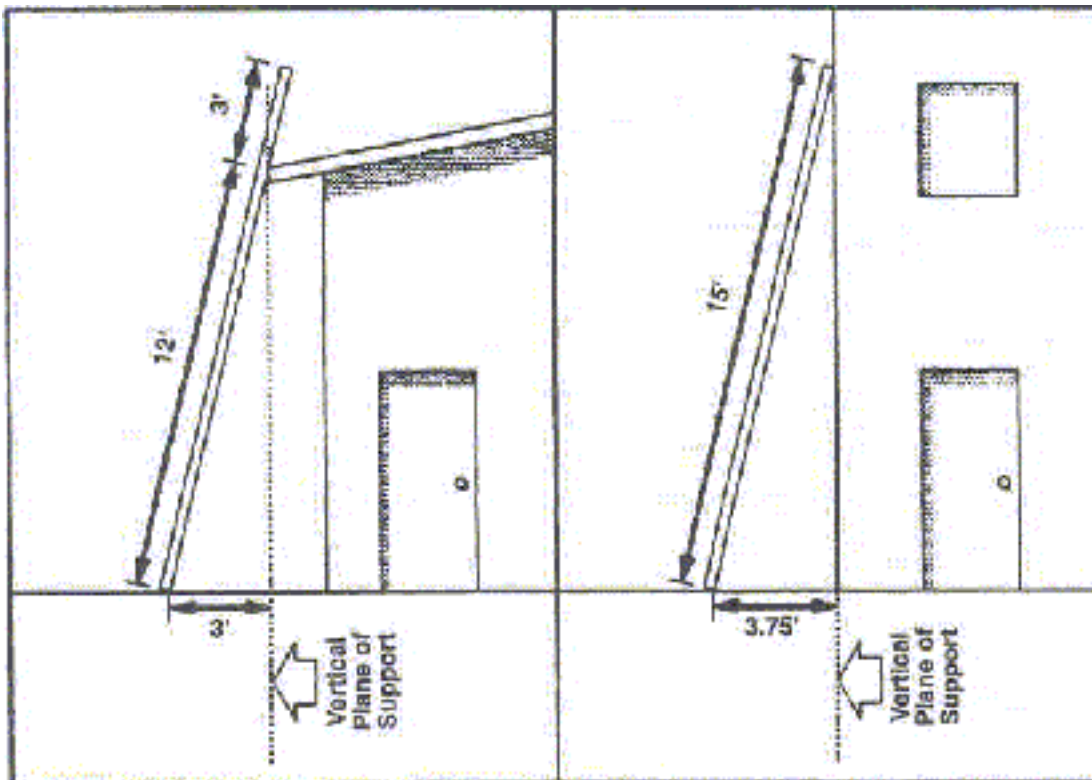
## **80.13: Storage**

Ladders and portable steps must be properly stored.

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## **80.14: Placement**

Place a straight ladder so that the horizontal distance from the base to the vertical plane of the support is approximately one-fourth the ladder length between the supports. When it is required to exit the top of the ladder, the ladder side rails must extend at least three feet above the top landing, eaves, gutter or roof. Place ladder legs on firm footing and secure against movement. Do not lean a ladder against an unstable object or place on a box, barrel, block or other unstable base for additional height. Ladders must be secured to prevent movement. Do not use a ladder in a horizontal position as a runway or scaffold.



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## 80.15: Extension Ladders

Assemble and carefully raise to ensure that guides and hooks are properly engaged. Use the ladder's rope to raise and lower the extension and keep hands and fingers clear of the moving portion.

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## 80.16: Metal Ladders

Do not use metal ladders or scaffolds when working on or near energized electrical wires.

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## 80.17: Ascending or Descending

Face ladder and use both hands when ascending or descending maintaining a three point contact. Only one person may be on a ladder at a time, unless it is designed for more than one person.

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## 80.18: Near Doors and Aisles

Ladders used near a door, aisle, pathway or roadway must be secured or guarded.

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## 80.19: Climbing with Tools/Material

Do not climb ladders with tools or materials in your hands; tools may be carried in an approved tool belt or a hand line must be used. Tools or materials must not be placed on a scaffold or platform in such a manner that they may fall or be knocked off.

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## 80.20: Step Ladders

A step ladder must not be used unless it is fully opened and the spreaders properly set. Step ladders more than 10 feet high must not be used unless held and steadied by another individual. Standing on the top step, platform or those parts of the ladder labeled "NO STEP" is prohibited.

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## 80.21: Platforms

Platforms more than 6 feet above the ground or floor in construction operations or 4 feet in General Industry operations must have:

- guard rails with a nominal height of 42 inches.
- mid-rail at one-half the height distance of the top rail
- toe board of 4 inches nominal height on all open sides and ends.

Exception: In California the above applies to platforms 30 inches or more above the ground or floor.

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## 80.22: Sectional Scaffolding

Sectional scaffolding must be erected in accordance with the manufacturer's instructions. Where such scaffolding is equipped with wheels for support, they must be equipped with wheel locks and locked before work is performed. Outriggers and toe boards, where provided, must be in working condition and protected from damage. Scaffolding legs must be placed on firm footing and secured against movement.

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## 80.23: Fall Protection

Do not work on bridges, elevated structures or the roofs of cars and locomotives without proper authority. Comply with appropriate departmental instructions and the Fall Protection Policy.

Note: See *Rule 1.21, Occupying Roof; and Safety Resource Manual, Fall Protection Policy, Section IV-J.*

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Updated: 4/29/2011

## 81.0: WORKING AROUND TRACKS OR BEING ON EQUIPMENT

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## 81.1: Precautions Around Tracks and Moving Equipment

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### 81.1.1: Walking On or Near Tracks

Do not stand or sit on, walk fouling of or walk between rails of a track unless required by assigned duties.

When standing, walking, or working between or near tracks, keep a careful lookout in both directions for trains, locomotives, cars or other moving equipment and expect movement at any time, on any track, in either direction. Do not rely on hearing the approach of a train or equipment.

Foremen or others in charge of employees working on or about the tracks must require the employees to be alert and watchful and to keep out of danger.

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### 81.1.2: Precautions near Passing Trains or Equipment

When near passing trains or equipment:

- Move away from the track to avoid being struck by car doors, protruding or falling articles.
- Stand clear of all tracks when trains are approaching or passing in either direction. Do not stand on one track while trains are passing on an adjacent track. However, engineering department employees are governed by Chief Engineer Instruction Bulletins and other MofW rules when working on adjacent tracks.
- Do not allow yourself or others to be next to or between equipment while a train or equipment is closely passing on the adjacent track.

- Do not rely on others to notify you of an approaching train, engine or other equipment unless that person's duties include providing warnings.

## System Special Instruction

### Change second bullet to read:

- Stand clear of all tracks when trains are approaching or passing in either direction. Do not stand on one track while trains are passing on an adjacent track. However, engineering department employees are governed by Chief Engineer Instruction Bulletins and other MofW rules when working on adjacent tracks.

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## 81.1.3: Signals for Movement

After giving a signal to stop the movement, keep clear until the equipment has stopped. Do not give a signal to move engines or cars if anyone is foul of your movement.

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## 81.2: Crossing Tracks

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### 81.2.1: Walking Near or Crossing Track

Before fouling or crossing tracks:

- Ensure no movement is closely approaching.
- Look in both directions.
- Look for conditions that could interfere with footing.

When walking near or crossing tracks:

- Walk straight across tracks.
- Avoid conditions that could interfere with footing.
- Step over rails, frogs, switches, guardrails, etc.

~~When walking near or crossing tracks, step over, not on:~~

- rails,
- frogs,
- switches,
- guardrails, etc.

~~Walk straight across tracks when possible. Watch for conditions that could interfere with footing.~~

## System Special Instruction

Change title and rule to read:

### 81.2.1: Walking Near or Crossing Track

Before fouling or crossing tracks:

- Ensure no movement is closely approaching.
- Look in both directions.
- Look for conditions that could interfere with footing.

When walking near or crossing tracks:

- Walk straight across tracks.
- Avoid conditions that could interfere with footing.
- Step over rails, frogs, switches, guardrails, etc.

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## 81.2.2: Sufficient Distance

Unless otherwise authorized, when crossing/stepping foul of tracks, employees must not:

- cross or step foul of tracks closely in front of or behind moving equipment,
- go between standing equipment if the opening is less than ~~50~~ 100 feet,
- cross tracks unless there is at least 20 feet between the employee and the equipment.

Unless otherwise authorized, employees must separate equipment at least 100 feet when it is necessary to separate equipment to make adjustments or open a knuckle by hand.

- ~~separate equipment at least 50 feet before opening a knuckle by hand,~~
- ~~separate the equipment at least 100 feet when it is necessary to separate equipment to make other adjustments.~~

Employees may go between or around the equipment in less than the specified distance provided the equipment is protected by Rule 5.13, ~~Rule 81.5.4,~~ 81.23 or 83.1.3 and the employee knows that no movement will be made. Employees may go around the end of equipment in less than 20 feet when the equipment is protected by Rule 81.5.4 and the employee knows that no movement will be made.

Whenever employees go around the end of equipment, they must provide sufficient distance to avoid injury in case of movement from cars with moveable center sills.

## System Special Instruction

### 81.2.2 Sufficient Distance

Change rule to read:

Unless otherwise authorized, when crossing/stepping foul of tracks, employees must not:

- cross or step foul of tracks closely in front of or behind moving equipment,
- go between standing equipment if the opening is less than 100 feet,

- cross tracks unless there is at least 20 feet between the employee and the equipment.

Unless otherwise authorized, employees must separate equipment at least 100 feet when it is necessary to separate equipment to make adjustments or open a knuckle by hand.

Employees may go between or around the equipment in less than the specified distance provided the equipment is protected by Rule 5.13, 81.23 or 83.1.3 and the employee knows that no movement will be made. Employees may go around the end of equipment in less than 20 feet when the equipment is protected by Rule 81.5.4 and the employee knows that no movement will be made.

Whenever employees go around the end of equipment, they must provide sufficient distance to avoid injury in case of movement from cars with moveable center sills.

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## 81.3: Safety Appliances

Visually inspect safety appliances on equipment for defects such as loose, damaged or missing hand holds, ladders, grab irons, sill steps or crossover platforms.

Do not use defective safety appliances. Warn others and report the defect to the yardmaster, train dispatcher or supervisor.

Do not attempt to mount equipment not equipped with safety devices.

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## 81.4: Getting On or Off Equipment

Do not get on or off cars and engines except when required in the performance of duty, and only when it can be done safely.

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### 81.4.1: Standing Equipment

The following precautions must be taken when getting on or off standing equipment:

- Always use the provided appliances (steps, ladders and hand holds) for getting on and off equipment. Be aware of and take necessary precautions to prevent injury from the build up of snow, ice, water, mud, grease and oil on footwear, sill steps and side ladders.
- Keep hands free of all objects that may hinder a secure handhold. Always maintain a secure grip on the handholds on engine platforms or while using appliances on the equipment. Be prepared for sudden movement.
- Face the equipment and use the side ladder or steps, maintaining a three-point contact (two feet and one hand or two hands and one foot). Feet must be securely placed.
- When getting off, retain a grip on the hand hold until both feet are firmly placed on the ground or other support.
- Observe surface conditions and activity in the area before getting off. Guard against injury by looking out for unsafe footing, obstructions or equipment moving on other tracks.
- When practical, get on or off equipment on the side away from main tracks or close clearances.
- Use extreme care during wet, muddy, snowy or icy conditions and at night in unlit areas.

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## 81.4.2: Moving Equipment

Employees are prohibited from getting on or off moving equipment unless necessary to prevent injury to themselves or others.

If necessary to get on or off, the following precautions must also be taken:

- When getting on, stand clear of equipment so as not to be struck. When boarding boxcars or similar equipment, grasp the leading grab iron with leading hand in direction of movement, then step up with the trailing foot as you grasp trailing grab iron, putting trailing foot in trailing corner of step letting movement lift you off the ground.
- When getting off moving equipment, do not step between the rails, on tie ends or immediately ahead of switches. When getting off, make sure you are clear of the engine or car. The trailing foot (foot opposite from the direction of movement) must strike the ground first, directing you away from the equipment.

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## 81.4.3: Loading and Unloading Luggage and Material

Do not throw or "swing" luggage or material onto a locomotive from the ground. Load or unload luggage, grips without straps, ice chests, and other objects onto locomotives and cabooses before you get on or off. Load or unload from the side of the locomotive, not the front.

Maintain firm footing and use proper body mechanics / lifting techniques and, if necessary, pass the item to your co-worker. Board or detrain carrying grips with shoulder straps on your shoulder and maintain both three-point contact and your balance.

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## 81.5: Crossing Through or Fouling Equipment

Do not get on, cross through, crawl, sit or lie under cars, unless duties require. When duties require, assure that all movement has stopped, protection has been provided and no unexpected movement will occur.

Unless otherwise authorized, before an employee steps foul of a track to work on or make adjustments to equipment, the employee must notify, if applicable:

- all crew members,
- the yardmaster,
- crew members of other engines working in the yard.

When applicable, Rule 81.5.4, Understanding between Crew Members Before Crossing Through or Fouling Equipment, will apply.

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### 81.5.1: Crossing Through Standing Equipment

When duties require crossing through a standing train or cut of cars, proper protection against movement must be provided. The following applies:

- Choose equipment carefully, using only cars with ends equipped with a crossover platform and hand holds.
- Keep hands free of objects that may hinder a secure handhold.
- Be prepared for unexpected movement, maintaining a three-point contact (two feet and one hand or both hands and one foot) while walking across the end of the car.
- On equipment where crossover platforms and hand holds are not available, use end of car structural bracing to maintain three point contact, if safe to do so. If no structural bracing is available, do not cross through. However, a train or cut of cars made up of intermodal cars equipped with crossover platforms without handholds may be crossed through without three-point contact; taking short, deliberate steps.

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## 81.5.2: Stepping from One Car to Another

Stepping from one car to another is permitted only if equipment is standing, it can be done safely and proper protection against movement has been provided.

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## 81.5.3: Moving Cars

Do not cross under, over or through or ride between moving cars.

Some maintenance activities require movement from car to car. Equipment must be designed for such movement. Such activities include:

- rail loading and unloading,
- rail grinding,
- car top material handling,
- loading and unloading wheeled equipment from flatcars.

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## 81.5.4: Understanding Between Crew Members Before Crossing Through or Fouling Equipment

### Red Zone:

Anytime a Train, Engine or Yard employee is working within an area where there is the potential to be struck by moving equipment, crossing through equipment and/or fouling equipment.

### Establishing Red Zone

Employee(s) working in red zones must comply with the following 4-Step Process:

1. Request Red Zone
2. Determine Action Required
3. Confirm Red Zone
4. Release Red Zone

### Exceptions

Operating the uncoupling lever.

Primary RCO opens knuckles during humping or kicking cars (movement must be stopped).  
 Rule 5.13 is in effect.

**Crew Preparation Prior to Establishing Red Zone**

Wait for movement to stop and slack to adjust.

Ascertain that all crew members have a clear understanding of the track(s) to be fouled. Determine if other engine(s) have access to tracks where protection is required.

**4-Step Process:**

<u>Step</u>	<u>Who</u>	<u>Action</u>	<u>Acknowledgment</u>
<b><u>Step 1.</u></b> <b><u>Request Red Zone</u></b>	Employee requesting Red Zone	1. Notify all applicable crew members and jobs that have access to the track to be fouled. 2. Request "Red Zone" identifying the track or tracks to be fouled.	"Requesting Red Zone" by radio or approved hand signal
<b><u>Step 2.</u></b> <b><u>Determine Action Required</u></b>	Crew Members	Select option(s) to prevent movement on or into track for any job with direct access to the affected track: <b><u>Option 1</u></b> - Movement(s) stopped and "Set and Centered". <b><u>Option 2</u></b> - Line switch away from track to be fouled. (UPRR property only)	Job Briefing
<b><u>Step 3.</u></b> <b><u>Confirm Red Zone</u></b>	Engineer or employee at the controls	<b><u>Option 1:</u></b> <b><u>Movement Stopped and Set and Centered</u></b> 1. Apply independent brakes, train airbrake must be applied when necessary. 2. Center the reverser. 3. Acknowledge understanding. 4. Locomotive brakes are to remain applied and reverser centered. 5. Locomotive is not to be left unattended until the crew member requesting protection gives prescribed hand signal or announces by radio, "Clear of the Red Zone."	"Set and Centered" by radio  or  5.8.2(4)

	<u>Employee(s) of affected jobs</u>	<b>Option 2:</b> <b><u>Line switch away from track to be fouled</u></b> 1. <u>Acknowledge understanding.</u> 2. <u>Repeat the track(s) to be fouled.</u> 3. <u>Line switches to prevent access into the track where protection is required and confirm to employee requesting "Red Zone".</u>	<u>Line switch away from track to be fouled and confirm with employee requesting Red Zone</u>
<b>Step 4.</b> <b>Release Red Zone</b>	<u>Employee that requested Red Zone</u>	<u>When physically clear of Red Zone, notify all applicable crew members and jobs.</u>	<u>"Clear of Red Zone"</u>  <u>or</u>  <u>Approved Hand Signal</u>

### **Acknowledgement via Hand Signals**

Prior to entering a Red Zone, a job briefing must be conducted informing all crew members that hand signals will be used to initiate and release a Red Zone using the following signals:

### **Prescribed Hand Signals:**

Entering the Red Zone

Hand Signal:

- Day - Use cut-in air sign by overlapping hands in a downward motion in front of body at waist height.
- Night - Hand signal may not be used at night, radio must be used to request and confirm Red Zone.



Hand Signal - Day Only

### **Prior to entering the Red Zone**

Engineer must acknowledge by using whistle signal 5.8.2(4) or verbal confirmation that brakes are applied and reverser is centered.

### **Clear of the Red Zone**

Hand held at arm's length above the head. Engineer must acknowledge verbally or whistle signal 5.8.2 (4).



Before an employee steps foul of a track to work on or make adjustments to equipment or cross through cars, when the equipment is coupled to an occupied engine, active remote control engine or other motive equipment or if occupied engine is on the same track, the following applies:

- The employee must notify all crew members. However, notification is not required when the primary RCO opens knuckles during switching operations. Notification may be verbal between the employees, agreed-upon hand signal, or radio communication.
- The engineer must apply locomotive air brakes and center the reverser. Train air brakes must be applied when necessary. The engineer will then notify the employee the engine is "set and centered". If the equipment is not equipped with a reverser, it must be placed in neutral or park with the brakes applied. The engine must not be left unattended until the employee reports clear.
- When remote control operations are being used, the primary RCO must position the transmitter's speed control to Stop, the direction control to neutral, apply the locomotive air brakes and when necessary, apply the train air brakes. When an employee, other than the primary RCO, will foul the track, the primary RCO will notify the employee that the transmitter is "set and centered".
- When employee is clear of the track, the employee will notify all crew members they are clear of the track. Engine settings or transmitter settings must not be changed until acknowledgement is complete between employee controlling the engine and employee reporting clear of the track.

## General Order

**Change entire rule to read:**

### Red Zone:

Anytime a Train, Engine or Yard employee is working within an area where there is the potential to be struck by moving equipment, crossing through equipment and/or fouling equipment.

### Establishing Red Zone

Employee(s) working in red zones must comply with the following 4-Step Process:

1. Request Red Zone
2. Determine Action Required
3. Confirm Red Zone
4. Release Red Zone

### Exceptions

Operating the uncoupling lever.

Primary RCO opens knuckles during humping or kicking cars (movement must be stopped).

Rule 5.13 is in effect.

### Crew Preparation Prior to Establishing Red Zone

Wait for movement to stop and slack to adjust.

Ascertain that all crew members have a clear understanding of the track(s) to be fouled. Determine if other engine(s) have access to tracks where protection is required.

### 4-Step Process:

Step	Who	Action	Acknowledgment
------	-----	--------	----------------

<p><b>Step 1. Request Red Zone</b></p>	<p>Employee requesting Red Zone</p>	<p>1. Notify all applicable crew members and jobs that have access to the track to be fouled. 2. Request "Red Zone" identifying the track or tracks to be fouled.</p>	<p>"Requesting Red Zone" by radio or Approved Hand Signal</p>
<p><b>Step 2. Determine Action Required</b></p>	<p>Crew Members</p>	<p>Select option(s) to prevent movement on or into track for any job with direct access to the affected track: <b>Option 1</b> - Movement(s) stopped and "Set and Centered". <b>Option 2</b> - Line switch away from track to be fouled. (UPRR property only)</p>	<p>Job Briefing</p>
<p><b>Step 3. Confirm Red Zone</b></p>	<p>Engineer or employee at the controls</p>	<p><b>Option 1: Movement Stopped and Set and Centered</b> 1. Apply independent brakes, train airbrake must be applied when necessary. 2. Center the reverser. 3. Acknowledge understanding. 4. Locomotive brakes are to remain applied and reverser centered. 5. Locomotive is not to be left unattended until the crew member requesting protection gives prescribed hand signal or announces by radio, "Clear of the Red Zone."</p>	<p>"Set and Centered" by radio or 5.8.2(4)</p>
	<p>Employee(s) of affected jobs</p>	<p><b>Option 2: Line switch away from track to be fouled</b> 1. Acknowledge understanding. 2. Repeat the track(s) to be fouled. 3. Line switches to prevent access into the track where protection is required and confirm to employee requesting "Red Zone".</p>	<p>Line switch away from track to be fouled and confirm with employee requesting Red Zone</p>
<p><b>Step 4. Release Red Zone</b></p>	<p>Employee that requested Red Zone</p>	<p>When physically clear of Red Zone, notify all applicable crew members and jobs.</p>	<p>"Clear of Red Zone"  or Approved Hand Signal</p>

## **Acknowledgement via Hand Signals**

Prior to entering a Red Zone, a job briefing must be conducted informing all crew members that hand signals will be used to initiate and release a Red Zone using the following signals:

### **Prescribed Hand Signals:**

Entering the Red Zone

Hand Signal:

- Day - Use cut-in air sign by overlapping hands in a downward motion in front of body at waist height.
- Night - Hand signal may not be used at night, radio must be used to request and confirm Red Zone.

### **Prior to entering the Red Zone**

Engineer must acknowledge by using whistle signal 5.8.2(4) or verbal confirmation that brakes are applied and reverser is centered.

### **Clear of the Red Zone**

Hand held at arm's length above the head. Engineer must acknowledge verbally or whistle signal 5.8.2 (4).

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## **81.5.5: Trainline Power Cables**

Before going between equipment to work on or make adjustments to trains equipped with electrical power cables between cars, employees must ensure that electrical power to these cables is off unless cable is clear of the area where the employee will be working.

### **General Order**

#### **Add new rule:**

Before going between equipment to work on or make adjustments to trains equipped with electrical power cables between cars, employees must ensure that electrical power to these cables is off unless cable is clear of the area where the employee will be working.

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## **81.6: Placing Feet**

Do not place feet on knuckles, uncoupling lever, drawbar assembly or any cushioning drawbar device.

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## **81.7: Riding Equipment**

### **81.7 Riding Equipment**

#### **1. Determine if You Should Ride**

Ride cars or equipment only if necessary when duties require and only after determining that you can do so safely.

When determining whether cars or equipment should be ridden employee must consider:

- Alternatives such as repositioning locomotives to pull instead of shoving cars, repositioning of crew members or utilizing other employees to complete the task without having to ride moving equipment.
- Weather conditions that may cause unsafe conditions to ride, e.g. ice storms.
- Designs and configuration of cars that may make them unsuitable to ride.
- Selecting or repositioning other cars to ride.
- Your physical limitations.
- Potential slack action.
- Applicable Operating and Safety Rules.

## **2. Do Not Ride**

Employees must not ride:

- On cars that are rolling free, except where a "Gravity Switch" has been authorized by a "Superintendent Bulletin" and then only when movement can be controlled by a hand brake located on the trailing end of the trailing car in the direction of movement (See Rule 7.7.1 Gravity Switch).
- On the end of a moving car – except as provided in this rule.
- On equipment where track conditions can not be clearly observed because of debris, snow, ice, water, grain, sand or mud.
- On sill step of cars (stirrup beneath ladder), engine steps, caboose steps or vestibule steps of cars when moving over a street or highway crossing, or yard access crossing. Yard access crossing means a grade crossing that is located within the physical confines of a railroad yard and is either:
  - Open to unrestricted public access;
  - or
  - Open to persons other than railroad employees going about their normal duties, e.g., business guests or family members.
- On side ladders leading to engine cabs on full body type locomotives.
- On tank cars if it can possibly be avoided and never on the side ladder providing access to top of tank car.
- Inside equipment i.e. hopper cars, gondola cars, etc.
- On any part of coupler apparatus, center sill, side sill, or end sill.
- In a location where you may be struck or pinched by moving lading or equipment.

## **3. How to Ride**

When riding on equipment employees must:

- Maintain three-point contact with hands and feet on fixed platforms and/or grab irons designed for this purpose. Hand brake may not be used as one of the required points of contact.
- Look in the direction of movement.
- Ride on the side of the car, the vertical plane of the end of the car must not be broken; except:
  - May ride on the brake or end platform on the trailing end of the last car in direction of movement.
  - When allowed to ride on the deck of a flat car.
  - May ride on end platform of ARMN cars equipped with an end platform and hand rails. The platform is located on the "A" end of the car.
  - May ride on end platform of ARMN cars equipped with an end platform and hand rails. The platform is located on the "A" end of the car.
- Only ride on cars equipped with two vertical hand holds or horizontal hand hold positioned to allow an erect body position.

## **4. Where to Ride**

When riding on equipment employees must be positioned:

- When practicable, while making a pulling movement, on the brake or end platform on the trailing end of the last car in direction of movement.
- On the side of leading end of equipment in direction of movement.

- On deck of empty flat car or on a TOFC/COFC flat car only if you can mount the car safely and kneel or sit as near as possible to the center of the car until the car has come to a complete stop. If equipped with two vertical hand holds or horizontal hand hold positioned to allow an erect body position may ride on side of car.
- When riding empty bulkhead or centerbeam flat car, employee may ride on the deck behind the bulkhead in the direction of movement and maintain three point contact while facing the direction of movement.

### **Riding tank cars:**

Employees may only ride a tank car when the tank car is the first car of a shoving movement or the last car in a cut of cars being handled.

Employees must maintain 3 or 4 point contact and:

- When shoving:
  - o Be on leading end of leading car.
  - o Be positioned to ride behind the safety bar outside the gage of the track rail. If unable to ride behind the safety bar, employee may ride on the outer portion of the crossover platform facing direction of movement, positioned outside the gauge of the track.
  - o Place both feet on the car to provide secure contact with the car. If unable to place both feet in a secure position, employee must not ride the car.
- When pulling:
  - o Be on the trailing end platform of the last car, facing the direction of movement.
  - o Place both feet on the end platform to provide secure contact with the car.

~~Do not ride on moving equipment:~~

- ~~• unless your duties require;~~
- ~~• where the track conditions can not be clearly observed because of debris, snow, ice, water, grain, sand or mud;~~
- ~~• unless you can do so safely.~~

## **System Special Instruction**

**Change rule to read:**

### **1. Determine if You Should Ride**

Ride cars or equipment only if necessary when duties require and only after determining that you can do so safely.

When determining whether cars or equipment should be ridden employee must consider:

- Alternatives such as repositioning locomotives to pull instead of shoving cars, repositioning of crew members or utilizing other employees to complete the task without having to ride moving equipment.
- Weather conditions that may cause unsafe conditions to ride, e.g. ice storms.
- Designs and configuration of cars that may make them unsuitable to ride.
- Selecting or repositioning other cars to ride.
- Your physical limitations.
- Potential slack action.
- Applicable Operating and Safety Rules.

### **2. Do Not Ride**

Employees must not ride:

- On cars that are rolling free, except where a "Gravity Switch" has been authorized by a "Superintendent Bulletin" and then only when movement can be controlled by a hand brake located on the trailing end of the trailing car in the direction of movement (See Rule 7.7.1 Gravity Switch).
- On the end of a moving car – except as provided in this rule.
- On equipment where track conditions can not be clearly observed because of debris, snow, ice, water, grain, sand or mud.
- On sill step of cars (stirrup beneath ladder), engine steps, caboose steps or vestibule steps of cars when moving over a street or highway crossing, or yard access crossing. Yard access crossing means a grade crossing that is located within the physical confines of a railroad yard and is either:
  - Open to unrestricted public access;
  - or
  - Open to persons other than railroad employees going about their normal duties, e.g., business guests or family members.
- On side ladders leading to engine cabs on full body type locomotives.
- On tank cars if can possibly be avoided and never on the side ladder providing access to top of tank car.
- Inside equipment i.e. hopper cars, gondola cars, etc.
- On any part of coupler apparatus, center sill, side sill, or end sill.
- In a location where you may be struck or pinched by moving lading or equipment.

### **3. How to Ride**

When riding on equipment employees must:

- Maintain three-point contact with hands and feet on fixed platforms and/or grab irons designed for this purpose. Hand brake may not be used as one of the required points of contact.
- Look in the direction of movement.
- Ride on the side of the car, the vertical plane of the end of the car must not be broken; except:
  - May ride on the brake or end platform on the trailing end of the last car in direction of movement.
  - When allowed to ride on the deck of a flat car.
  - May ride on end platform of ARMN cars equipped with an end platform and hand rails. The platform is located on the "A" end of the car.
  - May ride on end platform of ARMN cars equipped with an end platform and hand rails. The platform is located on the "A" end of the car.
- Only ride on cars equipped with two vertical hand holds or horizontal hand hold positioned to allow an erect body position.

### **4. Where to Ride**

When riding on equipment employees must be positioned:

- When practicable, while making a pulling movement, on the brake or end platform on the trailing end of the last car in direction of movement.
- On the side of leading end of equipment in direction of movement.
- On deck of empty flat car or on a TOFC/COFC flat car only if you can mount the car safely and kneel or sit as near as possible to the center of the car until the car has come to a complete stop. If equipped with two vertical hand holds or horizontal hand hold positioned to allow an erect body position employee may ride on side of car.
- When riding empty bulkhead or centerbeam flat car, employee may ride on the deck behind the bulkhead in the direction of movement and maintain three point contact while facing the direction of movement.

### **Riding tank cars:**

Employees may only ride a tank car when the tank car is the first car of a shoving movement or the last car in a cut of cars being handled.

Employees must maintain 3 or 4 point contact and:

- When shoving:
  - o Be on leading end of leading car.
  - o Be positioned to ride behind the safety bar outside the gauge of the track rail. If unable to ride behind the safety bar, employee may ride on the outer portion of the crossover platform facing direction of movement, positioned outside the gauge of the track.
  - o Place both feet on the car to provide secure contact with the car. If unable to place both feet in a secure position, employee must not ride the car.
- When pulling:
  - o Be on the trailing end platform of the last car, facing the direction of movement.
  - o Place both feet on the end platform to provide secure contact with the car.

## General Order

### Change numbering of items in SSI, pages 113 and 114 as follows:

2. Do Not Ride
3. How to Ride
4. Where to Ride

### Change second dash under first bullet in Part 4 under "Riding tank cars" to read:

- Be positioned to ride behind the safety bar outside the gauge of the track. If unable to ride behind the safety bar, employee may ride on the outer portion of the crossover platform facing direction of movement, positioned outside the gauge of the track.

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## 81.7.1: Designated Riding Places

~~Unless otherwise authorized, when required to ride on cars, engines or other equipment, employees must:~~

- ~~• ride on designated steps, ladders or platforms,~~
- ~~• ride on the side ladder of the leading end of the car in direction of movement,~~
- ~~• except may ride on trailing end of the trailing car.~~

~~When riding engines, cars or equipment, look in the direction of movement and maintain three-point contact (two feet and one hand or two hands and one foot).~~

~~Unless otherwise authorized, employees must not:~~

- ~~• Ride on the ends of moving cars, except:~~
  - ~~- on the trailing end of the trailing car,~~
  - ~~- when necessary to operate hand brakes to stop~~
  - ~~or~~
  - ~~- to control the speed of cars cut off in motion.~~
- ~~• Sit with feet protruding over the sides or ends of cars or equipment.~~
- ~~• Ride on sill step (stirrup beneath ladder), engine steps, caboose steps or vestibule steps of cars when moving over a street or highway crossing.~~
- ~~• Ride on side ladders leading to engine cabs on full body type locomotives.~~
- ~~• Ride inside equipment i.e. hopper cars, gondola cars, etc.~~

## System Special Instruction

### 81.7.1 Designated Riding Places

Delete rule.

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### 81.7.2: Unexpected Movement

When on or in engines, cars, cabooses or other equipment, anticipate and protect yourself from sudden stops, starts, slack action, excessive lateral, or unexpected motions.

When duties require moving around in equipment, be adequately braced, maintain a firm hand hold and sit down quickly and safely. Unless duties require otherwise, remain seated when stopping, entering or leaving initial or final terminals. Stay out of cars being or about to be switched and notify all occupants before switching cars.

When above normal vertical or lateral motion is detected on a locomotive, the train dispatcher should be notified. Engineer will reduce speed to a level that provides a normal ride.

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### 81.7.3: Shifting Lading

Do not:

- Stand or place any part of your body on or between the side or end of a car loaded with lumber, pipe or other lading that could shift.
- Put yourself in a position where you can be struck by improperly secured or unsecured drop ends that may fall inwards.
- Hold on to the end post or stand near the end door on a gondola equipped with drop ends.

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### 81.7.4: Riding Flat Cars or Intermodal Cars

~~Riding the side of any flat car or any type of intermodal equipment is prohibited unless equipped with either two vertically mounted handholds, or horizontal grab irons that are part of a riding ladder and of sufficient height to provide balance. If necessary to ride flat cars not so equipped:~~

- ~~• Take a safe position near the center of the car, either seated or with feet shoulder width apart, with one foot forward and knees slightly bent.~~
- ~~• Face and look in the direction of movement.~~
- ~~• Use extreme caution and be prepared for slack action or unexpected movement.~~

## System Special Instruction

### 81.7.4 Riding Flat Cars or Intermodal Cars

Delete rule.



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## 81.7.4.1: Riding Bulkhead Flat Cars and Centerbeam Flat Cars

~~Avoid riding the side of bulkhead flat cars and centerbeam flat cars unless equipped with either two vertically mounted hand holds or horizontal grab irons that are at least chest height when standing on sill step.~~

~~When riding a bulkhead flat car or centerbeam flat car, do not place any part of your body between lading and bulkhead.~~

~~It is permissible to ride on the deck of an empty bulkhead flat car or empty centerbeam flat car. When doing so, position yourself on the deck behind the bulkhead in direction of movement. Maintain a three-point contact (two feet and one hand) with a firm grip on the side grab iron and face the direction of movement.~~

### System Special Instruction

#### 81.7.4.1 Riding Bulkhead Flat Cars and Centerbeam Flat Cars

Delete rule.

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## 81.7.5: Riding Tank Cars

~~Avoid riding on tank cars. When necessary to ride on the crossover platform of a tank car, employees must ride on the outer portion of the crossover platform, positioned outside the nearest rail.~~

- ~~• On the trailing end, face the end platform safety railing.~~
- ~~• On the leading end, your back must be against the safety railing.~~

~~Maintain a three point or four point contact (two feet and one or both hands). Do not ride on the side ladder of a tank car.~~

### System Special Instruction

#### 81.7.5 Riding Tank Cars

Delete rule.

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## 81.7.6: Business Cars or Passenger Equipment

Side and trap doors of vestibules must be kept closed while the train is in motion, except when attended by a crew member. When vestibules are in use at stations, open them only on the side where passengers are received and discharged. An end gate must be placed at the rear of the last car in a train if the car is vestibuled. If the car is not vestibuled, a chain or crossbar must be used.

Trainmen must know that end gates or chains are in the proper position at the end of each car when making cuts between occupied passenger cars during switching operations.

## 81.7.7: Riding Locomotive Cranes and Work Equipment

Do not go out on a ledge, running board or any other outside part of moving locomotive cranes or other roadway equipment. However, a designated groundman is permitted to ride on the locomotive crane footboard that is equipped with a standard riding cage under the following conditions:

- Riding is only allowed at the project site and as necessary to support bridge work. The limitations of the project site shall be as follows:

(a) From the material staging area to the bridge, not to exceed 1,400 feet.

and

(b) No more than 300 feet past either end of the bridge.

- Riding is not permitted through public road crossings.
- The maximum crane speed is 10 MPH.
- When riding on the leading end, the crane operator must have the rider in visual sight at all times.
- Riding is not permitted on the same end of the crane that cars are coupled to.
- The crane will approach no closer than one car length from standing equipment.

The footboard shall be large enough to completely and firmly support both feet of the rider. The rider must have three-point contact at all times.

- The footboard and riding cage must be inspected daily and repaired immediately if damaged.
- Cage must be removed when the locomotive crane is entrained.

Do not ride on cranes, ditchers, other machines or cars on which machines are mounted without proper authority.

### System Special Instruction

#### 81.7.7 Riding Locomotive Cranes and work Equipment

**Change rule to read:**

Do not go out on a ledge, running board or any other outside part of moving locomotive cranes or other roadway equipment. However, a designated groundman is permitted to ride on the locomotive crane footboard that is equipped with a standard riding cage under the following conditions:

- Riding is only allowed at the project site and as necessary to support bridge work. The limitations of the project site shall be as follows:

(a) From the material staging area to the bridge, not to exceed 1,400 feet.

and

(b) No more than 300 feet past either end of the bridge.

- Riding is not permitted through public road crossings.
- The maximum crane speed is 10 MPH.
- When riding on the leading end, the crane operator must have the rider in visual sight at all times.

- Riding is not permitted on the same end of the crane that cars are coupled to.
- The crane will approach no closer than one car length from standing equipment.

The footboard shall be large enough to completely and firmly support both feet of the rider. The rider must have three-point contact at all times.

- The footboard and riding cage must be inspected daily and repaired immediately if damaged.
- Cage must be removed when the locomotive crane is entrained.

Do not ride on cranes, ditchers, other machines or cars on which machines are mounted without proper authority.

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## 81.8: Close Clearances

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### 81.8.1: Avoiding Fouling Hazards

Do not leave equipment standing where it will foul equipment on adjacent tracks or cause injury to employees riding on the side of a car or engine.

On tracks where clearance point is indicated, leave equipment beyond the clearance point.

If clearance point is not indicated or visible, determine clearance point by standing outside the rail of adjacent track and extending arm towards the equipment. When unable to touch equipment, leave the equipment at least an additional 50 feet into the track to ensure equipment is beyond the clearance point.

Equipment may be left on a:

- Main track, fouling a siding track switch, when the switch is lined for the main track.
- Siding, fouling a main track switch, when the switch is lined for the siding.
- Yard switching lead, fouling a yard track switch, when the switch is lined for the yard switching lead.
- \_or\_
- Industry track beyond the clearance point of the switch leading to the industry.

When machines, tools, material or other equipment are left where adjacent track(s) may be fouled, notify supervisor. They must arrange to restrict movement on the affected track(s) until the work is completed and the fouling hazard is eliminated.

~~Do not leave cars or engines standing where they will foul equipment on adjacent tracks or cause injury to others riding on the side of a car or engine.~~

~~Cars and engines must be left clear of designated fouling point as indicated by a cone and / or painted mark on the rail to indicate clearance point.~~

~~If clearance point is not marked, an employee may determine clearance point by standing outside the rail of the adjacent track and extending their arm towards the equipment. When unable to touch equipment, you have determined the clearance point. Equipment must be left an additional 50 feet into the track to ensure equipment is beyond the clearance point.~~

~~During switching operations, ensure cars are clear an adjacent track, before shoving additional cars into the track. When kicking cars, crew member must ensure that cars are clear and will remain clear of the fouling point before kicking additional cars.~~

~~Prior to tying up or leaving switching locations, employees must ensure that all cars and engines left on yard tracks are beyond designated or determined clearance point. When cars or engines are left on a yard track and yard lead, due to track capacity, ensure the equipment is occupying the yard lead, not left just to foul the yard lead, and switches are lined toward the equipment.~~

~~When machines, tools, material or other equipment are left where adjacent track(s) may be fouled, notify supervisor. They must arrange to restrict movement on the affected track(s) until the work is completed and the fouling hazard is eliminated.~~

## **System Special Instruction**

### **81.8.1 Avoid Fouling Hazards**

#### **Change rule to read:**

Do not leave equipment standing where it will foul equipment on adjacent tracks or cause injury to employees riding on the side of a car or engine.

On tracks where clearance point is indicated, leave equipment beyond the clearance point.

If clearance point is not indicated or visible, determine clearance point by standing outside the rail of adjacent track and extending arm towards the equipment. When unable to touch equipment, leave the equipment at least an additional 50 feet into the track to ensure equipment is beyond the clearance point.

Equipment may be left on a:

- Main track, fouling a siding track switch, when the switch is lined for the main track.
- Siding, fouling a main track switch, when the switch is lined for the siding.
- Yard switching lead, fouling a yard track switch, when the switch is lined for the yard switching lead.
- or
- Industry track beyond the clearance point of the switch leading to the industry.

When machines, tools, material or other equipment are left where adjacent track(s) may be fouled, notify supervisor. They must arrange to restrict movement on the affected track(s) until the work is completed and the fouling hazard is eliminated.

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## **81.8.2: Maintain Lookout**

Keep a careful lookout in both directions for trains, engines or cars on adjacent tracks. Look for other close clearances when duties require any part of the body to be extended beyond the side of a moving or standing engine or car.

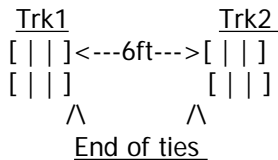
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## **81.8.3: Impaired Clearances**

Do not ride on the side of a moving car, engine or other equipment under any of the following conditions:

- Next to a structure.
- Through gates or doorways.

- Into, out-of, or within enclosed buildings. Before entering enclosed buildings, an employee, if safe to do so, must precede the movement. Further movements must only be made on that employee's signal.
- Any time equipment on an adjacent track is foul of or appears to be foul of clearance point.
- In a curve or through a turnout when there is less than 6 feet between the ends of ties of adjacent tracks and:
  - There are cars on the adjacent track in the curve or turnout.
  - If in doubt that the distance between the ends of the ties between the tracks is at least 6 feet.



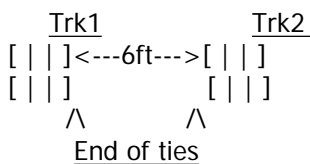
- In addition, do not position yourself or knowingly allow others to position themselves between a structure and moving car (s), engine(s) or other equipment when clearance is minimal.

## System Special Instruction

### 81.8.3 Impaired Clearances

Add two new bullets reading:

- Any time equipment on an adjacent track is foul of or appears to be foul of clearance point.
- In a curve or through a turnout when there is less than 6 feet between the ends of ties of adjacent tracks and:
  - There are cars on the adjacent track in the curve or turnout.
  - If in doubt that the distance between the ends of the ties between the tracks is at least 6 feet.



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## 81.9: Cars in Motion

Do not break seals, remove hasps, open or close freight car doors or perform repairs while cars are in motion.

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## 81.10: Moving Equipment in Locomotive, Car, or Maintenance of Way Repair Facilities

Before moving any equipment, a job briefing will be conducted between all involved in the move which must include a thorough understanding of what will happen and what hand signals or radio communication will be used.

- Cars must be coupled or secured to the locomotive, car mover or equipment, unless Repair Facility car moving systems are designed for other operation.
- Maximum speed must not exceed 5 mph.
- If hand signals are used, and the person giving signals disappears from view, movement must be stopped (see Rule 5.3.3, Signal Disappearance). If radio communication is used, distance and direction must be specified (see Rule 6.5 Shoving Movements. ~~5.3.7 Radio Response 2.13 In-Place of Hand Signals~~).

## **System Special Instruction**

### **81.10: Moving Equipment in Locomotive, Car, or Maintenance of Way Repair Facilities**

In third bullet change rule reference at end to (see Rule 6.5 Shoving Movements. ~~5.3.7 Radio Response~~).

## **General Order**

### **81.10: Moving Equipment in Locomotive, Car, or Maintenance of Way Repair Facilities**

In third bullet change rule reference at end to (see Rule 6.5 Shoving Movements).

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#### **81.10.1: Using Mobile Equipment**

When using Trackmobile, car mover or other work equipment as the prime mover:

- Cars will be inspected for safety defects prior to movement. If defects are found that prevent safe movement, corrective action must be taken to prevent derailment or further damage.
- The operator or groundman will notify all affected employees, including others moving cars and/or locomotives, prior to movement. Car(s) will be inspected for persons on, under or between before coupling.
- When coupling to cars the operator or groundman must observe that coupler pin has dropped before movement. Cars left standing must be properly secured (Rule 32.1).
- Pedestrian and vehicular crossings will be cleared prior to movement. A groundman will ensure that vehicles or pedestrians do not foul the move.
- A groundman must be in a position to protect the movement when the operator is not pulling the cars. The groundman must remain in plain sight on the operator's side. If visual contact is lost between operator and groundman, all movement must stop.

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#### **81.10.2: Using Locomotive**

When locomotive is used as the controlling unit, either single, as multiple coupled units, or a locomotive consist:

- If the operator is in the lead unit with the controlling cab facing the direction of movement, protection for the movement is not required if the operator can visually determine that there are no obstructions and the move can be made safely.
- If the operator is not in the lead unit with the controlling cab facing the direction of movement, protection for the

movement is required and an attendant must be positioned on the end of the locomotive in the direction of movement or a groundman positioned ahead of the move to be able to visually determine there are no obstructions in the direction of movement and the movement can be made safely.

- When a spotting operation involves movement of less than ten feet, the movement may be made without a groundman ahead of the movement.
- When making coupling, attendant must stop movement and be on the ground when coupling is made.
- After coupling to other equipment, stretch the slack to ensure the coupling was made.
- After movement is complete, secure all locomotives and/or equipment as per operating rules. Follow applicable shut-down policy.

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### 81.10.3: One Person Operations

Where one person is employed or is the only employee available to move locomotives or cars. Movement may be made as follows:

1. Ensure that the area is protected in accordance with Rule 5.13, Blue Signal Protection for Workmen.
2. Determine by visual inspection that no person is on, under or between the equipment. Confirm that no personnel or rolling equipment will enter track where move is to be made.
3. Determine by visual inspection that other equipment or structures will not be struck, or insufficient clearances created, by moving locomotives or equipment.
4. On locomotives, place the independent brake valve handle in the service zone and make a visual inspection to ensure that brakes apply. After ensuring that brakes are operational on the controlling unit, release hand brakes.
5. Turn on headlight to the front and rear when possible.
6. On locomotives, ring the bell before moving and during the entire movement.
7. Sound the whistle prior to moving, when reversing direction of movement, when approaching crossing and when employees or others are seen within the area of movement.
8. Operate the locomotive or controlling equipment facing the direction of movement whenever possible. Stop before coupling and then proceed to make coupling.
9. After coupling to other equipment, stretch the slack to ensure the coupling was made.
10. Do not make movements farther than the distance inspected in steps 2 and 3 above, unless additional visual inspections are completed.
11. After movement is complete, secure all locomotives and/or equipment as per operating rules. Follow applicable shut-down policy.

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### 81.11: Hand Brake

When operating hand brake inspect for defects. Use good body mechanics. Have firm footing and hand hold to prevent slipping, falling or injuries (e.g., sprains, strains). When applying or releasing wheel type brake, thumb must be positioned on the outside of the wheel.

**End-mounted brake on equipment equipped with a brake step or platform** and locomotive hand brake must be applied or released from a position on the equipment. When climbing on equipment maintain at least a three point contact. Three-point contact consists of both feet and one hand or both hands and one foot touching the equipment. Do not place both hands on the brake wheel.

**Side-mounted hand brake** on equipment may be operated from the ground provided the brake mechanism is within easy reach and you are able to use good body mechanics while operating them.

**End-mounted hand brake** on TOFC/COFC and similarly configured cars may be operated from the ground provided the brake mechanism is within easy reach and you are able to use good body mechanics while operating them. ~~without brake steps or~~

~~crossover platforms may be operated from a position on the ground at the side of the car.~~

**Horizontal wheel (staff) hand brake** on any car, and end-mounted inward facing hand brake on TOFC/COFC cars, must be operated from a position on the car.

Hand brake must not be applied or released from the ground when car is in motion. The use of a brake club, bar or other material to apply or release the brake is prohibited.

In addition, **do not**:

- use end ladders to go up or down the car,
- brace any part of your body against another car,
- place feet in a wheel or on a hand brake lever or pawl,
- hold brake tension on a moving car by hand without using a pawl and ratchet,
- place undue strain on your body which may cause physical injury.

## System Special Instruction

### 81.11 Hand brakes

**Under End Mounted Hand Brake change to read:**

End-mounted hand brake on TOFC/COFC and similarly configured cars may be operated from the ground provided the brake mechanism is within easy reach and you are able to use good body mechanics while operating them.

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#### 81.11.1: Releasing Hand Brake

Use caution when releasing hand brake. Obtain help when necessary. Avoid being struck by the brake wheel when the pawl is released. Avoid having clothing or hand caught in a spinning brake wheel.

When unable to release a hand brake that has been set after an air brake application, if possible, follow this procedure:

- Recharge train line pressure of the car.
- Reapply air brake (to relieve tension on the hand brake chain).
- Release the hand brake by hand.

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#### 81.11.2: Difficult or Defective Hand Brake

If hand brake is difficult to operate, or if it is defective or damaged such that it does not function properly, do not attempt to operate it. Report the defective brake to proper authority and attach a bad order tag to hand brake wheel or lever.

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#### 81.11.3: Brake Sticks



Brake Sticks approved by the company may be used to operate:

- Hand brake wheels. Brake Sticks less than 5 feet in length may not be used to reach across drawbar to operate hand brake wheel.
- Knuckles.
- Angle cocks located on the side nearest where you are standing.

Rule 81.5.4 "Understanding Between Crew Members Before Crossing Through or Fouling Equipment" must be complied with if any part of your body will break the plane of the car to perform any of these tasks.

Safety Precautions when using brake sticks:

- Car must be stopped.
- Work from the field side rather than between adjacent tracks when possible.
- The handle can easily foul an adjacent track, so be alert to keep clear of moving equipment.
- Using the hand brake quick release is prohibited.
- Never place the butt of the brake stick against your body.
- Do not climb or cross equipment with the brake stick in your hand.

~~Brake Sticks approved by the company may be used to operate handbrakes.~~

~~Operation:~~

- ~~Adjust the stick to the desired length by loosening the locking mechanism and clicking the extension notch into position.~~
- ~~When tightening the locking mechanism, make sure the indicator ring is flush with the bottom of the locking mechanism to ensure the brake stick is both aligned with the extension notch and fully engaged.~~
- ~~Place the hook to the outside of the wheel, not inside between the wheel and the car, to avoid the hook from being caught.~~

~~Safety Precautions:~~

- ~~Never walk backwards when using a brake stick.~~
- ~~When practicable, work from a location to the field side rather than between adjacent tracks.~~
- ~~The long handle can easily foul an adjacent track so be alert to keep clear of moving equipment.~~
- ~~Never operate a quick release brake by the handle.~~
- ~~Never place the butt of the brake stick against your body. Keep it at the side to ensure, in the unlikely event of a kick-back, the end will not strike you.~~
- ~~Pass the brake stick through equipment, do not climb or cross equipment with the brake stick in your hand.~~

## **General Order**

### **81.11.3 Brake Sticks**

Change entire rule to read:

Brake Sticks approved by the company may be used to operate:

- Hand brake wheels. Brake Sticks less than 5 feet in length may not be used to reach across drawbar to operate hand brake wheel.
- Knuckles.
- Angle cocks located on the side nearest where you are standing.

Rule 81.5.4 "Understanding Between Crew Members Before Crossing Through or Fouling Equipment" must be complied with if any

part of your body will break the plane of the car to perform any of these tasks.

Safety Precautions when using brake sticks:

- Car must be stopped.
- Work from the field side rather than between adjacent tracks when possible.
- The handle can easily foul an adjacent track, so be alert to keep clear of moving equipment.
- Using the hand brake quick release is prohibited.
- Never place the butt of the brake stick against your body.
- Do not climb or cross equipment with the brake stick in your hand.

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## 81.12: Wheel Chocks

Use wheel chocks where required. When installing or removing wheel chocks, keep all parts of your body outside of the rail and avoid pinch points.

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## 81.13: Coupling and Uncoupling

Local instructions may be issued requiring movement to stop before coupling is made.

When couplings are being made:

- Stand in the clear when a coupling or uncoupling is being made.
- Stop the movement before coupling if instructions require or when necessary to ensure couplers are in proper alignment and knuckle is open.
- Ensure couplers are in proper alignment and knuckle is open.

Do not:

- Ride the side of cars to point of impact.
- Use your feet to operate the uncoupling lever.
- Use excessive force or jerk on the uncoupling lever which may cause physical injury.
- Operate an uncoupling lever on a car or engine while riding on another car or engine.

~~do not ride the side of cars to point of impact. Stand in the clear when a coupling or uncoupling is being made.~~

~~Operate the uncoupling lever with hand next to equipment and face direction of movement. Do not use your feet to operate the uncoupling lever.~~

~~Do not use excessive force or jerk on the uncoupling lever which may cause physical injury. Do not operate an uncoupling lever on a car or engine while riding on another car or engine.~~

Be alert for pinch points. Always place your hand on portion of uncoupling lever that is designed as the handle.

Use the uncoupling lever to open knuckles when possible.

If you must use hands to open the knuckle on standing equipment, keep both feet from between the rails if possible. During coupling operations, separate equipment at least 50 ~~100~~ feet and stop equipment before reaching in. Make sure the knuckle pin is in place before putting your hand on the knuckle.

When air hose is charged turn your face away from the air hose while uncoupling (see Rule 81.13.8, Coupling and Uncoupling Hoses).

## System Special Instruction

### 81.13: Coupling and Uncoupling

#### Change rule to read:

Local instructions may be issued requiring movement to stop before coupling is made.

When couplings are being made:

- Stand in the clear when a coupling or uncoupling is being made.
- Stop the movement before coupling if instructions require or when necessary to ensure couplers are in proper alignment and knuckle is open.
- Ensure couplers are in proper alignment and knuckle is open.

Do not:

- Ride the side of cars to point of impact.
- Use your feet to operate the uncoupling lever.
- Use excessive force or jerk on the uncoupling lever which may cause physical injury.
- Operate an uncoupling lever on a car or engine while riding on another car or engine.

Be alert for pinch points. Always place your hand on portion of uncoupling lever that is designed as the handle.

Use the uncoupling lever to open knuckles when possible.

If you must use hands to open the knuckle on standing equipment, keep both feet from between the rails if possible. During coupling operations, separate equipment at least 100 feet and stop equipment before reaching in. Make sure the knuckle pin is in place before putting your hand on the knuckle.

When air hose is charged turn your face away from the air hose while uncoupling (see Rule 81.13.8, Coupling and Uncoupling Hoses).

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### 81.13.1: Going between Cars

Do not go between or in front of a moving engine or car to arrange knuckles or couplers, to manipulate other appliances or for any other reason.

When it is necessary to separate equipment to make adjustments, the following applies:

- Separate the equipment at least 100 feet.
- Allow the slack to adjust.
- ~~Apply sufficient hand brakes on the portion not coupled to the locomotive to prevent movement. However, on tracks where cars are likely to roll together, at least two hand brakes must be applied.~~  
On tracks where cars are likely to roll together, apply sufficient hand brakes, but not less than two, on the unattached portion to prevent movement before going between cars.

## System Special Instruction

### 81.13.1 Going between Cars

#### Change last bullet to read:

- On tracks where cars are likely to roll together, apply sufficient hand brakes, but not less than two, on the unattached portion to prevent movement before going between cars.

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### 81.13.2: Coupler and End Sill

Do not place any part of the body on or between a coupler and car end sill, even if the car is equipped with standard draft gear arrangements, sliding sill arrangements, or an end-of-car cushioning device.

When near cars equipped with movable center sills take precautions to avoid injury in case of movement, even though the car is standing.

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### 81.13.3: Coupler Adjustment

When necessary to make a coupler adjustment:

- separate equipment at least 100 feet and equipment must be stopped,
- when manually adjusting couplers, carefully follow the procedures outlined in ~~Rule 75.4~~ 70.4, Lifting and Moving Materials,
- avoid lifting the full weight of couplers,
- do not kick or use your foot to make a coupler adjustment,
- coupler must move without applying excessive force. (If unable to make the adjustment using reasonable force use a Knuckle-Mate or coupler alignment strap, if available.)

## System Special Instruction

### 81.13.3 Coupler Adjustment

Rule reference number in second bullet should be 70.4.

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### 81.13.4: Using a Knuckle-Mate

When using a Knuckle-Mate to adjust a mis-matched coupler, the following procedure must be used:

1. Separate the mis-matched couplers at least 100 feet then close the knuckle of the coupler or couplers that need adjustment.
2. Place the Knuckle-Mate over the top of the knuckle, making sure the central pin is securely in the hole of the knuckle (pin may be adjusted by loosening the levered nut).
3. Assume a braced position with both hands on the handle.
4. Exert a steady pull on the handle, being careful that an unexpected movement of the coupler does not cause overbalance.
5. When couplers are properly aligned, remove the Knuckle-Mate, open at least one knuckle, stand clear of the equipment and proceed with the coupling.
6. Return the Knuckle-Mate to its assigned location.

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### **81.13.5: Using a Coupler Alignment Strap**

When using a coupler alignment strap to adjust misaligned couplers, the following procedure must be used.

1. Separate the cars with mis-aligned coupler(s) at least 100 feet.
2. Apply sufficient hand brakes to secure the car(s) not coupled to the engine.
3. Close knuckles on both cars and check that the locking blocks have dropped.
4. Check for large burrs on the knuckle surfaces that could cut or damage the nylon material of the strap. If a burr or other defect is discovered that would damage the strap, change the knuckle or notify mechanical personnel for assistance.
5. Place one loop on the strap inside the closed knuckle on the mis-aligned coupler. Lay the remaining strap material on the top of the coupler shank.
6. Move the equipment together until the couplers are about three feet apart.
7. Keeping one foot outside the rail, place the remaining strap loop inside the closed knuckle of the coupler to be used for pulling.
8. Stand clear of the track and the alignment strap.
9. Move the engine very slowly in the direction that tightens the strap until the coupler is centered.
10. Move the engine in the direction, that puts slack back into the strap, until about three feet separates the equipment.
11. Keep one foot outside the rail. Lift the uncoupling lever to open the knuckle and remove the strap.
12. Remove the strap from the other knuckle.

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### **81.13.6: Replacing Knuckles**

Use the correct knuckle type:

1. Keep your feet clear of the area under the coupler to the extent possible, make sure the knuckle pin is in place, then open the knuckle.
2. Remove the pin and place within easy reach.
3. Remove the knuckle from the coupler and holding it as close to the body as possible, dispose of it where it will not become a tripping hazard.
4. Holding the uncoupling lever up, move the knuckle thrower back into the coupler recess as far as it will go.
5. Use good body mechanics and lift the knuckle and place it into the coupler pocket.
6. Insert the knuckle pin into the pin hole, close the knuckle and check to see that it locks properly. Do not close it with your foot.

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### **81.13.7: Opening Angle Cock**

Do not kick, strike or shake pressurized hose couplings. Turning angle cock on moving equipment is prohibited.

Before opening the angle cock to an uncoupled air hose:

1. Grasp the hose at the glad hand, clear of the vent port.
2. Brace the glad hand firmly against your thigh just above the knee with vent port directed away from you.
3. Turn your face away from the glad hand before opening the angle cock.

When opening angle cock the following procedure must be used:

1. Open angle cock slowly. Do not use excessive force.
2. Keep your legs and feet clear of the air hose coupling.
3. Listen for air escaping, which will indicate a faulty coupling which may fly apart.
4. If an air leak is heard, close both angle cocks and make sure the pressure in the hoses is fully depleted before attempting adjustment or repair.

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## 81.13.8: Coupling and Uncoupling Hoses

When coupling and uncoupling hoses the following applies:

- Avoid being struck or burned when coupling air hoses or steam connections.
- Before coupling or uncoupling air hoses by hand, or before operating angle cocks, have a clear understanding with the engineer and other crew members as to the work to be performed.
- When coupling air hoses together or uncoupling air hoses by hand, keep one foot outside the rail and place the other inside the rail. However, when coupling high air dump hoses on cars so equipped, it is permissible to place both feet between the rails. Be prepared to step out should the equipment move.
- When necessary to part air brake train line hose connections ~~or locomotive control connections~~, close the angle ~~or cutout~~ cocks, grasp the hoses firmly, and turn your face away while making the uncoupling.
- When separating locomotives allow air hoses to pull apart with the movement of the locomotives.

### System Special Instruction

#### 81.13.8: Coupling and Uncoupling Hoses

**Change rule to read:**

When coupling and uncoupling hoses the following applies:

- Avoid being struck or burned when coupling air hoses or steam connections.
- Before coupling or uncoupling air hoses by hand, or before operating angle cocks, have a clear understanding with the engineer and other crew members as to the work to be performed.
- When coupling air hoses together or uncoupling air hoses by hand, keep one foot outside the rail and place the other inside the rail. However, when coupling high air dump hoses on cars so equipped, it is permissible to place both feet between the rails. Be prepared to step out should the equipment move.
- When necessary to part air brake train line hose connections, close angle cocks, grasp the hoses firmly, and turn your face away while making the uncoupling.
- When separating locomotives allow air hoses to pull apart with the movement of the locomotives.

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## 81.14: Dump Cars

When dumping loads or working around dump doors:

- Before opening the dump door on a car, ensure that all persons are clear on both sides and that no one is inside the car.
- Do not close dump doors of empty cars while cars are in motion.
- Do not be on or inside cars when it is necessary to "shake" or "bump" cars to loosen gravel or other material.
- Do not ride in air dump cars.

Note: See Rule 1.35, *Dump Doors*.

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## 81.15: Car Doors

When opening or closing doors, keep fingers clear of the edge or door jamb, casting or rail on which the door travels. Keep your body clear of the door opening to avoid injury from falling freight.

Check box car doors for damage by thoroughly inspecting the top and bottom track and rollers. On plug doors examine the roller assembly, locking rods and all crank arms. Make sure the door is properly tracked before opening it. If the door is off track, take necessary precautions before opening it. If there is evidence of load shift, i.e. bulging door, take action to relieve the pressure on the car door before opening it. Guard against spinning or kicking of handles.

Do not move car, without door stops in place, unless the door has been secured by other means to prevent movement of the door.

Close and open doors with a mechanical device if normal force used by one person cannot accomplish the task. Use of excessive force is prohibited. Always position yourself in the clear, should the door fall, and be prepared for any sudden movement of the door. Use proper body positioning to prevent injury.

Train service employees should not attempt to close plug or swinging type doors. If a plug door is found open enroute, car may continue in the train to the next location where mechanical forces are available to close the door.

### System Special Instruction

#### 81.15 Car Doors

##### Add paragraph:

Train service employees should not attempt to close plug or swinging type doors. If a plug door is found open enroute, car may continue in the train to the next location where mechanical forces are available to close the door.

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## 81.16: Load Dividers

Inspect the load dividers on a railcar carefully before operating to be certain load divider is properly tracked. The upper and lower crane rails must be free of defect that could derail or hinder load divider operations. If load divider is off track or safety straps are not in place, necessary precautions must be taken to safeguard its use. Do not push or move the door into an area that has not been inspected or is not properly tracked.

Operators should position their body to prevent injury in the event of unsuspected movement, falling or stopping of load divider. While operating load dividers, fingers must be kept clear of pinch points and feet clear of gate swing to avoid foot injury.

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## 81.17: Cars Being Loaded or Unloaded

Personnel who load or unload cars are responsible to:

- Remove and clear platforms, boards, tank car couplings and connections, conveyers, loading or unloading spouts, similar appliances or connections, vehicles and other obstructions.
- Ensure plug-type and swinging doors on cars are closed.
- Make sure persons in, on or about cars have vacated cars before allowing switching.
- Avoid damaging lading of partly loaded cars.
- If cars are equipped with bridge plates, raise and lock the plates.

**Preventing Uneven Loads.** When loading or unloading cars, take precautions to prevent the load from becoming unevenly distributed which may cause the car to overturn or derail.

Do not handle cars with improper or uneven loads if the load could shift or fall from the car or the car could derail or overturn.

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## 81.18: Loading Roadway Equipment

Observe loading rules when loading and securing roadway equipment, cranes, dragline or other similar equipment loaded on cars.

At stations where Car Department personnel are not available, cars loaded with roadway machinery must be inspected and must not be moved until authorized by the train dispatcher. The train dispatcher must not authorize movement until receiving advice that the cars are loaded according to loading rules and are safe for movement. The train dispatcher must request Car Department personnel at the first inspection point enroute.

Cars loaded with roadway equipment must receive frequent inspection enroute and must be inspected by Car Department personnel at the first station they are available.

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## 81.19: Air Brake Rigging

When working on the air brake rigging of ~~locomotives~~, cars or other equipment, except locomotives, the air brakes must be cut out and the air reservoir must be drained until repairs are completed.

### System Special Instruction

Change rule to read:



When working on air brake rigging of cars or other equipment, except locomotives, the air reservoir must be drained until repairs are completed.

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## **81.20: Moving In and Out of Equipment or On Equipment**

Always use door handles or grab irons to open and close doors. Wind and slack action will often cause the doors to slam shut. Face the door and keep hands and fingers clear of door edges and door jams. Always use grab irons, railing or other secure fixtures to prevent being thrown about.

When entering equipment be observant, allow eyes to adjust to changing light level. At night turn on interior lights, if available, and use a light in areas of low visibility (see Rule 80.6, Working At Night Or Low Light Level). When entering equipment be prepared for missing floor panels (see Rule 81.21.3, Locomotive Cab Floor). Equipment varies in step and ladder arrangement. Know your equipment. Do not allow tools, chains or other items to be placed where you have to step.

When entering equipment be prepared for electrical or other compartment doors that may have been left open. Keep all electrical and other compartment doors securely latched when locomotive is under load, except when locomotive forces are conducting load tests. Report all defective latches and doors that will not stay closed.

If you observe oil or other foreign substances on ladders, steps or walkways, warn other employees and if practicable, avoid using that part of the equipment until the condition is corrected. Be sure you report it properly if you cannot correct it yourself.

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## **81.21: Locomotives, Working On or About**

The generator field switch must be in the "OFF" position while working on or inspecting the main generator or power circuits on diesel locomotives. On multiple unit locomotives, the power plant must be isolated from control. When traction motors are to be inspected, the generator field switch must be "OFF", the throttle closed, the reverser handle removed and the air brakes set. At locations other than established inspection or shop locations, the employee making the inspection must carry the reverser handle with him while making the inspection and tag the control stand "out of service".

Do not repair any switches, contactors or relays on locomotives without first shutting down the diesel engine and opening the control switch and the main battery switch. Do not attempt repairs on switches, contractor relays or related electrical apparatus without first shutting off all power. A volt meter must be used to ensure all current has been disconnected before starting repairs.

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### **81.21.1: General Requirements**

While working on or about locomotives:

- know that all workmen are in a safe position before starting an engine,
- keep safety guards in position and fastened,
- keep hands out of radiator shutters and all other equipment that engage automatically.
- keep engine room, cab, running boards, catwalks, steps and grab irons clean and free from oil, grease, rags, debris, obstructions, snow, ice, sand, etc,
- place material or equipment on locomotives where it will not create a hazard while being transported.

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## 81.21.2: Restrictions

### Do not:

- put face or hands near the main generator or any high-voltage equipment while it is working under load,
- smoke or have an open flame in the engine room,
- pull fuses while they are under load,
- open ground relay protective knife switches when ground relay is tripping,
- manually operate high-voltage contactors while the engine is in motion, even though the power plant supplying that particular cabinet is shut down,
- use hands, feet or improvised objects to close or open contacts while under electrical load,
- open high-voltage cabinet when the engine is under load.

**EXCEPTION:** This does not apply to mechanical forces for inspection purposes.

After performing engine maintenance, make sure no tools are left lying near electrical or rotating equipment.

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## 81.21.3: Locomotive Cab Floor

If necessary to remove floor boards for inspection or repair purposes:

- "Danger Floor Out" sign must be placed at each door to the locomotive cab at all times when the floor board(s) are removed.
- Floor board(s) should be replaced when leaving the cab. If it is not practical to replace the floor boards due to work in progress and there is potential for anyone entering the cab, the cab doors must have yellow caution tape tied across the door openings. If available, a flashing red strobe light may also be left in the locomotive cab.
- If possible, locomotive cab lights should be left on so the opening is visible.
- Floor board(s) must be replaced when work is complete.

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## 81.22: Securing Supply Apparatus

When supplying a train with fuel, water and/or sand, replace and secure the apparatus in a position clear of tracks.

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## 81.23: Lockout Protection Required

Lockout protection must be provided before beginning work activities that require protection for employees or contractors not governed by other lockout protection rules as follows.

### A. Effective Lockout Protection

Line the switch away from movement or place a derail at least 150 feet (50 feet if track speed is 5 MPH) from end of rolling equipment and secure the switch or derail with an effective locking device. The derail or switch must be able to restrict access to the portion of track where work is being performed.

### **One Locking Device.**

Use one locking device if the employees being protected:

- Are assigned to work together as a unit under a common authority.
- Communicate with each other while working.

### **Additional Locking Devices.**

If more than one working group exists, the employees must communicate and apply an additional locking device to the derail or switch.

### **B. Red Flag**

At each lockout position, display a red flag that can be clearly seen during the day. At night, display a red light with the flag.

Do not place a derail or switch in the lockout position until red flag protection is in place. Do not remove the red flag protection until lockout protection is removed.

### **C. Common Authority**

Common authority must be established. The person or persons in authority must:

- Communicate with all employees being protected by a red flag and lockout device.
- Control the red flag and the only keys to the lockout protection.
- Be responsible for the safety of all employees in the working area.

Do not work on the track or railroad rolling equipment until both ends of the track have a red flag and lockout protection.

### **D. Derails**

Derails that are used in conjunction with worker protection must be in the derailing position with proper flag displayed only when their use is required for such protection. When their use is not required for protection:

- Remove portable derails, then remove flag.  
or
- Lock fixed derails in non-derailing position with an effective locking device, then remove (take down) flag.

## **System Special Instruction**

### **81.23 Lockout Protection Required**

**Add the following:**

D. Derails

Derails that are used in conjunction with worker protection must be in the derailing position with proper flag displayed only when

their use is required for such protection. When their use is not required for protection:

- Remove portable derails, and then remove flag.
- or
- Lock fixed derails in non-derailing position with an effective locking device, and then remove (take down) flag.

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Updated: 10/21/2011

## 82.0: HANDLING SWITCHES AND DERAILS

- [82.1: Switches and Derails - Authority](#)
- [82.2: Operating Switch by Hand](#)
- [82.3: Switch Operation](#)
- [82.4: Defective Switches](#)
- [82.5: Spiked Switches](#)
- [82.6: Operating High/Low-Stand Switch](#)
- [82.7: Operating Lever-Action Switches](#)
- [82.8: Switch Point Locks](#)
- [82.9: Spring Switch](#)
- [82.10: Power Switch](#)
- [82.11: Switch Heaters](#)

### 82.1: Switches and Derails - Authority

Unauthorized persons must not unlock or handle switches or derails.

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### 82.2: Operating Switch by Hand

When switch is to be operated by hand, equipment must not pass the following limits:

#### Trailing Point movement:

- Stop movement not less than 50 feet from switch points to prevent tension being placed on switch points and switch handle.

#### Facing Point movement:

- Stop movement a sufficient distance from switch points to prevent binding of switch points.

Facing point movement is moving into the switch points or making movement from the switch points into the body of the switch. Trailing point movement is moving through the switch in the opposite direction.

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### 82.3: Switch Operation

Switches have different physical operating characteristics. Be familiar with the procedures for properly lining each type of switch. Always remember that the ease with which a switch operates will change depending on weather, temperature, maintenance, and other operating conditions.

Before operating a switch or derail:

1. Look in both directions and be alert for moving equipment on adjacent tracks.
2. Before lining the switch, visually inspect it, and make sure it is not damaged, locked, tagged or spiked and that points are not obstructed by ballast, ice, snow, or other material which may interfere with the normal movement of switch points.
3. If necessary to remove foreign material between the switch point and stock rail, use a broom, stick or similar object. Do not use your hand or foot for this purpose. If the switch is spiked, do not attempt to operate it.
4. Always take a firm stance and be alert for conditions which may cause loss of footing.
5. While handling a switch or derail, keep hands and feet clear to avoid being caught or struck by the switch lever handle or ball.

Note: See *Rule 8.2, Position of Switches*.

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## 82.4: Defective Switches

When any switch is found hard to operate, defective, or in need of maintenance, do the following:

- Take the switch out of service.
- Report the switch to the proper authority, including its exact location and problem.
- Tag the defective switch with a warning tag describing the defect.

The switch must remain out of service until an inspection and repairs can be completed.

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## 82.5: Spiked Switches

Apply a "Switch Out of Service" tag to any inoperable switch or switch requiring maintenance. Spike switch when necessary.

**CAUTION: Do not rely solely on tags for identifying spiked switches. Report the switches to a supervisor or train dispatcher.**

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## 82.6: Operating High/Low-Stand Switch

Do not use your feet to operate this type of switch or secure the handle.

**CAUTION: The switch handle may be under compression and may swing around when released from the keeper slot.**

When operating a high/low stand switch:

1. Lift up on the switch handle, keeping the body clear of handle movement.
2. Pull the handle slowly through its arc of travel. Expect that the switch may suddenly operate in either an easy or stiff manner. Always keep firmly braced and do not exert unnecessary force.

3. Do not jerk the handle and avoid placing the body in a twisted or awkward position. Reposition feet as necessary to maintain good body mechanics. Use leg muscles instead of back muscles.
4. When switch is in the desired position, fully insert the handle into the keeper slot.
5. Once the handle is down, secure it with a lock or hook, when available.

Use either the two-hand or the mast-support method to lift the lever handle out of the base.

## Two-Hand Method

When using the two-hand method:

1. Stand facing the switch stand and place both hands near the end of the handle.
2. Lift up the switch handle, keeping your back as straight as possible and your legs slightly bent.

## Mast-Support Method

When using the mast-support method:

1. Place one hand on the mast and the other hand on the end of the handle.
2. Stand parallel to the handle and slowly pull the handle through the line of travel.
3. After completing the move, stand as close to the handle as possible, leaving room for the handle to clear the body, and push the handle down.

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## 82.7: Operating Lever-Action Switches

When operating a lever-action switch:

1. Take a firm stance and be alert for conditions that might cause loss of footing.
2. Stand parallel to handle movement, with your stance centered over the lever arm handle. If the switch is equipped with a foot latch, keep your foot on the latch until you move the lever toward the one-half position.
3. Hand or other object must not be used to release latch. The switch lever may be under compression and could fly up when released from the latch or keeper.
4. Stand as close as possible to the lever arm, placing one hand on your knee or on top of the switch staff for support.
5. Place your other hand on the handle and lift up slowly and smoothly.
6. Once the lever has traveled at least to the straight up position, reposition your feet and hands so that lever movement may be completed with a pushing motion.
7. On switches where movement is completed in close proximity to the ground, it is permissible to use one foot to complete the last 6 inches of movement, provided that good balance is maintained. Place one foot near the end of the lever and step down until the lever arm is latched.

**CAUTION: Avoid using your feet to push the lever arm down during wet, ice, or snow conditions, or if oil, grease, or other such contaminants are present**

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## 82.8: Switch Point Locks

Switch point locks are installed on certain main track switches at the base of the rail and locked with a switch lock. Switches

equipped with this device are identified by:

- A sign on the switch stand, or
  - The switch handle or bottom portion of stand painted yellow.
1. To disengage the device, remove the lock and depress the foot pedal with your foot. This must be done before attempting to throw the switch. Do not use your hands to depress the foot pedal.
  2. To reengage the device, snap the switch point lock into locking position by returning the switch to the normal position. Inspect to assure the locking position before putting your hands near the switch point lock or replacing the padlock. If the switch point lock fails to snap into locking position, reopen the switch and repeat the process.
  3. If defects exist:
    - Do not attempt to pull the pedal by hand or other means.
    - Contact the train dispatcher and report the switch point lock defective. Attach an out-of-service or warning tag to the switch.

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## 82.9: Spring Switch

Do not manually operate a spring switch when springs are compressed by the wheels, except in an emergency. In an emergency, keep clear of the handle when it is released.

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## 82.10: Power Switch

Take precautions to avoid injury when working on power-operated, remote or automatic control, or interlocking switches, derails, or movable point frogs.

- Keep hands and feet clear of connections.
- Do not place hands or feet between switch point and stock rail without first isolating the switch against remote operation.

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## 82.11: Switch Heaters

Avoid contact with switch heaters or switch rails when heaters are operating.

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Updated: 4/28/2010



## 83.0: INTERMODAL RAMP RULES

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## 83.0: INTERMODAL RAMP RULES

**Note:** This chapter governs all Union Pacific Railroad clerical employees and any employee whose duties may include working within or close to intermodal facilities.

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### 83.1: General Intermodal Ramp Rules

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## 83.1.1: Reflectorized Clothing

Reflectorized tear away vests, coveralls or t-shirts must be worn outside other clothing by all personnel who work directly on the Intermodal Facility.

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## 83.1.2: Hearing Protection-Intermodal

Employees must wear hearing protection anytime they are within a radius of 25 feet of operating lift or transfer equipment. Hearing protection is not required for employees who are inside the cab with the cab doors and windows closed.

~~Groundmen must wear hearing protection while performing their duties. In all cases, hearing protection must be worn in compliance with the provisions of Safety Rule 71.2.~~

~~Properly approved hearing protection must be worn by all employees who work directly with lift equipment.~~

### System Special Instruction

#### Change rule to read:

Employees must wear hearing protection anytime they are within a radius of 25 feet of operating lift or transfer equipment. Hearing protection is not required for employees who are inside the cab with the cab doors and windows closed.

~~Groundmen must wear hearing protection while performing their duties. In all cases, hearing protection must be worn in compliance with the provisions of Safety Rule 71.2.~~

### General Order

#### 83.1.2 Hearing Protection - Intermodal

Delete the first sentence from second paragraph reading:

~~Groundmen must wear hearing protection while performing thier duties.~~

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## 83.1.3: Protection of Loading and Unloading Operations

Lock-out protection must be provided before loading and unloading activities begin.

### A. Effective Lockout Protection

#### 1. Line Switch

Line the switch away from movement or place a derail at least 150 feet (50 feet if track speed is 5 MPH) from end of rolling equipment and secure the switch or derail with an effective locking device. The derail or switch must be able to restrict access to the portion of track where work is being performed.

### **One Locking Device.**

Use one locking device if the employees being protected:

- Are assigned to work together as a unit under a common authority.
- Communicate with each other while working.

### **Additional Locking Devices.**

If more than one working group exists, the employees must communicate and apply an additional locking device to the derail or switch.

### **2. Display Red Flag**

At each lockout position, display a red flag that can be clearly seen during the day. At night, display a red light with the flag.

Do not place a derail or switch in the lockout position until red flag protection is in place. Do not remove the red flag protection until lockout protection is removed.

### **3. Red Signal Readily Visible to Engineer**

In addition to providing protection as required, before loading and unloading activities begin, when equipment is coupled to an engine or an engine is on the track being protected:

- A red signal (flag/light/tag) must be attached to the controlling engine and must be visible to the engineer or employee controlling the engine.
- On engines equipped for remote control operations, the control must be in manual. A red tag must be placed on the switch governing remote/manual operation.
- The engine with an attached red signal must not be moved.

### **4. Derails**

Derails that are used in conjunction with worker protection must be in the derailing position with proper flag displayed only when their use is required for such protection. When their use is not required for protection:

- Remove portable derails, and then remove flag.  
or
- Lock fixed derails in non-derailing position with an effective locking device, and then remove (take down) flag.

## **B. Common Authority**

Common authority must be established. The person or persons in authority must:

- Communicate with all employees being protected by a red flag and lockout device.
- Control the red flag and the only keys to the lockout protection.
- Be responsible for the safety of all employees in the working area.

Do not work on the track or railroad rolling equipment until both ends of the track have a red flag and lockout protection.

Line the switch away from movement or place a derail at least 150 feet (50 feet if track speed is 5 MPH) from end of rolling equipment and secure the switch or derail with an effective locking device. The derail or switch must be able to restrict access to the portion of track where work is being performed.

### **One Locking Device:**

Use one locking device if the employees being protected:

- Are assigned to work together as a unit under a common authority.
- Communicate with each other while working.

### **Additional Locking Devices.**

If more than one working group exists, the employees must communicate and apply an additional locking device to the derail or switch.

### **B. Red Flag**

At each lockout position, display a red flag that can be clearly seen during the day. At night, display a red light with the flag.

Do not place a derail or switch in the lockout position until red flag protection is in place. Do not remove the red flag protection until lockout protection is removed.

### **C. Common Authority**

Common authority must be established. The person or persons in authority must:

- Communicate with all employees being protected by a red flag and lockout device.
- Control the red flag and the only keys to the lockout protection.
- Be responsible for the safety of all employees in the working area.

Do not work on the track or railroad rolling equipment until both ends of the track have a red flag and lockout protection.

## **System Special Instruction**

### **Change rule as follows:**

Lock-out protection must be provided before loading and unloading activities begin.

### **A. Effective Lockout Protection**

#### **1. Line Switch**

Line the switch away from movement or place a derail at least 150 feet (50 feet if track speed is 5 MPH) from end of rolling equipment and secure the switch or derail with an effective locking device. The derail or switch must be able to restrict access to the portion of track where work is being performed.

#### **One Locking Device.**

Use one locking device if the employees being protected:

- Are assigned to work together as a unit under a common authority.
- Communicate with each other while working.

### **Additional Locking Devices.**

If more than one working group exists, the employees must communicate and apply an additional locking device to the derail or switch.

## 2. Display Red Flag

At each lockout position, display a red flag that can be clearly seen during the day. At night, display a red light with the flag.

Do not place a derail or switch in the lockout position until red flag protection is in place. Do not remove the red flag protection until lockout protection is removed.

## 3. Red Signal Readily Visible to Engineer

In addition to providing protection as required, before loading and unloading activities begin, when equipment is coupled to an engine or an engine is on the track being protected:

- A red signal (flag/light/tag) must be attached to the controlling engine and must be visible to the engineer or employee controlling the engine.
- On engines equipped for remote control operations, the control must be in manual. A red tag must be placed on the switch governing remote/manual operation.
- The engine with an attached red signal must not be moved.

## 4. Derails

Derails that are used in conjunction with worker protection must be in the derailing position with proper flag displayed only when their use is required for such protection. When their use is not required for protection:

- Remove portable derails, and then remove flag.  
or
- Lock fixed derails in non-derailing position with an effective locking device, and then remove (take down) flag.

## B. Common Authority

Common authority must be established. The person or persons in authority must:

- Communicate with all employees being protected by a red flag and lockout device.
- Control the red flag and the only keys to the lockout protection.
- Be responsible for the safety of all employees in the working area.

Do not work on the track or railroad rolling equipment until both ends of the track have a red flag and lockout protection.

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## 83.1.4: Speed Limits in Yards

Ramp tractors must be operated at a safe speed and observe stop signs. Other vehicles must observe posted speed limits and stop signs.

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## 83.1.5: Strobe Lights

All vehicles equipped will have headlights on and dimmed and four-way flashers on while operating. In addition, company and contractor vehicles assigned to the ramp, including ramp tractors and lift equipment, will display illuminated amber strobe lights.

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## 83.1.6: Live Equipment

Employees on the ground must maintain a sufficient distance from tractors, trailers, or any other equipment standing or moving.

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## 83.1.7: Overhead Lifting

At points where side loaders or cranes are used, do not walk between the trailer and flat car during any step of the loading or unloading cycle, except to raise or lower landing gear after all other movement has stopped.

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## 83.1.8: Lifting Arms

Groundmen must stay clear of lifting arms at all times. Do not go under a suspended trailer or container. When groundmen are utilized, they must be in the operator's view at all times when the operator is moving the side loader, crane or maneuvering the lift arms. If groundmen disappear from view, all movement must stop until visual contact is restored.

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## 83.1.9: Walkways

Walk only on the walkways provided. Do not walk on painted metal surfaces on the top of cars, except while applying or removing handbrake when the car is standing.

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## 83.1.10: Top Chords-Double Stack Cars

Do not walk on top chords of Double Stack cars.

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## 83.1.11: Getting On and Off Cars

Employees are permitted to get on and off standing articulated Intermodal cars by stepping on the truck bolsters provided:

1. The track is known to be protected by blue and/or red flags, and
2. The truck bolster is seen to be free of debris and moisture, and
3. The employees hands must be free while getting on or off cars.

## General Order

### **83.1.11: Getting On and Off Cars**

Change part 1 to read:

1. The track is known to be protected by blue and/or red flags, and

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### **83.1.12: Free Hands**

Hands must be free while getting on or off cars.

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### **83.1.13: Standing on Platform**

Do not stand on a platform or well of a car while that same platform or well is being loaded or unloaded.

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### **83.1.14: Crossing Platforms**

Cross from platform to platform using the walkways provided, but do not cross from car to car over the drawbars.

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### **83.1.15: Staying Clear of a Suspended Load**

Working, standing or walking under a suspended load is prohibited. Keep hands and feet clear of a suspended load.

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### **83.1.16: Riding on Intermodal Equipment**

Unless authorized, only the operator may ride in/on Intermodal Equipment, Packer or Crane while unit is moving.

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## **83.2: Trailer on Flat Car**

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### **83.2.1: Trailer Doors**

Close and secure trailer doors before moving or loading a trailer onto a flat car.

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### **83.2.2: King Pin**

While a trailer is being loaded, tie-down employees must visually inspect the trailer king pin to ensure that it is properly seated and secured in the hitch and that the diagonal strut is locked in the upright position, as evidenced by the hitch-lock indicators.

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### **83.2.3: Bogies/Chassis**

Before loading trailers with detachable bogies, make sure the pins securing the bogies to the trailer body are in place and locked. Before loading a container/chassis assembly, ensure that all chassis locks are in place and secure. Do not park bogies where they will protrude into roadways or where they are hazardous to passing vehicles or equipment.

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### **83.2.4: Electrical Wrenches**

Employees must ground electric screw wrenches properly. Extension cords must be no longer than 89 feet.

Wear rubber gloves when operating electrical wrenches in wet conditions.

Note: See *Rule 78.2, Electrical Cords*.

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### **83.2.5: Hitches**

Tie-down employees must stay clear of the diagonal strut of "pull-up" hitches to avoid injury in case the hitch is knocked down inadvertently. Do not manually open hitch jaws until ensuring that the diagonal-strut indicator shows "locked."

To lower a knockdown hitch properly, complete these steps, making sure to stand clear of the stanchion:

1. Stand on either side of the stanchion with your legs positioned to give solid support.
2. Using a sledge hammer, strike the unlocking knockdown lever located between the upper diagonal struts.
3. Make sure this action causes the knockdown lever to retract the diagonal locking plunger, causing the stanchion to fall.

If this procedure fails, "bad order" the hitch until a railroad maintenance employee repairs the hitch and returns it to service.

Do not use a pry bar to force the hitch down. Also do not place a bar between the locking plunger and the locking plate to try to retract the locking plunger

Anytime a locking mechanism does not work freely and requires excessive force, "bad order" the hitch and have it repaired before using the mechanism again.



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## **83.3: Container on Flat Car/Double Stack-Securement**

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### **83.3.1: Container Loading**

When containers without chassis are loaded on flat cars, inspect the containers and make sure all corners are secured and locked in the corner castings. When loading double stack cars, make sure the container interbox connectors are locked in the proper position.

Before releasing stack cars to be moved from the ramp, stow the interbox connectors in storage boxes.

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### **83.3.2: Chassis Stacks**

To secure the arms in the chassis stacks, complete these steps:

1. Center the mast over the chassis stack.
2. Lower the arms until the foot pads are below the bottom chassis.
3. Make sure the arms are lined between the tandems at each end.
4. Obtain four chains that are 12 feet long and made of 1/2 -inch alloy steel. Make sure the chains have a certified working rating of 11, which is 200 pounds or better.
5. Wrap one end of the chain completely around the arm just above the foot pad and hook the chain in place.
6. Take the other end of the chain and wrap it around the bottom chassis frame, pull the slack out of the chain, and hook the chain in place.
7. Repeat steps 5 and 6 on the other three arms.

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### **83.3.3: Side Spacers**

On Platform equipped with side spacers, the side spacers must be in the down position before loading 96 inch wide containers, and in the up position before loading 102 inch wide containers.

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### **83.3.4: IBC Storage**

Interbox Connectors (IBC) will be stored in the IBC box provided on each platform of a double stack car. IBC's must not be left on walkways or stored other than in the IBC box.

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### **83.3.5: Securing Containers**

Double stacked containers must be loaded using four (4) IBC's. All four (4) IBC's must be locked for the container to be secure. All containers that are positioned in a double stack car (bottom well loading only) shall have IBC's removed from the top of container before car is released for movement.

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### **83.3.6: IBC Hammer**

Use an approved IBC Hammer when locking or unlocking IBC's with short handles.

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Updated: 7/29/2011

## 90.0: POLICIES AND PROGRAMS

- [90.1: Drug and Alcohol Policy](#)
- [90.2: Bloodborne Pathogens Policy](#)
- [90.3: Smoking Policy](#)
- [90.4: Medical Rules](#)

### 90.1: Drug and Alcohol Policy

("In Part") (Effective April 15, 2004)

The purpose of the Union Pacific Drug and Alcohol Policy is to ensure compliance with applicable federal regulations and to establish policies, priorities, and objectives for the company's drug and alcohol control program. Compliance with the requirements of this policy is a condition of employment at Union Pacific.

Union Pacific prohibits any illegal use of a controlled substance, and any possession, use of, or impairment by alcohol when any employee is subject to duty, reporting for duty, on duty, or on Union Pacific property.

If an employee is in doubt as to whether an over-the-counter or prescription drug may have an adverse effect on alertness, coordination, reaction, response, or safety, the employee should take the following steps:

1. The employee's treating medical practitioner or any other medical practitioner who has evaluated the individual should make a good faith judgment in writing, with notice of the employee's assigned duties and on the basis of the available medical history, that the use of the substance by the employee at the prescribed or authorized dosage applicable is consistent with the safe performance of the employee's duties. A copy of this documentation must be available upon request; and
2. The substance must be used only in the manner and dosage, and for the purpose prescribed or authorized; and
3. In the event an employee is treated by more than one medical practitioner, at least one treating medical practitioner should be informed of all medications authorized or prescribed and should make a good faith judgment, in writing, that the combination of medications is consistent with the safe performance of the employee's duties. The employee must observe any restrictions imposed with respect to use of medications in combination.

**Note:** Every employee must recognize that the unauthorized use of another person's prescription is illegal and may cause a positive test result which would be a violation of Union Pacific's drug and alcohol testing policy.

The conduct of any employee leading to conviction of any misdemeanor or felony involving the unlawful use, possession, manufacture, distribution, dispensation, or transportation of any illegal drug or controlled substance is prohibited.

Employees convicted of any such misdemeanor or felony must notify their supervisor of that fact no later than the end of the first business day immediately following the day the employee receives notice of the conviction.

Certified locomotive engineers and remote control operators, whatever class of service, i.e., including hostlers, must report to the EAP any conviction for operating a motor vehicle while under the influence of or impaired by alcohol or a controlled substance. Report must be made either to the National Employee Assistance Help Line, (800) 779-1212, or to their supervisor, within forty-eight hours of the conviction.

Driving a motor vehicle owned, leased, or rented by the company, while under the influence of alcohol and drugs, both on or off Union Pacific property and both on or off duty, is prohibited. Any employee arrested, ticketed, or convicted for driving a motor vehicle owned, leased, or rented by the company under the influence of alcohol and / or drugs, must notify a supervisor as soon as possible, but no later than the end of the first business day immediately following the day the employee is arrested, ticketed, or convicted.

Union Pacific permits off-duty employees subject to duty, or called for duty, to layoff with an admission that they are under the influence of alcohol or drugs (illegal or legal).

All DOT certified drivers, including CMV operators, must notify a supervisor when their license has been revoked, suspended or withdrawn for any reason, including drug or alcohol-related revocations, within forty-eight hours.

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## 90.2: Bloodborne Pathogens Policy

Certain human bloodborne diseases, such as Hepatitis B and HIV (the virus that causes AIDS) can transfer from one human being to another in the workplace. This transfer occurs if workers are exposed to infected blood, bloody materials, or certain internal bodily fluids.

**Note:** Current evidence indicates that these diseases cannot be transmitted by urine, sweat, tears, nasal secretions, saliva, or feces unless blood is present.

### A. Actions that Cannot Transfer the Diseases

Current evidence indicates that employees cannot contract these bloodborne diseases by casual or social contact, such as:

- Shaking hands
- Hugging or kissing
- Crying
- Coughing
- Sneezing
- Sharing bed linens or towels
- Sharing eating utensils, or
- Sharing use of telephones, doorknobs, or tools

### B. Actions that Prevent Contracting the Diseases

To minimize the risk of contracting bloodborne diseases in the workplace, employees should comply with the following guidelines:

1. Wear latex or vinyl gloves when directly handling human blood, bloody materials, or bloody bodily fluids. After finishing, carefully remove gloves and wash hands thoroughly with hot water and soap.

**Glove Availability.** Appropriate gloves are available in supply or in company first aid kits. However, if a serious first aid incident occurs and gloves are not available, minimize exposure by using a heavy cloth or padding when responding to the injury.

2. Wear vinyl or latex gloves when cleaning up human blood from equipment or work areas. Use a 10-to-1 solution of tap water and regular bleach to clean the equipment or areas.
3. If using syringes/needles to self-administer allergy or insulin shots, do not dispose of the used needles in company trash containers, share the needles with other employees, or discard the needles on company property.

## C. Possible Exposure Occurs

If another person's blood is transferred to an employee on duty by entering a break in the employee's skin (rash, cut, abrasion, etc.) or entering a mucous membrane (mouth, nose, eyes), the exposed employee must report the incident within 72 hours. Employees must report the incident to the Health Services Department for any required evaluation and follow-up.

Employees do not need to report the incident if they are exposed to limited amounts of blood as follows:

- The exposed employee does not have a skin break in the exposed area.
- There was no puncture wound, or
- Another person's bloody fluids do not splash or transfer into the exposed employee's nose, mouth, or eyes.

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## 90.3: Smoking Policy

(Policy effective July 1, 2005)

### What Is It?

The purpose of this policy is to provide employees on Union Pacific Railroad Company with a work environment free from the potentially harmful effects of tobacco use.

### Why Was It Written?

Union Pacific Railroad Company intends to provide employees with a smoke-free work environment. This policy has been implemented because of the potentially harmful effects of tobacco use, in response to employee health concerns, and at the direction of senior management.

### What Are The General Provisions?

Smoking is prohibited at the following locations and activities:

- All Company property, whether owned or leased, including mechanical facilities, along the right-of-way, in office buildings, and all service unit facilities and yards.
- In or near building entrances and contiguous sidewalks.
- In locomotive cabs, cabooses, bunk cars, company vehicles, and similar equipment.
- Meetings held at off-site locations.

### Cessation Programs

Programs are available for employees who desire to quit smoking. Interested employees should contact the Health Promotion Staff at (402) 544-2442 or toll-free at (888-767-0169). Information is also available on the Wellness Programs [Health-Track Page Tobacco Cessation Options](#) page.

<https://employees.www.uprr.com/emp/ec/health/tobaccocessation.htm>

### Non-Compliance

Failure to comply may result in the assessment of discipline.

### For Further Information

- Questions concerning compliance with the Smoking Policy should be referred to your immediate Supervisor.
- Contact the Company Values Line at 1-800-998-2000.

- Contact the HR Customer Service Representative for your department.

## General Order

### 90.3 Smoking Policy

Change "Cessation Programs" information to read:

Programs are available for employees who desire to quit smoking. Interested employees should contact the Health Promotion Staff at (402) 544-2442 or toll-free at (888-767-0169). Information is also available on the Wellness Programs [Tobacco Cessation Options](#) page.

<https://employees.www.uprr.com/emp/ec/health/tobaccocessation.shtml>

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### 90.4: Medical Rules

The Medical Rules are established to determine employees' Fitness-for-Duty. Health and Medical Services determines "Fitness for Duty" as the medical and functional, (i.e., physical, mental, and cognitive) ability to:

- Safely perform a job, with or without reasonable accommodations, and
- Meet medical standards established by regulatory agencies in accordance with federal and state laws.

The Medical Rules apply to post-offer applicants and all employees. Application of these rules is based on regulatory requirements and safety standards established by Union Pacific.

[Medical Rules](#)

Issued 3/1/2011  
Latest 3/1/2011  
Reviewed 3/1/2011

[^Top](#)

Updated: 3/01/2011

# Glossary

- [Glossary](#)

## Glossary

### **Authorized**

The supervisor of an authorized employee has assured that the person under their direction has been qualified and is competent to perform their required work in a safe manner. Authorization in any other manner requires approval from another qualified person.

### **Body Mechanics**

Movement and positioning of the human body. A person that uses good body mechanics properly positions their body or parts of their body in relationship to tasks being performed, stabilizes movement, maintains good footing and grip, and avoids placing undue stress or strain on muscles, ligaments, and joints.

### **Fouling a Track**

Placement of an individual or a piece of equipment in such proximity to a track that the individual or equipment could be struck by a moving train or on-track equipment, or in any case is within 4 feet of the field side of the near running rail.

### **Fumes**

Minute solid particles arising from the heating of a solid.

### **Gases**

A state of matter which diffuses with other gases, uniformly distributes itself when in a container and changes state as a result of changes in pressure and/or temperature.

### **Groundman**

The person assigned to assist an operator in assuring a safe operation. This is the designated person to give signals.

### **Licensed**

Person has completed appropriate training and passed required examinations.

### **Operator**

The person at the controls of a tool, machine or piece of equipment.

### **Periodic Inspection**

Inspection conducted as required based on usage of equipment, severity of service conditions, experience gained as to need, but at least annually.

### **Qualified**

Person has been trained and instructed to perform the work in a competent and safe manner.

### **Red Zone**

Anytime an employee is working within an area where there is the potential to be struck by moving equipment, when required to work on under or between equipment, when working with or around machinery or when entering control operator/train dispatcher

work stations.

### **Toxic**

A substance that can potentially cause harm to the body.

### **Vapors**

The gaseous form of substances which are normally in a solid or liquid state.

### **Work Activities (working on the ground)**

TE & Y employees performing duties such as walking between adjacent parallel tracks, switching, inspecting, testing, repairing, or servicing equipment or components etc. Activities such as walking to and from a train, which would include getting on and off the locomotive, crew van or yard office, is not considered a work activity.

## **System Special Instruction**

### **Add:**

#### **Red Zone**

Anytime an employee is working within an area where there is the potential to be struck by moving equipment, when required to work on under or between equipment, when working with or around machinery or when entering control operator/train dispatcher work stations.

#### **Work Activities (working on the ground)**

TE & Y employees performing duties such as walking between adjacent parallel tracks, switching, inspecting, testing, repairing, or servicing equipment or components etc. Activities such as walking to and from a train, which would include getting on and off the locomotive, crew van or yard office, is not considered a work activity.

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Updated: 7/23/2010



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UNION PACIFIC RAILROAD

SYSTEM SPECIAL INSTRUCTIONS

**Effective Wednesday, April 7, 2010**

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This document supersedes:

Union Pacific Railroad  
System Special Instructions  
Effective June 22, 2009

# Safety Hot Lines

- [Safety Hot Lines](#)

## Safety Hot Lines

<b>NORTHERN REGION</b>			
David Barnes, Assistant Vice President Operations Shane Keller, Assistant Vice President Operations Dean Hagelstein, General Superintendent, HDC - <u>North</u>			
<b>Service Unit</b>	<b>Safety Hot Line</b>	<b>Superintendent</b>	<b>Headquarters</b>
01: Twin Cities	<a href="#">SHL Web Application</a> 651-552-3916	Rodney Doerr Lance Hardisty	St. Paul, MN
02: Chicago	<a href="#">SHL Web Application</a> 708-649-5130	David Giandinoto	Northlake, IL
03: Council Bluffs	<a href="#">SHL Web Application</a> 712-329-5277	Karol Burchfield	Council Bluffs, IA
04: St. Louis	<a href="#">SHL Web Application</a> See local instructions	Dan Witthaus	St. Louis, MO
05: Kansas City	<a href="#">SHL Web Application</a> 800-373-8192	Denis Corcoran	Kansas City, MO
13: North Platte	<a href="#">SHL Web Application</a> 308-535-4545	Chad Wilbourn	North Platte, NE
14: Denver	<a href="#">SHL Web Application</a> See local instructions	Kurt Zalar	Denver, CO
23: Commuter Ops	<a href="#">SHL Web Application</a> 630-562-7164	Arnold Robinson	Chicago, IL

## SOUTHERN REGION

Rich Castagna ~~Dan Shudak~~, Assistant Vice President Operations  
Brian McGavock, General Superintendent, HDC - South  
Mark Payne, Assistant Vice President, Spring Dispatching Center

Service Unit	Safety Hot Line	Superintendent	Headquarters
06: North Little Rock	<a href="#">SHL Web</a> <a href="#">Application</a> 501-373-2444	Monty Whatley	N. Little Rock, AR
07: Wichita	<a href="#">SHL Web</a> <a href="#">Application</a> 211-9990	Ruben Lopez	Wichita, KS
08: Livonia	<a href="#">SHL Web</a> <a href="#">Application</a> 866-896-7511	<u>Roger Lambeth</u> <del>Marc Syring</del>	Livonia, LA
09: Houston	<a href="#">SHL Web</a> <a href="#">Application</a> 211-0891	<u>Tom Lischer</u> <del>Brian McGavock</del>	Spring, TX
11: Ft. Worth	<a href="#">SHL Web</a> <a href="#">Application</a> 817-353-7488	Jeff Jones	Ft. Worth, TX
12: San Antonio	<a href="#">SHL Web</a> <a href="#">Application</a> 210-200-3504	<u>Mike Brazytis</u> <del>Brian Gorton</del>	San Antonio, TX

## WESTERN REGION

Cameron Scott, Assistant Vice President Operations  
Greg Garrison, General Superintendent, HDC - West

Service Unit	Safety Hot Line	Superintendent	Headquarters
16: Sunset Tucson	<a href="#">SHL Web</a> <a href="#">Application</a> 800-269-2060	<u>Lance Hardisty</u> <del>Andy Yedlick</del>	<u>El Paso, TX</u> <del>Tucson, AZ</del>
17: Utah	<a href="#">SHL Web</a> <a href="#">Application</a> 800-992-0945	<u>Neil Scott</u> <del>Thomas Lischer</del>	Salt Lake City, UT
18: Portland	<a href="#">SHL Web</a> <a href="#">Application</a> 503-249-2539	Pat Meriwether	Portland, OR
19: Roseville	<a href="#">SHL Web</a> <a href="#">Application</a> 916-789-6161	Ray Perry	Roseville, CA
20: Los Angeles	<a href="#">SHL Web</a> <a href="#">Application</a> 909-685-2655	<u>John Ready</u> <del>Rich Castagna</del>	Bloomington, CA

21: Pocatello	<a href="#">SHL Web Application</a> 211-1458	Jack Huddleston	Pocatello, ID
22: El Paso	915-534-3305	Andy Yedlick	El Paso, TX

**Operating Practices**

J. L. Breeden, General Manager - Operating Practices

M. S. Barnum, Sr. Director - Operating Practices & Rules – Ph 402-544-1050

Rules Manager	Phone Number	Service Unit
Ricky Carver Greg Fowler	402-501-4310 903-535-7047	Denver; Ft. Worth; Houston; Livonia; North Little Rock; San Antonio; Wichita.
Jack McGinley	909-685-2826	El Paso; Los Angeles; Pocatello; Portland; Roseville; <u>Sunset Tucson</u> ; Utah.
Phil Rogers	816-399-1606	Chicago; Commuter Operations; Council Bluffs; <u>Denver</u> ; Kansas City; North Platte; St. Louis; Twin Cities.

**For emergencies call RMCC:** 1- 888 UPRR COP or 1-888-877-7267

**Harriman or Spring Dispatching Centers:** Safety Hot Line Numbers: 501-3666 and 800-262-0608

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Updated: 9/24/2011

# Introduction to Special Instructions

- [Introduction to Special Instructions](#)

## Introduction to Special Instructions

The General Code of Operating Rules, Air Brake and Train Handling Rules and Safety Rules apply system wide unless modified by system special instructions. Timetable subdivision special instructions apply on the subdivision listed. These instructions apply to all operating department employees.

Observe all slower speed restrictions. Examples include subdivision speed restrictions, TCS train consist speed restrictions, tons per operative brake restrictions, locomotive maximum speed, etc.

When operating on any foreign railroad:

- Respect all restrictions listed in UPRR System Special Instructions Item 2-A (parts 1, 2, and 9 through 12), Item 2-B, Item 2-C, and Item 14.
- Respect the foreign railroad's requirements that are more restrictive.

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Updated: 4/28/2010

## ITEM 1: Time Comparison

- [Item 1: Time Comparison](#)

### Item 1: Time Comparison

Obtain Coordinated Universal Time (Greenwich Time) by calling:

- 8-544-4601  
or
- 8-976-1111

Use the following table to convert from Coordinated Universal Time:

<b>From the second Sunday in March until the first Sunday in November, convert to:</b>	<b>By Subtracting:</b>	<b>From the first Sunday in November until the second Sunday in March, convert to:</b>	<b>By Subtracting:</b>
Central Daylight Saving Time	5 hours	Central Standard Time	6 hours
Mountain Daylight Saving Time	6 hours	Mountain Standard Time	7 hours
Pacific Daylight Saving Time	7 hours	Pacific Standard Time	8 hours

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Updated: 7/29/2011

## ITEM 2: Speed Restrictions

- [Item 2-A: Maximum Speeds: General](#)
- [Item 2-B: Maximum Speeds: Cars](#)
- [Item 2-C: Maximum Speeds: Maintenance of Way and Mechanical Equipment](#)
- [ITEM 2-D: Maximum Speeds: Hot Weather](#)
- [Item 2-E: Maximum Speeds: Cold Weather](#)
- [Item 2-F: Maximum Speeds: Fuel Conservation](#)
- [Item 2-G: Maximum Speeds: Tons Per Operative Brake \(TPOB\)](#)

### Item 2-A: Maximum Speeds: General

Part	Description	MPH
1	Key Trains (including trains with one or more PIH/TIH cars)	50
2	Moving against the current of traffic:	
	• Passenger trains	59
	• All other trains	49
3	Through dual control switch turnouts not connected to a siding	30
4	Through other turnouts not connected to a siding	15
5	Sidings:	
	• Sidings identified with a "!" symbol and connected turnouts / not to exceed main track speed at that location	30
	• Other sidings and connected turnouts / not to exceed main track speed at that location	20
6	Tracks other than main tracks and sidings	10
7	Balloon tracks & Wye tracks, except those portions used as a main track or siding	5
8	Live rails of track scales	5
9	Designated locomotive servicing facilities and car repair facilities	5
10	Engines with cars	70
	• AC Locomotives	75
	• Engines UP 844, 949, 951, B963, 3985, 6936 and Amtrak and other passenger engines	82
	• SW-10 and SW-1500 (switch type locomotives with or without cars)	50
11	A multiple-unit engine controlled from other than the leading unit	30
12	Engines running light	70
	• Eight locomotives or less may operate at passenger train speeds not to exceed	70
	• More than eight locomotives	45
	• When operative dynamic brake is not sufficient to control speed	45
	• When operative dynamic brake is not sufficient to control speed on descending grade over 1 percent	25
13	Unit trains of empty covered hopper cars, regardless of whether TCS consist indicates a higher speed or some covered hopper cars are loaded	50
14	Loaded unit trains of coal regardless of whether TCS consist indicates a higher speed	50
15	Military Trains	50
	<b>Exception:</b> Military trains that exceed 60 cars	45

[^Top](#)**Item 2-B: Maximum Speeds: Cars**

**A.** Use the TCS train consist, when available, to identify the maximum train speed. It shows the maximum speed for each car and the maximum train speed, which is the lowest maximum speed of any car entrained. If a car that restricts the maximum TCS train consist speed is set out at an unscheduled location, operate at the lowest maximum speed of cars left in the train.

**B.** The maximum speed for cars is shown on the TCS train consist. When TCS train consist is not available:

- The maximum speed is 60 MPH, unless the table shows a different speed.
- or
- If the equipment is 100% passenger car equipment, the train may operate at maximum passenger speed, unless the table shows a different speed.

**C.** Use the speeds listed in the table as a backup summary:

- When a TCS train consist is not available.
- When a pickup is made enroute without TCS information.
- or
- For foreign railroads operating on UPRR.

**D.** Refer to Item 2-C for MW and Mechanical equipment speeds.

<b>Maximum Speeds Cars</b>		
<b>Part</b>	<b>Description</b>	<b>MPH</b>
1	Loaded ordinary flat cars	50
	<b>Exceptions:</b>	
	(a) Flat cars loaded with auto frames; flat cars UP 904150•904167 loaded with locomotive traction motors	60
	(b) Cars in series TBCX 7471•7481, TBCX 76700•76707, and specially equipped flat cars carrying airplane and rocket equipment	70
2	Bulkhead flat cars:	
	• Loaded	50
	• Empty cars equipped with constant contact side bearings	50
	• Empty	40
3	Centerbeam flat cars:	
	• Loaded with plywood or lumber	60
	• Loaded with other commodities	50
	• Empty	50
4	Anode flat cars:	
	• Loaded	50
	• Empty cars equipped with constant contact side bearings	50
	• Empty	40
5	Heavy-Duty Flat Cars, 8 axles or more:	
	8 to 14 axles:	
	• Loaded or empty	45

	16 to 24 axles:	
	• Loaded	25
	• Empty	45
	36 axles:	
	• Loaded	15
	• Empty	25
6	TOFC or COFC flat cars or other intermodal equipment:	
	• Loaded	70
	• Empty	60
	<b>Exceptions:</b>	
	(a) Loaded multi-platform/well cars	75
	(b) Empty well cars and empty articulated spine cars for carrying trailers and/or containers	70
	(c) Intermodal flat cars made from box cars in series SP 520583-520727, CP 520350-520386 and empty NS 157000-157849	50
	(d) Loaded intermodal flat cars made from box cars in series NS 157000-157849	60
	(e) Flat cars in series DRGW 4015-4071, DRGW 21502-21547, DRGW 21700-21759, SP 513153, SP 514004, SP 513153-515761, SP 518013-518180, SP 599702-599888, SSW 84894, and SSW 85401-85492:	
	• Loaded	50
	• Empty	45
7	Open•top hopper cars:	
	• Loaded	60
	• Empty	50
	• Loaded cars in series CTRN 601001 – 601600 and 602001 - 602920 unless TCS train consist indicates a higher speed	40
	<b>Exceptions:</b>	
	(a) Empty cars having constant contact side bearings or center plate extension pads	60
	(b) Cars loaded with coal	50
8	Gondola cars	50
	<b>Exceptions:</b>	
	(a) Empty car in series EJE 4000•4549, EJE 4800•4874, CR 607000•607480, UP 66800•67649, SP 337700-338099, MRL 38000-38071 and MRL 80511-81332 except if equipped with constant contact side bearings	40
	(b) Loaded cars in series UP 903084•903094; cars with initials UP, WP, MP or GONX loaded with aluminum ingots and empty gondolas having constant contact side bearings or center plate extension pads	60
	(c) Covered coil gondolas equipped with constant contact side bearings	70
9	Gondola or open hopper cars used to haul ore	50
10	Covered hopper cars in car series TGSX 443401-443700 and CGAX 9001-9505	50
11	Tank cars:	
	• Loaded	60
	• Empty	50
	<b>Exceptions:</b>	
	(a) Loaded 4•axle tank cars with 125 ton trucks designed for maximum gross weight of 315,000 lbs	50
12	Multilevels	70
13	Mechanical reefers; cryogenic reefers with initials CRYX or JRSX	70
14	Cabooses	70
15	Business cars and AMTK 70000 and AMTK 71000 series	79
16	Cars in ANSX series 800420•800421, 800425•800427, 800430•800433, and 800440•800444	50

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## Item 2-C: Maximum Speeds: Maintenance of Way and Mechanical Equipment

A. The maximum speed for cars is 60 MPH unless the TCS train consist shows a different speed. Use the speeds listed below as a backup summary, when a TCS train consist is not available.

Part	Description	MPH
1	Continuous welded or jointed rail trains	
	• Loaded	40
	• Empty	50
	Loram rail train (loaded or empty)	50
2	Cars in series RGAX 25000-25049	40
3	MPX cars (excluding outfit cars and locomotive cranes), loaded or empty air dump cars, SPMW 7721-7799, RGAX 3900-3923, SPMW 4111-4147, 5101-5121, 5128-5191, 5202, 5218-5291, 5835, 6401-6438, and SSW 94500-94520	35
	<b>Exception:</b> Series Series MPX 27028-27060, 30000-30014 and 50001-50014	50
4	Outfit cars	40
	<b>Exception:</b> After mechanical department approval following inspection of cars	50
5	Four-axle scale test cars	50
	Two-axle scale test cars	30
6	Snow plows, or locomotive cranes on their own wheels; foreign line or privately-owned derricks, cranes or other similar equipment on their own wheels on revenue billing (unless further restricted on waybill or train consist); or company-owned cranes loaded on flat cars	30
	<b>Exception:</b> Cranes moved on flat cars in series MP 17000-17057 and MP 50064	50
7	Self-propelled cranes, pile drivers and similar equipment moving under its own power or TRT 909	30
8	Hy-rail equipped Holmes, Pettibone and similar type cranes, and hy-rail equipped wheel hangers	25
9	Gondola or open top hoppers used to carry ballast	50
	<b>Exception:</b> Loaded UP 901710-901830, UP 919000-920216 & HZGX 7000-7700	60
10	Jordan spreaders (in all plowing operations with a MW Supervisor present):	
	• In snow plowing operations or traveling in either direction with wings retracted and locked	45
	• In snow plowing operations with wings extended	35
	• In other plowing operations	25
	• With one wing extended	15
	When moving in reverse direction, wings should be fully retracted. When there is no MW Supervisor present, be governed by Item 3.3 Jordan Spreader (entrained) rules.	

11	Engines handling ITW (in-track welder) work equipment, Loram rail train or TRT 909	50
12	Wrecking derrick consists are assigned to locations shown below. When operating derrick consists, the equipment having the lowest authorized speed restricts the maximum authorized speed for that consist.	
<b>Assigned Location</b>	<b>If Consist Contains Equipment:</b>	<b>MPH</b>
Ogden	UP 905275, 905280, 908455	50
Green River	UP 903047, 909317, 906209, 904206, 904703	60
	UP 905269, 905273, 905274	50
Denver	RGAX 030, 3330	35
Hinkle	UP 903050, 909351, 906203, 904294, 904295, 909355	60
Salt Lake	UP 903046, 904200, 904239, 906200, 906208, 909307, 909308	60
Stockton	UP 909313, 904301	60
	WPMW 796, 797	50
	UP 900310, TPX 14181	40
Portola	UP 903045, 904232, 904300, 909320	60
	WPMW 376, 378	50
North Little Rock	MP 15427, 3646, 15082, 517, 2909, 4324, MPX 251	60
	MP 2155, 3160, 15090	50
Roseville	SPMW 7113, 7184, 7185, 7071, 7055	45
	SPMW 7072, 7077, 7078	35

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## ITEM 2-D: Maximum Speeds: Hot Weather

During periods of extreme heat, conditions exist that could affect track structure. When advised by track bulletin that a Level 1 or 2 Heat Restriction is in effect, restrict train speed within the limits of the track bulletin as shown in the tables below. In addition, when the train is equipped with distributed power at the rear of the train, operate in synchronous mode or in independent mode with distributed power 1-3 throttle notches below the lead consist in power and 1-3 throttle positions above the lead consist in dynamic brake, except when cresting a grade or when specific train handling procedures are required by local instructions.

Level 1 Heat Restriction:	Restriction MPH:
Passenger trains, light engines, and freight trains averaging less than 90 tons per car or platform (see Note below).	No Additional Restrictions
Freight trains averaging 90 tons or more per car or platform in signaled territory (see Note below).	50
Level 2 Heat Restriction:	Restriction:
Chicago - All Metra trains. California - Metrolink, Pacific Surfliner, Capitol Corridor, Altamont Commuter Express(ACE), Caltrain and San Joaquin trains.	No Additional Restrictions
Passenger trains (except commuter trains listed above), light engines, and freight trains averaging less than 90 tons per car or platform (see Note below).	50
Freight trains averaging 90 tons or more per car or platform (see Note below).	40
<b>Exceptions:</b> When an exception to Item 2-D is shown on the subdivision page, the above restrictions do not apply to freight trains and the appropriate exception listed below applies instead.	



<b>Exception 1:</b> All freight trains operating on the subdivision while heat restriction bulletin is in effect	30 MPH
<b>Exception 2:</b> All freight trains operating on the subdivision while heat restriction bulletin is in effect	Restricted speed, not exceeding 10 MPH

**Note:** Each platform of a multi-platform car is to be considered as one car when calculating tons per car/platform.

**Application:** When Items in timetables issued before July 30, 2007 identify Item 2 sections by alpha designations, make appropriate adjustment by title of the section. The title remains the same. Example: If the timetable refers to Item 2-C Maximum Speeds: Hot Weather, adjust to Item 2-D Maximum Speeds: Hot Weather.

**General Order**

**Change last sentence in first paragraph to read:**

In addition, when the train is equipped with distributed power at the rear of the train, operate in synchronous mode or in independent mode with distributed power 1-3 throttle notches below the lead consist in power and 1-3 throttle positions above the lead consist in dynamic brake, except when cresting a grade or when specific train handling procedures are required by local instructions.

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**Item 2-E: Maximum Speeds: Cold Weather**

During periods of extreme cold, conditions exist that could affect track structure. When advised by track bulletin that a ~~Level 1 or 2~~ Cold Weather Restriction is in effect, restrict train speed within the limits of the track bulletin as shown in the table tables.

<b><u>Cold Weather Restrictions</u></b>	<b><u>Restriction MPH</u></b>	
	<b><u>Signaled Track</u></b>	<b><u>Non-Signaled Track</u></b>
All Passenger trains, light engines, and freight trains averaging less than 90 tons per car or platform.	No Restrictions	40
Freight trains averaging 90 tons or more per car or platform	40	40
<b><u>Level 1 Cold Weather Restriction</u></b>	<b><u>Restriction MPH</u></b>	
	<b><u>Signaled Track</u></b>	<b><u>Non-signaled Track</u></b>
Passenger trains, light engines, and freight trains averaging less than 90 tons per car or platform.	No Additional Restrictions	No Additional Restrictions
Freight trains averaging 90 tons or more per car or platform (see Note below).	50	40
Loaded bulk commodity unit trains operating on the Powder River, S. Morrill, North Platte Terminal, Kearney, Columbus, Omaha, Blair, Boone, Clinton, Geneva, Marysville, Kansas, KC Metro, River, Sedalia, Jefferson City, Chester, Mt. Vernon, and Marion subdivisions.	40	40
<b><u>Level 2 Cold Weather Restriction</u></b>	<b><u>Restriction MPH</u></b>	

	<b>Signaled Track</b>	<b>Non-signaled Track</b>
Chicago – All Metra trains. California – Metrolink, Pacific Surfliner, Capitol Corridor, Altamont Commuter Express (ACE), Caltrain and San Joaquin trains.	No Additional Restrictions	No Additional Restrictions
Passenger trains not listed above.	No Additional Restrictions	40
Light engines and freight trains averaging less than 90 tons per car or platform.	50	40
Freight trains averaging 90 tons or more per car or platform.	40	40

**Note:** Each platform of a multi-platform car is to be considered as one car when calculating tons per car/platform.

## General Order

Change to read:

During periods of extreme cold, conditions exist that could affect track structure. When advised by track bulletin that a Cold Weather Restriction is in effect, restrict train speed within the limits of the track bulletin as shown in the table.

<b>Cold Weather Restrictions</b>	<b>Restriction MPH</b>	
	<b>Signaled Track</b>	<b>Non-Signaled Track</b>
All Passenger trains, light engines, and freight trains averaging less than 90 tons per car or platform.	No Restrictions	40
Freight trains averaging 90 tons or more per car or platform	40	40

**Note:** Each platform of a multi-platform car is to be considered as one car when calculating tons per car/platform.

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## Item 2-F: Maximum Speeds: Fuel Conservation

### Fuel conservation Speed (FCS)

The TCS train consist shows the maximum authorized fuel conservation speed when applicable. When authorized, the train dispatcher may cancel fuel conservation speed restrictions.

Trains are subject to the FCS requirements below:

- FCS 40 Train Operations: Exceeding throttle position 5 while in power is prohibited at a speed greater than 40 MPH.

- FCS 50 Train Operations: Exceeding throttle position 5 while in power is prohibited at a speed greater than 50 MPH.

Train Type:	FCS 40	FCS 50	No FCS Restriction
Freight Trains (including light engine movements)		X	
Coal Trains (loaded or empty)	X	X *	
Passenger trains and <u>Business Car trains are exempt</u> . Freight trains exempted by track bulletin.			X

\* Coal trains subject to FCS 50 when operating on the following subdivisions; Kearney, Columbus, Omaha, Blair, Boone, Clinton, Geneva.

## General Order

Change Fuel Conservation Speed table to read:

Train Type:	FCS 40	FCS 50	No FCS Restriction
Freight Trains (including light engine movements)		X	
Coal Trains (loaded or empty)	X	X *	
Passenger and Business Car trains are exempt. Freight trains exempted by track bulletin.			X

\* Coal trains subject to FCS 50 when operating on the following subdivisions; Kearney, Columbus, Omaha, Blair, Boone, Clinton, Geneva.

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## Item 2-G: Maximum Speeds: Tons Per Operative Brake (TPOB)

Freight trains must not exceed the speed specified in the following tables taking into account:

- The train's tons per operative brake.

- For multi-platform/well trains the number of platforms in the train.

The TPOB as shown on the TCS train graph will be used to determine the maximum speed of the train. If the TCS train graph TPOB is unavailable, or train consist is changed enroute and a new TCS train graph is not provided, the TPOB of the train will be computed by dividing the train's tonnage by the total number of operative brakes in the train. There is 1 brake per conventional car (See **Table C** for other cars).

However, if a subdivision special instruction specifies a higher or lower TPOB speed, be governed by that speed. When using the following tables, round your train's TPOB up to the next whole number. For example, 100.1 TPOB becomes 101 TPOB.

**Table A** applies to all freight trains except for multi-platform/well trains.

**Table B** applies to all multi-platform/well trains. A train will be considered a multi-platform/well train when it has no more than four conventional cars.

**Table C** is used to determine the equivalent number of operative brakes for multi-platform/well/unit cars and for cars that are solid drawbar connected.

**NOTE:** The following abbreviations are used in tables A and B:

**MSS:** Maximum Subdivision Speed

**NR:** No Restriction

**TABLE A - Freight Trains**

TPOB	Maximum Speed	TPOB	Maximum Speed
100 or less	NR	111 to 120	MSS minus 10 MPH
101 to 110	MSS minus 5 MPH	Over 120	50 MPH

When maximum subdivision speed is 55 MPH or less and the train is required by **Table A** or **Table B** to operate at MSS minus 5 MPH or 10 MPH, the tables do not restrict train speed below 50 MPH.

**TABLE B Multi-platform/well Trains**

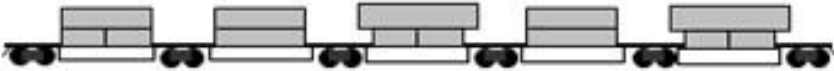









TPOB	Total Number of Platforms/wells & Other Cars			
	80 or less	81 to 110	111 to 140	141 or more
120 or less	NR	NR	NR	MSS minus 10 MPH
121 to 126	NR	NR	MSS minus 10 MPH	MSS minus 10 MPH
127 to 132	NR	MSS minus 10 MPH	MSS minus 10 MPH	MSS minus 10 MPH
133 or more	MSS minus 10 MPH	MSS minus 10 MPH	MSS minus 10 MPH	MSS minus 10 MPH

The maximum speed for a multi-platform/well train is to be determined by taking into account the train's TPOB and the total number of multi-platform/well car platforms, platforms of other multi-platform intermodal cars and the total number of any conventional cars in the train.

**Note:** When maximum subdivision speed is 55 MPH or less and the train is required by **Table A** or **Table B** to operate at MSS minus 5 MPH or 10 MPH, the tables do not restrict train speed to below 50 MPH.

Use **Table C** to determine the equivalent number of operative brakes for multi-platform/well cars and for cars that are solid drawbar or articulated connected and for other cars that are shown below .

**TABLE C Equivalent Number of Operative Brakes**

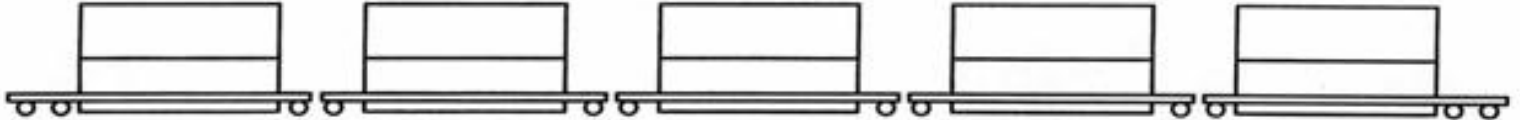
TYPE OF EQUIPMENT (Car Code)	NUMBER OF OPERATIVE BRAKES
1. <b>Well cars</b> (Permanently connected solid drawbar or articulated equipment)	
A.  Equipped with five-platforms: (A, E, D, C and B) (Articulated Equipment) (P5A)	3 brakes
B.  Equipped with three platforms (A, C and B) (3 Unit Articulated) (P3A)	2 brakes
C.  Equipped with three platforms (A, C and B) solid drawbar connected (P3A)	3 brakes
D.  Equipped with four platforms (A, D, C and B) solid drawbar connected. (P4A)	4 brakes
E.  Equipped with five platforms (A, E, D, C and B) solid drawbar connected. (P5A)	5 brakes
2. <b>Spine Cars</b> (Permanently connected multi-platform articulated equipment)	
A.  Three unit articulated flat cars (P3 *)	2 brakes
B.  Five unit articulated flat cars (P5 *) (* is a number)	3 brakes
3. <b>TOFC and COFC flat cars</b> (Permanently connected solid drawbar or articulated equipment)	
A.  Two cars with solid-drawbar (P2 *) (* is a letter or number)	2 brakes
4. <b>Cars for automobiles</b> (Permanently connected articulated equipment)	
 Two platform articulated in series BTTX 880000-880419 and Automax (M* I or M* 3) (* is number of deck)	2 brakes
5. <b>Superhopper car (C7T)</b>	3 brakes
6. <b>Roadrailer™ cars</b>  Removable Bogie	½ brake per van

The TCS train consist shows each platform or well car (1A-E above) as a single car. The TCS train consist shows other cars listed above (2 or 3) as one car. (See examples). When applying Item 2-C (Maximum Speed: Hot Weather) or Item 6, (Maximum Gross Weight Limitations) to calculate tons per platform, use the total number of platforms shown for cars listed in the above table. If it becomes necessary to cut the air

brakes out on a car (control valve), count as 1 brake per rule 30.4.

**Examples of Train Consist: Table C – 1.**

**Intermodal Cars - TCS Train Consist  
Articulated Multi-Well Car**



DTTX 75292 LP5A ARTICULATED MULTI-WELL CAR CONSISTS OF FOLLOWING 5 CARS

8 DTTA 75292 LP1A COFC XG077 05-701-96 RAMP MARION AR UNION PAC

75-MPH 61-TONS 62-FT 1-P 0.0-BRK 832-ATONS 1136-AFT  
DO NOT HUMP

CSXU 683386 LK60 MIXFRT XG077 MARION AR CSX INTERMOD  
EMHU 230112 LK70 MIXFRT XG077 MARION AR LANDST LOGIS

9 DTTE 75292 LP1A COFC XG077 05-701-96 RAMP MARION AR UNION PAC

75-MPH 62-TONS 62-FT 1-P 0.0-BRK 894-ATONS 1198-AFT  
DO NOT HUMP

EMPU 289223 LK60 MIXFRT XG077 MARION AR CLARKE LOGIS  
STXU 240104 LK70 MIXFRT XG077 MARION AR PROFES TRANS

10 DTTD 75292 LP1A COFC XG077 05-701-96 RAMP MARION AR UNION PAC

75-MPH 59-TONS 62-FT 1-P 0.0-BRK 953-ATONS 1260-AFT  
DO NOT HUMP

APLU 492709 LK60 MIXFRT XG077 MARION AR SHARP FRE SY  
EMHU 230602 LK70 MIXFRT XG077 MARION AR LANDST LOGIS

11 DTTT 75292 LP1A COFC XG077 05-701-96 RAMP MARION AR UNION PAC

75-MPH 76-TONS 62-FT 1-P 0.0-BRK 1029-ATONS 1322-AFT  
DO NOT HUMP

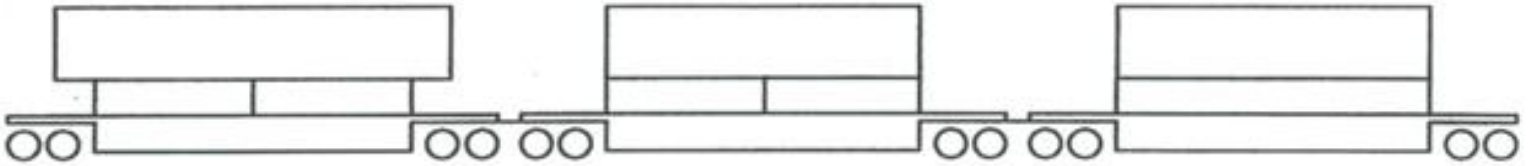
EMPU 681487 LK60 MIXFRT XG077 MARION AR SCHNEI NAT O  
STXU 238934 LK70 MIXFRT XG077 MARION AR SHARP FRE SY

12 DTTB 75292 LP1A COFC XG077 05-701-96 RAMP MARION AR UNION PAC

75-MPH 67-TONS 62-FT 1-P 0.0-BRK 1096-ATONS 1384-AFT  
DO NOT HUMP

APLU 492264 LK60 MIXFRT XG077 MARION AR SHARP FRE SY  
CSXU 934228 LK70 DRYGDS XG077 MARION AR CSX INTERMOD

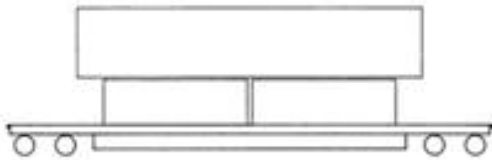
## Intermodal Cars - TCS Train Consist Solid Drawbar Connected or Articulated Multi-Well Car



DTTX 427102 P3A SOLID DRAWBAR CONNECTED MULTI-WELL CAR  
CONSISTS OF THE FOLLOWING 3 CARS

- 1 DTTA 427102 LP1A COFC JP017 41-801-96 RAMP ICTF CA UNION PAC  
70-MPH 78-TONS 72-FT 1-P 3.00-BRK 78-ATONS 72-AFT  
NH DO NOT HUMP  
DO NOT HUMP  
HLXU 511982 LK4E MIXFRT JP017 ICTF CA HAPAG LLO AM  
HLXU 447026 LK40 MIXFRT JP017 ICTF CA HAPAG LLO AM
- 2 DTTT 427102 LP1A COFC JP017 41-801-96 RAMP ICTF CA UNION PAC  
70-MPH 79-TONS 72-FT 1-P 0.00-BRK 157-ATONS 144-AFT  
NH DO NOT HUMP  
DO NOT HUMP  
UESU 483829 LK50 MIXFRT JP017 ICTF CA HUB GROUP  
TRLU 402070 LK40 MIXFRT JP017 ICTF CA PACER GLO LO
- 3 DTTB 427102 LP1A COFC JP017 41-801-96 RAMP ICTF CA UNION PAC  
70-MPH 80-TONS 72-FT 1-P 0.00-BRK 237-ATONS 216-AFT  
NH DO NOT HUMP  
DO NOT HUMP  
MOAU 705 LK1E MIXFRT JP017 ICTF CA MITSUI OSK L  
FSCU 756099 LK1E MIXFRT JP017 ICTF CA HAPAG LLO AM  
MOFU 55161 LK4E MIXFRT JP017 ICTF CA MITSUI OSK L

## Single Unit Well Car



34 DTTX 54000 LP1A TOFC NZ020 05-801-96 RAMP GLO2 IL UNION PAC  
  
70-MPH 80-TONS 70-FT 1-P 1.00-BRK 2273-ATONS 2283-AFT  
SINGLE UNIT WELL CAR  
NH DO NOT HUMP  
DO NOT HUMP

NOSU 246829 LK10 MIXFRT NZ020 GLO2 IL APL LAN TRA  
TRLU 211890 LK10 MIXFRT NZ020 CPRS MINNEAPOLMN APL LAN TRA  
APHU 455705 LK50 MIXFRT NZ020 GLO2 IL APL LAN TRA

## Intermodal Cars - TCS Train Consist Multi-Platform Spine Car

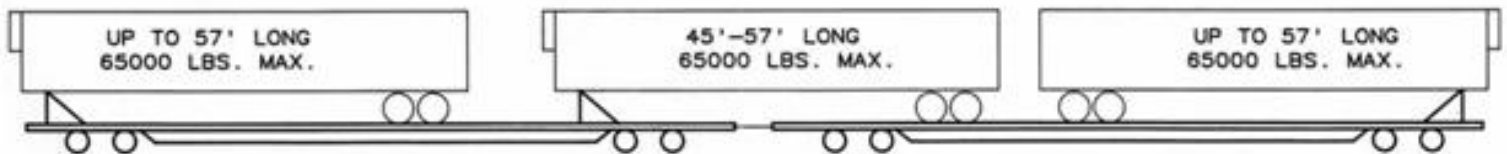


1 TTAX 553048 LP52 TOFC AX482 02-801-96 RAMP PTLAREDO TX UNION PAC

70-MPH 218-TONS 291-FT 5-P 2.00-BRK 218-ATONS 291-AFT  
MULTI-PLATFORM SPINE CAR  
DO NOT HUMP

NONZ 57098 LV77 MIXFRT AX482	LAREDO TX SWIFT INTERM
EMHU 231127 LK70 CLNRS AX482	LAREDO TX ALLIAN SHIPP
NONZ 502919 LV77 MIXFRT AX482	LAREDO TX SWIFT INTERM
NONZ 541025 LV66 MIXFRT AX482	LAREDO TX SWIFT INTERM
SNLZ 400592 LV77 CEREAL AX482	LAREDO TX SCHNEI NAT C

## Two-Unit Solid Drawbar Connected Long Car



17 TTEX 353221 LP28 TOFC RV185 01-800-96 RAMP SPARKS NV UNION PAC

70-MPH 162-TONS 186-FT 2-P 2.00-BRK 1723-ATONS 2533-AFT  
TWO-UNIT SOLID DRAWBAR CONNECTED LONG CAR  
CC NO COUPLE TO 39FT. CAR  
DO NOT HUMP

SNLZ 441782 LV77 MIXFRT RV185	SPARKS NV SCHNEI NATIO
SNLZ 450448 LV77 MIXFRT RV185	SPARKS NV SCHNEI NATIO
SNLZ 508399 LV78 AUTOPT RV185	SPARKS NV SCHNEI NATIO

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Updated: 7/29/2011



## ITEM 3: Trains Handling - Company Equipment

- [Item 3: Trains Handling Company Equipment](#)

### Item 3: Trains Handling Company Equipment

#### 1. Rail Trains

Equipment for handling continuous-welded rail, or continuous lengths of bolted rail, consists of permanently-coupled flat cars. Couplers are blocked against slack and are highly susceptible to damage from rough handling.

##### **Buffers Cars**

When equipment is loaded with rail, a buffer car is used at each end. The buffer car must not be a car containing hazardous materials or an occupied caboose or camp car. The ends of the buffer car must be at least as tall as the top row of rail to restrain the rail. The "B" end of the buffer car must not be next to the equipment loaded with rail. However, the rail train supervisor may authorize loaded equipment to be operated without a buffer to/from an unloading/loading site.

**Exception:** Trains LR1-50, LR2-50 and LR3-50 will utilize their attached bulkhead doors on each end to restrain rail.

##### **Do Not Combine Rail Trains**

Do not combine rail trains with other traffic. However, a Chief Engineer may authorize an empty rail train to be placed on the rear of a manifest train. A Chief Engineer may also authorize handling outfit cars and cars of track material or related items, not exceeding 70 cars, behind the CWR equipment.

Do not combine two CWR rail train sets on the following territories unless authorized by a Chief Engineer:

- Western Region
- Colorado Springs Subdivision
- Alamosa Subdivision
- Moffat Tunnel Subdivision
- Glenwood Springs Subdivision
- North Fork Subdivision
- Craig Subdivision
- Tennessee Pass Subdivision,  
or
- Any track with curvature exceeding six degrees.

##### **Loram Rail Train**

Do not handle Loram rail train on any territory with curvature exceeding 16 degrees.

##### **Movement of Loaded Rail Trains**

Do not move loaded rail trains without authority from:

- The MW supervisor in charge on the rail train.  
or
- MW train management.

The MW supervisor must accompany rail trains during loading and unloading operations. The MW supervisor is not required to accompany rail train movements to/from an unloading/loading site. When accompanied by a MW supervisor, train and engine crews must be alert for any signal or instruction from the MW supervisor. Before releasing a loaded rail train, the MW supervisor must ensure all rails are properly secured and buffer cars are in place.

**Bad-ordered and/or Separated Equipment**

If any rail trains or support equipment have been bad-ordered and/or separated from their mated car/s, the Maintenance of Way Operations Control (MWOC) Desk (402) 636-7434, must be notified immediately and the remainder of the rail train or support equipment should stay (as a unit) at that location until the repair is complete. The rail train manager must be notified if necessary repairs will require the rail train to be delayed more than 24 hours. The rail train manager can be contacted through the MWOC Desk.

**Rail Train Equipment:**

<b>Rail Pick-up Units</b>	
MP6853 (F-50)	UP913720 (C-50)
UP913498 (E-50)	UP913722 (D-50)
UP913671 (G-50)	UP904596 (M-54)
SSW97003 (S-40)	SPMW5396 (T-40)
SPMW6678 (U-48)	SPMW9013 (H-40)
SPMW9019 (K-40)	UP904697 (P-40)
UP904735 (W-50)	ADBF51140 (X-50)
SPMW9028 (J-40)	UP913523 (N-40)
SPMW9052 (I-40)	UP904534 (L-40)
CGW251000 (O-40)	RGAX4650 (Q-40)
RGAX4688 (R-40)	SPSX915 (SP-50)
LMIX701019 (LR-1) Train	LMIX701046 (LR-2) Train
LMIX701073 (LR-3) Train	

**Rail Pick-up Units - Sets of Two**

UP913524 & UP913525

UP913526 & UP913527

UP913528 & UP913529

UP913530 & UP913531

MP6858 & MP6863

MP6859 & MP6861

RGAX4691 & RGAX4693

SPMW6681 & SPMW6682

SPMW6683 & SPMW6684

SPMW6685 & SPMW6686

UP913532 & UP913533

UP913534 & UP913535

UP913536 & UP913537

**Rail Pick-up Units - Sets of Three**

LMIX701003/04/05 (Loram)

**Rail Pick-up Units - Sets of Four**

MP6800/MP6801/MP6802/MP6803

MP6804/MP6805/MP6806/MP6807

SPMW6650/SPMW6651/SPMW6652/  
SPMW6653

### Rail Pick-up Units - Sets of Five

MP6864/MP6865/MP6866/MP6867/MP6868

SPMW5398/SPMW5399/SPMW5401/SPMW5403/SPMW5397

UP904563/UP904564/UP904565/UP904566/UP904567

## 2. Wrecking Derricks, Locomotive Cranes and Similar Equipment

Secure booms on wrecking derricks, locomotive cranes and similar equipment. Booms must be trailing or detached unless they are in work train service. A mechanical employee will accompany the wrecking derrick. A crane operator will accompany locomotive cranes and must ride either:

- In the crane.
- On the train that has the crane entrained.  
or
- In a nearby vehicle having radio communications.

Inspect cranes at the following locations:

- Before leaving the initial terminal.
- Within 50 miles of the initial terminal.
- Within each 100 miles after that.

During the inspection, ensure that:

- The crane is headed in the right direction.
- The boom is properly secured.
- The equipment is being handled at the proper speed.

Booms must be disconnected on cranes, unless boom rest car specifically designed to enable the crane to move with the boom attached accompanies the crane. However, if the boom cannot be disconnected and cannot be in the trailing position, the train may be moved only as follows:

- Train management or an operating manager must authorize the movement.
- A crane operator must accompany the crane.
- Speed must not exceed:
  - 15 MPH if the crane operator is not riding the crane.
  - 30 MPH if the crane operator is riding the crane.
- Movement may only be made to the first location where it can be turned.

Placement in train:

- Place derricks and cranes within 10 cars of the engine and not ahead of more than 8000 tons.
- Place wrecking derrick consists as close to the rear of the train as possible and not ahead of more than 4000 tons.

The above restrictions do not apply to cranes loaded on flat cars, series MP 17000-17057, and MP 50064. These cranes may operate at 50 MPH. Also, they may operate with the boom not in the trailing position, if properly secured.

### 3. Jordan Spreaders (entrained)

Head Jordan Spreaders in the direction the train is moving, unless in work trains. Inspect equipment carefully before moving, and frequently en-route. When entrained:

- Operate with wings always retracted, locked and secured with chain or cable.
- Maximum speeds:
  - 35 MPH forward.
  - 15 MPH reverse.\*
- Only move in reverse direction to the first location machine can be turned.\*
- Must be handled on the rear of train.\*

**\*Exception:** Upon instructions from the MW supervisor, Jordan Spreaders entrained in work trains may be moved in reverse, to the designated location, at the speed authorized by the MW supervisor.

### 4. Snow Plows

Handle one-way (multiple track) and wedge (single track) snow plows as follows:

- When deadheading the plow and snow is not above the top of the rail locate the plow in trailing position on the rear of freight trains.
- When deadheading the plow and snow is above the top of the rail, locate the plow in leading position immediately ahead of the lead locomotive.
- When plowing snow, locate the plow in leading position immediately ahead of the lead locomotive. Do not pull a train when plowing snow.
- Do not operate snow plows through drifts when trains are approaching or passing on an adjacent track.
- Raise flangers when passing over bridges, highway crossings, railroad crossings, track car set-offs, high guardrails, frogs, and switches, and when passing through interlocking limits.
  
- Handle rotary snow plows in special trains or on the rear of freight trains with rotary blades in the trailing position.
  
- In switching movements, handle a snow plow alone or with only one car.

### 5. Two-axle Scale Test Cars

Handle two-axle scale test cars in a train immediately ahead of the rear car. Scale test cars must not be placed next to any loaded car containing hazardous materials. Handle two-axle scale test cars in separate trains if moving more than one.

### 6. Passenger, Business, and Outfit Cars

Train management may specifically instruct handling passenger, business and outfit cars differently than listed below. Do not handle passenger, business, or outfit cars while switching. In freight trains, handle:

- Outfit cars on the head end.
- Passenger and business cars on the rear end.

When handling passenger or business cars on the rear end of a freight train, comply with the following:

- Limit bulk commodity unit trains and trains consisting entirely of multi-platform/well cars to a maximum of three passenger and/or business cars.
- Limit all other trains to a maximum of two passenger and/or business cars. In addition, trains must not:
  - Contain more than 20 multilevel cars.
  - Exceed 6000 feet (including locomotives and passenger and/or business cars).

If train management authorizes handling passenger or business cars on the head end of a freight train, comply with the following:

- A maximum of five of these cars may be entrained.
- When handling two or more of these cars if trailing tonnage behind these cars exceeds 3500 tons, separate these cars from each other by at least two loaded freight cars.
- Handle business cars UPP 106 (Shoshone) UPP 115 (Selma), UPP 203 (Idaho), and UPP 420 (Fox River) only on the rear of freight trains.
- Handle business cars UPP 210 and UPP 252 (mobile laboratory cars) at any location in freight trains.

## **7. Ballast Cars with Air-operated Ballast Gates**

The following cars are ballast cars equipped with air-operated gates and an independent ballast air system:

- UP 901660-901830.
- UP 901900-901949.
- UP 901991-901999.
- UP 919000-920311.

Do the following to make the ballast air system inoperative when these cars are loaded and in transit:

- Stop the air supply to the ballast air system.
- Bleed the ballast air system reservoirs by opening an air drain valve on the ballast reservoirs, located on the "A" end of the car.
- Leave the ballast air line angle cocks open.

Before using the ballast air system, close all ballast reservoir drain valves. Charge the system only during short work train moves to an unloading site and during actual ballast unloading.

## **8. Engines Handling ITW (In-Track Welder)**

- Employee in charge may impose more restrictive speed restrictions.
- ITW work equipment is equipped with independent air brakes.
- Employees in charge will occupy ITW and have control of the air brakes and have radio communication with the engineer.
- ITW is towed with a solid hitch and must not be placed in a train or handled with any other equipment.
- ITW is equipped with marker on rear.

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Updated: 9/24/2011

## ITEM 4: Locomotive Information

- [Item 4-A: Locomotive Table](#)
- [Item 4-B: Locomotive Instructions](#)

### Item 4-A: Locomotive Table

#### Item 4-A Locomotive Table

To determine Equivalent Powered Axles (EPA) and Equivalent Dynamic Brake Axles (EDBA) for a locomotive consist, use the EPA and EDDBA numbers indicated on the TCS consist. The following table is to be used only when a TCS consist is not available or when a locomotive consist is changed.

**Note:** An Equivalent Axle is a locomotive's tractive effort or braking effort compared to one standard axle which has 10,000 lbs. tractive effort or 10,000 lbs. braking effort. The locomotive model is identified on the FRA Form F 6180-49A (blue card).

As used in these tables, the following abbreviations apply:

- CTE = Controlled Tractive Effort (limits locomotive to maximum of 110,000 lbs. tractive effort).
- PA = Powered Axles.
- EPA = Equivalent Powered Axles.
- EDDBA = Equivalent Dynamic Brake Axles.
- FTE = Full Tractive Effort.
- TM c/o = Traction motor(s) cut out.
- Truck c/o = Truck cut out.

#### DC Locomotives

Model	EPA	EDDBA	Model	EPA	EDDBA
B23-7	4.5	4.2*	GP39-2	4.5	3.8
B30-7	5	4.2*	GP40	4.5	4*#
B36-7	5	4.2	GP40-2	5	3.9#

B39-8	7.8	5.2	GP40X/GP50	6.5	4.1*
B40-8	7.8	5.2	GP60	8	5.4
C30-7/C36M	8	5.9#	SD38-2	5.4	5.7*#
C36-7	9.4	6.4	SD40-2	7.1	5.9*#
C40-8	10.1	7.9	SD45	7	5.9
C41-8	10.1	7.9	SD50	9.2	6.1
C44-9	11.5	7.9	SD60	9.9	8.1**
ES40DC	10.1	7.9	SD70/SD70M	10.4	8.6
ES44DC	11.5	7.9	SD75	10.3	8.6
SW1500	3.7	0	DDA40X	9.6	8
MP15	4	0	E9	3.5	6.2
GP9	4	3*#	SL1 (Slug)	4	0
GP15-1	3.9	0	S4B (Slug)	4	0
GP22	5.1	0	S3-2B (Slug)	4	0
GP38	4.5	4*#	S6-1 (Slug)	5	0
GP38-2	4.5	4*#			

\* May not be equipped with dynamic brakes.

# May be equipped with standard range dynamic brakes.

\*\* UP 2100, 2156, 2157, 2159-2168, 2170-2214 have 6 EDDBA.

**Note: Traction motor cut out switches.**

- DC locomotive traction motors must not be cut out to meet EPA or EDDBA limitations. Traction motors may be cut out only when they are defective. Locomotives may be isolated/shut down to meet EPA or EDDBA limitations.
- AC Locomotive traction motors 1, 2 & 3 may be cut out to meet EPA or EDDBA limitations, traction motors 4, 5 & 6 may only be cut out when defective.
- A tag must be placed on the lead unit and on the unit having the cut out traction motor stating that the traction motor has



been cut out for the purpose of meeting equivalent axle restrictions. This is to ensure subsequent crews are aware that all dynamic brakes on that locomotive are inoperative.

**AC Locomotives**

GE Model	Traction Motor Cut Out	EPA	EDBA
C44AC; C44/60AC & ES44AC	None	12.1	9.8
	1	11	8
	2	8	6
	3	6	5
C44AC (CP)	None	12.1	7.8
	1	11	7
	2	8	5
	3	6	4
C44/60AC (7300-7335)	None	12.1	11.7
	1	11	10
	2	8	6
	3	6	6
C44ACCTE  C45ACCTE  When in a lead consist or in a remote consist operating in the Full Tractive Effort (FTE) mode	None	12.1	9.8

When in a remote consist operating in the Controlled Tractive Effort (CTE) mode		11	9.8
	1	11	8
	2	8	6
	3	6	5
C60AC	None	12.1	11.7
	1	12	10
	2	11	8
	3	8	6
SD70MAC	None	10.4	8.1
	1	6	5
SD70ACe	None	12	10.5
Operating in CTE mode		11	10.5
	1	7	6
	2	7	0
SD80MAC	None	13	10
	1	7	5
	2	7	0
SD9043AC	None	11.6	9.6
	1	7	5

	2	7	0
SD9043AC (CP)	None	12	9
	1	9	5
SD90AC	None	12.1	11
	1	7	6
	2	7	0

**Note:**

On AC locomotives, dynamic brakes and wheel slip protection are still operative with either traction motors or a truck cut out. Therefore, cutting out axles or a truck on AC locomotives to meet equivalent axle limitations is not a non-complying condition.

If unable to determine the model of a locomotive or its EPA and EDDB, the following TCS inquiry will provide the information:

**=UM (space) I (space) unit initials (space) and Number**

Dynamic Brakes are designated in the TCS report as follows:

- |                                     |   |
|-------------------------------------|---|
| <b>A</b> - AC                       | <b>S</b> - Standard Range (Flat) = #        |
| <b>E</b> - Extended Range (Flat)    | <b>T</b> - StandardRange(Tapered) = #       |
| <b>F</b> - Extended Range (Tapered) | <b>X</b> - Disconnected (No Dynamic Brake)  |
| <b>N</b> - Not Equipped             | <b>Z</b> - AC with Dynamic Braking to 0 MPH |

A unit in the locomotive consist that is not working or bad ordered, will have the values in the ACTL HWPR, COMP HWPR, EA PW and EA DB columns enclosed in parenthesis, e.g., "(4000)", or displayed as dashes, "-----", and is not calculated in the totals for the locomotive.

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## Item 4-B: Locomotive Instructions

### Eight Locomotives Limit

Limit freight trains to eight locomotives on the lead consist. The maximum of eight locomotives includes units that are:

- Working.
- Isolated.
- Dead-in-consist.

or

- Dead-in-train immediately behind the locomotive consist.

Train management may authorize a higher number of locomotives on freight trains, but must not exceed power axle limitations.

The eight locomotive limit does not apply to power transfers. Limit power transfers to a maximum of 25 locomotives unless train management authorizes you otherwise.

Do not move or switch more than eight coupled locomotives within locomotive servicing facilities. This includes movements between service tracks and train yards.

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Updated: 2/11/2012

## ITEM 5: Car Placement and Train Make-Up Restrictions

- [Item 5-A: Shipments of Excessive Height/Width](#)
- [Item 5-B: System Train Make-Up Requirements](#)
- [Item 5-C: Corridor and Subdivision Train Make-Up and Helper Placement Requirements](#)

### Item 5-A: Shipments of Excessive Height/Width

Position dimensional loads, excess high wide shipments and unusual shipments (including those identified as high value on the consist) that require close attention as close to the engine as possible, but no closer than the sixth car from an occupied engine or caboose. When positioning a shipment, each platform/well of a multiplatform car is to be considered as one car.

The following must be considered when placing excessive dimension loads, unusual shipments that require close attention or high value loads:

- Equipment requiring handling on the rear end only.
- Train Make-Up requirements take precedence unless directed otherwise.

#### Excessive Dimension Load

The following classes of equipment will be covered by instructions from a Manager Clearances and/or a track bulletin concerning movement:

- Excessive dimension load.
- or**
- Other unusual shipments that require close attention.

An "**Excessive Dimension Load**" is any load with a width more than 12 feet. At least twelve hours ahead of the train's departure, local managers must notify Train Management of the train in which they would like to place the excessive dimension load. Excessive dimension loads may only be scheduled to the train by Train Management. Upon Train Management's approval, the train dispatcher will issue a wide load notification track bulletin:

- To the train that will handle the excessive dimension load.
- To trains that may meet, pass or be passed by the train handling the excessive dimension load.

If the conductor does not receive a track bulletin covering such shipments, notify the train dispatcher before moving the train.

#### Dimensional Load

A "Dimensional Load" is any load with a width of 11 feet 0 inches to 12 feet 0 inches, inclusive, as shown on the train consist. ~~If a conductor has the consist includes a dimensional load the conductor must conduct a job briefing with and has received track bulletin notification of an excessive dimension load on another train that their train may meet or pass, the conductor must notify the train dispatcher before moving the train reviewing all operating restrictions for their route.~~

The conductor must notify other crew members of the presence of both excessive dimension loads and dimensional loads before movement of the train.

#### Speed Restricted Areas

Trains handling dimensional or excessive dimension loads must not exceed 30 mph until load is beyond restricted area. Train dispatcher may authorize normal speed when other trains are not in the area to be met or passed. Restricted areas will be listed in subdivision special instructions.

#### Special Handling Guidelines for High Wide or High Value Loads

When the train consist indicates there are High Wide or High Value Loads that require close attention in the train, the following governs:

- These loads must be inspected by a Mechanical representative at time of interchange or release from an industry to ensure loads are properly braced and secured for safe damage-free transportation.
- These loads must not remain in a consist during switching operations.
- These loads must not be kicked or humped.
- Other cars must not be kicked or humped against these loads.
- The air brake system must be charged and used when spotting/pulling these loads.
- At terminals, these loads must be set to a special hold track designated to hold/process such loads.

- These loads must be positioned in a train in accordance with system and subdivision special instructions.

## General Order

### Change first paragraph under Dimensional Load to read:

A "Dimensional Load" is any load with a width of 11 feet 0 inches to 12 feet 0 inches, inclusive, as shown on the train consist. If the consist includes a dimensional load the conductor must conduct a job briefing with the train dispatcher before moving the train reviewing all operating restrictions for their route.

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## Item 5-B: System Train Make-Up Requirements

When a TCS consist specifies train make-up requirements for train type different from train symbol, TCS consist will govern.

Example: QHONL 14 will operate as a bulk train.

### 1. Use the table below to determine general responsibility when a train does not meet train make-up requirements.

Train Make-Up Does NOT Meet the Train Make-Up Requirements				
	Notify Train Dispatcher	Notify yardmaster or proper authority	Speed is not to exceed  45 MPH	Correct Condition
Train was received from another railroad.	Yes	Yes, if applicable.	Yes	As directed by the train dispatcher or at the first location train is scheduled to be switched.
Other trains (i.e. home terminal).	NA	Yes	NA	Train is not to leave terminal until condition corrected.
Placement error is discovered enroute.	Yes	NA	Yes	Correct condition at next available location.

**Note:** Trains (including trains received from another railroad) must meet train make-up requirements before entering code "H" territory.

### 2. Maximum Train Length and Tonnage Restrictions

Table A. Maximum Length

Table A.

Length	Description
8,500 feet	Behind head end consist to head end of DP remote consist.
10,000 feet	Behind head end consist to EOT
10,000 feet	Trains consisting entirely of COFC type equipment (single well cars and / or multi well cars listed Item 2-G Table C 1.) from behind head consist to head end of DP remote consist.
15,000 feet	Train with entrained EOT repeater. Distance between the repeater and the head or rear end of the train must not exceed 8,500 feet.

18,000 feet	Train with entrained DP remote consist(s) must not exceed 18,000 feet between rear of head end consist and head end of rear DP remote consist. Maximum distance between rear of any consist to the head end of the next remote consist must not exceed 6,000 feet  <b>Note:</b> If train has no rear DP remote consist, the 15,000 foot restriction applies.
80 cars	<u>Loaded</u> trains containing 60 or more multilevel cars (Auto Racks) must not exceed a total of 80 cars, platforms or wells. <u>Empty</u> trains must not exceed 10,000 feet.
	<u>Loaded or Empty</u> Military Trains

**Table B. Maximum Trailing Tonnage/TPA**

Train Type	Territory Grade .5% or less	Territory Grade >.5% and < .84%
Intermodal	650 TPA	400 TPA
Manifest	800 TPA	500 TPA
Bulk Commodity	800 TPA	575 TPA

**Note:** If territory grade exceeds .84% refer to corridor or subdivision tables in Item 5-C for TPA limits.

**Table C. Maximum EPA/EDBA**

Head End & Helper Consist EPA/EDBA Standard System Limits						
Train Type	Maximum EPA			Maximum EDBA		
	Head end	Cut-in Helper	Rear Helper	Head end	Cut-in Helper	Rear Helper
Intermodal Equipment, only	62	48	23	28	40	28
Manifest Trains	52*	48	23	28	40	28
Empty Bulk Commodity Unit Train (or Loaded with some empty cars)	52*	36	24	33	40	28
Loaded Bulk Commodity Unit Train (no empty cars in train)	52*	55	28	33	40	28

\* Limit head end EPA to 36 axles on grades exceeding 1.9% on Bulk and Manifest trains.

**Note:** To determine EPA or EDDBA limits for this table, when EPA or EDDBA limits are exceeded by less than one whole number, round down to the next whole number. Example: 48.4 EPA becomes 48 EPA.

### 3. Car Placement Restrictions General

**Note:** The addition of helper(s) may not be used to provide relief from the following car placement restrictions. Any placement errors will be indicated on the TCS 'detailed' train consist, e.g. BC ILBNO 03 D. If no errors are indicated, the detailed BC train consist will govern train make-up and helper placement. Additional car placement restrictions are also listed in Item 5-C.

#### Car Placement Restrictions

<b>Trains Total Trailing Tonnage Exceeds 7,000 tons</b>	<p>Rear 1/4 of the train must not weigh more than 1/3 of the total weight (i.e. a 100 car train weighing 9000 tons must not have more than 3000 tons in the rear 25 cars. Round up fractions, a 102 car train weighing 9002 tons must not have more than 3001 tons in the rear 26 cars).</p> <p><b>Exception:</b> This does not apply to:</p> <ul style="list-style-type: none"> <li>• Trains made up entirely of cars weighing a minimum of 45 tons each.</li> <li>• Solid loaded or solid empty unit bulk commodity trains.</li> <li>• Trains made up entirely of intermodal equipment.</li> </ul>
<b>Trains Total Trailing Tonnage Exceeds 5,500 tons but not more than 12,000 tons</b>	<p>Place cars listed below no closer than the 11th car/platform behind the lead consist:</p> <ul style="list-style-type: none"> <li>• Car that is 80 feet or longer and weighs less than 45 tons.</li> <li>• Multi-platform/well cars having one or more empty platform/well cars.</li> <li>• <u>Autoracks weighing less than 60 tons, except when train consists entirely of autoracks.</u></li> </ul>
<b>Trains Total Tonnage Exceeds 12,000 tons</b>	<p>Place cars listed below no closer than the 16th car behind the lead consist:</p> <ul style="list-style-type: none"> <li>• Car that is 80 feet or longer and weighs less than 45 tons.</li> <li>• Multi-platform/well cars having one or more empty platform/well cars.</li> <li>• Conventional car which weighs less than 45 tons.</li> <li>• Intermodal flatcar 80 feet or longer in length loaded with a single trailer or container. This also applies to two unit, solid drawbar connected, twin flatcars (186 feet in total length) with a single trailer/ container on either platform.</li> <li>• Two-unit solid drawbar-connected long cars (P2) if the total weight of the car is less than 120 tons.</li> <li>• Three and four-unit solid drawbar-connected multi-platform/well cars (P3 / P4) with any platform weighing less than 45 tons.</li> <li>• <u>Autoracks weighing less than 60 tons, except when train consists entirely of autoracks.</u></li> </ul>
<b>Long Car/Short Car</b>	<p>Do not couple freight cars 80 feet or longer to any car 45 feet or shorter when weight behind the coupling would exceed 3000 tons. However, this does not apply to:</p> <ul style="list-style-type: none"> <li>• A locomotive crane 45 feet or shorter when coupled to a boom idler car 80 feet or longer.</li> <li>• A car listed in the TCS train consist as 80 feet and the consist does not show a train placement error.</li> </ul> <p><b>Note:</b> For purposes of this restriction, each unit of an articulated car is to be considered one car.</p>
<b>Rear End Only Equipment (see Note)</b>	<p>Entrain equipment tagged, stenciled, billed or shown on the train consist as "Rear End Only" or "Rear Rider" as rear car of the train unless the mechanical department specifies that it must be the second car from the rear .</p> <p>This also includes the following equipment:</p> <ul style="list-style-type: none"> <li>• Five platform solid drawbar cars (in series CN 677000-677139).</li> <li>• Gondola cars in series AMGX that are solid-drawbar connected. On the TCS train consist, the symbol 2-P on AMGX cars indicates 2 platforms that are solid drawbar connected.</li> </ul> <p>Passenger cars with initials MTDX must be placed in a train immediately ahead of the rear car of the train.</p>
<b>Entrained Locomotives</b>	<p>When locomotive(s) are entrained at rear of a train refer to Rule 31.17.2.</p>
<b>Shoving Platforms* (see Note)</b>	<p>Move shoving platforms (caboose), only at the rear of the train. However, this requirement does not apply when handling less than 20 cars and not exceeding 2500 tons.</p>



<b>Note: Helper Restriction</b>	Any helper must be placed ahead of this equipment. When helper is located to pull less than ½ half the tonnage handled by the helper, the helper must be considered a rear end helper in regard to restricted car limits.
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**4. The following train makeup restrictions apply West of North Platte, Denver and El Paso.**

Type of Car	Maximum Trailing Tonnage Behind Car	
	4500 Tons	5500 Tons
Multiplatform spine car	One or more empty platforms	Has all platforms loaded
Multi-platform/well cars; Solid drawbar connected multi-well car Single unit well car.	One or more empty wells	
Two-unit solid drawbar connected long car.	One or more empty platforms	

**General Order**

**Add as new first paragraph:**

When a TCS consist specifies train make-up requirements for train type different from train symbol, TCS consist will govern.

Example: QHONL 14 will operate as a bulk train.

**Add the following to Table C in Part 2.**

Under Maximum EPA table, "Head end" add symbol \* to the entries that contain 52 EPA.

**Add the following sentence under Table C.**

\*Limit head end EPA to 36 axles on grades exceeding 1.9% on Bulk and Manifest trains.

**Under Part 2. "Maximum Train Length and Tonnage Restrictions".**

Change Table A, last entry - Maximum Train Length to read:

80 cars	Loaded trains containing 60 or more multilevel cars (Auto Racks) must not exceed a total of 80 cars, platforms or wells. Empty trains must not exceed 10,000 feet.
	Loaded or Empty Military Trains

Change Table B. Maximum Trailing Tonnage/TPA to read:

Train Type	Territory Grade .5% or less	Territory Grade >.5% and < .84%
Intermodal	650 TPA	400 TPA
Manifest	800 TPA	500 TPA
Bulk Commodity	800 TPA	575 TPA

Note: If territory grade exceeds .84% refer to corridor or subdivision tables in Item 5-C for TPA limits.

**Under Part 3. "Car Placement Restrictions".**

Add autorack restriction to table in the second and third cells as shown:

<b>Trains Total Trailing Tonnage Exceeds 5,500 tons but not more than 12,000 tons</b>	Place cars listed below no closer than the 11th car/platform behind the lead consist:  ADD THE FOLLOWING RESTRICTION:  <ul style="list-style-type: none"> <li>• Autoracks weighing less than 60 tons, except when train consists entirely of autoracks.</li> </ul>
<b>Trains Total Tonnage Exceeds 12,000 tons</b>	Place cars listed below no closer than the 16th car behind the lead consist:  ADD THE FOLLOWING RESTRICTION:  <ul style="list-style-type: none"> <li>• Autoracks weighing less than 60 tons, except when train consists entirely of autoracks.</li> </ul>

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## Item 5-C: Corridor and Subdivision Train Make-Up and Helper Placement Requirements

### 1. Train Make-up and Helper Requirements

a. The following cars must not be entrained within any restricted car limits:

- Multi-platform/well cars having one or more empty platform/wells.
- Autoracks weighing less than 60 tons, except when train consists entirely of autoracks.
- Conventional car which weighs less than 45 tons. Does not apply to empty bulk commodity unit trains.
- Intermodal flatcar 80 feet or longer in length loaded with a single trailer or container. This also applies to two unit, solid drawbar connected, twin flatcars (186 feet in total length) with a single trailer/container on either platform.
- Car 45 feet or less coupled to a car 80 feet or longer regardless of weight (does not apply to multi-platform equipment unless individual platforms are 80 feet or longer).
- Two-unit solid drawbar-connected long cars (P2) if the total weight of the car is less than 120 tons.
- Three and four-unit solid drawbar-connected multi-platform/well cars (P3 / P4) with any platform weighing less than 45 tons.

b. Restricted equipment above in part "a" must be properly placed in the train. Use the tables below to determine proper placement. These restrictions are in addition to system train make-up requirements and car placement restrictions in Item 5-B.

<b>"L" Territories (Behind Consist)</b>	
<b>Tonnage behind lead locomotive consist and any entrained consist is:</b>	<b>Place restricted equipment no closer behind lead or helper consist than:</b>
5500 to 12000 tons	10 Cars/Platforms/Wells
12001 tons and greater	15 Cars/Platforms/Wells
<b>"H" territories (Behind Consist)</b>	
<b>Tonnage behind lead locomotive consist and any entrained consist is:</b>	<b>Place restricted equipment no closer behind lead or helper consist than:</b>
3500 to 4000 tons	5 Cars/Platforms/Wells
4001 to 4500 tons	10 Cars/Platforms/Wells
4501 tons and greater	15 Cars/Platforms/Wells
<b>Restricted Car Placement Ahead of Consist</b>	
<b>Other than "H" territories (Ahead of Consist)</b>	
<b>If cut-in helper EPA is:</b>	<b>Place restricted equipment no closer ahead of helper than:</b>

20 or Less	No Restrictions
21 to 34	5 Cars/Platforms/Wells
35 to 48	10 Cars/Platforms/Wells
<b>If rear helper EPA is:</b>	<b>Place restricted equipment no closer ahead of helper than:</b>
10 or Less	No Restrictions
11 to 20	5 Cars/Platforms/Wells Exception: Conventional car which weighs less than 45 tons does not apply.
21 to 23	10 Cars/Platforms/Wells
<b>"H" territories (Ahead of Consist)</b>	
<b>If cut-in helper EPA is:</b>	<b>Place restricted equipment no closer ahead of helper than:</b>
20 or Less	No Restrictions
21 to 28	5 Cars/Platforms/Wells
29 to 36	10 Cars/Platforms/Wells
37 to 48	15 Cars/Platforms/Wells
<b>If rear helper EPA is:</b>	<b>Place restricted equipment no closer ahead of helper than:</b>
10 or Less	No Restrictions
11 to 14	5 Cars/Platforms/Wells Exception: Conventional car which weighs less than 45 tons does not apply.
15 to 19	10 Cars/Platforms/Wells
20 to 23	15 Cars/Platforms/Wells

## 2. Coupler Limits with Helper(s), Helper Placement, and Train Power Balance

Trains that exceed the coupler limits for a territory must have locomotive(s) placed within or behind the trailing tonnage to avoid exceeding the designated coupler limit. When a helper will be cut-in, it is necessary to determine the proper balance between the lead power and the helper for safe train operations. The actual TPA of the train, rather than a pre-defined "factor", is used to calculate correct cut-in helper placement, trailing tonnage and proper power balance.

Follow these steps to determine the correct helper placement, power balance and trailing tonnage for helper consists:

**Step 1: Determine Total EPA:** Add the EPA of the lead consist and all helper power together. Use only the EPA that will actually be used on each locomotive:

**EPA lead consist + EPA helper consist(s) = Total EPA**

**Step 2: Calculate the TPA:** Divide the total tonnage of the train by the total EPA:

$$\text{Total Train Tonnage} \div \text{Total EPA} = \text{TPA}$$

**Note:** When calculating TPA, use the actual EPA number, do not round off. When the resulting TPA is not a whole number round up to the next whole number.

**Step 3: Determine placement of a cut-in helper:** This step does not apply to trains with rear helper only. Trains with cut-in helper of 23 EPA or less are not required to use formula. Restricted car and coupler limits apply.

Use one of the following methods as applicable.

- **Cut-in helper without rear helper:**

Multiply the TPA by ½ the helper EPA. This number is the tonnage to be placed behind the helper and must be less than the coupler limit. A helper may be moved up to five cars or platforms/wells ahead of or behind the calculated position to comply with restricted car requirements or hazardous material placement in train requirements.

$$\text{TPA} \times \frac{1}{2} \text{ helper EPA} = \text{tonnage to be placed behind cut-in helper}$$

or

- **Cut-in helper + rear helper:**

Add ½ of the EPA of the cut-in helper to the EPA of the rear helper. Multiply this figure by the TPA. This number is the tonnage to be placed behind the cut-in helper. A helper may be moved up to five cars or platforms/wells ahead of or behind the calculated position to comply with restricted car requirements or hazardous material placement in train requirements.

$$(\text{Rear EPA} + \frac{1}{2} \text{ EPA cut-in helper}) \times \text{TPA} = \text{tonnage to be placed behind cut-in helper.}$$

**Step 4: Determine that the trailing tonnage handled by each consist is less than the coupler limits.** Use the following to determine the tonnage handled by each consist.

- **Tonnage pulled by Lead Consist:** Multiply the EPA of lead consist by the TPA. This figure must be less than the coupler limit for the territory. Applies to trains with cut-in helper, (with or without rear helper), and trains with rear only help.

$$\text{EPA of lead consist} \times \text{TPA} = \text{tonnage pulled by lead consist}$$

(Must be less than coupler limit)

- **Tonnage pulled behind cut-in helper without rear help:**

Multiply ½ of the EPA of the helper by the TPA. This number must be less than the coupler limit for the territory.

- **Tonnage pulled behind cut-in helper with rear help:**

Multiply the EPA of the rear consist by the TPA. Subtract this figure from the tonnage placed behind helper figure from Step 3. This number must be less than the coupler limit for the territory.

### 3. Coupler Limit is Exceeded

If the coupler limit is exceeded, one or a combination of the following may be necessary:

- Road power rearranged (Move units from the lead consist to the helper.)
- Add power to the helper.
- Add additional helper consist.

or

- Reduce Tonnage.

In addition, the lead cars of a manifest train may be equipped with high strength couplers. If the first car behind locomotive is determined to have high strength couplers, the accumulated tonnage of that car and any consecutive cars equipped with high strength couplers may be added to the standard strength coupler limit, not to exceed the high strength limit.

## Territory Codes

### Code "L"

Code "L" is used to identify territories or corridors with relatively light grades and low to moderate track curvature in the coupler limit tables.

### Code "H"

Code "H" is used to identify territories or corridors with heavier grades and severe track curvature in the coupler limit tables.

## Glossary

### Coupler Limit

The location in the train where maximum trailing tonnage allowed for a standard or high strength coupler occurs. Helper locomotive(s) may be used to reduce the amount of tonnage handled by a consist.

### Conventional Car

A rail car, such as a gondola, hopper, intermodal flat car, box car, bulkhead flat car, or a car other than a multi-platform (spine car) or multi-well car.

### Restricted Car Placement

When rules restrict the placement of cars, each platform or well is to be considered one car.

### Standard and High Strength Couplers

Each car is to be considered equipped with a standard type coupler unless it is known the car is equipped with high strength couplers. Coal cars, covered hopper cars, auto rack cars and cars designed to carry TOFC/COFC are equipped with high strength couplers. If it is not known that a car is equipped with high strength couplers, it can be determined by looking at the coupler casting identification located on top of the coupler. A high strength coupler will have the letter "E" or "EX" as the last character of identification. Examples of high strength coupler identifications are E60HTE, SBE60CE, E60DE, EF512WEX.



## 4. TPA and Coupler Limits Table by Corridor

TPA shown on TCS consist must not be exceeded. If TCS consist is not available, use TPA table shown below to determine maximum TPA for route to be operated over. The trailing tonnage must not exceed the tonnage listed in Item 5-B-2, Table B. TPA and coupler limits apply for movement on the entire corridor. When train will not traverse the entire corridor, comply with timetable subdivision limits, when applicable. If no subdivision limits apply to route the train will traverse, tonnage and TPA limits default to Item 5-B-2, Table B. The trailing tonnage behind the lead consist or entrained helper must not exceed the tonnage listed.

**Note:** On territories where bulk TPA is higher than manifest TPA, bulk trains operating with more than one DC locomotive must not exceed TPA for manifest trains.

TPA requirements will not apply to loaded bulk commodity unit trains operating with less than 3 locomotives on the following service units and their respective subdivisions:

- North Platte
- Council Bluffs
- Chicago
- Twin Cities

### Train Make-Up Restrictions

#### Tons Per Equivalent Powered Axle (TPA) and Coupler Limits Table by Corridor

From	To	Territory Code	TPA			Coupler Limit	
			Bulk	Manifest	Intermodal	Standard	High Strength
Alazon	Salt Lake City (via Shafter)		430	430	342	12384	16888
Burbank Jct.	Palmdale (SCRRA)	H	193	193	152	5826	7944
Chicago	N. Little Rock		504	504	402	14470	19731
Chicago	North Platte (via Blair)		430	430	342	12384	16888
Chicago	North Platte (via Omaha)		417	347	276	10108	13784
Chicago	North Platte (via StL & K City)		347	347	276	10108	13784
Denver	G. Junction	H	198	198	160	6110	8332
El Paso	Ft. Worth		355	355	282	10336	14095
El Paso	Houston		347	347	276	10108	13784
El Paso	Kansas City		421	421	335	12165	16589
El Paso	Yuma	L	406	322	256	9416	12840
Ft Worth	El Paso		324	324	258	9481	12929
Ft.Worth	Kansas City		358	358	285	10415	14202
Ft.Worth	N. Little Rock (via Mineola)		376	376	299	10910	14878
Grand Junction	Denver	H	226	207	166	6307	8600
Grand Junction	Provo	H	180	180	142	5478	7469

Houston	El Paso		304	304	242	8927	12173
Houston	N. Little Rock (via Palestine Sub)		361	361	287	10494	14310
Kansas City	El Paso		406	406	323	11750	16022
Kansas City	Ft Worth		540	410	326	11851	16160
Kansas City	So. St. Paul		456	430	342	12384	16888
Klamath Falls	Portland		473	473	377	13610	18560
Klamath Falls	Roseville	H +	430	430	342	12384	16888

+ = Additional restrictions on Black Butte Subdivision

Memphis	Pine Bluff		425	425	338	12274	16737
Nampa	North Platte	L	300	300	239	8813	12017
Nampa	Portland	H	170	159	156	5952	8116
North Elmhurst (Coast)	San Luis Obispo	H	286	195	154	5901	8046
N. Little Rock	Memphis		437	430	342	12384	16888
North Platte	Chicago (via Blair)		540	430	342	12384	16888
North Platte	Nampa	L	370	300	239	8813	12017
North Platte	Sparks (via Lakeside)	L	406	322	256	9416	12840
North Platte	Yermo	H	430	430	342	12384	16888
Palmdale	Burbank Jct. (SCRRA)	H	197	197	156	5952	8116
Pine Bluff	Ft. Worth		376	376	299	10910	14878
Pine Bluff	Houston (via Lufkin Sub)		330	274	217	8087	11028
Portland	Klamath Falls	H	170	170	170	7198	9815
Portland	Nampa	H	172	172	172	6516	8885
Provo	Grand Junction	H	207	207	172	6516	8885
Roseville	Klamath Falls	H +	197	168	168	5200	5200

+ = Additional restrictions on Black Butte Subdivision

Roseville	Sparks	H	165	165	153	5850	7978
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<b>Mineola</b>	SP Jct. and Longview		376	376	299	10910	14878
<b>Baird</b>	Ft. Worth to Sweetwater		324	324	258	9481	12929
	Sweetwater to Ft. Worth		361	361	287	10494	14310
<b>Enid</b>	El-Reno to Chickasha		450	450	358	12969	17684
	Chickasha to El-Reno		417	417	332	12059	16444
<b>Lawton</b>	Chickasha to MP 42.7		430	430	342	12384	16888
<b>Duncan</b>	Chickasha to Saginaw		540	450	358	12969	17684
	Saginaw to Tower 55 (via Peach Yard)		397	281	223	8282	11293
	Saginaw to Tower 55 (via BNSF Wichita Falls Sub)		540	430	342	12384	16888
	Tower 55 to Chickasha		361	361	287	10494	14310
<b>Ft. Worth</b>	Tower 55 to Valley Jct.		540	421	335	12165	16589
	Waco to Tower 55		473	473	377	13610	18560
<b>Waco</b>	Waco to Smithville		339	339	270	9890	13487
	Smithville to Waco		361	361	287	10494	14310
<b>Smithville</b>	Smithville Jct. to S. LCRA		540	430	342	12384	16888
	S. LCRA to Smithville Jct.		473	473	377	13610	18560
<b>Choctaw</b>	Durant to Tower 55		540	410	326	11851	16160
	Tower 55 to McAlester		358	358	285	10415	14202
<b>Ennis</b>	SP Jct. to Hearne		540	414	329	11954	16301

	Hearne to SP Jct.		<del>430</del> 540	430	342	12384	16888
<b>Midlothian</b>	Midlothian Jct. to Garrett Jct.		540	410	326	11851	16160
	Garrett Jct. to Midlothian Jct.		334	334	265	9750	13295
<b>Corsicana</b>	Big Sandy to Corsicana		410	410	326	11851	16160
	Corsicana to Big Sandy		430	430	342	12384	16888
<b>Athens</b>	Regency Gas to Athens Jct.		421	421	335	12165	16589
	Athens Jct. to Regency Gas		414	414	329	11954	16301
<b>Hearne</b>	West Jct. (Palestine) to Hearne		430	430	342	12384	16888
	Hearne to West Jct. (Palestine)		430	430	342	12384	16888

**Denver Area Timetable**

Subdivision	Territory	Terr. Code	TPA			Coupler Limits	
			Bulk	Manifest	Inter-modal	Standard	High Strength
<b>Greeley</b>	Carr to Speer		429	361	287	10494	14310
<b>Moffat Tunnel</b>	Leyden to East Portal	H	155	155	155	6110	8332
	Tabernash to Winter Park	H	215	180	166	6307	8600
	Bond to Crater	H	226	207	166	6307	8600
	Phippsburg to Toponas	H	238	238	188	7087	9664
<b>Craig</b>	Sidney to Phippsburg	L	242	242	192	7198	9815
	Craig to Sidney		430	430	342	12384	16888

<b>Glenwood Springs</b>	Glenwood to Shoshone		334	334	265	9750	13295
<b>Colorado Springs</b>	Louviers to Palmer Lake		307	307	244	8985	12253
	Colorado Springs to Palmer Lake	L	273	273	216	8040	10963
<b>Walsenburg</b>	Pueblo to Minnequa		307	307	244	8985	12253
<b>Spanish Peaks (BNSF Trackage)</b>	Trinidad to Walsenburg		382	382	304	11086	15118
<b>Limon</b>	Sharon Springs and Denver		454	392	312	11361	15493
<b>Tennessee Pass</b>	Pueblo to Tennessee Pass		291	291	230	8539	11644
	Dotsero to Tennessee Pass		142	142	111	4421	6028
<b>North Fork</b>	Grand Jct. to Somerset		430	430	342	12384	16888

**Houston Area Timetable**

<b>Paletine</b>	Conroe to Paletine		361	361	287	10494	14310
	Paletine to Longview		410	410	326	11851	16160
	Longview to Spring Jct.		379	379	302	10998	14997
<b>Lufkin</b>	Shreveport to Tenaha		<u>390</u>	<u>325</u>	<u>258</u>	<u>9481</u>	<u>12929</u>
<b>Lufkin</b>	Tenaha to Prosser		330	274	217	8087	11028
	Prosser to Houston		390	325	258	9481	12929
	Houston to Shreveport		307	307	243	8985	12253
<b>Giddings</b>	Hearne to West Point.		540	425	338	12274	16737
	West Point to Hearne		430	430	342	12384	16888
<b>Cuero</b>	West Point to Placedo		540	379	302	10998	14997
	Placedo to West Point		364	364	289	10575	14420

<b>Bryan</b>	Hearne and Bush Jct.		430	430	342	12384	16888
<b>Glidden</b>	Eagle Lake to Flatonia		304	304	242	8927	12173
	Flatonia to San Antonio		540	388	317	11552	15753
	San Antonio to Eagle Lake		391	347	276	10108	13784
<b>Huey Long Bridge</b>	(Eastward)		361	361	287	10494	14310
<b>(NOPB)</b>	(Westward)		361	361	287	10494	14310

<b>Iowa Area Timetable</b>							
<b>Subdivision</b>	<b>Territory</b>	<b>Terr. Code</b>	<b>TPA</b>			<b>Coupler Limits</b>	
			<b>Bulk</b>	<b>Manifest</b>	<b>Inter-modal</b>	<b>Standard</b>	<b>High Strength</b>
<b>Oskaloosa</b>	Marshalltown to Bridgeport		430	430	342	12384	16888
	Bridgeport to Marshalltown		399	399	317	11552	15753
<b>Tara</b>	Mallard to Mooreland		520	430	342	12384	16888
	Grand Junction to Mallard		430	430	342	12384	16888
<b>Ft. Dodge</b>	Belmond and Forest City		430	430	342	12384	16888
<b>Laurens</b>	Rolfe to Albert City		473	473	377	13610	18560
<b>Mason City</b>	Mason City to Chicago Jct.		430	430	342	12384	16888
	Des Moines to Mason City		456	430	342	12384	16888
<b>Jewel</b>	Eagle Grove to North Burt		410	410	326	11851	16160

	North Burt to Eagle Grove		430	430	342	12384	16888
<b>Estherville</b>	Goldfield to Superior		291	291	230	8539	11644
	Superior to Goldfield		450	392	312	11361	15493

<b>Kansas City Area Timetable</b>							
<b>Subdivision</b>	<b>Territory</b>	<b>Terr. Code</b>	<b>TPA</b>			<b>Coupler Limits</b>	
			<b>Bulk</b>	<b>Manifest</b>	<b>Inter-modal</b>	<b>Standard</b>	<b>High Strength</b>
<b>KC Terminal (KCT Trackage)</b>	Terminal Jct. to Sheffield		361	361	287	10494	14310
<b>Trenton</b>	Kansas City to Trenton		430	430	342	12384	16888
<b>Sedalia</b>	Jefferson City to Kansas City		347	347	276	10108	13784
	Kansas City to Jefferson City		378	322	256	9416	12840
<b>Parsons</b>	Paola to Parsons		540	430	342	12384	16888
	Parsons to Paola		379	379	302	10998	14997
<b>Cherokee</b>	Parsons to Wagoner		540	430	342	12384	16888
	<del>McAlester to Wagoner</del>		<del>403</del>	<del>403</del>	<del>320</del>	<del>11650</del>	<del>15886</del>
	<u>Wagoner to Oolaga</u>		<u>430</u>	<u>430</u>	<u>342</u>	<u>12384</u>	<u>16888</u>
<b>Coffeyville</b>	Kansas City to Paola		540	430	342	12384	16888
	Paola to Kansas City		473	473	377	13610	18560
<b>FallsCity</b>	16 <sup>th</sup> Street to Atchison		<del>430</del>	392	312	11361	15493
			540				

	Atchison to 16 <sup>th</sup> Street		417	322	256	9416	12840
<b>Tulsa</b>	Chase to Broken Arrow		430	430	342	12384	16888
	Broken Arrow to Chase		464	464	369	13346	18199
<b>Hiawatha</b>	Upland to Hiawatha		361	361	287	10494	14310
	Hiawatha to Upland		392	392	312	11361	15493

<b>Los Angeles Area Timetable</b>							
<b>Subdivision</b>	<b>Territory</b>	<b>Terr. Code</b>	<b>TPA</b>			<b>Coupler Limits</b>	
			<b>Bulk</b>	<b>Manifest</b>	<b>Inter-modal</b>	<b>Standard</b>	<b>High Strength</b>
<b>Los Angeles</b>	Riverside to Summit (BNSF Trks. 1&2)	H	190	190	150	5753	7844
	Riverside to Summit (BNSF Trk 3 )	H	142	142	111	4420	6028
	Victorville to Summit (BNSF)	L	276	276	219	8135	11093
<b>Mojave</b>	Bakersfield to Illmon	L	291	291	230	8539	11644
	Illmon to Summit Switch	H	188	160	149	5705	7779
	West Colton to Highland	H	238	195	154	5901	8046
	Mojave to Summit Switch	H	238	194	153	5875	8012
<b>Yuma</b>	Bryn Mawr to Beaumont	L	230	230	182	6874	9374
	Garnet to Beaumont	L	221	221	175	6610	9013

<b>Santa Barbara/ Ventura(SCRRA)</b>	San Luis Obispo to CP Burbank Jct (SCRRA)		358	358	285	10415	14202
	CP Burbank Jct. (SCRRA) to San Luis Obispo		386	386	307	11176	15241
<b>AlamedaCorridor</b>	Redondo to West Thenard		376	376	299	10910	14878
	West Thenard to Redondo		382	382	304	11086	15118
<b>Los Nietos</b>	Bartolo to Compton		425	425	338	12274	16737
	Compton to Bartolo		414	414	329	11954	16301
<b>Alhambra</b>	West Colton to Taylor Jct.		430	430	342	12384	16888
	Taylor Jct. to West Colton		410	410	326	11851	16160
<b>SCRRA (Valley) Trackage</b>	CP Burbank Jct. to Vincent	H	193	193	152	5826	7944
	Palmdale to CP Burbank Jct.	H	197	197	156	5952	8116
<b>Lone Pine</b>	Mojave to Searles		281	230	182	6874	9374
	Searles to Mojave		421	421	335	12165	16589
<b>El Centro</b>	El Centro to Plaster City		494	494	393	14171	19325

**North Little Rock Area Timetable**

Subdivision	Territory	Territory Code	TPA			Coupler Limit	
			Bulk	Manifest	Intermodal	Standard	High Strength
<b>Little Rock</b>	Texarkana and Marshall		473	473	377	13610	18560
<b>Nashville</b>	Perkins to Hope		276	276	219	8135	11093
	Hope to Perkins		245	245	194	7274	9919



<b>Pine Bluff</b>	Pine Bluff to Big Sandy		379	379	302	10998	14997
	Big Sandy to Pine Bluff		425	425	338	12274	16737
<b>El Dorado</b>	El Dorado Jct. to MP496.0		430	430	342	12384	16888
	MP496.0 to El Dorado Jct.		469	469	373	13477	18378
<b>Commerce</b>	Dallas Jct and MP489.4		334	334	265	9750	13295
<b>Shreveport</b>	Shreveport Jct. to Shreveport		403	403	320	11650	15886
	Shreveport to Shreveport Jct.		406	406	323	11750	16022
<b>Memphis</b>	Wynne to Memphis		437	430	342	12384	16888
<b>Helena</b>	Wynne to Helena Jct.		358	358	285	10415	14202
<b>Brinkley</b>	Briark and Brinkley		425	425	338	12274	16737

<b>North Platte Area Timetable</b>							
<b>Subdivision</b>	<b>Territory</b>	<b>Terr. Code</b>	<b>TPA</b>			<b>Coupler Limits</b>	
			<b>Bulk</b>	<b>Manifest</b>	<b>Inter-modal</b>	<b>Standard</b>	<b>High Strength</b>
<b>Laramie</b>	Cheyenne to Dale Jct. (via Sherman)		283	283	224	8332	11362
	Laramie to Dale Jct. (via Red Buttes)		273	273	216	8040	10963
<b>Powder River and Orin</b>	South Morrill to Caballo Jct.		540	430	342	12384	16888

	Caballo Jct. to Jireh		540	430	342	12384	16888
Yoder	Yoder to Egbert		360	329	262	9614	13110
	Egbert to Hawk Springs		499	499	397	14319	19526

Portland Area Timetable							
Subdivision	Territory	Terr. Code	TPA			Coupler Limits	
			Bulk	Manifest	Inter-modal	Standard	High Strength
Nampa	Glenns Ferry to Reverse (Trk 1)	L	370	300	239	8813	12017
	Glenns Ferry to Reverse (Trk 2)	L	273	273	216	8040	10963
	Glenns Ferry to Ticeska (Trk 1)		300	300	239	8813	12017
	Glenns Ferry to Ticeska (Trk 2)		300	300	239	8813	12017
Huntington	Huntington to Encina	H	170	159	156	5952	8116
	La Grande to Encina	L	291	291	230	8539	11644
La Grande	Huron to East La Grande	H	172	172	172	6516	8885
	East La Grande to Huron	H	170	159	156	5952	8116
Montana	Idaho Falls to Lima	H	180	180	142	5478	7467
	Lima to Silver Bow	H	300	300	238	8813	12017
	Silver Bow to Dillon	H	217	217	172	6516	8885
	Dillon to Humphrey	H	376	376	299	10910	14878
Brooklyn	Portland to Woodburn		414	414	329	11954	16301
	Eugene to Oakridge		469	469	373	13477	18378
	Woodburn to Portland		473	473	377	13610	18560
Cascade	Oak Ridge to Cascade Summit	H	156	156	156	7198	9815

	Klamath Falls to Chemult		499	499	397	14319	19526
<b>Pocatello</b>	McCammon to Kemmerer		430	430	342	12384	16888
<b>DryValley</b>	Soda Springs to <u>Epco</u>		291	291	231	8539	11644
	Epco to DryValley		217	217	172	6516	8885
	Dry Valley to Epco		217	217	172	6516	8885
<b>Portland</b>	Albina to Troutdale  (via Graham)		421	421	335	12165	16589
<b>Bend (BNSF Trackage)</b>	South Jct. to Chemult		291	291	230	8539	11644
<b>Seattle (BNSF Trackage)</b>	Vader to Napavine		473	473	377	13610	18560
	Centralia to Napavine		373	373	297	10825	14761
<b>Ayer</b>	LakeFish to Cheney		493	376	299	10910	14878
<b>Spokane</b>	Spokane to Fisk Lake		493	376	299	10910	14878
	Spokane to Fisk Lake via Overlook		493	430	342	12384	16888
	Bonnars Ferry to Eastport		430	430	342	12384	16888
	Eastport to Shiloh		430	430	342	12384	16888

<b>Roseville Area Timetable</b>							
<b>Subdivision</b>	<b>Territory</b>	<b>Terr. Code</b>	<b>TPA</b>			<b>Coupler Limits</b>	
			<b>Bulk</b>	<b>Manifest</b>	<b>Inter-modal</b>	<b>Standard</b>	<b>High Strength</b>
<b>Canyon</b>	Mitchell to Portola	L	430	430	342	12384	16888
<b>Oakland</b>	Stockton to Melford		430	430	342	12384	16888
<b>Roseville</b>	Rocklin to Colfax Trk 1	H	213	213	168	6395	8720
	Rocklin to Colfax Trk 2	H	291	291	230	8539	11644
	Colfax to Norden	H	165	165	153	5850	7978
	Sparks to Truckee	L	389	389	309	11268	15366

	Truckee to Norden	H	171	171	171	6485	8843
<b>Black Butte</b>	Dunsmuir to Azalea	H +	197	168	<del>156</del> 168	5200	5200
	Azalea to Dunsmuir	H +	Descending Grade				
	Azalea to Grass Lake	L	307	307	244	8985	12253
	Mount Hebron to Grass Lake	H	430	430	342	12384	16888
<b>Valley</b>	South Gerber to Redding		392	392	312	11361	15493
	Redding to Dunsmuir	L	342	342	272	9962	13584
<b>Coast</b>	San Luis Obispo and Santa Margarita	H	286	195	154	5901	8046
<b>Mina</b>	Hazen to Wabuska		469	469	373	13477	18378
	Wabuska to Hazen		473	473	377	13610	18560
<b>Modoc</b>	McArthur to Ambrose		197	197	156	5952	8116
	Klamath Falls to McArthur		232	232	183	6909	9421
+ = Additional restrictions on Black Butte Subdivision							

St. Louis Area Timetable							
Subdivision	Territory	Terr. Code	TPA			Coupler Limits	
			Bulk	Manifest	Inter-modal	Standard	High Strength
<b>Marion</b>	Benton Jct. and Vienna Jct.		540	425	338	12274	16737
<b>Metropolis (BN Trackage)</b>	Metropolis to Vienna Jct.		344	344	274	9650	13275
<b>Pinckneyville</b>	Chester to Mount Vernon		392	392	312	11361	15493

	Mount Vernon to Chester		473	473	377	13610	18560
<b>DeSoto</b>	St. Louis (23 <sup>rd</sup> ST) and Piedmont		347	347	276	10108	13784
<b>Pea Ridge</b>	Cadet to Pea Ridge		322	322	256	9416	12840
	Pea Ridge to Cadet		320	320	254	9352	12753
<b>Sparta</b>	Colterville to Gage Jct.		358 493	358	285	10415	14202
	Gage Jct. to Colterville		200	200	158	6030	8223
<b>Monterey</b>	Nilwood to Monterey Jct.		473	473	377	13610	18560
<b>Jefferson City</b>	E. St. Louis (Valley Jct.) to Kirkwood		433	433	345	12497	17041
	Valley Park to E. St. Louis (Valley Jct.)		565	389	309	11268	15366

**Salina Area Timetable**

Subdivision	Territory	Terr. Code	TPA			Coupler Limits	
			Bulk	Manifest	Inter-modal	Standard	High Strength
<b>Topeka</b>	Topeka to Herington		459	459	336	13218	18024
<b>Sharon Springs</b>	Salina to Sharon Springs		397	291	231	8539	11644
	Sharon Springs to Ellsworth		417	334	265	9650	13295
	Ellsworth to Salina		430	430	342	12384	16888

**Salt Lake Area Timetable**

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Subdivision	Territory	Territory Code	TPA			Coupler Limit	
			Bulk	Manifest	Intermodal	Standard	High Strength
Provo	Helper to Kyune	H	180	180	142	5478	7469
	Castilla to Summit	H	207	207	172	6516	8885
Green River	Grand Jct. to Mounds	L	417	373	296	10825	14761
	Mounds to Helper	L	430	430	342	12384	16888
	Helper to Grand Jct.	L	417	361	287	10494	14310
Evanston	W. Green River to Ogden		<u>430</u>	<u>430</u>	<u>400</u>	<u>n/a</u>	<u>n/a</u>
	Ogden to Strawberry (Trk 1) Strawberry to Wahsatch (Trk 2)	L	417	379	302	10998	14997
	Ogden to Strawberry (Trk 2) Strawberry to Wahsatch (Trk 1)	L	252	252	200	7472	10189
Lakeside	Wells to Moor	L	311	311	247	9104	12415
	Lucin to Valley Pass (Trk 2)	L	313	313	249	9165	12498
	Montello to Valley Pass (Trk 1)	L	406	322	256	9416	12840
Caliente	Milford to Las Vegas		430	430	342	12384	16888
	Crestline to Moapa	H	Descending Grade				
	Las Vegas to Moapa		430	430	342	12384	16888
	Moapa to Crestline	H	211	211	167	6336	8640
Cima	Yermo to Cima	H	197	197	156	5952	8116
	Las Vegas to Kelso	L	430	430	342	12384	16888
Cane Creek	Potash to Brendel		361	361	287	10494	14310
	Brendel to Emkay		291	291	230	8539	11644
Pleasant Valley	Colton to Skyline		142	142	111	4421	6028

<b>Sharp</b>	Provo and Lynndyl		430	430	342	12384	16888
<b>Malad</b>	Malad to Brigham City		450	450	358	12969	17684
<b>Cache Valley</b>	Cache Jct. to Preston		224	224	177	6706	9145
	Preston to Cache Jct.		347	347	276	10108	13784
<b>Shafter</b>	Wendover and Alazon		430	430	342	12384	16888
<b>Mead Lake</b>	Mead Lake to Moapa		217	217	172	6516	8885
<b>Cedar City</b>	Iron Springs to Cedar City		229	229	181	6840	9327

<b>San Antonio Area Timetable</b>							
<b>Subdivision</b>	<b>Territory</b>	<b>Terr. Code</b>	<b>TPA</b>			<b>Coupler Limits</b>	
			<b>Bulk</b>	<b>Manifest</b>	<b>Inter-modal</b>	<b>Standard</b>	<b>High Strength</b>
<b>Austin</b>	Hearne to Ajax		406	361	287	10494	14310
	Ajax to San Antonio		540	324	258	9481	12929
	San Antonio to Milano		392	392	312	11361	15493
<b>Lockhart</b>	Ajax to Smithville		417	417	332	12059	16444
	Smithville to Ajax		540	430	342	12384	16888
<b>Kerrville</b>	San Antonio to MP15		406	347	276	10108	13784
<b>Rockport</b>	Elmendorf to San Antonio		433	433	345	12497	17041
	San Antonio to Elmendorf		540	430	342	12384	16888
<b>Laredo</b>	San Antonio and Laredo		430	430	342	12384	16888
<b>Sanderson</b>	Del Rio and Alpine		430	430	342	12384	16888
<b>Del Rio</b>	San Antonio and Del Rio		430	430	342	12384	16888

**Sunset Area Timetable**

Subdivision	Territory	Terr. Code	TPA			Coupler Limits	
			Bulk	Manifest	Inter-modal	Standard	High Strength
<b>Lordsburg</b>	Lordsburg to Alkali Flats	L	406	342	272	9962	13584
	Alkali Flats to Wilmot	L	406	322	256	9416	12840
	Wilmot to 36th Street		430	430	342	12384	16888
	36th Street to Lordsburg	L	297	292	232	8592	11717
<b>Valentine</b>	Alpine to Sierra Blanca		421	421	335	12165	16589
	El Paso to Alpine		381	376	299	10910	14878
<b>Gila</b>	Picacho to Wellton		421	421	335	12165	16589
	Wellton to Tucson		406	376	299	10910	14878
<b>Toyah</b>	Sweetwater to Sierra Blanca		342	342	272	9962	13584
	Sierra Blanca to Sweetwater		355	355	282	10336	14095
<b>Carrizozo</b>	Vaughn to Gallinas		406	406	323	11750	16022
	El Paso to Corona		421	421	335	12165	16589
<b>Tucumcari</b>	Dalhart and Vaughn		430	430	342	12384	16888
<b>Phoenix</b>	Picacho to Phoenix		430	430	342	12384	16888
<b>Nogales</b>	Tucson to Nogales		430	430	342	12384	16888
<b>Clifton</b>	Clifton to Lordsburg		211	211	167	6336	8640
	Lordsburg to Clifton		223	223	176	6674	9101



**Twin Cities Area Timetable**

Subdivision	Territory	Terr. Code	TPA			Coupler Limits	
			Bulk	Manifest	Inter-modal	Standard	High Strength
<b>Altoona</b>	Altoona to E. St. Paul		322	322	256	9416	12840
	E. St. Paul to Baldwin		352	352	280	10259	13990
<b>Chippewa Falls</b>	Cameron to Yukon Jct.		386	386	307	11176	15241
	Yukon Jct. to Cameron		430	430	342	12384	16888
<b>Albert Lea</b>	S. St. Paul and Mason City		456	430	342	12384	16888
<b>Mankato</b>	Mankato to St. James		406	389	309	11268	15366
	Mankato to St. Paul (Hoffman)		473	473	377	13610	18560
<b>Worthington</b>	St. James to Worthington		540	430	342	12384	16888
	Sioux City to St. James		456	430	342	12384	16888
<b>Montgomery</b>	Merriam to Montgomery		392	392	312	11361	15493

**General Order**

**Add the following restriction to "Train Make-Up and Helper Requirements" on page 29, Part 1.a. as new second bullet:**

\* Autoracks weighing less than 60 tons, except when train consists entirely of autoracks.

**5. TPA and Coupler Limits Table by Subdivision**

Under Dallas Fort Worth Area Timetable, Enid Sub. Delete entire entry. Limits default to system standard on this subdivision.

Under the Denver Area Timetable, Moffat Sub., change information as shown below:

<b>Moffat Tunnel</b>	Leyden to East Portal	H	155	155	155	6110	8332
	Tabernash to Winter Park	H	215	180	166	6307	8600

Under Portland Area Timetable, Cascade Sub. and Huntington Sub., change information as shown below:

	Huntington to Encina	H	170	159	156	5952	8116
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<b>Huntington</b>	La Grande to Encina	L	291	291	230	8539	11644
	Huron to East La Grande	H	172	172	172	6516	8885
<b>La Grande</b>	East La Grande to Huron	H	170	159	156	5952	8116

Under Kansas City Area Timetable, Cherokee Sub. delete McAlester to Wagoner information and add Wagoner to Oolaga as shown below:

<b>Cherokee</b>	Wagoner to Oolaga		430	430	342	12384	16888
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Under Kansas City Area Timetable, Falls City Sub., change Bulk TPA 16th Street to Atchison to 540 as shown below:

<b>FallsCity</b>	16th Street to Atchison		540	392	312	11361	15493
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Under St. Louis Area Timetable, Sparta Sub. change Bulk TPA Colterville to Gage Jct. to 493 as shown.

<b>Sparta</b>	Colterville to Gage Jct.		493	358	285	10415	14202
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Under Salt Lake City Area Timetable, Evanston Sub., add entry for Westward trains between Green River and Ogden as shown below:

<u>W. Green River to Ogden</u>		<u>430</u>	<u>430</u>	<u>400</u>	<u>n/a</u>	<u>n/a</u>
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**TPA and Coupler Limits Table by Corridor**

Change first paragraph in part 4 "TPA and Coupler Limits Table by Corridor" to read:  
 TPA shown on TCS consist must not be exceeded. If TCS consist is not available, use TPA table shown below to determine maximum TPA for route to be operated over. Trailing tonnage behind lead and helper consist must not exceed tonnage listed in table below. Tonnage handled by helper(s) must be deducted from total tonnage to determine trailing tonnage behind lead consist.

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**TPA and Coupler Limits Table by Subdivision**

Add as first and second sentences to part 5 "TPA and Coupler Limits Table by Subdivision":  
 TPA shown on TCS consist must not be exceeded. If TCS consist is not available, use TPA table shown below to determine maximum TPA for route to be operated over.

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Updated: 10/21/2011

## ITEM 6: Maximum Gross Weight Limitations

- [Item 6: Maximum Gross Weight Limitations](#)

### Item 6: Maximum Gross Weight Limitations

#### Maximum Gross Weight - 134 tons

The system standard maximum gross weight limitation is 134 tons. The timetable may show a different allowable maximum gross weight for subdivision tonnage restrictions.

#### 1. Equipment With More Than 4 Axles

Work equipment, cars, or platforms having more than 4 axles (other than 6 axle passenger cars and 6 axle locomotive cranes) with a gross weight greater than the route's approved limit must not be moved over structures unless authorized by Structures Design (544-5061 or 544-5878) (area code 402) or cleared to move across the subdivision by the Clearance Bureau.

#### 2. Six Axle Locomotives

Do not operate 6 axle locomotives on subdivisions or industrial leads where the maximum gross weight limitation is less than 120 Tons.

#### 3. Cranes and Pile Drivers

Do not operate relief outfit cranes, locomotive cranes, cranes, or pile drivers on subdivisions or industrial leads where the maximum gross weight limitation is less than 132 Tons.

#### 4. Multiplatform Intermodal Cars

Certain multiplatform intermodal cars are shown as one car on the TCS train consist, indicating the total weight of all platforms. To determine the weight of each platform, divide the total weight of the car by the number of platforms.

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Updated: 4/28/2010

## ITEM 7: Employee Information

- [Item 7-A: Reference Documents](#)
- [Item 7-B: Qualifications of Certified Employees](#)

### Item 7-A: Reference Documents

**Employees must provide themselves with their own copy of the following and have them available for reference:**

- This UPRR System Special Instructions document, which supercedes all previous System Special Instructions.
  - Current applicable area timetable(s) for territories upon which operating.
- Chicago Area Timetable #4, effective 0900C on 06/22/2009.
  - Council Bluffs Area Timetable #4 #3, effective 0900C on 2/14/2011 ~~12/17/2006~~.
  - Dallas/Ft. Worth Area Timetable #3, effective 0900C on 02/25/2008.
  - Denver Area Timetable #4, effective 0900C on 11/16/2009.
  - Houston Area Timetable #5 #4, effective 0900C on 08/29/2011 ~~07/30/2007~~.
  - Iowa Area Timetable #4 #3, effective 0900C on 10/10/2011 ~~12/17/2007~~.
  - Kansas City Area Timetable #4 #3, effective 0900C on 2/28/2011 ~~12/17/2006~~.
  - Los Angeles Area Timetable #4 #3, effective 0900C on 06/14/2010 ~~06/18/2006~~.
  - North Little Rock Area Timetable #4, effective 0900C on 06/22/2009.
  - North Platte Area Timetable #4, effective 0900C on 02/13/2012.
  - Portland Area Timetable #5 #4, effective 0900C on 11/07/2011 ~~09/29/08~~.
  - Roseville Area Timetable #5 effective 0900C on 08/24/2009.
  - Salina Area Timetable #3, effective 0900C on 10/25/2010 ~~12/17/2006~~.
  - Salt Lake City Area Timetable #4 #3, effective 0900C on 10/10/2011 ~~06/16/2008~~.
  - San Antonio Area Timetable #4, effective 0900C on 10900C on 2/14/2009.

- St. Louis Area Timetable #4, effective 0900C on 12/14/2009.
- Sunset Area Timetable #2 #1, effective 0900C on 11/22/2010 ~~10/31/2007~~.
- Twin Cities Area Timetable #4 #3, effective 0900C on 11/14/2011 ~~12/17/2007~~.

- Current system general orders.
- Subdivision general order for each subdivision operating on. There is one general order in effect for each subdivision.

**Note:** There are 10 system general orders in effect at any given time that employees are required to have. System general orders are categorized as follows:

SSI 1 – 3 (1 Time Comparison; 2 Speed Restrictions and 3 Trains Handling - Company Equipment)

SSI 4 - 5-C (4 Locomotive Information and 5 Car Placement and Train Make-up Restrictions)

SSI 6 - 9 (6 Maximum Gross Weight Limitations; 7 Employee Information; 8 Heavy and Mountain Grade Operations and 9 Use of Engine Horns)

SSI 10 - 10-B (10-A General Code of Operating Rules and 10-B Remote Control Operations Instructions)

SSI 10-C - 10-D (10-C Air Brake & Train Handling Rules and 10-D Maintenance of Way Rules)

SSI 10-E - 10-G (10-E Safety Rules; 10-F Inspecting, Welding and Grinding of Rail and Track Components and 10-G Chief Engineer Instruction Bulletins)

SSI 10-H - 10-M (10-H Hazardous Materials Instructions; 10-I Programs & Policies; 10-J Commuter Train Operations; 10-K Main Track Switches; 10-L (*Reserved*) and 10-M Mechanical Department.)

SSI 11 - 17 (11 Moveable Point Frogs; 12 Track Breach Protection; 13 Train Defect Detectors; 14 Operating With Foreign Railroads; 15 Work Orders; 16 Tornado Watch and Warning Instructions and 17 Accessing General Orders and Bulletins Electronically)

SSI 18 – 22 (18 Distant Signals; 19 Block and Interlocking Signals; 20 Automatic Cab Signals; 21 Slide Warning Indicator and 22 Roadway Signs)

SSI 23 - 24 (23 Security Alert Instructions and 24 California Proposition 65 Warning)

- All rule books must contain the current rules and the latest revised chapters/pages in the proper page sequence. The required rule chapters for each employee work group are listed below. All employees must have a current copy of and comply with the rules corresponding to one of these work groups. If you have responsibilities that require rules in addition to those listed for your work group, contact your supervisor.

**Transportation (TE&Y)** - 1-17, Glossary, Index; 30-39, Glossary; 70-83; 90

**Engineering and Communications** - 1-9, 14-15, Glossary, Index; 40-57, Glossary, Index; 70-83; 90  
Electrical Safety Rules

**Maintenance Operations (Mechanical)** - 1-9, 14-17, Glossary, Index; 30-39,

**Clerical/General Office** - 1-5, Glossary, Index; 70-83; 90

**Managers and Train Dispatchers** must have all chapters.

**Current version:**

- Chapters 1 through 17, effective 04/2010.
- Chapters 20 through 27 effective 08/2008.
- Chapters 30 through 39, effective 01/20/2012.
- Chapters 40 through 57, effective 11/17/2008.
- Chapters 70 through 90, effective 07/30/2007.
- Electrical Safety Rules, effective 07/01/2010.
  
- Instructions for Handling Hazardous Materials, Form 8620, effective Sept. 22, 2008. Required for all employees examined on the General Code of Operating Rules. Conductors who transport hazardous materials must also have a copy of the current Emergency Response Guidebook (2008) readily accessible while on duty.
- Instructions for Inspecting, Welding, and Grinding of Rail and Track Components, effective 03/2007 required for track supervisors, section foremen, and track welders, grinders, and slotters.
- Chief Engineer Instruction Bulletins effective 11/17/2008 required for all examined Engineering Department employees and Transportation Department managers.
- UPRR photo identification card. A separate UP photo ID will not be required if the employee has a photo on their certification license..
- A valid "Certificate to Operate Locomotives" card, if applicable, regardless of the type of service the employee is called to perform. Restrictions listed on certificate must be complied with as required. Engineers who wear contact lenses must have a pair of corrective glasses available while on duty.

**Electronic Versions**

Employees may utilize electronic media (Laptop, Pocket PC, PDA etc.) to access the approved electronic versions from the UP Website in lieu of printed copies. Follow these instructions to download a rule book, System Special Instructions or System General Orders from the Employee website:

1. Select Departments.
2. Under Operating, select Operations Support.
3. Under Rules, select UP Rule Book.
4. Follow instructions for desired download.

Also refer to Item 17 for additional electronic files and instructions.

Employees must be able to access the electronic versions in a timely manner. This does not relieve employees from having the most current required revisions.

**General Order**

**Change North Platte Area Timetable information to read:**

**- North Platte Area Timetable #4, effective 0900C on 02/13/12.**

=====

Change Iowa Area Timetable information to read:

- Iowa Area Timetable #4, effective 0900C on 10/10/11.

=====

Change Salt Lake City Area Timetable information to read:

- Salt Lake City Area Timetable #4, effective 0900C on 10/10/11.

=====

Change Portland Area Timetable information to read:

- Portland Area Timetable #5, effective 0900C on 11/07/11.

=====

Change Twin Cities Area Timetable information to read:

- Twin Cities Area Timetable #4, effective 0900C on 11/14/11.

=====

Change Houston Area Timetable information to read:

- Houston Area Timetable #5, effective 0900C on 8/29/2011.

=====

Change Council Bluffs Area Timetable information to read:

- Council Bluffs Area Timetable #4, effective 0900C on 2/14/2011.

=====

Change Kansas City Area Timetable information to read:

- Kansas City Area Timetable #4, effective 0900C on 2/28/2011.

=====

Change Sunset Area Timetable information to read:

- Sunset Area Timetable #3, effective 0900C on 11/22/10.

=====

Change Salina Area Timetable information to read:

- Salina Area Timetable #4, effective 0900C on 10/25/10.

=====  
**Change Los Angeles Area Timetable information to read:**  
- Los Angeles Area Timetable #4, effective 0900C on 06/14/10.

=====  
**Add "Electrical Safety Rules" to the following work groups:**  
Engineering and Communications;  
Maintenance Operations (Mechanical).

=====  
**Add to Current version:**  
- Electrical Safety Rules, effective July 1, 2010.

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## **Item 7-B: Qualifications of Certified Employees**

### **Qualification**

Qualification is determined by a Designated Supervisor of Locomotive Engineers (DSLE), usually the Manager Operating Practices (MOP), before the locomotive engineer is allowed to operate without direct on-board supervision. Depending on individual case-by-case circumstances, a DSLE may provide notice of qualification after a personal ride, face-to-face discussion, or a telephone conversation with the locomotive engineer. However, if the locomotive engineer disagrees with the decision that he or she is qualified, a DSLE must ride with the locomotive engineer before qualification. The ride must be of sufficient duration over the most demanding portion of the territory to ensure proficiency.

### **A. Locomotive Engineers**

#### **1. Initial Familiarization**

Initial familiarization of promoted locomotive engineers on new territories.

Prior to being qualified on a territory upon which the employee has never operated in the capacity of a locomotive engineer, he or she must make familiarization trips over the entire territory. The average number of familiarization trips necessary for qualification will be determined jointly by the Director Road Operations and MOP responsible for that location. The average number of trips necessary is based on qualifying the typical locomotive engineer. Prior experience may adjust that number up or down. It may be determined that certain non-mainline territories, i.e. industrial leads, have such generic and undemanding characteristics that familiarity with similar or more challenging territories may be used in-lieu of trip(s).

#### **Trip**

For the purposes of this section, the term "trip" means:

- A complete trip from the crews' initial terminal to final terminal. However, if the train starts within 15 miles



from the initial terminal or stops within 15 miles short of the final terminal, the tour of duty may be considered as satisfying the requirements of a "trip." In cases where it is determined that a difficult segment of territory lies within that beginning or ending 15 miles, that portion must also be traversed before the trip is considered complete.

- The employee is at the operating controls of the train for the majority of the distance for at least one round trip (one-way trip on tracks designated for directional running).
- The employee operates a train whose consist is typical of the trains operating in that territory.
- The employee is accompanied by a DSLE or a locomotive engineer qualified on the physical characteristics of the territory.

## 2. Re-familiarization

a. Engineers who have not worked any road trips in the past 6 months on territories which the locomotive engineer was previously qualified must notify their MOP of this fact. The MOP may require engineers whose seniority districts include road jobs to maintain proficiency by making road trips. This ensures maintenance of work force requirements.

When CMS calls an engineer to work a road trip for proficiency, a MOP or a qualified engineer familiar with the territory will accompany the engineer. To the extent practical, the MOP will conduct the FRA engineer certification requirements for an annual monitored ride and field training exercise, FTX, during these trips for engineers who do not normally work road trips.

In addition to the six month requirements, engineers subject to call on the following territories who have not worked both directions in the past five months must notify their MOP of this fact. When notified, the MOP will arrange familiarization trip(s) within the next thirty days:

Subdivision	Between	Subdivision	Between
Los Angeles	Yermo and W. Riverside	Montana	Monida and Waco, Apex and Silver Bow
Cima	Cima and Kelso	Greeley	Lasalle and Cheyenne
Caliente	Crestline and Las Vegas	Green River	Grand Junction and Helper
Huntington	LaGrande and Huntington	Provo	Helper and Salt Lake
LaGrande	LaGrande and Hinkle	Lakeside	Ogden and Alazon
Canyon	Portola and Oroville	Evanston	Wahsatch and Echo
Brooklyn	Eugene and Oakridge	Tennessee Pass	Minturn and Dotsero
Valley	Dunsmuir and Redding	Laramie	Sherman and Cheyenne
Cascade	Oakridge and Klamath Falls	Colorado Springs	Denver and Colorado Springs
Black Butte	Klamath Falls and Dunsmuir	Mojave	Bakersfield and West Colton
Roseville	Roseville and Sparks	Yuma	West Colton and Indio
Moffat Tunnel	Denver and Tabernash Bond and Crater	SCRRA	Palmdale and Burbank Jct
Craig	Phippsburg and Craig	Coast	San Luis Obispo and Santa Margarita

b. Engineers called to operate on a territory over which they have not operated during the preceding six months as an engineer but have been previously qualified, must notify CMS of this fact when called. The MOP may require the

engineer to make round trips over the territory to become familiar with the changed conditions.

On the territories listed above, an engineer who has not worked **both** directions during the preceding six months must notify CMS of this fact. Unless otherwise instructed by the MOP assigned to the territory in question, the engineer is prohibited from operating the train unless accompanied by a MOP or a qualified engineer familiar with the territory.

Service Unit managers must not grant such authority unless:

- The engineer is knowledgeable of the territory.

or

- An employee who is knowledgeable of the territory occupies the control compartment with the engineer to advise him regarding the physical characteristics.

Engineers who qualify under this provision but who have not made a road trip as an engineer during the preceding 60 days must notify the conductor of this fact before starting the trip.

The engineer and conductor must thoroughly discuss and have a mutual understanding of the general order issued for the subdivision within the 60-day period. However, the paragraph above does not apply to engineers working in yard service who are operating within the 25-mile limit, when authorized by a service unit manager to handle equipment within such limits.

### **3. Promoted Locomotive Engineers not working as such, and those being recalled to Engine Service or Hostling positions.**

a. Many promoted and qualified engineers retain seniority rights as brakemen and/or conductors. Due to changes in work force requirements, some of these engineers may return to brakeman or conductor assignments. When this occurs, these individuals may be permitted to operate the locomotive under the provisions of Rule 1.47 B.I, if:

- Such activity does not interfere with their assigned duties.
- They have the consent of the working engineer of the crew.

Permitted locations are not limited to territories where the employee was previously qualified. Only an engineer holding a valid Form 20106, Union Pacific Railroad Certificate to Operate Locomotives, is allowed to operate a

locomotive or train. For employees who had their seniority restricted while an engineer, that restriction remains in effect. A disqualified engineer must not operate a locomotive.

**b.** Cut back brakemen or conductors who have not worked as a locomotive engineer within the past 60 days must notify their MOP of this fact. The MOP may require the employee to make trips over a subdivision to maintain proficiency as an engineer.

If an employee who has not operated as an engineer within the past 60 days is called for an engineer assignment, notify CMS of this fact. Unless otherwise instructed by the MOP, the employee is prohibited from operating the train unless accompanied by another engineer or by the MOP.

**c.** During the first 6 months following completion of the engineer training program; an employee who has not worked as an engineer in the past 30 days, if called to work as an engineer, must not accept the call unless so instructed by the MOP. The MOP will also determine what, if any, additional familiarization trips or training may be needed following any period of being cut back or furloughed within that 6 month period.

#### **4. Re-certification**

All certified employees must keep their certificate current in order to avoid a possible interruption in service eligibility. It is the individual employee's responsibility to ensure that certification is kept current.

Employees requiring recertification packets are to print the necessary forms from the Certification area of the TE&Y portal. Instructions on printing the documents for TE&Y employees are issued in service unit superintendent's bulletin.

150 days prior to the certification expiration date an item will be available on the Certification area of the TE&Y portal allowing the packet to be printed using either a Lata or local printer. Initially it will only be available for employees who are certified and must complete required documents for recertification. Employees are required to follow the instructions contained in the packet and complete all required forms along with instructions for obtaining hearing and/or vision exams. All required items must be completed promptly, but no less than 40 days in advance of the certificate expiration date. All locomotive engineers, hostlers and remote control operators must be re-certified (licensed) every three years. Licenses will expire on the employee's birthday, every third year, after being initially certified. If the re-certification item is not available on the TE&Y portal contact the licensing group at 544-8349 or 544-0415 (area code 402).

**Note:** If you are unable to print the necessary forms, please consult your immediate supervisor for assistance. A separate UP photo ID will not be required if the employee has a photo on their operator's certificate.

### **B. Remote Control Operators (RCO)**

#### **1. Initial Certification**

a. Remote control training consists of two weeks classroom/outdoor training and a minimum of one week of OJT. Training includes operating time, pitch and catch or single operation, and operation of the RCT. The program is skill based.

b. Employees must pass each phase of the classroom/outdoor instruction. Employees who pass the classroom/outdoor instruction and written test will then begin their OJT training. OJT training may include simulator training and outdoor training

c. OJT Program and Checklist:

1. The student and trainer must each have a copy of the OJT program.

· The checklist for all tasks focused on during the work shift must be completed and reviewed by the end of the work shift.

**Note:** The task and checklist must be completed before being signed.

d. The RCO trainer must check student's certification and observe the job safety briefing prior to beginning the work shift. This briefing must include:

1. Physical characteristics e.g. track lengths, grades, switch types, remote control zones.

2. Permissions required for switching (if any).

3. Applicable rules that will apply during the operation.

Incremental job briefings must be performed throughout the work shift when the situation changes or a new task is started.

e. Prior to asking the student to perform a particular task, the student must understand the task to be done and always be observed by a qualified person.

f. Training for remote control operators must include the maximum tonnage the RCO will be required to handle. Certification documents must include information concerning the loads, empties, tonnage, and power of the largest cut of cars handled.

g. If the student scores less than 80% on the skill evaluation, the DSRCO will issue pending denial of certification to the student. A second ride failure will result in denial of certification.

h. The program and associated documents (checklists) are on file with FRA in accordance with 49 CFR Part 240 and will be used by both railroad management and the FRA to determine program integrity.

## **2. RCO position not worked in the previous 180 days**

A Remote Control Operator who has not worked as a RCO in the previous 180 days must notify a service unit manager:

- Before being placed on a board that requires the employee to work a RCO position.
- If called to work a RCO position.

Employees must also inform the manager if their skill as an RCO has been evaluated in the past 12 months. The manager will determine if the employee needs familiarization after a discussion with the employee.

## **3. Remote Control Operators on selected jobs.**

The service unit will list jobs that require additional training and familiarization. Additional air brake and train/track dynamics training may be required for these jobs. The RCO is responsible for notifying a manager when placing himself or herself or when force assigned to a position listed. The local lead DSRCO will determine what, if any, training and familiarization is required.

Remote control operators must not exceed the limits of their qualification and must inform the manager of limits, if requested to exceed qualification.

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Updated: 1/20/2012

# ITEM 8: Heavy and Mountain Grade Operations

- [Item 8: Heavy and Mountain Grade Operations](#)

## Item 8: Heavy and Mountain Grade Operations

### 1. Descending Grade Requirements

#### Cresting the Summit "CG"

When freight trains (leading locomotive) and light locomotive consists crest the summit of grades listed below as "CG", speed must be at least 5 MPH below the maximum authorized speed.

#### Descending Grades

When operating freight trains or light locomotive consists on descending grades between locations listed below as 1% or 2%, if train speed reaches 5 MPH above maximum authorized speed:

- Stop movement immediately, using an emergency brake application.
- When operating light locomotives consists, actuate and fully apply independent brake.
- After stopping, apply hand brakes as required to prevent movement.
- Do not move the train until authorized by a Manager of Operating Practices.

Refer to Rule 33.8 Emergency Brake Applications.

### 2. Two-Way EOT Requirements

The following restrictions are applicable to those grades listed below:

**1%** Trains departing from a designated crew change location for that train, if entering territory listed in the following table, must be equipped with an operable 2-way end-of-train telemetry device (rear-end unit and head-end unit) or equivalent device. However, the following trains do not require a 2-way EOT or equivalent device to operate on these grades:

- Passenger trains.
- Local trains not exceeding 4000 trailing tons, operating within a single designated crew district, and not operating over a section of track indicated as 2%.
- Work trains not exceeding 4000 trailing tons and not operating over a section of track indicated as 2%.
- Refer to rule 32.13 for further information.

**2%** Trains operating on the following grades listed below must be equipped with an operable 2-way end-of-train telemetry device (rear-end unit and head-end unit) or equivalent device. However, passenger trains do not require a 2-way EOT or equivalent device. Refer to Rule 32.13

End of Train Telemetry System for further information.

**Note:** For 1% and 2% grades also refer to rule 32.14.

<b>Subdivision/Industrial Lead</b>	<b>Location (Applies for movements in both directions between/at the points unless specified otherwise.)</b>	<b>Applicability Code</b>
Altoona	St. Paul and Hammond	1%
Bend	BNSF MP 102.5	CG
Bingham	Robbe and Midvale	2%
Bingham Ind. Lead	Leadmine and Welby	CG
Black Butte	Mott, MP 331.0, Southward	CG
	Grass Lake, MP 367.7, Southward	CG
	Azalea and Dunsmuir	2%
	Klamath Falls and Azalea	1%
Caliente	Crestline and Las Vegas	1%
Canyon	Portola and Oroville	1%
Carrizozo	Vaughn and Alamagordo	1%
Cascade	Cascade Summit, MP 537.5, Northward	CG
	Cascade Summit to Oakridge	1%
Cedar City	Cedar City , Eastward	CG
Chevron Industrial Lead	MP 8.00 and Chevron	1%
Cima	Cima, MP 253.8, Westward	CG
	Cima and Kelso	2%
	Las Vegas and Arden	1%
Clifton	Clifton and Guthrie	2%
Coast	Cuesta, MP 235.7, Westward	CG
	MP 236.6, Eastward	CG
	San Luis Obispo and Santa Margarita	2%
	San Luis Obispo and King City	1%
Colorado Springs	Palmer Lake, MP 50.0, Southward	CG
	Sedalia and Colorado Springs	1%
Comstock	Iron Mountain, MP 13.0, Eastward	CG
	Iron Mountain and Iron Springs	2%
Condon	MP 8.00, Northward	CG
Cumberland Ind. Lead	MP 9.4 Northward	CG
De Soto	Piedmont and De Soto	1%
Dry Valley	MP 25.0 Southward	CG
Elkol Industrial Lead	MP 2.4 Northward	CG
Evanston	Wahsatch, MP 928.0, Westward, Track 1	CG
	Wahsatch and Ogden	1%
Falls City	Atchison and Nebraska City	1%
Gay	Gay, MP 14.5 Westward	CG
	Gay and Nine Mile	1%
Glenwood Springs	Bond and Grand Jct.	1%
Gila	Estrella and Bosque	1%
Greeley	Cheyenne and Greeley	1%
Green River	Grand Jct. and Helper	1%

Huntington	Encina, MP 352.0, Both directions	CG
	Telocaset, MP 312.5, Westward	CG
	Pleasant Valley and Pritchard Creek	2%
	Pleasant Valley and Durkee	1%
La Grande	Kamela, MP 271.3, Both directions	CG
	Kamela and Hilgard	2%
	Kamela and Huron	2%
	Minthorn and Hilgard	1%
Lakeside	MP 645.40, Eastward	CG
	MP 616.3, Westward	CG
	Lucian and Wells	1%
Laramie	Bufford, CP W536, Eastward, Tracks 1 & 2	CG
	Hermosa, CP W547, Westward, Track 3	CG
	Sherman and Wycon	1%
	Hermosa and Red Buttes	1%
Limon	Sharon Springs and Mesa	1%
Livonia	W. Bridge JCT and E. Bridge Jct.	1%
Lone Pine	Cantil and Searles	1%
Lordsburg	PFE Yard and Lordsburg	1%
Los Angeles	Silverwood, BNSF MP 56.6, Westward	CG
	Summit and San Bernadino	2%
	Riverside Jct. and Barstow	1%
Lufkin	Appleby and Tenaha	1%
Modoc	Ambrose and Canby	CG
	Ambrose and Canby	2%
Moffat Tunnel	MP 50.1, Eastward	CG
	MP 57.0, Westward	CG
	MP 138.5, Eastward	CG
	MP 154.0, Westward	CG
	East Portal and Rocky	2%
	Winter Park and Fraiser	2%
	Crater and Bond	2%
	Denver and Bond	1%
Mojave	Cable crossover, MP 358.5, Northward	CG
	Cameron, MP 371.5, Southward	CG
	Cameron, MP 371.5, Southward	CG
	Hiland. MP 463.8, Southward	CG
	Through Silverwood connector track	CG
	Hiland and West Colton	2%
	Cable Xover and Mojave	2%
	Colton and Bakersfield	1%
Montana	Monida MP 264.0	CG



	Apex MP 340.25	CG
	Humphrey and Dubois	2%
	Apex and Navy	2%
	Feeley and Silver Bow	2%
	Idaho Falls and Silver Bow	1%
Nampa	Ticeska, MP 358.0, Westward	CG
	Reverse, MP 391.5, Eastward	CG
	Mt. Home and Bliss	1%
Oak Creek Industrial Lead		2%
Oakland	Tracy and Altamont	1%
Peoria	Pottstown and Pioneer	1%
Pocatello	At Kemmerer	1%
Powder River	S. Morrill and E. Caballo Jct.	1%
Provo	MP 638.2, Eastward	
	MP 651.8, Westward	CG
	MP 673.3, Westward	CG
	Kyune and Helper	2%
	Summit and Castilla	2%
	Helper and Springville	1%
Roseville	MP 136.5, Westward, Track 1	CG
	MP 191.0, Westward, Tracks 1 & 2	CG
	MP192.0, Eastward	CG
	Norden and Loomis MP 114.0	2%
	Norden and Truckee	2%
	Sparks and Roseville	1%
Sanderson	Maxon and Altuda	1%
SCRRA Trackage	Vincent 61.8	CG
	Vincent and Palmdale	2%
	Vincent and Paris	2%
	Burbank Jct. and Palmdale	1%
Sedalia	Dow and Smithton	1%
	Rock Creek Jct. and Pleasant Hill	1%
Shafter	Wendover and Wells	1%
Sharon Springs	Brookville and Sharon Springs	1%
Spokane	Shiloh and Eastport	1%
Stauffer Industrial Lead	Stauffer and Big Island	1%
Sunnyside	Sunnyside and Banning	2%
Tennessee Pass	MP 281.8, Westward	CG
	MP 290.3, Westward	CG
	Tennessee Pass and Minturn	2%
Toyah	Sweetwater and Sierra Blanca	1%
Valentine	Alpine and Marfa	1%

	Sierra Blanca and McNary	1%
Valley	Dunsmuir and Redding	1%
Wallace	Spokane and Eastport	1%
Yoder	Yoder and Egbert	1%
Yuma	Beaumont, MP 561.4, Westward	CG
	MP 566.2, Eastward	CG
	Beaumont and Garnet	2%
	Beaumont and Redlands	1%

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Updated: 4/28/2010

## ITEM 9: Use of Engine Horns

- [Item 9: Use of Engine Horns - Quiet Zone](#)

### Item 9: Use of Engine Horns - Quiet Zone

#### Quiet Zone

Quiet zones are designated in the timetable. Do not sound the horn for grade crossings within limits or at locations designated on the subdivision page.

**Horn may be sounded to provide a warning** to animals, vehicle operators, pedestrians, trespassers or crews on other trains in an emergency situation when engineer believes such action is appropriate in order to prevent injury, death, or property damage.

- Horn must be sounded when:
  - Employees are working on or near the track.
  - Meeting or passing the head end or rear end of a train in the vicinity of a grade crossing.
  - Notified that automatic warning devices are malfunctioning or disabled or crossings require additional precautions. Sound whistle signal 5.8.2(7) regardless of any prohibition.

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Updated: 9/24/2011

## ITEM 10: Rule Supplements & Amendments

- [Item 10: Rule Supplements & Amendments](#)
- [Item 10-A: General Code of Operating Rules, Chapters 1 to 19](#)
- [Item 10-B: Remote Control Operations Instructions](#)
- [Item 10-C: Air Brake & Train Handling Rules, Chapters 30 to 39](#)
- [Item 10-D: Maintenance of Way Rules, Chapters 40 to 69](#)
- [Item 10-E: Safety Rules, Chapters 70 to 89](#)
- [Item 10-F: Instructions for Inspecting, Welding and Grinding](#)
- [Item 10-G: Chief Engineer Instruction Bulletins, Chapters 120 to 140](#)
- [Item 10-H: Hazardous Materials Instructions](#)
- [Item 10-I: Programs & Policies, Chapters 90-99](#)
- [Item 10-J: Commuter Train Operations](#)
- [Item 10-K: Main Track Switches](#)
- [Item 10-L: Section Reserved](#)
- [Item 10-M: Mechanical Department \(Maintenance Operations\)](#)

### Item 10: Rule Supplements & Amendments

Cardinal Rules for Transportation Employees (Includes 4-C Rules - rules critical to the railroad's safe operation), Car Department Employees, Locomotive Department Employees, Maintenance of Way/Engineering Employees; Premium Operations Employees and Supply Department Employees.

#### 4-C Rules -Rules Critical to the Railroad's Safe Operation

Employee Group	Rule Number	Rule Description
Transportation Employees	1.47	Failure to maintain conductor's log (missing multiple entries)
	6.3	Main track authority (resulting in FRA decertification event)
	6.5	Handling cars ahead of engine <u>Shoving movements</u> (unprotected shove)
	6.27	Restricted speed (resulting in FRA decertification event)
	7.6, 32.1, 32.1.1, 32.1.2, or 32.1.3	Securing cars, engines, trains, etc. (when resulting in an uncontrolled movement)
	8.3	Switch left open in non-signaled territory
	9.5	Stop signal (resulting in FRA decertification event)
	15.2 Form B	Protection by Track Bulletin Form B

#### Cardinal Rules

Employee Group	Rule Number	Rule Description
Transportation Employees	<del>1-10</del> <u>2.21</u>	<del>Games, Reading, or Electronic Devices</del>
	5-3-7	Radio Response ( <del>Failure to stop movement within half the distance specified resulting in an incident</del> )
	5.13	Blue Signal Protection of Workers
	6.5	<u>Shoving movements (Failure to stop movement within half the distance specified resulting in an incident).</u>

6.5.1	Remote Control Movements (Unprotected Shove)
6.7	Remote Control Zone (Fouling an active RCL zone without permission)
6.7 A	Remote Control Zone - System Special Instructions (Failure to maintain a zone log when required)
6.28	Movement on Other than Main Track (Resulting in FRA decertification event)
7.6, 32.1, 32.1.1, 32.1.2, or 32.1.3	Securing Cars, Engines, Trains, etc. (Failure to properly apply hand or air brakes, not resulting in an uncontrolled movement.)
81.2.2	Sufficient Distance
81.4.2	Moving Equipment
81.5.4	Understanding Between Crew Members Before Crossing Through or Fouling Equipment (Failure to establish a red zone when required.)
81.13.1/	Going between Cars
81.13.3	Coupler Adjustment (Failure to separate equipment required distance or use of feet to adjust coupler.)

**Cardinal Rules**

<b>Employee Group</b>	<b>Rule Number</b>	<b>Rule Description</b>
Car Department Employees	5.13	Blue Signal protection of workers
	7.6	Securing Cars or Engines
	74.17	Train Yard or Utility Type Vehicles
	76.23	Jacking Equipment
	76.24	Securing Jacked Equipment
	80.23	Fall Protection
	81.4	Getting On or Off Equipment
	81.4.1	Standing Equipment
	81.4.2	Moving Equipment
	81.5	Crossing Through or Fouling Equipment
	81.5.1	Crossing Through Standing Equipment
	81.5.2	Stepping from One Car to Another
	81.5.3	Moving Cars
	81.10	Moving Equipment in Car and Locomotive Repair Facilities
	81.10.1	Using Mobile Equipment
	81.10.2	Using Locomotive
	81.10.3	One Person Operations
	81.15	Car Doors

**Cardinal Rules**

Employee Group	Rule Number	Rule Description
Locomotive Department Employees	5.13	Blue Signal protection of workers
	7.6	Securing Cars or Engines
	77.18	Load Movement
	5.3.6	Radio and Voice Communications
	80.23	Fall Protection
	81.2	Crossing Tracks
	81.2.1	Step Over Rail
	81.2.2	Sufficient Distance
	81.4	Getting On or Off Equipment
	81.4.1	Standing Equipment
	81.4.2	Moving Equipment
	81.8.3	Impaired Clearances
	81.10	Moving Equipment in Car and Locomotive Repair Facilities
	81.10.1	Using Mobile Equipment
	81.10.2	Using Locomotive
	81.10.3	One Person Operations

**Cardinal Rules**

Employee Group	Rule Number	Rule Description
Maintenance of Way/Engineering Employees	40.1, 4-10 <u>2.21</u>	Games, Reading, or Electronic Devices
	7.6, 32.1, 32.1.1, 32.1.2, or 32.1.3	Securing cars, Engines, Trains, etc. (Failure to properly apply hand or air brakes, not resulting in an uncontrolled movement).
	<u>70.3</u>	Job Briefing
	70.4	Lifting and Moving Material
	74.8	Seat Belts
	76.1	Use of Tools and Equipment
	76.2	Inspection of Tools and Equipment
	80.1	Avoiding Slips, Trips and Falls

135.0	Lockout/Tagout Process for Roadway Machines and Work Equipment
136.7	Operating and Working Near Roadway Machines

**Cardinal Rules**

<b>Employee Group</b>	<b>Rule Number</b>	<b>Rule Description</b>
Premium Operations	<del>1-10</del> <u>2.21</u>	Games, Reading, or Electronic Devices
	7.6, 32.1, 32.1.1, 32.1.2, or 32.1.3	Securing cars, Engines, Trains, etc. (Failure to properly apply hand or air brakes, not resulting in an uncontrolled movement).
	80.2	Precautions Against Slips, Trips, and Falls
	81.4.1	Standing Equipment
	83.1.1	Reflectorized Clothing
	83.1.3	Protection of Loading and Unloading Operations
	83.1.4	Speed Limits in Yards
	83.1.7	Overhead Lifting
	83.1.11	Getting On and Off Cars
	83.1.14	Crossing Platforms
	83.1.15	Staying Clear of a Suspended Load
	83.2.3	Bogies/Chassis
	83.2.5	Hitches
	83.3.5	Securing Containers

**General Order**

**Cardinal Rules: Transportation Employees**

Delete Rule 1.10 and add Rule 2.21 to list of Cardinal Rules.  
Delete Rule 5.3.7 and add Rule 6.5 to list of Cardinal Rules.

Change Rule Description for Rule 81.5.4 - to read:

Understanding Between Crew Members Before Crossing Through or Fouling Equipment (Failure to establish a red zone when required).

**Cardinal Rules: Maintenance of Way/Engineering**

Add Rule 70.3 to list of Cardinal Rules.  
Delete Rule 1.10 and add Rule 2.21 to list of Cardinal Rules.

**Cardinal Rules: Premium Operations**

Delete Rule 1.10 and add Rule 2.21 to list of Cardinal Rules.

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**Item 10-A: General Code of Operating Rules, Chapters 1 to 19**

**1.2.5 Reporting**

**Change rule to read:**

All cases of personal injury, while on duty or on company property, must be immediately reported to the proper manager and the prescribed written form completed.

A personal injury that occurs while off duty that will in any way affect employee performance of duties must be reported to the proper manager as soon as possible. The injured employee must also complete the prescribed written form before returning to service.

All cases of occupational illnesses must be immediately reported to the proper manager and the prescribed written form completed.

Because railroads are required by Federal regulations to report injuries and occupational illnesses that meet certain medical treatment criteria, employees must report to their manager any medical treatment they receive that was directly related to their injury or illness, including any follow-up visits. Below are examples of the types of medical treatments and instructions that employees must report to their manager if they were given in relation to an injury or occupational illness:

- Medical treatments provided or recommended
- Physical therapy or chiropractic treatments
- Prescriptions and other medications issued or recommended, including dosages
- Lost time instructions
- Work restriction instructions

**1.3.1 Rules, Regulations and Instructions****Application:**

Examinations are required to be passed biennially or more often when necessary to ensure employees are familiar with all rules, regulations and instructions.

**Issued, Canceled, or Modified**

When there is a conflict, Subdivision Special Instructions takes precedence over System Special Instructions.

**1.3.2 General Orders****Add a sentence to last paragraph:**

Employees must each have a current copy of system general orders and subdivision general orders they can refer to while on duty.

**1.5 Drugs and Alcohol****Application:**

Also refer to the UPRR Drug and Alcohol Policy which governs all employees, excerpts of which are stated in Item 10-F and Safety Rule 90.1.

**1.6.3 Notification of Deteriorating Vision or Hearing****Add Note:**

An engineer who has knowledge that a restriction listed on their "Certificate to Operate Locomotives" card has been corrected or improved to meet the minimum acceptable requirement as outlined in federal regulations must report that fact immediately to the proper authority or the medical department (402-544-4219).

**~~1.10 Games, Reading, or Electronic Devices~~****~~Application:~~**

- ~~• Texting is prohibited.~~
- ~~• Crew members of Amtrak trains may use cell phones in accordance with the current Amtrak System General Order instructions.~~
- ~~• When authorized by track bulletin, a railroad operating employee other than a locomotive engineer operating the controls of a moving train, may use a cell phone or electronic device in the cab of a moving locomotive for a business purpose, after a safety briefing, provided that all assigned personnel on the crew agree that it is safe to do so. Any other use is prohibited in the cab of a moving train.~~
- ~~• Crew members may use electronic control systems and informational displays presented within the locomotive cab or on a remote control transmitter to operate a train or conduct a switching operation, including functions associated with controlling switches.~~
- ~~• A digital timepiece is not considered an electronic device.~~

**1.12 Weapons**

**Application:** Also refer to the UPRR Weapons Policy which governs all employees.

**1.23.1 Locomotive-Mounted Safety Devices****Add new rule:****A. Tampering with or Disabling Locomotive-mounted Safety Devices**

- Employees are prohibited from tampering with or disabling any locomotive mounted safety device.
- Employees are prohibited from knowingly operating a train when the controlling locomotive of that train is equipped with a disabled safety device, except as provided in part C of this rule.

Safety devices include crew alertness devices, automatic cab signal devices, automatic train control/train stop devices, and audio, video and other recording devices concerning operations.

**B. Inspection of Locomotive-Mounted Safety Devices**

The engineer must make a visual inspection of accessible safety devices in the controlling locomotive cab, nose or vestibule, or in the cab control car when taking charge of a locomotive or train to ensure that:

- Nothing interferes with their intended function.
- Switches and breakers controlling the devices are in proper position.
- Seals, as appropriate, are properly applied.



- There is no apparent damage to the device.

If any exceptions are detected, immediately report them to the train dispatcher.

### **C. Operation of Trains with Defective or Disabled Locomotive-mounted Safety Devices**

Locomotives or cab control cars with defective or disabled safety devices must not be operated as the controlling unit unless:

- Provided for in the operating rules,  
or
- Authorized by the train dispatcher.

### **1.33 Inspection of Freight Cars**

#### **Application:**

1. When a defect is discovered, note the type of defect on proper tag and attach a tag on each side of the car.
2. Open top rail equipment loaded with wood chips or bark must be covered with approved netting.
3. When applicable, inspections required by Hazardous Materials Instructions must be completed.

### **1.37 Open Top Loads**

**Change (combine) third and fourth bullet as below.**

- Occupied control cab of an engine or occupied caboose.

### **1.47 Duties of Crew Members**

#### **Change rule to read:**

The conductor and the engineer are responsible for the safety and protection of their train and observance of the rules.

They must ensure that their subordinates are familiar with their duties, determine the extent of their experience and knowledge of the rules, and instruct them, when necessary, on how to perform their work properly and safely. If any conditions are not covered by the rules, they must take precautions to provide protection.

When the conductor is not present, other crew members must obey the instructions of the engineer concerning rules, safety, and protection of the train.

## **A. Conductor Responsibilities**

### **1. Supervises the Operation**

The conductor supervises the operation and administration of the train (if trains are combined with more than one conductor on board, the conductor with the most seniority takes charge). All persons employed on the train must obey the conductor's instructions, unless the instructions endanger the train's safety or violate the rules. If any doubts arise concerning the authority for proceeding or safety, the conductor must consult with the engineer who will be equally responsible for the safety and proper handling of the train.

### **2. Restrictions on Equipment**

The conductor must advise the engineer and train dispatcher of any restriction placed on equipment being handled.

### **3. Calling Attention to Restrictions**

The conductor must remind the engineer that the train is approaching an area restricted by:

- Limits of authority
- Track warrant
- Radio speed restriction  
or
- Track bulletin.

The conductor must inform the engineer after the train passes the last station, but at least 2 miles from the restriction.

### **4. Freight Conductors**

Freight conductors are responsible for the freight carried by their train. They are also responsible for ensuring that the freight is delivered with any accompanying documents to its destination or terminals. Freight conductors must maintain any required records.

### **5. Conductor Report Form**

UPRR crews operating on a foreign railroad are required to properly complete a UPRR form or a foreign railroad form as required by UPRR rules. Foreign railroad crews operating on the UPRR are governed by that railroad's rule concerning awareness forms.

"Conductor Report Form" (FORM 20849) must be maintained as follows (**also see Item 10-K**):

a. Road freight conductors, including locals and switchers but not including yard or passenger conductors, are required to complete the Conductors Report. However, yard conductors performing road service on the main track (transfer, relief service, etc.) will be required to complete the Conductors Report. Remote control operators are not required to maintain a conductors report form except when required by Item 10-K.

The report will include:

- The name of other than Clear signals, speed of the train as head end passes and, as appropriate, a "Z" or "X". However, after passing an Approach or Diverging Approach signal the next signal must be entered regardless of signal indication including the speed of the train (even if the signal is clear).
- Train defect detector results from all detectors (except "%" detectors) and mile post. "X" will identify in cab communication of results.
- Approaching radio speed restrictions.
- Approaching the end of authority unless additional authority has been granted to continue on the main track. If the additional authority contains a Box 7 (after arrival) it must be included on the form.
- Train delays.
- Restricted Speed documentation. Every 2 miles that the train is operating at Restricted Speed, enter mile post location, time, train speed, a "Z" to indicate that the information was communicated between crew members and amount of air brake application if any, (None, Minimum, 10#, etc.).

Entries will be made when head end of train is at or about the milepost location of required entry. Entries will be sequential.

**EXAMPLES:**

Location	SIGNAL NAME OR TDD Announcement	TIME	COMMENTS & DELAYS
87.3	A/A	0535	X - 52 MPH
89.1	A	0543	Z - 33 MPH
Y091	S	0558	X - Stop - 8" delay
92.5	RP	0617	Z-12 MPH
94.5	RS	0625	Z - 8 MPH - None
101.3	RSR	0643	Z-30 MPH
103.3	ND	0657	X
115.0	XH	0715	Z-15 MPH
129.0	--	0755	PU-8 cars - 30"
135.0	EA	0840	Z

**Note:**

1. Abbreviations may be used. e.g. (Advance Approach = AA; Diverging Clear = DC; Diverging Approach = DA; Approach = A; Approach Diverging = AD; Restricting = R; Restricted Proceed = RP; Restricted Speed = RS; Stop = S; Speed Restriction (received enroute) = RSR; End of Authority = E/A; Crossing Restrictions (received enroute) = XG, XH, XS; Cab Red Zone = Z; In-Cab Communication = X; ND = No Defects.
2. Enter MP location where cab red zone begins and/or in-cab communication takes place when other entries are required. However, entry may be made with signal entry when passing signal.
3. Enter delays.
- b. The conductor's report must be completed (and signed to signify report is complete and accurate) on each trip or tour of duty. If the form is not available, record the information as required. Reports of the last 5 round trips (a minimum of 5 days) must be kept in your possession while on duty, and presented to a Manager upon request.
- c. Do not erase information entered on the form. If an error is made, cross out the entry and write the correct entry.
- d. Conductors with a valid Class 1 "Certificate to Operate Locomotives": When conductors with a valid Class 1 "Certificate to Operate Locomotives" are allowed to operate the engine the time and location (beginning and ending) will be noted on the conductors report form. Entries on the form will not be required during this time period except entries required by Item 10 K.

**B. Engineer Responsibilities**

**1. Operating the Engine**

The engineer is responsible for safely and efficiently operating the engine. Crew members must obey the engineer's instructions that concern operating the engine. A student engineer or other qualified employee may operate the engine only under the direct and immediate supervision of the engineer. The engineer must closely monitor the employee's performance. The engineer must be in a position to take immediate action as necessary. Employees that operate an engine must have a current certificate in their possession.

**2. Special Handling**

The engineer must check with the conductor to determine if any cars or units in the train require special handling.

**C. All Crew Members Responsibilities**

**1. Crew Members in Control Compartment**

Crew members in the control compartment must communicate to each other any restrictions or other known conditions and required actions that affect the safe operation of their train sufficiently in advance of such condition to allow the engineer to take proper action. If proper action is not being taken, crew members must remind engineer of such condition and required action.

Crew members in the control compartment must be alert for signals. Crew members must:

- Communicate clearly to each other the name of signals affecting their train as soon as signals become visible or audible.
- Continue to observe signals and announce any change of aspect until the train passes the signal.
- Communicate clearly to each other the speed of the train as it passes a signal with an indication other than Clear.
- Immediately remind the engineer of the rule requirement if the signal is not complied with.

## 2. Radio Transmission

Except when switching a crew member must transmit the engine number, direction, location and signal name (include track number in multiple main track CTC) when the head end of the train:

A. Passes a signal that requires:

- Being prepared to Stop at the next signal.
- Being prepared to pass next signal at Restricted Speed.  
or
- Restricted speed.

or

B. Stops for a signal that requires stopping.

However, instructions may be issued to identify locations where this radio transmission is not required.

## 3. Proper Action

If engineer and/or conductor fail to comply with a signal indication or take proper action to comply with a restriction or rule, crew members must immediately take action to ensure safety, using the emergency brake valve to stop the train, if necessary.

## 4. Performing Work

Before work is performed at a location, the crew must discuss how the work will be performed, which switches/derails will be used, what method will be used to pass signals, close clearances and any other safety related concerns. When work is completed, the crew will confirm that work was completed as planned, switches and derails are in proper position and any unforeseen safety concerns are properly reported.

### 1.47.1 Cab Red Zone

#### Add new rule

To ensure the train is operated safely and rules are observed, all crew members must act responsibly to prevent accidents or rule violations. A "Cab Red Zone" (CRZ) exists during critical times when multiple tasks are occurring such as:

- Copying mandatory directives.
- Approaching a Form B restrictions.
- Approaching a radio speed restrictions.
- Approaching the end of the train's authority.
- Except when switching, operating at restricted speed.

or

- Except when switching, operating on signals that require the train to be prepared:

- To stop at next signal. Cab Red Zone requirements continue to apply until leading end of train passes or stops at the next signal, even if the next signal is Clear.

- To pass next signal at restricted speed.

During a cab red zone, an environment must be created in the control compartment that focuses exclusively on controlling the train and complying with the rules. The conductor must be in the control compartment unless required by other duties to leave (i.e..e. to operate switches, be at a road crossing, passenger train duties, etc).

The following restrictions or conditions must be met:

- Cab communication is restricted to immediate responsibilities for train operation.
- A crew member other than the employee operating the controls of a moving engine will be required to handle radio communications when another crew member is in the control compartment except when operating with manned helper(s), Rule 32.12.5 (Operating Responsibilities with Manned Helper). Radio communication must be limited to the train's immediate movement and complying with the rules (road crossing protection, Form B instructions, etc).
- If proper action is not being taken, crew members must remind each other of the cab red zone condition.

### 1.47.2 Training and Familiarization

#### Add new rule:

Employees assigned to a position for the purpose of training or familiarization must be under the direct and immediate supervision of a qualified employee at all times. The qualified employee must closely monitor the employee's performance and must be in a position to take immediate action as necessary. Any employee requiring certification must have a current certificate in their possession.

## 2.1 Transmitting

### Application:

#### Normal Dispatcher Call-in Procedure

To contact the train dispatcher from the field:

1. Ensure that you are on the correct dispatcher radio channel for the area you are in. ~~The radio channel is indicated by a 4-digit number displayed on the radio, such as (2424).~~ The radio channel is identified in timetable subdivision instructions under Radio Display (SI-RD).

2. On the radio key pad, dial "\*" plus the 2-digit code for the dispatcher you wish to call. (For example, "\*20").

**Note:** After dialing the "\*"XX" digits, you should receive an acknowledgment tone on your radio indicating the call-in has been detected and processed. If you do not hear the acknowledgment tone you will need to re-dial the code.

## 2.2 Short Identification

### Application:

During switching operations, short identification must be unique enough to ensure no misunderstanding as to whom the communication is intended for or could be misinterpreted. Job numbers alone could be misinterpreted as car counts, track number or other equipment etc. "10 back up 5" must not be used. Instead use "Job 10 back up 5 cars; Yard Job 10 back up 5 cars" or "DY10 back up 5 cars".

## 2.3 Repetition

### Add as last paragraph:

When a mandatory directive or instruction concerning train movement has been repeated correctly, the repeat must be acknowledged as correct.

## 2.10 Emergency Calls

### Application:

Emergency Call-in Procedure

The Emergency call-in code is "911" throughout the entire UPRR system. To contact the train dispatcher in case of an emergency:

1. Ensure that you are on the dispatcher's radio channel for the area you are in. ~~The dispatcher's radio channel is indicated by a 4-digit number displayed on the radio that is specific to the road channel, such as (2424).~~ The radio channel is identified in timetable subdivision instructions under Radio Display (SI-RD).

2. Dial DTMF digits "911" on the radio key pad.

**Note:** After dialing the "911" digits, you should receive an acknowledgment tone on your radio indicating the emergency call-in has been detected and processed. If you do not hear the acknowledgment tone you will need to resend the "911" code.

## 2.14 Mandatory Directive

### Add a bullet reading:

- When transmitting a track restriction directly to a train, the restriction will be issued using the following format: (Train ID) do not exceed (speed) between (location) and (location) (add track when necessary). If no flags are displayed, the words "No flags are displayed" will be added to the format.

### 2.14.1 Verbally Transmitting and Repeating Mandatory Directives

#### Change rule to read:

When transmitting and repeating mandatory directives, numbers must be spoken by digit (zero, one, two, three, etc.). However, exact multiples of hundreds and thousands may be stated as such (600 = six hundred). A decimal point must be spoken as "point", "dot", or "decimal".

### 5.2.1 Looking for Signals

#### Application:

Engineering department employees performing lookout duties (wearing a yellow/green vest with orange reflectorized striping, with "Lookout" printed on the vest) may be communicating with their work group with a white flag. This white flag is not a signal to the train, rather a signal to the work group that an approaching train has been spotted.

### 5.4.4 Authorized Protection by Yellow or Yellow-Red Flag

#### Change rule as follows:

Delete all references to Yellow-Red flags. Rule only applies to use of Yellow flag.

### 5.4.8 Flag Location

#### Application:

In three or more main track territory flags will be displayed to the right of center tracks (inside tracks) where clearance allows.

## 5.5 Permanent Speed Signs

### Application:

The location of permanent speed signs are:

- 2500 feet ahead of the restriction for arrow-shaped signs (Arrow-shape sign).
- 2 miles ahead of the restriction for square or rectangular signs (Square or rectangular signs).

### 5.8.1 Ringing Engine Bell

#### Add bullet:

- When moving on the main track or siding, ring bell continuously while passing standing equipment on an adjacent track.

### 5.8.2 Whistle Signal

#### Add second sentence to first paragraph.

#### First paragraph now reads:

The whistle may be used at anytime as a warning regardless of any whistle prohibitions. When approaching areas where it is known employees are working

or seen on a track adjacent to a main track or siding, sound warning 5.8.2 (1).

**Change (1) and add to (7) to read:**

Sound	Indication
(1) Sound whistle to attempt to attract attention to the train.	Use when persons or livestock are on the track at other than road crossings at grade. Use when within quiet zone when engineer believes such action is appropriate. When determination has not been made concerning an employees work group sound signal 5.8.2(8).
(7) - - o -	At locations where crossing signs are displayed sound whistle as required above regardless type of crossing train is approaching.  In the states of California and Montana sound whistle signal at all crossings, public and private.

**5.9.5 Displaying Ditch Lights**

**Application:**  
The term "ditch lights" includes oscillating white headlights or strobe lights located on the front of the locomotive. Ditch lights on some foreign locomotives are configured to operate only when the horn is activated. Ditch lights which operate in this manner will be considered as meeting the requirements of this rule. When a remote control locomotive is being controlled with a remote control transmitter the ditch lights need not be displayed if speed does not exceed 20 MPH. Ditch lights are not required on steam locomotives. Failure of two ditch lights includes employee failure to turn on the ditch lights.

**5.10 Markers**

**Application:**  
Before departing the initial terminal, the conductor must know the initials and number of the car that has the marker applied or unit number, when engine at rear of the train is used as the marker. This can be done verbally by the employee making the initial terminal air brake test, or included on the written notification of the test. If the rear car changes, an employee must report to the conductor the initials and number of the car having the marker applied before the train departs.

When a train is set out clear of the main track at other than a crew change location. A crew member must remove the end of train telemetry device, if so equipped. Transport the device on the engine to the destination where the crew is relieved.

If the engine remains with the train, a crew member must deliver the end of train telemetry device to the proper authority at the tie-up point. However, proper authority may advise the crew to leave the device with the train. Always notify the train dispatcher of the location of the telemetry device.

**5.11 Engine Identifying Number**

**Changed rule to read:**  
Trains will be identified by initials and engine number, adding the direction when required. When an engine consists of more than one unit or when two or more engines are coupled, the number of one unit only will be illuminated as the identifying number. The identifying number will be the number of the lead unit, unless changing direction during a trip or tour of duty when that unit is no longer the lead unit.

**Exceptions:**

- On track bulletins that advise about excessive dimension equipment, trains may be identified by train symbol.
- On track bulletins and on track warrants that do not convey movement authority, passenger trains may be identified by schedule number.

**Note:** Engines with the following initials stenciled on the side of the locomotive will be identified as NS engines: SOU, NW, PRR, CG, INT, GSF, AGS, CRCX and CR (ConRail).

**5.13 Blue Signal Protection Of Workmen**

**Part C. 2.**

**Add second sentence to read:**  
A blue tag must be placed on the switch governing remote/manual operation.

**Add last paragraph to Part C. to read:**

When a blue signal is attached to an engine, unless directed by the craft who placed the blue signal, changing any controls, brake settings (including hand brakes), switches (except overhead cab lights), circuit breakers, etc. or starting or shutting down the engine is prohibited.

**6.2.1 Train Location**

**Change rule to read:**  
Trains who receive authority to occupy the main track after the arrival of a train or to follow a train, must ascertain the train's location by one of the following methods:

- Direct communication with a crew member of the train.
- or
- Receiving information about the train from the train dispatcher or control operator.

**6.3 Main Track Authorization**

**Add a new bullet reading:**

**Add the following paragraph:  
Joint Authority**

When a train receives joint authority joint movements must be made at restricted speed.

**6.4.1 Permission for Reverse Movements**

**Application:**

In ATC territory "within same signaled block" only applies where continuous block signal territory is designated.

**6.4.2 Movements Within Control Points Or Interlockings**

**Change Part A (Control Point or Manual Interlockings) to read:**

**Control Points Outside Manual Interlockings.**

Except within track and time limits, if movement stops while the trailing end is between the outer opposing absolute signals of a control point, the movement must not change direction without permission from the control operator. However, after a job briefing has been conducted and the control operator has a clear understanding of all movements to be made and tracks to be used, the control operator may grant permission for all movements.

**Manual Interlockings**

If movement stops while the trailing end is between the outer opposing absolute signals of a manual interlocking, the movement must not change direction without permission from the control operator.

**6.5.1 Remote Control Movements**

**~~Under Relief of Providing Protection add:-~~**

~~4. Remote Control Zone is equipped with operative pull back and stop protection (PSP) and:~~

- ~~• Operator must verify the PSP is operating properly.~~
- ~~• If PSP is overridden for any reason protection must be provided until it is again verified the PSP is operating properly.~~

**~~Add new paragraph:-~~**

~~When using a remote control locomotive in "pitch and catch" operation and protection is being provided by a remote control operator, it must be by the primary operator. However, the primary operator at a coupling may stretch the slack to ensure couplings are made (Rule 7.4.1 Remote Control Couplings).~~

~~When making shoving movements the primary operator must be in position to protect the point of movement. However, the primary operator at the coupling may, after completing a job briefing with employee protecting point:~~

- ~~• Stretch the slack to ensure couplings are made.~~
- ~~• or~~
- ~~• Separate equipment to make coupler adjustments.~~

**6.5.2 Movement of Light Remote Control Locomotive**

**Add new rule:**

Unless relieved of providing protection the primary operator must take a position on the leading end of a light remote control locomotive consist or be positioned on the ground clear of the movement and able to observe the entire movement before initiating the movement.

**6.6 Picking Up Crew Member Back Up Movements**

**Add last paragraph after part 5 as follows:**

Before a crew requests and makes a move under this rule, a job safety briefing between crew members must be conducted that includes:

- Confirmation of authority limits.
- Location of nearest affected road crossings in direction of movement.
- Distance to be shoved.
- Confirmation that train is intact, verified either visually or by determining that brake pipe continuity exists using EOT device or distributed power telemetry.

**6.7 Remote Control Zone**

**Application of part A. Entering Remote Control Zone**

Timetable special instructions will designate limits of remote control zones. Signs will be posted at access locations to remote control zones. Remote control zone limits do not include tracks within CTC or interlocking limits (CTC or interlocking rules apply). Only the remote control operator may activate a zone. However, timetable special instructions may designate the hours a zone is active.

Proper records must be maintained concerning activation, deactivation and transfer of the zones at locations where a designated supervisor may be contacted to determine if a zone is active. Record must include:

- Job designation.
- Zone number.
- Date and time zone activated.
- If applicable, time zone transferred and job designation of other remote control job. Transfers from one job to another do not need to be recorded unless the transfer involves a job that is going off duty or will not again control the active zone. All active zones must be transferred to a new zone log.
- Date and time zone deactivated.

Remote control operators may allow only one other train or engine movement to occupy the limits of their active zone at one time. When that train or engine is clear of the zone with switches properly lined, it must report directly to the remote control operator. If it is necessary for other train or engine movements

to enter the limits of the active zone during that time, the zone must be deactivated.

Engineering or mechanical department employees, with equipment, must not enter or foul the track within an active zone. If necessary to enter the zone limits, the zone must be deactivated.

### **6.19 Flag Protection**

#### **Application:**

Flagging distance is 2 miles.

### **6.20 B Other Equipment Left on Main Track**

#### **Application:**

A train must not be left on the main track in non-sigaled territory unless protected by one of the following:

1. Yard Limits
2. Track Warrants
  - The train dispatcher may request the release of the crew's track warrant and inform crew that protection has been provided.
  - After being informed that protection has been provided, the following procedure must be followed.
    - Crew member will state: "(Train ID) is stopped between MP\_\_\_ and MP\_\_\_ on main track (Subdivision). Protection has been provided."
    - Dispatcher will state: "( Train ID) that is correct."

A crew member will then release their track warrant.

### **6.23 Emergency Stop or Severe Slack Action**

#### **Obstruction of a Main Track or Controlled Siding:**

##### **Application:**

To notify the train dispatcher or control operator, use the emergency call-in feature if available.

#### **Inspection of Cars and Units:**

Inspect the train on each side of all cars, units, equipment, and track to ensure they are in a safe condition. Make sure the marker is attached to the designated rear car. Before proceeding check the proper positioning of all wheels on the rail. If physical characteristics prevent a complete visual inspection, inspect as much of the train as possible. The train may then be moved, but may not exceed 5 MPH for the distance necessary to complete the inspection, and must be stopped immediately if excessive power is required to start or keep the train moving. When an inspection is required the entire train must be inspected.

When any of the following conditions are met, trains are relieved of visual inspection required by an emergency application when device located at rear of train immediately indicates that brake pipe pressure has been restored.

- Solid loaded bulk commodity trains.
- Train is made up entirely of double stack well cars and/or five-platform articulated single-level spine cars.
- Train speed is above 20 MPH.
  - or
- Train is 5000 tons or less.

An inspection on any train must be made if:

- Train is a key train.
- Severe slack action was experienced.

Train must be stopped immediately and inspected, if excessive power is required to start or keep the train moving.

### **6.26 Use of Multiple Main Tracks**

#### **Application:**

Multiple main tracks are numbered as follows:

- On east-west subdivisions, track numbers increase from north to south, and the northern most track is No. 1, and
- On north-south subdivisions, track numbers increase from west to east, and the western most track is No. 1.

### **6.27 Movement at Restricted Speed**

#### **Application:**

Movement must stop short of obstructions listed when required.

### **6.28 Movement on Other than Main Track**

#### **Application:**

Movement must stop short of obstructions listed when required.

### **6.29.1 Inspecting Passing Trains**

#### **Change Ground Inspections to read:**

When a train is stopped and is met or passed by another train, crew members must inspect the passing train. The trainman's inspection will be made from the ground if there is a safe location. When stopped, the crew member must detrain on the field side, the side away from the adjacent main track.

Inspection will be made from the cab of the locomotive:

- During snow and ice conditions that may cause slippery conditions underfoot when getting on or off.
- or
- When stopped at a location where there is an adjacent main track on each side of the train (i.e. on track 2 in 3 main track territory).

**6.32.1 Providing Warning Over Road Crossings**

**Change rule to read:**

When cars are shoved, kicked, or dropped over road crossings at grade (except those used exclusively by railroad employees), a crew member must be on the ground at the crossing to warn traffic until the crossing is occupied. Make any movement over the crossing only as directed by that crew member. Such warning is not required when gates are known to be in the fully lowered position.

**6.32.2 Automatic Warning Device**

**Application:**

Report malfunctioning automatic crossing warning devices by the first available means of communication to the:

- Train dispatcher
- or
- Grade Crossing Safety Hot Line (800-848-8715).

If equipped, when the white power-on light on the exterior of the signal house is not lit, or when a strobe light on the exterior of the signal house is flashing, immediately notify the train dispatcher or Grade Crossing Safety Hot Line.

**Crossing Warning Device Malfunction Sign**

Where a Crossing Warning Device Malfunction sign (System Special Instructions Item 22) is located next to a road crossing, movement must stop at the sign and **Procedure 1** applies.

**"STOP" Sign**

Where a "STOP" sign is located next to a road crossing, movement must stop at the STOP sign. Movement may proceed only after automatic crossing warning devices have been operating long enough to provide warning and crossing gates, if equipped, are fully lowered. If automatic crossing warning devices fail to operate, **Procedure 1** applies.

**A. Automatic Warning Devices Malfunctioning**

**Change Part A. to read:**

Use the following procedures to properly complete movement over the crossing:

**Procedure 1:**

Unless otherwise instructed by signal employee in charge, train must stop before occupying the crossing. A crew member must be on the ground at the crossing to warn highway traffic, the train may proceed over the crossing as directed from that crew member. When leading end of movement completely occupies the crossing, proceed at normal speed.

**Procedure 2:**

Unless otherwise instructed by signal employee in charge, train must approach road crossing prepared to stop. If automatic warning devices are not working comply with Procedure 1.

The train may proceed over the crossing at 15 MPH without stopping if:

- The devices are seen working.
- or
- Instructed by the train dispatcher or track bulletin to proceed at 15 MPH.

When leading end of movement completely occupies the crossing, proceed at normal speed.

<b>Movement When Notified that Warning Devices have an Activation Failure, are Disabled or Malfunctioning or Track Bulletin is issued</b>		
<b>Verbally Notified</b>	<b>Track Bulletin or Track Warrant</b>	<b>Procedure to follow</b>
"XG" in effect at (location)	AUTOMATIC CROSSING DEVICE HAS AN ACTIVATION FAILURE AT ( ) RULE 6.32.2 PROCEDURE 1 APPLIES.	<b>Comply with Procedure 1.</b>



"XH" in effect at (location)	AUTOMATIC CROSSING NOT WORKING PROPERLY AT (____) RULE 6.32.2 PROCEDURE 2 APPLIES.	<b>Comply with Procedure 2.</b> A crossing having a broken gate(s) is considered as having working devices when the balance of the automatic warning devices are seen to be working.
"XS" in effect at (location)	AUTOMATIC CROSSING DEVICE HAS BEEN DISABLED AT (____) RULE 6.32.2 PROCEDURE 1 APPLIES.	<b>Comply with Procedure 1.</b>

When advised by the train dispatcher or proper authority at the crossing that the warning devices have been repaired, these restrictions no longer apply.

Note: When a crew is notified (e.g. from another train crew) that a crossing has an activation failure or a malfunction, the appropriate procedure must be followed.

#### 6.32.3 Providing Warning for Adjacent Tracks

##### Change rule title and rule to read:

When practical, position an employee on the ground to warn traffic against movements approaching on adjacent tracks, under either of the following conditions:

- A train or cut of cars is parted closer than 250 feet from a road crossing.
- The head-end of a train is stopped, other than a passenger station stop, closer than 250 feet from a road crossing.

#### 6.32.4: Clear of Crossings and Signal Circuits

##### Add as last paragraph:

When cars, engines, or equipment are left on a siding or a main track closer than the required distance, the train dispatcher must be notified.

##### Application:

Referring to 250 feet:

- In Illinois the distance is 500 feet.
- In Wisconsin the distance is 330 feet.
- In Arkansas and Louisiana the distance is 300 feet.

#### 6.32.7 Crossings Requiring Additional Precautions

##### Add new rule.

Use the following procedures to properly complete movement over the crossing as instructed by the train dispatcher or track bulletin.

Verbally Notified	Track Bulletin or Track Warrant	Procedure to follow
"XC" in effect at (location)	DO NOT EXCEED 15 MPH BETWEEN MP __ AND MP __ APPROACHING CROSSING(S) ____ UNTIL CROSSING(S) ____ ARE OCCUPIED	The train may proceed over the crossing at 15 MPH without stopping. When leading end of movement completely occupies the crossing, proceed at maximum authorized speed. ("XC" due to cars left closer than the required distance from crossing)
"XI" procedure at (location)	DO NOT EXCEED 15 MPH UNTIL CROSSING IS OCCUPIED	The train may proceed over the crossing at 15 MPH without stopping. When leading end of movement completely occupies the crossing, proceed at maximum authorized speed. ("XI" due to broken or missing cross buck, stop sign, etc.)

When advised by the train dispatcher or proper authority at the crossing that corrections have been made, these restrictions no longer apply.

#### 6.32.8 Road Crossings within Intermodal and Automotive Facilities

##### Add new rule:

Movements over crossings within intermodal and vehicle loading/unloading facilities will be made as follows:

- Shoving movements and locomotive consist movements, when not controlled from the cab nearest the direction of travel, must be protected by an employee in position at the crossing to warn traffic until the crossing is occupied. Make movement over the crossing only after warning has been provided.
- Movements with the engine in the lead, when controlled from the cab nearest the direction of travel, must ring the engine bell when approaching crossing. In addition, sound whistle as a warning when vehicles are stopped, closely approaching or crossing view is obstructed.

#### 7.4.1. Remote Control Coupling Cars

##### Add new rule:

When using a remote control locomotive in "pitch and catch" operations to make a coupling, the RCO located at the coupling must be the primary operator.

This does not prevent a utility employee, not equipped as a RCO, from making the coupling.

Make couplings at a speed of not more than 2 MPH. Remote Control Operator must use speed selection of not greater than "Couple". Do not use "Coast" and independent brake override to make car couplings.

**Note:** When spotting cars at an industry that requires precision spotting of the cars the independent brake override may be used.

### 7.5 Testing Hand Brakes

**Add sentence:**

If hand brake is not operational, attach a bad order tag to hand brake wheel or lever.

### 7.7 Kicking or Dropping Cars

**Change rule to read:**

Kicking cars is permitted only when it will not endanger employees, equipment, or contents of cars. Dropping cars is prohibited.

When kicking cars, crew member must ensure that cars kicked are clear and will remain clear before track may be fouled.

#### 7.7.1 Gravity Switch Moves-

**Add new rule:**

A gravity switch may only be made where authorized by "Superintendent Bulletin" and manned hand brake must be located on the trailing end of the trailing car in the direction of movement.

### 7.12 Movement Into Spur Tracks

**Add a bullet as follows:**

- Stop movement short of end of track, bumper, chock, etc., unless it is necessary to shove cars to the end of the track to properly spot cars for the industry. When necessary, use extreme caution to avoid damage to equipment, track or structures.

### 7.13 Protection of Employees in Bowl Tracks

**Change rule to read:**

During humping operations, before a train or yard crew member performs any work activities between bowl tracks, protection must be provided against cars released from the hump into the bowl tracks that may be fouled as follows:

- The employee requesting protection must notify the employee controlling the switches that provide access from the hump to the bowl track(s) where work will occur.
- After being notified, the switch controller must line any remote control switch against movement to the affected bowl tracks and locking or blocking device must be applied to the switch control.
- The switch controller must then notify the employee that protection is provided. Protection will be maintained until the switch controller is advised that work is complete and employee is clear of the bowl tracks and protection is no longer required.

### 8.19.1 Radio Controlled Switches

**Addition:**

At locations (designated in the timetable) where radio controlled Power Assisted Switches (PAS) are installed, the following applies:

PAS locations are equipped with:

- Dual control switch machines.
- Bidirectional switch point indicators per Rule 8.10.
- Occupancy (OS) circuits with limits marked by signs reading "Begin OS" and "End OS".

Signs reading "Switch Control" are located approximately 2 miles from the PAS locations.

**Operating Instructions:**

1. Upon passing a "Switch Control" sign use the radio keypad to transmit the proper sequence (designated in the timetable) to request the desired switch position and receive radio transmitted verbal confirmation of switch alignment at that location.
2. Once radio confirmation of proper switch alignment has been received, movement through the PAS location must be made within 10 minutes of confirmation or the movement must approach the PAS location prepared to stop.
3. If radio confirmation of proper switch alignment is not received, movement must approach the PAS location prepared to stop until the switch point indicator can be clearly seen to indicate proper switch alignment. Notify the train dispatcher that radio confirmation was not received.

**Stop and Inspect Switch**

If the radio message received is "Switch Not Lined" or no radio message is received and the switch point indicator continues to display an indication to stop and inspect switch:

1. Movement must stop before entering the OS circuit limits.
2. After stopping, the PAS may be operated by unlocking the box on the side of the signal bungalow and using the push-button.
3. After push-button operation is attempted, if the switch point indicator continues to display an indication to stop and inspect switch, employee must operate the switch by hand as outlined in Rule 9.13.1 (Hand Operation of Dual Control Switches).

**Note:** If the switch point indicator can be clearly seen to indicate proper switch alignment, the movement may proceed without stopping. Notify the train dispatcher of malfunction.

#### **Movement Completely Through a PAS Location**

After movement has been made through a PAS location, the switch point indicator will display an indication to stop and inspect switch and the switch will remain in the normal position. If switch was reversed, it will return to the normal position.

#### **Route Change**

If necessary to change the route that was originally requested, movement must stop outside the OS circuit limits and:

- Wait 15 minutes and then enter the proper sequence to line the switch for the desired route.
- Wait 15 minutes and then operate the push-button on the signal bungalow to line the switch for the desired route.  
or
- Operate the switch by hand as outlined in Rule 9.13.1 (Hand Operation of Dual Control Switches) to line the switch for the desired route.

#### **Additional Instructions**

The PAS will not operate if the OS circuit at the PAS location is occupied. A proper sequence or push-button request must be made and confirmation of proper switch alignment must be received before movement enters the OS circuit limits at the PAS location.

#### **8.20 Derail Location and Position**

##### **Change last paragraph to read:**

Derails that are used in conjunction with worker protection must be in the derailing position with proper flag displayed only when their use is required for such protection. When their use is not required for protection:

- Remove portable derails, then remove flag.

or

- Lock fixed derails in non-derailing position with an effective locking device, then remove (take down) flag.

#### **9.9 Train Delayed Within A Block**

##### **Add to Part B:**

Passenger trains operating in push/pull service must not exceed 40 MPH until the next signal is visible and that signal displays a proceed indication.

#### **9.11 Movement from Signal Requiring Restricted Speed**

##### **Add exception to read:**

##### **Exception:**

If a train is within ACS or ATC territory, with operative cab signals, the train may immediately comply with the cab signal indication.

#### **9.12.4 ABS Territory**

##### **Add:**

##### **D. Control Point Locations**

At control point locations, if no conflicting movement is evident, a crew member must immediately contact the control operator for authority to pass the Stop indication unless the control point is within the trains track permit limits.

#### **9.13 When Instructed to Operate Dual Control Switches by Hand**

##### **Change rule to read:**

If the control operator cannot line the dual control switch to the desired position, or the control machine does not indicate that the switch is lined and locked, before authorizing movement, the control operator and crew must have a clear understanding specifying:

- The control point.
- Route.
- Switch(s) that must be operated by hand.

The control operator may then authorize movement past the Stop indication and instruct the employee to operate the switch(s) by hand.

Movement may then proceed as authorized only after a clear understanding is reached with all crew members specifying the control point, route and switch (s) that must be operated by hand.

Before passing over the switch, the train must stop and the employee must operate the switch by hand as outlined in Rule 9.13.1 (Hand Operation of Dual Control Switches). After at least one unit or car has passed over the switch points, the employee must return the switch to power unless otherwise instructed by the control operator.

#### **9.13.2 Performing Switching**

##### **Add new rule:**

When necessary to place a dual control switch in hand operation to perform switching the crew must:

- Complete a job briefing with the control operator on moves to be made.
- Receive authority to enter the control point.
- Receive permission to place the switch in hand operation.

Crew will then comply with Rule 9.13.1, except do not return switch to power until final movement has been made over the switch.

Notify the control operator when switch has been returned to power, further movements must be made by signal indication or as authorized by the control operator.

#### **9.14.2 Controlled Block System (CBS)**

##### **Add new rule:**

On tracks designated in the timetable, movements will run in the direction specified by verbal authority from the train dispatcher or a controlled signal indicating proceed. This authority will establish the current of traffic for the movement.

Before granting authority, the train dispatcher must know that conflicting movements are protected. A train must not enter or occupy any track in CBS limits unless:

- A controlled signal indicates proceed.
- or
- Verbal authority is granted.

A movement must proceed only in the direction authorized unless authority is granted by Rule 9.15 (Track Permits).

A movement authorized in one direction must report to the train dispatcher when it has cleared the main track within CBS limits. A movement that clears the main track within CBS limits must not reenter that track without new authority unless within Track Permit limits.

In CBS limits, Rule 9.15 (Track Permits) is in effect.

#### **9.17 Entering Main Track at Hand-Operated or Spring Switch**

##### **Part A. When Hand Operation of a Spring Switch or 5 Minute Wait Is Not Required**

###### **Application:**

Condition (2) does not apply on UPRR.

#### **9.23.1 Guidelines While Block System Is Suspended**

##### **Change rule to read:**

When a block system or sections of it are suspended, the following guidelines govern.

A Track Bulletin will specify, when applicable:

- The affected tracks and milepost limits of the suspension.
- The location(s) of flagmen who may authorize trains to enter or to proceed at intermediate locations within the suspended limits, specifying track(s) when necessary.
- The position of dual control switches at the end of multiple main tracks.
- Dual control switches that have been locked in hand operation for main track movement.
- Actions to be taken where automatic crossing warning devices are affected.
- When track warrants may be used to authorize movement.

##### **Crew members must:**

- Follow rules that apply to non-signaled territory and not exceed 59 MPH for passenger trains or 49 MPH for other trains.
- Disregard extinguished or illuminated block and interlocking signals, unless specified by track bulletin, except when those signals:
  - Govern movements over railroad crossings at grade.
  - Are connected with trackside warning detectors.
- Approach the beginning and end of the suspended limits prepared to stop. When suspension ends at a block signal identified as in service, trains must approach that signal prepared to stop until its aspect can be clearly seen.
- If suspension begins at an in service control point, signal indication will only authorize movement through the control point, not beyond it.
- If suspension does not end at a signal identified as in service, trains leaving the limits and moving into block system territory must move at restricted speed to the first signal in service beyond the limits.

##### **Movements over Railroad Crossings at Grade and Drawbridges:**

- Signals that govern movement over railroad crossings at grade and drawbridges must be regarded as displaying a Stop indication, regardless of the aspect displayed, unless the track bulletin specifies that the signals are in service or flagman at that location authorizes movement.
- Crew members must not rely on time release or key controller operation as adequate protection to move over the crossing, unless instructed that they are in service.

##### **Dual Control Switches:**

Unless notification has been received from the train dispatcher:

- That dual control switches are locked in hand operation and are lined for intended movement.
- or
- That dual control switches are attended by a flagman.

Trains must stop and crew member must:

- Hand operate and lock dual control switches for main track movement.
- Leave switches locked in hand operation.
- Notify the train dispatcher that switches have been locked in hand operation and lined for main track movement.

Remote control switches not equipped for hand operation will be spiked or clamped and all concerned notified.

**Spring Switches:**

Spring switches removed from service must be spiked and those concerned notified. If spring switches are left in service, trains making facing point movements must be prepared to stop and test the switch, unless it is known that the switch is properly lined for the diverging route.

**Block System Returned to Normal:**

Train Dispatcher must notify crew members within the affected territory before permitting other trains to enter the limits when the block signal system will be returned to normal operation.

**10.3 Track and Time**

**Application of the second paragraph:** When the track and time includes "Switch Yes," the limits include that switch and the track between the absolute signals governing movement over the switch.

**Application of the boxed sentence:** Track and time limits are sometimes issued across an interlocking. Track and time provides authority to be on the main track in CTC on both sides of the interlocking; however, it does not provide authority to occupy the interlocking limits. Interlocking rules must be complied with.

**11.2 Signal Indications with Absolute Block**

**Add** Restricted Proceed signal to first sentence of first and second paragraphs and to Diagrams A, B, C and D.

**12.1 Required Equipment**

**Delete** the word "passenger".

**13.1.5 Departure Test**

**Add new rule:**

A cab signal departure test must be made the initial terminal of the locomotive. The certification of the departure test shall be recorded on the proper form and posted in the Locomotive cab, with a copy left at the test location for filing in the office of the supervisor having jurisdiction. If it is impractical to leave a copy of the certification and test results at that location, then the results must be transmitted to either the train dispatcher or another designated individual before entering equipped territory. A written record of the test results and the name of the person performing the test. shall be retained for 92 days at these locations.

The departure test must determine that:

1. The ACS device is operative and cutout handle is sealed.
2. The cab signal apparatus reflects all aspects according to the code rates.
3. Acknowledgment of all more restrictive aspects will silence the audible indicator and forestall a penalty brake application.
4. Not acknowledging the restrictive indication will initiate a full service penalty brake application within eight (8) seconds.

**14.0 Rules Applicable Only Within Track Warrant Control (TWC) Limits**

**Additions to Suggestion form.**

Add a "Box 18" and a "Track Warrant Has" line and "Clear of" location lines to Track Warrant Form as shown:

18.  Joint With:

\_\_\_\_\_ Between \_\_\_\_\_ & \_\_\_\_\_.

\_\_\_\_\_ Between \_\_\_\_\_ & \_\_\_\_\_.

\_\_\_\_\_ Between \_\_\_\_\_ & \_\_\_\_\_.



**14.9 Copying Track Warrants**

**Change Part A. to read:**

**A. Transmitting Track Warrants**

1. The train dispatcher will transmit the track warrant. The train dispatcher will not transmit the summary.
2. An employee will enter all of the information transmitted by the train dispatcher. The employee will then check the information copied to ensure all items are correct and enter in the summary the total number of boxes marked and individual box numbers.
3. The employee will repeat preprinted and the information transmitted by the train dispatcher including what has been entered in the summary, "This track warrant has (total number) boxes marked: (individual box numbers)."
4. The train dispatcher will check the repeat and summary, if all information including the summary is correct; will say "OK" and give the time and his/her initials.

The employee will enter the OK time and the train dispatcher's initials on the track warrant and repeat them to the train dispatcher.

**14.11 Changing Track Warrants**

**Add Note:**

**Note:** This does not prohibit additions or changes authorized by the rules (e.g. Rule 14.7).

**14.13 Mechanical Transmission of Track Warrants**

**Add the following paragraph:**

The crew must verify the designated limits and any conditions of track warrants that convey authority with the train dispatcher before initiating movement on main track.

**15.0 Track Bulletin Rules - Track Condition Summary**

Form B's will have asterisks before and after the bulletin. When flags are displayed in less than the prescribed distance, the milepost and direction will be shown. If flags are not displayed, NOT will be shown.

**Example: Track Condition Summary**

NO: (Track Warrant) TO: (Train ID)

**Subdivision (000)**

42683(2) 42554(3) 42276(2) 42034

LINE NO.	LIMITS FROM MP	LIMITS TO MP	TRACK(S) MPH AFFECTED	FLAG	FOR AT MP	FOR DIR	FROM DATE	UNTIL DATE TIME
----------	----------------	--------------	-----------------------	------	-----------	---------	-----------	-----------------

FORM A NO. 42683

1. 43.9 44 40 MT 2 43 WWD 05/07/09 1220

2. 46.6 47.1 40 MT 2 05/11/09/ 1318

FORM A NO. 42554

1. 51 51.2 40 MT 2 08/08/08 1102

2. 55.5 55.6 40 MT 2 08/10/08 0100

LINE NO.	LIMITS FROM MP	LIMITS TO MP	TIME FROM	TIME UNTIL	TRACK(S) AFFECTED	FLAG AT MP	FOR DIR	GANG NO /FOREMAN
----------	----------------	--------------	-----------	------------	-------------------	------------	---------	------------------

\*\*\*\*\*FORM B NO. 42276\*\*\*\*\*

ON 05/14/09 RULE 15.2 APPLIES WITHIN THE FOLLOWING LIMITS:

1. 113 118 0700 1900 MT 1 112 WWD 4763 GUTZ

2. 113 118 0700 1900 MT 2 112 WWD 4763 GUTZ

LINE NO.	LIMITS FROM MP	LIMITS TO MP	TRACK(S) MPH AFFECTED	FLAG	FOR AT MP	FOR DIR	FROM DATE	UNTIL DATE TIME
----------	----------------	--------------	-----------------------	------	-----------	---------	-----------	-----------------

FORM A NO. 42554

3. 114.4 116.3 60 MT 2 05/10/09 1118 FORM C NO. 42034

Date 05/03/09

1. SIDING AT WILD OUT OF SERVICE SWITCHES ARE SPIKED AND TAGGED

**For Train Movements in the Opposite Direction.**

**Example: Track Condition Summary**

NO: **(Track Warrant)** TO: **(Train ID)**

**Subdivision (000)**

42276(2) 42554(3) 42683(2) 42034

LINE NO.	LIMITS FROM MP TO MP		TIME FROM UNTIL	TRACK(S) AFFECTED	FLAG AT MP	FOR DIR	GANG NO /FOREMAN
----------	----------------------	--	-----------------	-------------------	------------	---------	------------------

\*\*\*\*\*FORM B NO. 42276\*\*\*\*\*  
 ON 05/14/09 RULE 15.2 APPLIES WITHIN THE FOLLOWING LIMITS:  
 1. 118 113 0700 1900 MT 1 112 WWD 4763 GUTZ  
 2. 118 113 0700 1900 MT 2 112 WWD 4763 GUTZ

LINE NO.	LIMITS FROM MP TO MP		MPH	TRACK(S) AFFECTED	FLAG AT MP	FOR DIR	FROM DATE	UNTIL DATE
FORM A NO. 42554								
3.	116.3	114.4	60	MT 2			01/20/08	1118
2.	55.6	55.5	40	MT 2			01/10/08	0100
1.	51.2	51	40	MT 2			01/08/08	1102
FORM A NO. 42683								
2.	47.1	46.6	40	MT 2			05/11/09	1318
1.	44	43.9	40	MT 2	43	WWD	05/07/09	1220

FORM C NO. 42034 DATE 05/03/09  
 1. SIDING AT WILD OUT OF SERVICE SWITCHES ARE SPIKED AND TAGGED

Below the last line of data there will be a blank line then the page number. Nothing should be printed below the page number.



OK times and Train Dispatchers initials are not shown.

### Form A and Form B Track Bulletins

On the subdivision summary page, the track bulletin number for Form A and Form B bulletins will have, in parenthesis, the number of line items for that track bulletin. Because of the sorting by milepost, any particular Form A or Form B bulletin may be split by another Form A or Form B in the body of the Track Condition Summary.

### Form C Track Bulletins

Form C track bulletins for a particular subdivision will be listed after the Form A and Form B bulletins for that subdivision with two exceptions.

- Listed first on the Track Condition Summary will be Form C bulletins that apply to the entire system. The subdivision heading will be "System Bulletin All Subdivisions".
- Form C bulletins issued on multiple subdivisions will be listed next. These will only be listed once; the subdivision heading will show all the subdivisions that the bulletin has been issued on.

## 15.1 Track Bulletins

### Example Track Warrant for Bulletins

NO: (Track Warrant) FROM: (Location) TO: (Location) DATE:

TO: (Train ID) (Train Symbol) AT: (Location)

ON: Subdivision (000)

16.(X) 4 TRACK BULLETINS IN EFFECT: 42034 42683 42554 42276

17.(X) OTHER SPECIFIC INSTRUCTIONS:  
THIS WARRANT IS USED TO DELIVER TRACK BULLETINS ONLY AND DOES NOT  
CONVEY AUTHORITY TO OCCUPY THE MAIN TRACK.

OK (time) DISPATCHER ABC RELAYED TO: COPIED BY:

## 15.1 Track Bulletins

### Change first sentence to read:

Track bulletins or track warrants must not be changed unless authorized by the rules.

### Change the last paragraph and add note as follows:

At locations where track warrants listing track bulletins are received by printer or fax, crew members must verify that route description, if printed, covers the intended route of their train and that the track warrant includes the correct train ID and train symbol of their train. If it does not, contact the train dispatcher and determine if the track warrant is valid. Also, crew members must check the date and "OK" time on the track warrant and if the track warrant is over 4 hours old, contact the train dispatcher and determine if additional track bulletins are needed.

**Note:** After receiving their track warrant, if a crew is assigned to operate a train with a train symbol different than the one listed on their track warrant, the above applies.

### Application:

Having a copy of the "Track Condition Summary" meets the requirement of having a copy of the bulletins listed.

### 15.1.1 Changing Address of Track Warrants or Track Bulletins

#### Add second sentence to rule reading:

However, crews performing yard or hostling service, using the main track at a yard or terminal, may change the engine number or train symbol on track warrants or track bulletins they receive from the train dispatcher without communicating with the train dispatcher.

## 15.2 Protection by Track Bulletin Form B

### Add to third paragraph concerning information given to EIC:

The crew member must inform the employee in charge if there are any excessive dimension loads in the train.

### Application:

When two Form B track bulletins meet at adjoining subdivisions resulting in a continuous Form B restriction with the same employee in charge and the same time limits the employee in charge may grant permission and give instructions to the train concerning both Form B's at the same time. The communication will begin using the following format:

Foreman (name) using 2 track bulletins. Track Bulletin No. \_\_\_\_ Line No. \_\_\_\_ Subdivision \_\_\_\_ and Track Bulletin No. \_\_\_\_ Line No. \_\_\_\_ Subdivision \_\_\_\_ between MP \_\_\_\_ and MP \_\_\_\_ (outer mileposts).

## 15.2.2 Protection for Non-Railroad Contractors

### Add new rule:

When authorized non-railroad employees or non-railroad contractors are working near a main track or controlled siding, protection will be provided as outlined below.

- When working within 10 feet of the track, protection will be provided by use of a track bulletin, track and time, track permit, track warrant, or other means of protection. Except in California or when work will be performed foul of the track, a Form C track bulletin may be used as follows:

" ON (DATE) FROM (TIME) UNTIL (TIME) BETWEEN MP\_\_ AND MP\_\_ PROCEED  
 PREPARED TO STOP SHORT OF MEN AND EQUIPMENT NOT TO EXCEED  
 20 MPH UNLESS INSTRUCTED OTHERWISE BY FOREMAN (NAME).

Train receiving track bulletin must proceed within the limits prepared to stop short of men and equipment and not exceed 20 MPH until leading wheels have cleared the limits unless instructed otherwise by the employee in charge. Whistle signal 5.8.2 (8) will be sounded.

- When working between 10 and 25 feet of the track, trains will be notified of their presence by issuance of a Form C track bulletin that reads:

"CONTRACTORS ARE WORKING AT LEAST 10 FEET FROM THE TRACK AT THE FOLLOWING LOCATION(S): (IDENTIFIED AT MP\_\_\_ OR BETWEEN MP\_\_\_ and MP\_\_\_)."

A watchman must ensure workers and equipment remain at least 10 feet from the track.

Railroad employees who observe work being performed within the boundaries of railroad right-of-way without notification as outlined above should report this information to the train dispatcher for further action.

#### 15.4 Protection When Tracks Removed from Service

##### Change to read:

Before a track is removed from service it must be protected.

A track bulletin may protect tracks removed from service by designating the track and naming the points at each end of the track. Trains must not use this track unless the track bulletin states the name or title of an employee who may authorize use. This person will direct all movement. Movements must be made at restricted speed unless instructed otherwise by the employee in charge. Movements may then proceed as instructed and in accordance with signal indications.

The control operator must grant authority to pass an absolute signal displaying a Stop indication at control points at either end of the out of service track to enter. Except at interlockings, after stopping, movements may pass Stop indications within the out of service track. Movements within the out of service track may pass Stop and Proceed indications without stopping. When required, the train dispatcher must advise crews of alternate routes and switch positions.

#### 15.12 Relief of Engineer or Conductor During Trip

##### Change paragraph under "Comparison of Information" to read:

~~The relieving conductor and engineer must compare track warrants, track bulletins, instructions, and pertinent information with each other and with the train dispatcher after arriving at the train and before proceeding. To compare track bulletins with the train dispatcher, the crew will provide their track warrant for bulletins number. The train dispatcher will acknowledge that this warrant includes all required track bulletins and deliver any additional restrictions for their route not included in the track warrant for bulletins.~~

The relieving conductor and engineer must compare:

- Track warrants, track bulletins, instructions, and pertinent information with each other.
- Their track warrant for bulletins number with the train dispatcher. The train dispatcher will verify that the warrant includes all required track bulletins and will provide any additional restrictions required for the route.

#### 15.13.1 Verbally Raising a Speed Restriction

##### Add new rule:

The train dispatcher may verbally raise the speed on an existing speed restriction, Rule 2.14 (Mandatory Directive) applies. The train dispatcher must identify the existing speed restriction; e.g., Form A 1234, line 2. After a crew member informs the train dispatcher they have located the speed restriction and are ready to copy, the train dispatcher will use the following format:

(Train ID) Track Bulletin \_\_\_\_, Line No \_\_\_\_, MP \_\_\_\_ to MP \_\_\_\_, \_\_\_\_ MPH (adding track if necessary), speed is increased to \_\_\_\_ MPH.

The employee will draw a line through the existing speed on the track condition summary form, write the new speed adjacent to the old speed, and then repeat the information to the train dispatcher. If the information is correct, the train dispatcher will state "OK", with the time and the train dispatcher's initials, which must be repeated by the employee.

The new speed must not be acted upon until the train dispatcher states "OK", and gives the time and the train dispatcher's initials.

#### Chapter 16 in its entirety

##### Application:

Does not apply on UPRR.

#### 17.4 Departure Test Procedures

##### Procedure for Locomotives with Automatic Testing Equipment

##### A. Locomotives with solid-state Union Switch & Signal ATC/CCS System:

1. With the locomotive standing on dead track, fully apply the independent brake and release the automatic brake and:

- Place the generator field switch in the ON position.
- Turn on the signal circuit breaker.
- Place the reverser in Forward.

2. Place CNW Cut-Out switch in cut-in position.

3. Place CNW Cutout cock in cut-in position and seal.

4. After opening the departure test box, put the test switch in the ON position. As the ATC system begins internal testing, Clear and Restricted cab signals are turned off, and the motion light flashes.

5. After the internal test is complete (approximately 10 seconds), a Clear cab signal is illuminated and acknowledge alarm is activated. Press and release the acknowledge button:

- Clear aspect is then turned off.
- The Restricted aspect is illuminated and acknowledge alarm is activated. Press and release the acknowledge button.
- Restricted aspect is then turned off.

6. The system then drives the speedometer to:

- Locate the Union Pacific overspeed setting and repeats this process four times.
- Test the CNW Restricted overspeed setting of 23 MPH.
- Restricted aspect is illuminated and acknowledge alarm is activated. Press and release the acknowledge button. The system then drives the speedometer to the CNW high speed setting.
- The Clear aspect is illuminated and acknowledge alarm is activated. Press and release acknowledge button.
- Clear aspect is turned off and speedometer is returned to 0 MPH.

7. Fully release independent brake:

- The acknowledge alarm is activated (do not acknowledge).
- A penalty brake application should occur within 8 seconds.
- Recover the air.

8. The successful completion of the departure test will result in:

- The overspeed alarm beeping continuously.
- All signal lights flashing.

Place the Departure Test Switch to OFF position.

9. If the locomotive is to be operated in non-ATC territory prior to entering ATC territory, push the Arm button after completing the departure test (see Item 8).

10. If departure test is unsuccessful, repeat the test. If the test is again unsuccessful, perform an ATC departure test as prescribed by Rule 17.4.

## **B. Locomotives with MICROCAB System:**

1. Turn on the DEPT TEST SWITCH.

- The MOTION indicator is illuminated throughout Departure Test. The overspeed alarm activates intermittently for 1 second, then goes silent to indicate the start of the test.
- The system waits for 6 seconds before proceeding to the next step.
- The overspeed alarm activates intermittently for 1 second, then is silent to indicate the end of the delay.
- Within 5 seconds the Clear cab signal is illuminated.

When the acknowledge alarm is activated, the acknowledge switch must be pressed and released within 6 seconds to avoid a penalty brake application.

2. Within 5 seconds the Clear cab signal is extinguished and the Restricted aspect illuminated. When the acknowledge alarm is activated press and release the acknowledge switch.

- The Restricted cab signal is then extinguished. Failure to respond within 6 seconds results in a penalty brake application.
- The overspeed alarm is activated intermittently for 1 second, then is silent to indicate the completion of carrier tests.

3. The system then drives the speedometer to the high speed setting and.

- Visually confirm that the expected speed (within 3 MPH) is displayed by the speedometer.
- The acknowledge alarm is activated continuously. Press and release the acknowledge switch.

4. The system then drives the speedometer to the restricted overspeed of 23 MPH. Visually confirm that the speedometer displays the expected speed (within 1 MPH).

The acknowledge alarm sounds continuously. Press and release the acknowledge switch.

- The system stops driving the speedometer and it returns to 0 MPH.
- The overspeed alarm sounds for approximately 1 second.
- When the alarm is silent, the test is confirmed.

5. The system waits indefinitely for the operator to press and release the acknowledge switch.

- Upon releasing the switch the overspeed alarm is activated intermittently for 1 second, then silenced to indicate the start of a penalty delay.
- In about 6 seconds, the system initiates a penalty brake application. The acknowledge alarm sounds continuously.
- Recover the air.

6. The intermittent sound of the overspeed alarm prior to the DEPT TEST SWITCH being turned off indicates that the Departure Test has been successfully made.

- Turn off the DEPT TEST SWITCH. A Restricted cab signal is illuminated.
- The acknowledge and over speed alarms are silent.

If the locomotive is to be operated in non-ATC territory prior to entering ATC territory, push the Arm button after completing the departure test.

#### **17.4.2 ATC Automatic Cut-in Circuit:**

##### **Add new rule:**

A departure test entering ATC territory is not required for engines equipped with the automatic ATC cut-in circuit when the following conditions are met:

- The ATC actuator is cut in and sealed.
- The motion light is illuminated enroute to ATC territory at speeds of 6 MPH or more.

##### **At ATC Automatic Cut-in Test Locations:**

- The cab signal will display a Clear aspect when passing a "B" sign (Beginning ATC test section).
  - The speed whistle will sound for 3 or 4 seconds.
- The cab signal will change to a Restricting aspect when the "E" (End ATC test section) is passed.
  - When train speed exceeds 40 MPH the high speed whistle will sound until a Clear aspect is displayed.
  - When train speed is below 40 MPH the horn will sound and must be acknowledged.

#### **17.7 ATC Failure/Cut-out Enroute:**

##### **Add note:**

**Note:** Continuous block signal territory is designated on the subdivision page where ATC is in effect.

#### **17.8 Improper Display**

##### **Add note:**

**Note:** The cab signal indication may change within 300 feet of a hand operated switch (before or after). The cab signal may change from Restricting to Clear before (within 300 feet of) an opened hand operated switch. This is normal due to track circuitry and would not be considered an improper display of the cab signal.

## **Glossary**

### **Change: Crossover**

A combination of two switches that connect two adjacent tracks, normally used for crossover movements.

### **Add:**

### **Adjacent Track**

Parallel tracks that are not separated by a single lane roadway or similar distance are considered adjacent tracks.

**Note:** This definition only applies when determining if Track Breach Protection is required.

### **Breach**

To enter an area between two adjacent tracks.

### **Cab Red Zone**

A "Cab Red Zone" (CRZ) exists during critical times or when multiple tasks are occurring. During a cab red zone, an environment must be created in the control compartment that focuses exclusively on controlling the train and complying with the rules.

### **Gravity Switch**

A switching process using gravity to reposition cars on the opposite end of a locomotive, without using locomotive to start movement of cars. See Rule 7.7.1.

### **Radio Speed Restriction**

A speed restriction received from the train dispatcher while enroute.

**Spur Track**

A track connected to another track at only one end, also referred to as a stub track.

**Switch Providing Direct Access**

A switch that if used by rolling equipment could permit the rolling equipment to enter the track and couple to equipment.

**Yard Access Crossing**

A grade crossing that is located within the physical confines of a railroad yard and is either:

- Open to unrestricted public access;  
or
- Open to persons other than railroad employees going about their normal duties, e.g., business guests or family members.

**General Order****1.10 Delete "Application" contained in SSI.****1.47 Duties of Crew Members****Add new last bullet to Part 5:**

- Restricted Speed documentation. Every 2 miles that the train is operating at Restricted Speed, enter mile post location, time, train speed, a "Z" to indicate that the information was communicated between crew members and amount of air brake application if any, (None, Minimum, 10#, etc.).

Under "Examples", add new example row (Restricted Speed) between Restricted Proceed and Radio Speed Restriction examples and change Radio Speed Restriction mile post and time as shown below:

94.5	RS	0625	Z - 8 MPH - None
101.3	RSR	0643	Z-30 MPH

Under "Note", part 1, add:  
Restricted Speed = RS

**2.1 Transmitting**

Change application to read:

**Normal Dispatcher Call-in Procedure**

To contact the train dispatcher from the field:

1. Ensure that you are on the correct dispatcher radio channel for the area you are in. The radio channel is identified in timetable subdivision instructions under Radio Display (SI-RD).
2. On the radio key pad, dial "\*" plus the 2-digit code for the dispatcher you wish to call. (For example, "\*\*20").

**Note:** After dialing the "\*\*XX" digits, you should receive an acknowledgment tone on your radio indicating the call-in has been detected and processed. If you do not hear the acknowledgment tone you will need to re-dial the code.

**2.10 Emergency Calls**

Change application to read:

**Emergency Call-in Procedure**

The Emergency call-in code is "911" throughout the entire UPRR system.

To contact the train dispatcher in case of an emergency:

1. Ensure that you are on the correct dispatcher radio channel for the area you are in. The radio channel is identified in timetable subdivision instructions under Radio Display (SI-RD).
2. Dial DTMF digits "911" on the radio key pad.

**Note:** After dialing the "911" digits, you should receive an acknowledgment tone on your radio indicating the emergency call-in has been detected and processed. If you do not hear the acknowledgment tone you will need to resend the "911" code.

**Rule 6.5.1 Remote Control Movements**

Change entire rule to read:

Remote control movements are considered shoving movements, except when the remote control operator controlling the movement is riding the leading locomotive in the direction of movement. Before initiating movement, the remote control operator or a crew member must be in position to visually observe the direction the equipment moves.

When approaching within 200 feet of a fouling point, switch or derail, employee controlling the movement must be on the point of the movement outside the cab when riding the locomotive. However, movement may be controlled from inside the cab of the lead locomotive when:

- Operating in severe weather conditions.
- or
- It is necessary to sound the whistle.

#### **Relief of Providing Protection**

The remote control operator is relieved from providing protection and the requirement to stop within half the range of vision for movements with engine on leading end when:

1. The remote control zone has been activated.
2. Switches/derails are known to be properly lined.  
and
3. Track(s) within the zone are known to be clear of other trains, engines, railroad cars, and men or equipment fouling track.

When Remote Control Zone is equipped with pull back / stop protection (PSP), the operator must verify that PSP is operational. Pull back and stop protection must again be verified if PSP is overridden or disabled.

Note: These steps must be repeated each time the remote control zone is activated.

When operating in pitch and catch mode and making a shoving movement, the primary operator must be in position to protect point of movement.

The primary operator at the coupling may stretch the slack to ensure couplings are made or separate equipment to make coupler adjustments after a job briefing with the employee who will be protecting the point.

#### **6.6 Back Up Movements**

Change rule title and entire rule to read

After obtaining permission from the train dispatcher, a train may back up on any main track or on any track where CTC is in effect under the following conditions:

1. The train dispatcher grants permission to make the movement after verifying the following within the same or overlapping limits:
  - a) Another authority is not in effect unless conflicting movements are protected.
  - b) A track bulletin Form B is not in effect.
  - c) A main track is not removed from service by a track bulletin.
  - d) Track Breach Protection is not in effect.
  - e) Permission to leave a switch in the reverse position has not been granted.

2. The crew ensures movement will not:

- a) Exceed the limit of the train's authority.
- b) Exceed the train's length.
- c) Enter or foul a private or public crossing except as provided by Rule 6.32.1 (Providing Warning Over Road Crossings).
- d) Be made into or within yard limits, restricted limits, interlocking limits, drawbridges, railroad crossings at grade, or track bulletin Form B limits.

When movement is made under these conditions, restricted speed does not apply. Trains backing up under the provisions of this rule may pass signals indicating Stop and Proceed, without stopping.

Before a crew requests and makes a move under this rule, a job safety briefing between crew members must be conducted that includes:

- Confirmation of authority limits.
- Location of nearest affected road crossings in direction of movement.
- Distance to be shoved.
- Confirmation that train is intact, verified either visually or by determining that brake pipe continuity exists using EOT device or distributed power telemetry.

#### **14.7 Reporting Clear of Limits**

Change entire rule to read:

Before reporting clear of the limits or reporting having passed a specific location, confirm with the dispatcher that the conductor and engineer have discussed their location and are in agreement with limits or warrant being released. Communication must include the track warrant number when releasing track warrants.

A train without a crew member on the rear and operating in non-signalized or double track territory may report clear of the limits, report having passed a specific location, or release the track between two specific locations only when it is known the train is complete. This must be determined by one of the following ways:

1. The rear of the train has a rear-end telemetry device, and air pressure on the head-end device indicates brake pipe continuity.

2. An employee verifies the marker is on the rear of the train.
3. A crew member can observe the rear car of the train on which the marker is placed.
4. The train is stopped, and an inspection verifies that the marker is on the rear car of the train.
5. A trackside warning detector transmits an axle count for the train, and the axle count duplicates the axle count transmitted by the previous trackside warning detector.
6. In non-signaled territory comply with the requirements outlined in Rule 8.3 (Main Track Switches) and advise the train dispatcher:
  - o All main track switches operated have been restored and locked in normal position.
  - o The crew has completed the job briefing.
  - o The conductor report form is properly initialed.

When a hand-operated switch is used to clear the main track, except where Rule 6.13 (Yard Limits) or Rule 6.14 (Restricted Limits) are in effect, advise the train dispatcher of the position of the switch and that the switch is locked when reporting clear of track warrant limits. Train dispatcher shall repeat the reported switch position and employee releasing the limits shall confirm to the train dispatcher this information is correct.

Changes to "Roll-up" information contained in SSI.  
Revise and add third bullet for the initial conversation with the train dispatcher as follows:

Train dispatcher: "I need to roll-up track warrant (number). What will protect the rear of your train, over?"

When reporting past a specific location:

- \* Engineer and conductor will job brief and agree on train's location and location entire train is past.
- \* When using a milepost location, communication with the train dispatcher will include whole a milepost number (not tenths) the entire train is past.
- \* When using railroad identifiable points that include a direction, such as a siding switch, state and spell direction i.e. "North (N O R T H) siding switch at Dora".

#### **14.13 Mechanical Transmission of Track Warrants**

Change last paragraph to read:

The crew must verify the designated limits and any conditions of track warrants that convey authority with the train dispatcher before initiating movement on main track.

#### **15.1 Track Bulletins**

Change the fifth paragraph to read:

At locations where track warrants listing track bulletins are received by printer or fax, crew members must verify that route description, if printed, covers the intended route of their train and that the track warrant includes the correct train ID and train symbol of their train. If it does not, contact the train dispatcher and determine if the track warrant is valid. Also, crew members must check the date and "OK" time on the track warrant and if the track warrant is over 4 hours old, contact the train dispatcher and determine if additional track bulletins are needed.

#### **Rule 15.12 Relief of Engineer or Conductor During Trip**

Change rule to read:

When being relieved before a trip is finished, contact the train dispatcher and comply with instructions concerning the handling of track warrants, track bulletins, and other instructions.

When crew members are called to relieve a train at other than the initial station, crew members must contact the train dispatcher before leaving the initial station and determine if any track warrants, track bulletins, or other instructions must be obtained.

#### **Comparison of Information**

The relieving conductor and engineer must compare:

- Track warrants, track bulletins, instructions, and pertinent information with each other.
- Their track warrant for bulletins number with the train dispatcher. The train dispatcher will verify that the warrant includes all required track bulletins and will provide any additional restrictions required for the route.

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## **Item 10-B: Remote Control Operations Instructions**

### **A. Remote Control Crews**

#### **~~1. Man Down Transmission~~**

~~Employees must follow local emergency procedures when "man down" message is transmitted.~~

The designated yard supervisor must monitor radio communications for man-down messages transmitted by remote control locomotive radios.

If a man-down message is transmitted, the yard supervisor will immediately attempt to contact the crew whose RCL equipped locomotive has transmitted the man-down message. If the designated yard supervisor is unable to determine the reason for the man-down message, 911 must be called immediately. At locations without yard supervisors, other employees hearing a man-down message must determine the reason for the message and take appropriate action. This does not relieve nor prevent any employee from declaring an emergency and contacting 911 when such message is heard.

## **2. Operator's Manual and Equipment**

Remote control operators (RCO) will be issued an operator's manual, which governs the operation of a remote control system. Employees who set up or operate this equipment must be familiar with the requirements and instructions for the type of system they will operate. Due to the various types of remote control technology, these instructions are contained in the Remote Control Operator's Manual developed by the railroad company. Employees must have a copy of applicable manuals available that they can refer to while on duty.

Remote control operators are issued equipment, including a special vest to hold the remote control transmitter, lights and/or other equipment to assist in the performance of their duties. Each RCO must have in their possession an operative, hand-held radio equipped with a wired microphone. This radio must be either holstered or affixed to a belt via an approved hand-held belt clip. This equipment must be used for the intended purpose and as designed by the manufacturer.

Approved lighting consists of:

- At least one hands free light.
- A lantern or approved flashlight may be used in place of the hands free light in case of light failure. Hands free light must be replaced as soon as possible.

An additional light may be used but is not required.

Remote Control Transmitters are considered a safety device. Employees are prohibited from tampering with or disabling any remote control transmitter or safety feature except as provided for in RCO rules. Employees are prohibited from knowingly using a remote control transmitter with a disabled safety device.

All rules or instructions contained in other company publications will remain in effect unless specifically exempted in these instructions.

## **3. Job Briefing**

Before operating a remote control locomotive, a job briefing must be conducted including all crew members. All remote control crew members must be informed and clearly understand which crew member will be controlling the movement.

# **B. Setup and Testing**

## **1. Linked and Tested**

- Prior to operating a remote control system, the RCO must ensure the equipment is properly setup and tested in accordance with prescribed procedures. When one remote control transmitter is to be utilized, only one transmitter will be linked and tested.
- If two remote control transmitters are to be utilized, the conductor/engine foreman must always link first as "Operator A" and the helper/switchman will link second as "Operator B". When two remote control transmitters are to be utilized in a "pitch and catch" operation, both must be tested. In a "pitch and catch" operation the operator in control of the engine is the "primary operator".

## **2. Crew Change**

When a crew is being relieved and the transmitter is being given directly to the relieving crew, the relieving crew must do a partial test of the transmitter(s). This test must insure the tilt feature of the transmitter is functioning properly.

## **3. Remote Control Mode**

Each locomotive in the remote control consist must have a tag placed on the control stand indicating the locomotive is being used in a remote control mode. The tag must be removed when the locomotive is placed in manual mode.

## **4. Positive Stop Protection (PSP)**

Positive Stop Protection is designed to stop movements before reaching the end of a remote control zone if the RCO fails to control the movement. The RCO must verify the PSP is working before depending on the PSP to stop the movement. On initial movement into the PSP limits the RCO must monitor the remote control transmitter message to verify the PSP is functioning as intended. If the remote control transmitters message verifies the PSP is operative when entering the limits, the PSP is functioning as designed.

# **C. Operating the Equipment**

## **1. Qualified Operators**

Only qualified operators or students who have been trained in remote control operations may operate a Remote Control Transmitter.



Any employee that operates a Remote Control Transmitter must have a current certificate in his possession.

A student RCO may operate the remote control transmitter only under the supervision of a DSRCO or qualified RCO. The DSRCO or qualified RCO must closely monitor the employee's performance and be in a position to take action as necessary.

## **2. RCL Fails to Respond**

If the locomotive fails to respond properly to a command from the remote control transmitter, the remote control operator must turn "OFF" the transmitter. This will cause a comm loss and a penalty brake application. The RCO must secure the equipment including the transmitter. The RCO should then contact the manager on duty and not attempt to operate the locomotive until authorized by a DSRCO or Mechanical Department employee.

## **3. One Locomotive Consist**

A RCO shall control only one locomotive consist at a time with a Remote Control Transmitter and shall not operate simultaneously any other locomotive.

## **4. "Pitch and Catch" Operations**

The operator in control of the engine is the "primary operator". When using "pitch and catch" operations, the procedure for changing operators specified in the Operator's manual must be used. Before control of the remote control locomotive can be transferred from one crew member to another, the primary operator will verbally communicate with the receiving remote control operator to verify that the receiving remote control operator is in position to assume control.

## **5. Moving Motorized Vehicle**

Operation of the Remote Control Transmitter must not be performed from a moving motorized vehicle.

## **6. Limit Excessive Buff and Draft Forces**

To limit excessive buff and draft forces when starting, stopping and controlling speed, the operator will move the speed selector one setting at a time, except for when kicking cars, controlling slack or emergency conditions.

## **7. Remote Control Main Track Operation**

Main track movements include train movements, yard transfer movements, etc.; it does not include doubling a train together, using the main track for head room, adding cars to a train on the main track, i.e. switching movements.

When remote control movements on a main track exceed 1 mile the following governs:

- Maximum number of equivalent powered axles – 12.
- Maximum number of cars handled at one time – 60.
- Maximum tons handled at one time – 4,000.

## **8. Penalty or Emergency Application**

After a penalty or emergency application of the brakes, if more than normal power (tractive effort) is required to start the movement, immediately stop effort to move the cars. An inspection must be made to check that cars are properly positioned on the rail and that the brakes are released.

## **D. Road Crossing Equipped with Cameras**

When movements are made over a road crossing equipped with cameras, unless the RCO is on the engine or a crew member is at the crossing to provide warning, the RCO must:

- Be in position to observe the crossing and roadway approaches in the monitor to assure that automatic crossing warning devices activate as designed when the RCL approaches and remain activated until the crossing is occupied by engine or cars;
- Make sure movement over crossing does not exceed 4 MPH until crossing is occupied.

## **E. Securing Equipment**

### **1. Secure Remote Control Devices and Locomotives**

Remote control locomotives and remote control transmitter(s) must not be left unattended unless secured and/or disabled.

### **2. Meal Period**

When leaving equipment for meal period, break, etc. (short term securing), the RCO will secure the remote control locomotive as required. Hand brakes must be applied on all locomotives in consist and do a securement check before turning off the remote control transmitter. The remote control operator must maintain possession of the Transmitter(s). If equipment will be left for more than 15 minutes, refer to Rule 32.20 (Engine Shut Down). However, when remote control locomotives are shut down for fuel conservation for a short period of time (not to exceed two hours) leave the control breaker and RCL breaker on and the main battery switch closed; this will allow the link to be retained. If linked to a control car or slug, the battery switch on the conventional unit must be closed to maintain the power supply.

### 3. Ending Tour of Duty

When ending tour of duty, the remote control operator must place the locomotive in the MANUAL mode and secure the locomotive unless another remote control operator is relieving the current remote control operator. When that occurs a job briefing must be held between employees. Transmitters must be transferred from conductor/foreman to conductor/foreman (Operator A) and helper/switchman to helper/switchman (Operator B).

### 4. Storing Remote Control Devices

Spare remote control transmitters must be stored with power off. Battery must be removed and placed in a charger.

## F. Remote Control Area

### 1. Designated Remote Control Areas

Timetable Special Instructions will designate areas of remote control operations. Signs advising that remote control operations may be in effect will be posted at access locations to Remote Control Areas.

### 2. Track Removed from Service or Working Limits Established

The RCO in control of a remote control locomotive must be notified of any track removed from service or working limits established for the protection of another craft. The RCO must conduct a job/safety briefing with all members of the crew.

## General Order

### Item 10-B - Remote Control Operations Instructions

Delete all information contained in System Special Instructions Item 10-B. Remote Control Operations Instructions are now contained in Air Brake and Train Handling Rules, Chapter 35.

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## Item 10-C: Air Brake & Train Handling Rules, Chapters 30 to 39

### 30.2—Safety Inspection of Freight Cars

#### Change rule to read:

Inspect and test brake equipment on locomotives and cars according to Federal Railroad Administration (FRA) regulations contained within these rules.

Inspections and air brake tests must be performed by either a "Qualified Person" or a "Qualified Mechanical Inspector".

A "Qualified Person" refers to a trainman given fundamental training on freight car inspections and air brake tests and a "Qualified Mechanical Inspector" refers to a person such as a carman who has been given more extensive training that provides for a more detailed inspection. All train and engine personnel are "Qualified Persons" in the application of the following rules:

Inspection and air brake tests by Qualified Mechanical Inspectors provide for a greater distance that a train may travel before additional inspections and tests are required.

Inspection of equipment, when required, must be performed on both sides of the train at some point during the air brake test to be able to examine and observe the functioning of the brake system on each car (roll-by inspections do not constitute an inspection for either side of a train except to determine the release of the air brakes):

### 30.4 Operative Brakes

#### Add Note:

**Note:** To determine the number of operative brakes in a train, refer to Item 2-G in System Special Instructions.

### 30.7 Charging Air Brake System

#### Change third bullet to read:

- If engine RPM must be increased, do not exceed throttle position 2.

**Change last paragraph to read:-**

In yards where trains are made up, when unattended locomotives are used to charge the brake system, the brake valve may be left in release position.

**30.10 Initial Terminal and Road Air Brake Test (Class 1 Air Brake Test)**

**Change title and rule to read:**

**30.10 Initial Terminal Air Brake Test (Class 1)**

A qualified employee must conduct the initial terminal air brake test (Class 1):

**30.10.1 Requirement For Test**

**Change second bullet to read:**

- Where the train consist is changed, other than adding and/or removing a solid block of cars.

**30.10.2 Procedure for Initial Terminal and Road Air Brake Test and Inspection**

**Change title and first paragraph to read:**

**30.10.2 Procedure for Initial Terminal Air Brake Test (Class 1)**

Inspect both sides of the cars during the air brake test for the following:

**30.10.3 Engineer Notification**

**Change title and rule to read:**

**30.10.3 Class 1 Air Brake Test Notification**

The engineer and conductor must know they have the required written notification that an Initial Terminal Air Brake Test (Class 1) was performed on their entire train. The qualified person or mechanical inspector who participated in the test and inspection or anyone who knows the test was completed, will notify the engineer in writing, when practicable, that the test was completed satisfactorily, including:

- Name of inspector.
- Date and time test was completed.
- Location test was performed.
- Number of cars inspected.

Written notification may be provided to the engineer and conductor by:

- Air Brake Test Form provided at the initial terminal (left on controlling locomotive). If controlling locomotive is changed enroute, place Air Brake Test Form on the new controlling locomotive.  
\_\_\_\_\_or
- Electronic means in the space provided on the train documentation.

If test was performed by train crew members, required information must be entered on an Air Brake Test Form, if available, or in space provided on the train documentation by the conductor.

When taking charge of a train, the conductor and engineer must know that the required written record is available. When the Class 1 inspection and test written notification is not available, the information may be communicated to the engineer or conductor. The required information must be entered on an Air Brake Test Form, if available, or in the space provided on train documentation by the engineer or conductor.

**Note:** Engineers and conductors receiving notification of the air brake test must accept the notification as authority that the initial terminal air brake test (Class 1) has been completed satisfactorily. When there is a conflict between train documentation and the Air Brake Test Form, the Air Brake Test Form will govern.

**30.10.5 Trains Designated as "Extended Haul"**

**Change rule to read:**

Trains designated as "Extended Haul" must be given a Initial Terminal Air Brake Test (Class 1) performed by a Qualified Mechanical Inspector at the initial terminal. These trains may then be operated greater than 1,000 miles, but not to exceed 1,500 miles, before an additional air brake test is required. The following applies to extended haul trains:

- Train may not make more than one pick up and one set out between the initial terminal and the next designated inspection point. This excludes any set out of defective equipment discovered enroute.
- Any cars or solid block of cars added enroute must be given an Initial Terminal Air Brake Test (Class 1) by a Qualified Mechanical Inspector (either at time of pick up or pretested) at the location the cars are added.
- Train must not move any cars with defective equipment, regardless of whether tagged appropriately.

**30.11 Transfer Train Movement Test**

**Change part 3. to read:-**

3. Make a 20 psi brake pipe reduction.

**30.14 Test When Cutting Off and Recoupling**

**Change last sentence to read:-**

If the cars are recoupled in more than 4 hours, conduct a Rule 30.10 (Initial Terminal Air Brake Test, Class 1) or a Rule 30.11 (Transfer Train Movement

~~Test) whichever applies to the type of test previously performed on the train, on those cars that did not remain charged.~~

### ~~30.15.2 Procedure for Conducting An Application and Release Test~~

~~Add the following as last paragraph:-~~

~~If operating with a distributed power consist, make a 20 psi brake pipe reduction with the automatic brake valve then use the Train Check feature.~~

### ~~30.18.1 Truck-Mounted Brake Cylinders~~

~~Change rule to read:-~~

~~Piston travel must be within acceptable limits as shown by travel indicator or as stenciled on the car when brakes are set.~~

~~Piston travel must provide brake shoe clearance when brakes are released.~~

### ~~30.18.2 Body-Mounted Brake Cylinders~~

~~Change rule to read:-~~

~~When performing a Class 1 air brake test (Initial Terminal) the piston travel must be between 6 and 9 inches when brakes are set.~~

~~When performing a Class 1A (1000 Mile Inspection Test) piston travel must be between 6 and 10 1/2 inches. When piston travel exceeds 10 1/2 inches it is no longer considered an operative brake. At least 85 percent of the cars in a train must have operative brakes under all circumstances.~~

### ~~30.19.2: Controlling Dynamic Brake from Lead Locomotive~~

~~Change rule to read as follows:-~~

~~On train movements equipped with operative dynamic brakes, the lead controlling locomotive must have:-~~

~~1. An operative dynamic brake.~~

~~—or—~~

~~2. The ability to control the operative dynamic brakes in the trailing locomotives in the consist, and an operative accelerometer that displays current change in speed or predicted change in speed in miles per hour per minute.~~

~~Note: The above requirement would not apply to low speed yard and transfer movements on level or near level grade.~~

### ~~31.2.1 Inspection Requirements~~

~~Delete the last bullet under exceptions that reads:~~

- ~~• An inspection is not required on a locomotive that is idling or shutdown and will not be used as a working locomotive.~~

~~Change first paragraph under Part A. to read:-~~

~~Change Part A to read:-~~

#### ~~A. Inspected Previous Calendar Day~~

~~If the Locomotive Daily Inspection card indicates that the locomotive was inspected the previous calendar day, complete the current daily inspection before end of tour of duty. Engineer may be relieved from performing daily inspection when instructions unless instructions provide for inspections by mechanical forces. Ensure that electronic locomotive inspection report is completed.~~

~~If your tour of duty will go beyond 0700 hours contact the train dispatcher, yardmaster, or other proper authority to determine where to complete the daily inspection before 1800 hours.~~

~~Ensure that electronic locomotive inspection report is completed.~~

#### ~~31.2.2 Conducting a Locomotive Daily Inspection~~

~~Under A. Control Compartment/Locomotive Cab add new Item 13 and 14 reading:-~~

~~13. Locomotives equipped with dynamic braking will be considered as having a non-complying condition if dynamic brake has been defective for 30 continuous days. However, this does not apply to locomotives with dynamic brake permanently disabled by mechanical forces.~~

~~14. Only a head end unit (HEU) calibrated within the last 368 days may be used. **Exception:** Calibration is not required on the Wabtec HEU with the sticker reading, "This unit is equipped with a Wabtec synthesized radio that complies with FRA-2004-18895".~~

#### ~~31.2.2 C Ground Level~~

~~Add exceptions to part 1 as follows:~~

~~1. Sand is deposited on the rail in front of the lead wheels of each locomotive in consist.~~

~~Exceptions:~~

- ~~• In road service as lead locomotive, if sanders are found to be defective enroute, locomotive may continue in service until it is placed in a repair facility, but under no conditions for more than 14 calendar days.~~
- ~~• In road service as trailing locomotive, if sanders are found to be defective enroute, locomotive may continue in service until it is placed in a repair facility.~~
- ~~• In switching service, if sanders are found to be defective at a location where repair facilities are not available, locomotive may remain in service for not more than 7 calendar days.~~

~~Change 4 to read:-~~

~~4. Maximum brake cylinder piston travel is 1-1/2 inches less than the travel entered on FRA Form F 6180-49A (blue card) in the locomotive cab.~~

**Delete part 10 that reads as follows:-**

10. Manually drain oil and water from main reservoirs that are not equipped with automatic drains. If equipped with automatic drains, ensure the valve handles are then turned fully counter-clockwise to the automatic position, with the stem extending beyond the valve handle.

**31.2.3 Complete Required Daily Inspection Forms**

**Change rule to read:-**

Complete an Electronic Locomotive Inspection Report for each locomotive inspected.

Locomotive daily inspection card must be completed with the following inspection information:

- Date.
- Location.
- Time.
- Complying or non-complying (check appropriate box).
- Inspector's legible signature or employee number.

The locomotive cab card must remain in the holder in the locomotive cab.

**31.3 Defects Other Than Non-Complying Conditions**

**Change part 1 to read:**

1. Complete an electronic Locomotive Inspection Report for each locomotive in the consist with a defect or problem. In addition, if necessary to inform the relieving engineer of defects, complete a written Locomotive Inspection Report.

**31.6.2 Procedure for Conducting Locomotive Air Brake Test**

**Change part 5. to read:**

—5.— Reduce brake pipe pressure by at least an additional 10 psi to reapply the brakes.

**31.13.2 Initial Movement of a Locomotive Consist Coupled to Other Equipment**

Delete rule:

**31.14 Moving Light Locomotive Consists**

**Add exception as follows:**

**Exception:** May not be required when necessary to maintain DP link, during set-outs or other operating conditions, after consulting with a Manager of Operating Practices.

**31.15 Locomotive Air Brake Equipment**

**Add Note:-**

Note:- On SD70ACe and C45 locomotives, when the locomotive is other than the controlling locomotive, the automatic brake valve pin, if available, must be inserted to insure the brake valve handle remains in the proper position. The engineers seat must be left secured/locked. This also applies when these locomotives are set out, Rule 32.1.3.

**31.16 Separating Locomotives**

**Change part 7 to read:-**

7. Separate locomotives, allowing hose connections to pull apart with movement of locomotives.

**31.17 Moving Locomotives**

**Change title and rules to read:**

**31.17.1 Alignment Control Couplers — Place Behind Locomotive Consist**

**A. Multiple-Unit Operation with Engine Isolated or Shutdown**

Place and MU the locomotive(s) directly behind the head locomotive consist.

**B. Not Equipped for Multiple-Unit Operation**

Shut down and place locomotive(s) directly behind the head locomotive consist. Locomotives must be set up for movement by the mechanical department.

**Note:** If it cannot be determined whether a UPRR locomotive is equipped with an alignment control coupler, locomotive must be moved as described in 31.17.2 below.

**31.17.2 Non-Alignment Control Couplers (UPRR Locomotives)**

**A. Multiple-Unit Operation — Second in the Locomotive Consist**

Place locomotives second in the locomotive consist, one per train when handling cars. Locomotives equipped with non-alignment control couplers must not be used in helper service.—

**Exception:-**

A maximum of:

- 3 non-alignment locomotives may be used on the head end of a train or yard movement when all locomotives in consist are not equipped.
- 5 non-alignment locomotives may be moved at the rear of a light power transfer.

**B. Not Equipped for Multiple-Unit Operation — Rear of the Train**

Shut down and place locomotive not less than five cars or greater than ten cars from the rear of the train, with at least one car separating locomotives. No

more than two locomotives may be placed in a train.

**Notes:-**

1. Mechanical department must ensure that coupler swing limiting devices or truck bolster movement limiting devices are in place before non-alignment control are moved in freight trains. Coupler swing limiting devices (blocks) do not make the coupler an alignment control coupler.
2. When locomotives not equipped with alignment control couplers are placed at rear of a train distributed power consists or manned helpers must be cut in ahead these locomotives:

**31.17.3 Waybilled or Foreign Line Locomotives**

**A. Not Equipped with Alignment Control Couplers (Special Train Service)**

Foreign line waybilled locomotives not equipped with alignment control couplers must be moved in Special Train Service (light locomotive consist):

**B. Equipped with Alignment Control Couplers (Refer to 31.17.1)**

**31.18 Locomotives Not Equipped for Multiple-Unit Operation**

Delete rule:

**31.18.1 Locomotives Equipped with Alignment Control Couplers (Not Equipped for Multiple-Unit Operation)**

Delete rule:

**31.18.2 UP Locomotives Not Equipped with Alignment Control Couplers (Not Equipped for Multiple-Unit Operation)**

Delete rule:

**31.18.3 Waybilled or Foreign Line Locomotives Not Equipped for Multiple-Unit Operation**

Delete rule:

Locomotive Placement Table			
UP locomotives		Waybilled / Foreign Line locomotives	
With alignment control:	Without alignment control:	With alignment control	Without alignment control:
Equipped for MU operation (isolated or shut down) place directly behind head-end consist:	Equipped for MU operation place second in head-end locomotive consist:	Equipped for MU operation (isolated or shut down) place directly behind head-end consist:	Special Train Service (light locomotive consist):
If not equipped for MU operation place directly behind head consist (set up by Mechanical Department):	If not equipped for MU operation place not less than five cars or greater than ten cars from the rear of the train:	If not equipped for MU operation place directly behind head-end consist (set up by Mechanical Department):	

**31.21 Units Isolated**

Add new rule:-

The controlling unit of a locomotive consist (including both lead and helper locomotive consists) must be on line while the train or engine is moving, unless the unit is not operating properly or has a non-complying condition:

**32.1 Securing Equipment Against Undesired Movement**

Add: Single Car Securement Set-outs:-

Before detaching from a single car, perform the following steps in the order outlined to prevent uncontrolled movement:-When leaving a single car unattended, the following applies in the order outlined:

1. Apply hand brake on car to be set out.
2. Release air brakes.
3. Move car a sufficient distance to ensure hand brake is operational before cutting away.
4. Slowly bunch or stretch the slack at the coupler where uncoupling is to be made.
5. Observe the car to be left standing for movement for 1 minute before cutting away.
6. If necessary, block the wheels or set out a second car.

**Add: Roadrailer Equipment**

Roadrailer equipment is equipped with a spring loaded parking brake (hand brake). The spring loaded parking brake applies any time the brake cylinder pressure is lost. When this equipment is set out:

1. Place the train in emergency.
2. Inspect 20% of the equipment (not less than 10 units) to ensure the brakes are applied.

**Use of Chart:-**

When using the Guideline Chart, the Grade (%) columns apply until you reach the next higher Grade (%) shown. Example:

Tons	Grade (%)			
	0	0.25	0.50	0.75
5000+	5	6	7	9
6000+	5	7	8	11

The minimum number of hand brakes required on cars left weighing 5500 tons on a 0.40 % grade would be 6 hand brakes.

**32.1.1 Securing an Unattended Train or Portion of Train with Locomotive Attached**

**Add part 3:-**

- 3. Complete Train and Locomotive check list at other than terminals and crew change locations.

**32.1.3 Unattended Locomotive(s)**

Change rule to read:

When securing engine:-

1. Place throttle in idle.
2. Place transition handle (if equipped) in off.
3. Place generator field switch in off.
4. Remove and stow reverser handle.
5. Apply hand brakes on all locomotives.
6. Comply with Rule 32.1 (Securing Equipment) unless locomotives(s) are coupled to previously tested equipment.
7. Fully apply the independent brake.
8. Make a 20 psi brake pipe reduction. If the engine is running allow the brake system to fully charge before making the reduction.
9. Place Headlight Switch to off position unless required by rule to leave on dim.
10. Place engine control switch to isolate or start on all locomotives.
11. Close doors and windows.
12. Linked DPU not separated from train must perform the following steps from the REMOTE screen on the lead controlling locomotive:
  - \* Select ISOLATE and execute for each remote consist in the train. This will cut out the brake valve on the isolated remote(s) and disable throttle commands to the remote(s).
  - \* When train is ready to proceed remote(s) must be returned to NORMAL status from the REMOTE screen before releasing the automatic brakes.
13. Linked DPU train separated from train must perform the following steps from the REMOTE screen on the lead controlling locomotive:
  - \* Comply with Rule 32.1 (Securing Equipment).
  - \* From the REMOTE screen select SET OUT and execute.
  - \* Separate the train. Leave remote(s) in SET OUT until train is re-coupled.
  - \* After re-coupling, remote(s) must be returned to NORMAL status from the REMOTE screen, automatic brake must be in release before opening the angle cock on rear portion of the train.
14. When terminating a DP train:
  - \* From the SYSTEM screen select UNLINK and execute. Allow the brake system to vent at a service rate to 0 psi.
  - \* Select END DIST POWER and return to conventional operation before detaching the lead consist from the train.

Exception: Distributed power remote locomotives, when on unattended trains, do not require hand brakes to be applied or engine control switch to be placed

in ISOLATE when train is otherwise properly secured. Distributed power remote consists may be left standing with all hand brakes applied at any location, even on the main track, for short durations when in the process of making up or disassembling a DP train. At mechanical facilities, when locomotives are protected by outbound derails on designated servicing tracks, apply a sufficient number of hand brakes to prevent undesired movement, but a minimum of one per locomotive consist.

Additional securement guidelines for unattended locomotives not coupled to other equipment:

- \* Must not be left unattended on a main track. However when necessary to switch a locomotive in a consist (reposition, wye, etc), a properly secured locomotive may be left unattended if crew remains in the area performing the switch move.
- \* Must have all hand brakes applied. Release locomotive brakes to determine hand brakes will prevent movement. Fully re-apply independent and automatic brakes.

When securing locomotives:

1. Place the throttle in IDLE unless you are protecting the engine from freezing.
2. Place the transition handle (if equipped) in the OFF position.
3. Place the generator field switch or the circuit breaker on the control stand (if equipped) in the OFF position.
4. Remove the reverser handle from the reverser slot on the control stand and place it in the receptacle, if equipped. Do not remove the reverser handle if you need to increase the throttle position to prevent freezing.
5. On locomotives coupled to other equipment, apply hand brakes on all locomotives. Release air brakes to determine hand brakes will prevent movement if locomotives are not coupled to previously tested equipment. Make a 20-psi brake pipe reduction after allowing the brake system to charge.
6. When engine is running, leave the automatic brake valve cut in and fully apply the independent brake.
7. Place Headlight Switch to off position unless required by rule to leave on dim.
8. Place engine control switch to ISOLATE or START on all locomotives.
9. Close doors and windows. Complete Train and Locomotive Securement Checklist at other than terminals and crew change locations.

Additional securement requirements for distributed power locomotives:

10. Unattended linked DPU train – NOT separated:
  - ▲ Secure train with sufficient hand brakes as required.
  - \* From the REMOTE screen, on the lead controlling locomotive, select ISOLATE and execute for each remote consist in the train. This will cut-out the brake valve on the isolated remote(s) and disable throttle commands to the remote(s). When train is ready to proceed remote(s) must be returned to NORMAL status from the REMOTE screen before releasing the automatic brakes.
11. Unattended linked DPU train – Separated:
  - \* Secure cars with sufficient hand brakes as required.
  - \* From the REMOTE screen select SET OUT and execute. Separate the train. Leave remote(s) in SET OUT until train is re-coupled. After re-coupling, remote(s) must be returned to NORMAL status from the REMOTE screen, automatic brake must be in release before opening the angle cock on rear portion of the train.
12. When terminating a DP train:
  - \* From the SYSTEM screen select UNLINK and execute. Allow the brake system to vent at a service rate to 0 psi. Select END DIST POWER and return to conventional operation before detaching the lead consist from the train.

Additional securement guidelines for unattended locomotives not coupled to other equipment:

13. Must not be left unattended on a main track. However when necessary to switch a locomotive in a consist (reposition, wye, etc), a properly secured locomotive may be left unattended if crew remains in the area performing the switch move.
14. Must have all hand brakes applied. Release locomotive brakes to determine hand brakes will prevent movement. Fully re-apply independent and automatic brakes.

Exception: Distributed power remote locomotives, when on unattended trains, do not require hand brakes to be applied or engine control switch to be placed in ISOLATE when train is otherwise properly secured. Distributed power remote consists may be left standing with all hand brakes applied at any location, even on the main track, for short durations when in the process of making up or disassembling a DP train.

At mechanical facilities, when locomotives are protected by outbound derails on designated servicing tracks, apply a sufficient number of hand brakes to prevent undesired movement, but a minimum of one per locomotive consist.

Additional securement guidelines for unattended locomotives not coupled to other equipment:

- 10— Must not be left unattended on a main track. However, when necessary to switch a locomotive in a consist (reposition, wye, etc), a properly secured locomotive may be left unattended if crew remains in the area performing the repositioning move.
- 11— Must have all hand brakes applied. Release locomotive brakes to determine hand brakes will prevent movement. Fully re-apply independent and automatic brakes.

**Exception:** Distributed power remote locomotives, when on unattended trains, do not require hand brakes to be applied or engine control switch to be placed in ISOLATE when train is otherwise properly secured. Distributed power remote consists may be left standing with all hand brakes applied at any location, even on the main track, for short durations when in the process of making up or disassembling a DP train.

At mechanical facilities, when locomotives are protected by outbound derails on designated servicing tracks, apply a sufficient number of hand brakes to prevent undesired movement, but a minimum of one per locomotive consist.

## 32.2 Releasing Hand Brakes



### ~~Add exception in first paragraph as follows:-~~

~~Before moving cars or locomotives, fully release all hand brakes to prevent wheel damage, except when required to control slack, control speed while making gravity switch move or to test hand brake.~~

### ~~Add new second paragraph:-~~

~~When necessary to control movement, charge brake system before releasing hand brakes. On ascending grade, do not release all hand brakes until it is known that slack is stretched.~~

### ~~32.3: Transferring Control of Train Brakes~~

#### ~~Change rule to read:~~

~~Transfer control of the train air brakes to another entrained locomotive as follows:-~~

#### ~~Original controlling locomotive~~

- ~~1. With train air brakes applied and brake pipe pressure equalized, cut out the automatic brake valve.~~
- ~~2. If detaching locomotive, do not close angle cocks until the transfer of the air brakes has been completed.~~

#### ~~New controlling locomotive~~

- ~~1. If not previously coupled to train, reduce equalizing pressure 20 psi, then cut out automatic brake valve before opening angle cocks between locomotive and cars. Open the brake pipe angle cock on the locomotive first, and then slowly open the brake pipe angle cock on the car.~~
- ~~2. Move the automatic brake valve handle to the RELEASE position to recover the equalizing reservoir pressure.~~
- ~~3. Move the automatic brake valve handle into the service zone until the equalizing reservoir pressure is slightly below brake pipe pressure.~~
- ~~4. Place the automatic brake valve cut-off valve in the FRT position.~~
- ~~5. Immediately reduce brake pipe pressure to not less than a 20 psi reduction.~~

~~**Note:** Train must be secured before transferring train air brakes unless both original and new controlling locomotives are occupied by qualified train service engineers.~~

### ~~32.4 Brakes Not Operating Properly~~

#### ~~Add second sentence to Part 3. Part 3 now reads: -~~

- ~~— 3. Once the train is proceeding, conduct a running test as specified in Rule 30.13.2~~
- ~~— (Procedure for Running Air Brake Test). However test is not required when~~
- ~~— operating in heavy or mountain grade territory.~~

### ~~32.11 Powered Axle Limitation~~

#### ~~Change rule to read:-~~

~~Locomotive lead consist must not have in excess of 52 equivalent powered axles. Excess axles of power must be isolated. Unless otherwise restricted, trains made up entirely of intermodal equipment may operate with a maximum of 62 equivalent powered axles.~~

### ~~32.12.4 Manned Helper Removed From Head End of Train~~

#### ~~Change third bullet to read:~~

- ~~• Road engineer will:~~

~~a. Move the automatic brake valve handle to the RELEASE position to recover the equalizing reservoir pressure.~~

~~b. Move the automatic brake valve into the service zone to reduce the equalizing reservoir pressure at least 2 psi below the brake pipe pressure reduction made by the helper locomotive engineer before cutting in the automatic brake valve.~~

~~c. Place the brake valve cutoff valve in FRT position.~~

~~d. Increase brake pipe reduction to 20 psi and observe at least a 5 psi reduction at the rear of the train as indicated by a gauge or device.~~

~~e. Release the automatic air brakes and observe that brake pipe pressure is being restored at the rear of the train by observing a 5 psi increase in pressure as indicated by gauge or device.~~

### ~~32.12.5 Operating Responsibilities with Manned Helper~~

~~Delete: "or aspect" from 4th bullet, part b.~~

### ~~32.12.6 Distributed Power~~

#### ~~Change rule to read:~~

#### ~~A. Employee Familiarization~~

~~The following rules are specific to helper service by means of Distributed Power operations. In addition, employees who set up or operate Distributed Power equipment must be familiar with the requirements and instructions for the type of system they will operate. Due to the various versions of DP technology, these instructions are contained in the Distributed Power Guide for System Locomotives developed by the railroad company.~~

#### ~~B. Preparing Locomotives for Distributed Power Service~~

~~Locomotives may be radio-linked on the service track for pre-testing or other purposes and link may be maintained when moving consists to the train. Radio link may be maintained when moving consists to the train. After head and remote consist(s) are positioned in train, consists must be unlinked and re-linked prior to performing required air brake test.~~

#### ~~C. Brake Pipe Continuity Test Following Radio Link~~

~~Before making a brake pipe continuity test immediately following radio link, the air flow rate on each DP controlling locomotive in the train:~~

- Must not exceed 20 CFM—  
—or
- Becomes stabilized after charging. If the air flow rate does not reduce to 20 CFM and if there is no further decrease in flow rate for a period of at least 90 seconds then the flow rate is considered to be stabilized.

#### **Brake Pipe Continuity and Leakage Test Required**

A Brake Pipe Continuity and Leakage Test will be required when a Distributed Power train:

- Is originally made up.
- Anytime cars are added between the head consist and any remote consist. Increases the footage between the head end consist and the head end of DPU helper to greater than 7,500 feet. This will require unlinking the remote(s) and re-linking in order to run these Distributed Power test functions:

#### **D.— Radio Communication Interruption**

When radio communication is interrupted, the last throttle command and brake pipe pressure being maintained by the Distributed Power remote(s) remain in effect for up to 90 minutes.

#### **Idling Remote During Communication Interruption**

To signal the affected remotes to return to idle and place them in the isolate mode, the engineer must make a full service brake pipe reduction.

**Note:** Dynamic brake will not be reduced while operating in a "Comm Loss" condition when DP remote(s) senses a brake pipe reduction.

#### **Operation During Loss of Communication**

During a communications interruption between the lead and remote(s), keep the train moving, if possible, to a location where communications might improve.

#### **E.— Remote Consist — Unlinked / Isolated / Shutdown**

Set out remote locomotive or move to the head end of train as directed by dispatcher or proper authority if remote consist is unlinked.

Locomotives that are manually isolated or shut down for fuel conservation may remain in the locomotive consist. Locomotives manually isolated due to enroute failure must be set out at the next repair point as directed by the train dispatcher.

#### **F.— Changing from Independent Mode to Synchronous Mode**

When operating Distributed Power train consists in the independent mode, do not place locomotive consists in synchronous mode until all consists are in the same throttle setting, consistent with good train handling.

#### **G.— Rear Remote Limitation**

The distributed power consist on the rear of a train is limited to no more than 2 locomotives. However, when necessary to assist distributed power trains with manned helper operations, additional locomotives may be on rear of train. See Item 5-B.

#### **H.— Exceeds Maximum Limit**

When the EPA of a distributed power helper consist exceeds maximum specified limits, use CTE mode as the primary method of reducing EPA. This requirement will not apply:

- On trains with two DP helper consists and EPA reduction of both consists is not required.
- Controlling DP helper locomotive is not equipped.

#### **32.12.7—Helper Placement**

Delete rule:

#### **32.13.1 Installation**

Change first paragraph to read:

Only an end of train device (EOT) calibrated within the last 368 days may be used.—Refer to the affixed calibration sticker prior to installation.—

**Exception:** Calibration is not required on the Wabtec EOT with the sticker reading, "This unit is equipped with a Wabtec synthesized radio that complies with FRA-2004-18895".

#### **32.14: Emergency Application Capability from Rear of Train**

Change first bullet in part A. Requirements to read:

- Amtrak, Passenger Trains and Commuter Trains.

#### **32.14.1 Loss of Emergency Application Capability from Rear of Train**

Change entire rule to read:-

Trains required to be equipped with rear-of-train emergency capability are considered to have an enroute failure when any one of the following conditions occurs:

- EOT/HEU indicates:
  - Loss of front to rear communication. Message = FR NOCOM or NOCOM.
  - Emergency valve not enabled. Message = NOT ARMD and/or "Emergency Enabled" indicator NOT illuminated.
  - Emergency valve failure or EOT valve failure. Message = VALVFAIL.
- Loss of communication exceeding 16 minutes 30 seconds as indicated by control console for distributed power locomotive on lead controlling locomotive at head end of train.
- Any loss of communication exceeding 16 minutes 30 seconds as indicated by the EOT/HEU.
- A loss of voice radio communication between a manned helper, caboose, or passenger equipment at the rear of the train and the lead, controlling locomotive.

When an enroute failure occurs:

- On other than mountain grades:
  - Train must not exceed 30 MPH.
  - Notify dispatcher.
- On mountain grades:
  - Train must not proceed until failure corrected.

or

- Another method of compliance is used.

When communication is lost on mountain grade, a train may:

- Move a train length to attempt to reestablish communication or sufficient distance to clear obstruction.
- Move train in sections due to enroute failure.
- Continue during a loss of radio communication between the employees at rear of train, provided train does not exceed 5 MPH above maximum authorized speed.

In the event of an emergency, use the emergency toggle switch to initiate emergency application, even if NO COM condition exists.

**Add message to first bullet:-**

Message = NOCOM.

**Delete last bullet reading:-**

Battery failure. Message = DEAD BAT, REPL BAT or BATTERY LOW.

**32.20 Engine Shutdown**

**Change rule to read:-**

**A. Locomotive Shutdown**

Shut locomotive down when:

- Left standing unattended for 15 minutes or longer.
- Locomotive is isolated in trailing position.

Locomotive should be left running when:

- Temperature is expected to drop below 35 degrees F in the next 12 hours.
- Necessary to maintain the air supply, one locomotive may be left running.
- Distributed power locomotives are actively linked.

**B. Fuel Conservation / Tons / Powered Axle**

Maximum authorized fuel conservation speed must be observed; however, train dispatcher may modify requirements.

Loaded or empty bulk commodity trains will operate with a minimum of two locomotives on line when available.

At the initial terminal of the train and while making a locomotive daily inspection, the engineer is responsible for shutting down or isolating locomotives to comply with TCS consist and maintain the maximum TPA possible for the route you will operated over.

At each crew change point locomotive consist must be adjusted as indicated on the train consist. The locomotive consist will display the status of the locomotives that are to be isolated or brought on line at the crew change point to meet TPA requirements. These instructions will only apply to locomotives in the head end consist.

Example: Train 105 loads, 0 empties, 10890 tons, 5834 Feet,  
4 locomotives (4 x 12.1 = 48.4 EPA). Current TPA is 225 tons /  
EPA, maximum TPA allowed for the route to be operated over  
is 311.

At crew change point locations the initial terminal the engineer would be required to isolate or shut down one locomotive to reduce the EPA from 48.4 to 36.3. Actual TPA would increase from 225 to 300 tons / EPA.

The controlling unit of the lead or any remote consist of a distributed power train must not be manually isolated or shutdown to comply with these instructions. This does not prohibit the isolation or shutdown of other units in remote consists.

Tag isolation switch on Locomotive(s) that are isolated or shutdown, to read "Fuel Conservation or to meet TPA requirements. In addition, lead unit in the consist must be tagged to indicate trailing units that have been shut down or isolated.

**Note:** When calculating TPA/TPDBA do not round off EPA/EDBA numbers used in making the calculation. After completing the calculation if the final number is not a whole number, round up the result to the nearest whole number.

### **32.20.1 Weak Batteries-**

#### **Change rule-**

When a weak battery condition is determined by the mechanical department, do the following:

- Tag locomotives with weak batteries to prevent shutdown until the condition is corrected.
- Report condition on engineer electronic inspection report.
- Report to Locomotive Help Desk if discovered enroute.

Locomotives identified with such tags or other identified mechanical problems that would prevent starting where repair facilities are not available may be left running for not more than 7 calendar days.

### **32.20.2 Shutdown Procedure**

#### **Change rule as follows-**

##### **Follow this procedure to shut down a locomotive:**

1. Make sure the hand brake and independent brake are fully applied.
2. Place the generator field switch OFF.
3. Remove and stow the reverser handle.
4. Move the engine control switch (isolation switch) to the START/STOP/ISOLATE position.
5. Place switches or breakers for air conditioning, lights, heaters, refrigerator, and other accessories in the OFF position.
6. Shut down engine.
7. Open the main battery switch. Main battery switch may be left closed for up to two hours to maintain cab signal link on locomotives operating in cab signal territory.

#### **Delete Note reading-**

Note: Items 7 and 8 are not required on engines equipped with an operative automatic start/stop system.

### **33.2.1 Dynamic Brake Limitations**

#### **Change rule to read-**

High buff force generated by dynamic brake retarding force may cause a derailment or damage the track structure. Therefore, limit dynamic brake retarding force on head end of train as follows:

1. Limit dynamic brake retarding force per System Special Instructions Item 5-B.
2. When approaching and operating through turnouts or disturbed track areas with train's air brakes released, use the dynamic brake handle position to limit retarding force to 50 percent of maximum (dynamic brake handle position number 4). Continue to limit the braking effort until at least half the train has passed the restricted area. At speeds of 10 MPH or less, this limitation applies only if 12 axles or more of extended range dynamic brakes are being utilized.
3. Limit the dynamic brake retarding force by cutting out the dynamic brake on trailing locomotive(s) using the dynamic brake cutout switch or the dynamic brake selector switch on the control panel or the integrated screen cutout.

### **33.3.1 Applying or Reapplying Automatic Brakes**

#### **Add as part 4-**

4. When it is desired to prevent the locomotive brakes from applying during an automatic brake application, the independent brake valve handle must be actuated (bailed) prior to the automatic brake application and held in ACTUATE position until exhaust ceases.

### **33.3.3 Releasing Brakes**

#### **When operating conditions allow releasing the brakes-**

##### **Change 1. to read-**

1. Do not attempt to make a running release if the total brake pipe reduction is less than 10 PSI except when using retaining valves or at a location where train brakes will have to be reapplied shortly. If a brake application exceeding 18 pounds is required, train must be stopped before releasing air brakes.

### **Rule 33.4 Throttle and Reverser Position**

#### **Change exception 1. b. to read-**

##### **Exceptions-**

b. Unless all locomotives in the consist are AC locomotives. However, when only one unit in the consist is a DC locomotive, it may be isolated and then AC power may be used to hold the train. If consist has more than one DC locomotive, a Manager of Operating Practices must be consulted before attempting to use AC locomotives to hold the train.

#### **Add: to number 4-**

However, reverser may be left in forward position when train is stopped in ATC or ACS territory at locations where next signal is not visible.

### **33.5: Independent Brake (Locomotive Brake)**

#### **Delete Exception reading-**

When emergency braking is necessary to protect life or property, use the maximum braking effort available.

### **33.6.3 F— Stretched Braking**

#### **Change first paragraph to read-**

Stretch braking is permitted only where more fuel efficient methods will not provide the necessary control of train speed. Stretch braking exceeding throttle position 2 is prohibited unless grade conditions and/or signal spacing dictate applying the air brakes in a higher throttle position to maintain safe train handling.

After brakes apply throughout the train, reduce throttle to position 4 or lower. When it becomes necessary to apply the train brakes in power, observe-

the following:

### **33.7.2 Recharging on a Grade**

#### **Change Note to read:-**

**Note:** Do not apply power to hold a train stationary on a grade unless all locomotives in the consist are AC locomotives. However, when only one unit in the consist is a DC locomotive, it may be isolated and then AC power may be used to hold the train. If consist has more than one DC locomotive, a Manager of Operating Practices must be consulted before attempting to use AC locomotives to hold the train.

### **33.7.4 Balance Braking on Grade**

#### **Change part 2 and 3 to read:-**

2- Limit the brake pipe reduction to 18 psi or less. If a greater than 18 psi brake pipe reduction is required to control train speed, stop train using emergency application and inspect to determine reason before proceeding.

Exception: If 18 psi reduction is due to Equalizing Reservoir leakage apply Item 3 below.

3- When pressure maintaining is required for long distances and Equalizing Reservoir Leakage exists, if speed is decreasing and unable to maintain desired speed, stop the train. Secure the train if necessary. Place the automatic brake valve cutoff valve in PASSENGER, if equipped. Do not move the automatic brake valve cutout valve from FRT to PASS unless the automatic brake valve is in the RELEASE position. When operating in PASSENGER, use extreme care. Any movement of the automatic brake valve handle toward RELEASE will release the brakes throughout the train.

### **33.7.7 Retaining Valves**

#### **Change rule to read:-**

— Use retaining valves when required by the timetable.

— At locations not designated by timetable, use retaining valves where the conductor or engineer thinks they are needed to control the train properly. Retaining valves must be set in the "HP" (High Pressure) position on the entire train. In addition, the Manager of Operating Practices for the location involved must be notified.

#### **Setting and Operating With Retaining Valves**

- Do not exceed 15 MPH when operating with retaining valves set.
- When setting retainers, use only the "HP" (High Pressure) position.
- The engineer must be notified of the number of retaining valves set before proceeding.
- Retaining valves are not set nor brake cylinder pressure retained until a brake pipe reduction of at least 10 psi has been made and released. When set, approximately a 20 psi brake cylinder pressure will be retained. Further brake pipe reductions will add to this pressure in the brake cylinder.
- The short-cycle method of braking must be used. This method consists of making frequent automatic brake applications and short holds of the application. If brake pipe pressure is gradually reducing and cannot be restored at slower train speed, and brake pipe reduction reaches 18 psi, TRAIN MUST BE STOPPED and air brake system recharged.
- When retaining valves are not in use, place them in EX (Exhaust). Ensure that cars picked up en-route have retaining valves in EX (Exhaust).

### **33.8 Emergency Brake Application**

#### **Add new first paragraph to read:-**

When emergency braking is necessary to protect life or property, use the maximum braking effort available consistent with safe train handling techniques.

### **33.12.1 Heat Restrictions**

#### **Add new rule:-**

When Level 1 or Level 2 heat restrictions are in effect, engineers must handle their trains according to Rule 33.12 to the extent practicable.

The conductor must remind the engineer sufficiently in advance of any restriction or known conditions to allow the engineer to use train handling techniques that will minimize in-train forces.

### **34.3.1 High Strength Couplers**

#### **Add new rule:-**

Each car is to be considered equipped with a standard type coupler unless it is known the car is equipped with high strength couplers. Coal cars, covered hopper cars and cars designed to carry TOFC vans and/or containers are equipped with high strength couplers. If it is not known that a car is equipped with high strength couplers, it can be determined by looking at the coupler casting identification located on top of the coupler. A high strength coupler will have the letter "E" or "EX" as the last character(s) of identification. Examples of high strength coupler identifications are E60HTE, SBE60CE, E60DE, EF512WEX.

## **Glossary**

#### **Change: Solid Block (of cars) Add last bullet.-**

One or more cars coupled together that:

- Are charged or have not been off air for more than 4 hours.
- Have been tested as outlined in Rule 30.10.2 (Procedure for Inspection and Test).
- Have been inspected as outlined in Rule 1.33 (Inspection of Freight Cars).
- Have been inspected as outlined in Section III (Inspection) of Instructions for Handling Hazardous Materials.

### **Transfer Train Movement**

An engine with one or more cars that travels between a point of origin and a point of final destination not exceeding 20 miles. Such trains may pick up or set out while enroute to destination.

**Add:-****Code "L"**

Code "L" is used to identify territories or corridors with relatively light grades and low to moderate track curvature in the coupler limit tables.

**Code "H"**

Code "H" is used to identify territories or corridors with heavier grades and severe track curvature in the coupler limit tables.

**Conventional Car**

A rail car, such as a gondola, hopper, intermodal flat car, box car, bulkhead flat car, or any car other than a multi-platform (spine car) or multi-well car.

**Coupler Limit**

The location in the train where maximum trailing tonnage allowed for a standard or high strength coupler occurs. Helper locomotive(s) may be used to reduce the amount of tonnage handled by a consist.

**Restricted Car Limits**

Restricted Car Limits replace restricted tonnage limits previously used on some territories, and are in addition to requirements contained in SSI Item 5-B and Instructions for Handling Hazardous Materials.

Restricted Car Limits consist of a defined number of cars immediately behind the lead power, immediately ahead of and behind an entrained helper, or immediately ahead of a rear helper. The number of cars within a restricted car limit can change based on the train tonnage, territory type and number of powered axles for each power consist.

**Standard and High Strength Couplers**

Each car is to be considered equipped with a standard type coupler unless it is known the car is equipped with high strength couplers. Coal cars, covered hopper cars, auto rack cars and cars designed to carry TOFC/COFC are equipped with high strength couplers. If it is not known that a car is equipped with high strength couplers, it can be determined by looking at the coupler casting identification located on top of the coupler. A high strength coupler will have the letter "E" or "EX" as the last character of identification. Examples of high strength coupler identifications are E60HTE, SBE60CE, SBE60DE, EF512WEX.

**Tons per Equivalent Powered Axle (TPA)**

- **TPA** is calculated by dividing the total trailing tonnage by the total equivalent powered axles (includes lead and helper power). The weight of dead or isolated locomotives must be added to the total trailing tonnage before making this calculation.
- **TPA Limit** – The maximum tonnage per equivalent powered axle specified over a given route. Trains may not exceed maximum TPA at origin, unless there is a plan in place to pick up additional power or reduce tonnage (scheduled set out) prior to reaching the ruling grade. TPA may only be exceeded enroute when authorized by proper authority. Train consist TPA numbers will govern any discrepancies.

**General Order**

Delete all Air Brake and Train Handling changes contained in System Special Instructions dated April 7, 2010.

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**Item 10-D: Maintenance of Way Rules, Chapters 40 to 69****40.7 Chapter 7 Supplements****7.13 Protection of Employees in Bowl Tracks**

Change rule to read:

After receiving the block from the employee controlling switches, the employee will:

**A. Electric switches:**

1. Take the switch off power.
2. Line the switch away from the track(s) to be protected.
3. Spike or clamp the switch.

**B. Pneumatic switches:**

1. Ensure the switch is lined away from the track(s) to be protected.
2. Physically block the open switch point and spike or apply a point clamp to the closed point.
3. Remove the block from the open switch point.

If, for any reason, the employee needs to use the switch while the track or tracks are still out of service, the employee must communicate with the employee controlling switches and request permission to come out on the lead.

Movement of on-track equipment in a remotely controlled hump yard requires switching lead or bowl tracks to be made inaccessible.

The employee controlling switches will not hump any cars into the group in which M/W personnel are working until after the employee spikes the switch.

After completing the movement and use of the switch, the employee will follow procedure **A** or **B** as detailed above. After completing procedure **A** or **B** the employee must:

1. Ensure the switch is lined away from the track(s) to be protected.
2. Re-spike or re-clamp the switch.
3. Tell the employee controlling switches that:
  - The movement is complete.
  - The switch is lined and spiked.

**Note:** Use derails (with red flags), switches lined against or discontinuity in the rail to protect against the possibility of standing cars rolling into your working limits.

**40-15: Chapter 15 Supplements**  
**15.2 Protection by Track Bulletin Form B**

**Change instruction for Dual-Control Switch Allows Access to read:**

~~A. Dual-Control Switch Allows Access~~

~~Where a dual-control switch(s) allows a train to enter that portion of track between the yellow-red flags, the EIC must:~~

~~— Apply a point clamp(s), with a private lock, if possible, to the dual-control switch(s) on the occupied track.~~

~~or~~

~~— Obtain track and time, track permit, track warrant or foul time on the occupied track to prevent movement into the Form B limits on the occupied track through dual-control switch(s).~~

~~The EIC must inform the train dispatcher or control operator of routes that will be affected.~~

**42.2 Maximum Speeds**  
**Change speed for Brandt trucks as follows:**

- Brandt truck on grades less than 1% with cars attached or when operating without cars attached . . . . . 25 MPH
- Brandt Truck on grades 1% or greater with cars attached . . . . . 15 MPH

**42.11 Operating Over Switches and Frogs**  
**Change bulletin as shown:**

Do not operate track cars through the spring side of spring-rail frogs except as outlined below.

- The track car must stop before moving through a spring rail frog.
- When available, an employee must remain on the ground to guard against derailment and direct the track car operator through the spring side of spring-rail frogs.

Spring switches must be lined and locked for the route to be used before moving through the switches.

**42.11.1 Speed when Passing Through Switches or Derails**  
**Under Hand-Operated Switches and Frogs**

**Add "jump frogs" to the bulletin as shown:**

Track cars must not exceed 5 MPH when moving over self-guarded and jump frogs.

**42.13 Lineups**  
**Delete rule.**

#### 42.13.1 General Lineups

Delete rule.

#### 42.13.2 Prescribed Form of Lineup

Delete rule.

#### 42.13.3 Expired Lineup

Delete rule.

#### 42.13.4 Communicating with Trains

Delete rule.

#### 42.13.5 Tracks Removed from Service for Trains and Engines

Delete rule.

#### 42.14.4 Operation of Hy-Rail Vehicles with Track Shunts

Add "operative" to first sentence and Note.

All hy-rail vehicles must be equipped with and use operable track shunts.

**Note:** Hy-rail shunts that are not operable must be repaired or replaced as soon as practicable within 7 calendar days. When operating a hy-rail on-track and it is known that the shunts are not operable, stop before passing over any grade crossings equipped with automatic warning devices and then proceed when safe to do so.

#### 42.17 Entering A Remote Control Zone

Change first paragraph to read:

Before entering a designated remote control zone, employees must determine whether the zone is activated. Employees may receive this information from the remote control operator or from the supervisor in charge of yard movements. When the remote control zone is activated, track(s) within the zone must not be occupied or fouled by equipment, or made unsafe until the zone has been deactivated.

### General Order

#### 40.15: Chapter 15 Supplements

Change entire rule to read:

##### A. Establishing Form B Protection

Form B protection must:

- Be requested at least 14 hours prior to work beginning.
- Include the following:
  - Subdivision.
  - Specify limits MP to MP.
  - Start and finish time.
  - Track(s) affected.
  - Foreman's name & Gang number.

Note: In an emergency Form B may be issued without 14 hour notice.

A job briefing between the EIC and the train dispatcher or control operator must be conducted on the day the work is being performed to determine routes that will be affected by dual-control switches.

Protection may be required between the yellow-red flags of the Form B to prevent access through dual-control switches and/or specific route information given to trains that may enter the Form B limits between the yellow-red flags.

Before occupying track(s) the employee in charge must verify with the train dispatcher or control operator that:

- Form B track bulletin has been received by all affected trains;
- The yellow-red and red flags are displayed;
- Job briefing with Dispatcher or control operator concerning dual-control switches has been completed.

If necessary to obstruct main track, make it unsafe for trains at normal speed or, men or equipment foul track prior to verification, other protection as prescribed by the rules must be provided.

##### B. Placing Flags

When placing and removing flags used with Form B track bulletins, use the following sequence:

- Placing Flags: Place the yellow-red flags first, then the red flags;
- Removing Flags: Remove the red flags first, then the yellow-red flags.

##### C. Clearing Trains



The employee in charge (or designated employee) must be alert for approaching trains to avoid delays. Format shown below must be used to issue instructions when contacted by approaching train. If unable to contact approaching train, employee in charge (or designated employee must go toward the train and use hand signals to stop train.

It is not necessary to stop train with hand signals when:

- All men and machines are clear of the track.
- The track is safe for train movement.

When clearing trains through the limits of the Form B, the employee in charge will:

- Give his/her name and gang number as required in Rule 15.2 (A).
- Transmit numbers in accordance with Rule 2.14.1.

**Rule 15.2.1 does not apply on the Union Pacific Railroad.**

Within the limits of a Form B track bulletin, track and time authority may be obtained before occupying a track in CTC territory that has an adjacent controlled track. A job briefing must be conducted with every train that is cleared through the Form B limits. This job briefing must follow the exact verbiage outlined below and must take place prior to the actual Form B clearance.

"(Train ID), my gang is occupying track (\_\_\_). Do you understand that I will give you permission to proceed only on track(s) (\_\_\_) and except when verbally authorized, crossover movement must not be made without receiving additional instructions from me?" (Wait for response)

**D. Hand-operated Switch Allows Access from another Subdivision or Railroad**

Where a hand-operated switch allows a train from another subdivision or railroad to enter that portion of track between the yellow-red flags, the EIC must discuss with the train dispatcher which of the following methods of protection will be used to prevent unauthorized entrance to the Form B limits.

- Obtaining track and time, track permit, foul time, track warrant or track out of service on the portion of track through the hand-operated switch.
- Applying a point clamp with a private lock and a "track out of service" tag, to the hand-operated switch.

or

- Displaying a yellow-red flag 2 miles in advance of the Form B limits on the adjoining subdivision or railroad. Because the yellow-red flag will be placed on a different subdivision or railroad than the Form B limits, the EIC must request that a Form Track bulletin be issued explaining the placement of this yellow-red flag.

If the yellow-red flag cannot be placed 2 miles in advance, place it in advance of the switch and note the milepost location on the Form C track bulletin.

Where the hand-operated switch is within the limits of the Form B (between red flags), a red flag should be placed in advance of the switch on the adjoining subdivision or railroad.

The employee-in-charge of the Form B must ensure that all switches operated have also been restored to normal position before clearing trains through the Form B limits and before the expiration time on the Form B Track Bulletin. In non-signaled and current of traffic territory, the EIC must record the name and location of each main track switch operated, the time each switch was initially reversed, the time that each switch was restored to normal and the initials of the employee handling each switch on the Record of Form B Clearance. This documentation must be kept for 5 calendar days after the expiration of the Form B Track Bulletin.

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## **Item 10-E: Safety Rules, Chapters 70 to 89**

### **70.1 Safety Responsibilities**

**Change rule to read:**

Employees must:

- Be responsible for their personal safety and accountable for their behavior as a condition of employment,
- Take every precaution to prevent injury to themselves, other employees, and the public,
- Comply with all rules, policies, and outstanding instructions,
- Report, correct, or protect any unsafe condition or practice,
- Be aware of their surroundings and maintain situational awareness to avoid risks associated with required tasks and work within the limits of their physical capabilities and do not use excessive force to accomplish tasks.
- Use good judgment when assessing the safety of all tasks to avoid injury or damage to equipment.
- Understand that Union Pacific has empowered each employee to work safely and risk free.

Past practices that do not conform to the rules or place an employee at risk are unacceptable.

### 70.3 Job Briefing

#### Change rule as follows:

#### Use the Job Briefing process:

- Before work begins, when all persons, including employees and contractors, are present.
- After work begins, if person(s) arrive who missed the original job briefing.
- When changes occur to the work plan or conditions change.
- When working in groups. Be aware of the work and movement of other group members and equipment.
- As an avenue to discuss actions having the potential to place employees at risk and develop alternatives to accomplish such tasks safely.

Each work plan must consider hazards, assign specific responsibilities, and explain those assignments.

#### Plan the Job Briefing:

- A. Develop your own work plan.
- B. Use the job briefing check list when applicable.
  - Complete the check list as required.
  - Sign the check list as required.
- C. Consider existing and potential hazards that might be involved as a result of:
  - Job and weather.
  - The nature of the work to be done.
  - The job location.
  - The tools, equipment, and materials used.
  - Safety or personal protective equipment required.
- D. Consider how work assignments will be made:
  - Group assignments and/or individual assignments.
  - Abilities and experience of individuals.

#### Conduct the Job Briefing.

- A. Discuss existing or potential hazards and ways to eliminate or protect against them.
- B. Make definite work assignments. (Make sure employees understand assignments.)
- C. If special tools, materials, equipment or methods are to be used, make sure employees know how to proceed safely.
- D. Issue all instructions clearly and concisely; check to see that they are understood.
- E. For complex jobs:
  - Brief only a portion of the job.
  - Give additional briefing as the job progresses.

### 70.22 Chemical Spills

#### Change title and rule as follows:

#### 70.22 Spills

Avoid contact with spilled materials, or commodities at accident sites until the materials have been identified and safe handling procedures determined.

If safe to do so, take steps to stop the leak or contain the spillage of oil, hazardous, or environmentally sensitive materials spilled from any source.

It is the responsibility of the employee who discovers this spill to immediately notify the appropriate authority and RMCC 888-877-7267 (8-544-7622), advising:

- the location of the spill,
- material and amount spilled,
- distance to nearest public waters,
- any other information that may be pertinent.

If a fire or vapor cloud is visible from an unknown source or one known to be toxic, move yourself and others upwind to a distance of at least one half mile, further if deemed advisable, and contact RMCC at 888-877-7267 (8-544-7622).

Assist Emergency Response personnel and do not enter the area until advised that the area is safe.

### 71.2.3 Near Retarders

#### Add "inert" in exception as shown:

**Exception:** Hearing protection is not required when riding through or working around Dowty or inert retarders unless protection is needed for other purposes.

### 71.5.2 Additional Eye Protection Requirements

#### Rule 71.5.2 Additional Eye Protection Requirements

Change rule to read:

Specific work activities may require additional eye protection. Go to Safety Department web site "[Safety Resource Manual, Personal Protective Equipment Policy \(Assessment of Personal Protective Equipment\), Section IV - A](#)", for application of this rule to other specific tasks.

#### Change second entry in table to read:

<del>Locomotive or work-equipment</del>	<del>Splash goggles or face shield with safety glasses</del>
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#### Add two additional entries to table as shown:

Using a pick-	Face shield with safety glasses
Using a spike maul or sledge-hammer to strike other metal-objects	Face shield with safety glasses

### 71.6 Proper Attire

#### Change rule to read:

Wear clothing that allows you to perform your duties efficiently and safely.

Clothing must not:

- Interfere with vision, hearing and free use of hands and/or feet.
- Block peripheral vision. When hooded sweatshirts and/or coats or similar type clothing are worn, they must be secured around the face to prevent the blocking of peripheral vision.
- Be torn, baggy, or ragged.
- Be so loose that it will snag easily or catch on cars, engines, tools, machinery or other equipment but must allow freedom of movement.
- Be worn so it creates the possibility of being caught or may affect one's safe performance of their duties i.e. neckties or similar clothing.

Shirts must:

- Have at least quarter-length sleeves and cover the back, shoulders, chest and abdomen.
- Provide protection from sun, insects, abrasions or scratches.
- Be buttoned. Anyone working around equipment or moving machinery in which a shirt might become entangled must have their shirt tails tucked into their trousers.

When working outside, employees must wear:

- Trousers which cover the legs.
- ANSI Class II/III highly visible outer wear:
  - Engineering employees must wear orange outer wear with reflective striping.  
However:
    - o Welders must wear required protective clothing when welding.

o Lookouts must wear yellow/green vest with orange reflectorized striping , with "Lookout" printed on the vest.

- All other employees must wear green/yellow outer wear with reflective striping. However, remote control operators working as a RCO may wear an orange RCO vest.

Exception: Highly visible outer wear is not required when in:

- \* Office areas and lunch rooms.
- \* Enclosed vehicles (including locomotives).
- \* Parking lots when tracks will not be fouled.
- \* Areas specifically designated by the department head.

Note: Vests used by employees working on railroad cars and engines must be the 5-point, tear-away vests certified for use by Union Pacific.

Jewelry that may affect one's safe performance of their duties must not be worn.

Hair, including beards, must be worn in a manner to permit safe performance of duties.

### **71.8 Respirators**

#### **Change third sentence to require annual medical review as follows.**

The employees' medical condition will be reviewed (questionnaire-based) annually.

### **71.19 Fusee Use**

Change rule number to read: **70.19 Fusee Use**

### **74.3 Driver Responsibility**

#### **Add new bullet reading:**

- Use of cell phones is prohibited while operating a motor vehicle unless hands free device is used. This includes dialing, unless voice activated dialing or speed dialing is available, texting or reading text messages. Cell phones may be used when stopped on other than a roadway.

### **74.11 Back-Up Moves**

#### **Change rule to read:**

On Company property, work must be planned to minimize back-up moves and to avoid driving into areas requiring back-up moves. No back-up move is allowed when a forward move can safely be made.

Employee(s) in the cab of a vehicle must not speak to or distract the driver until the back-up move is completed, except in case of emergency.

Before initiating a back-up move driver must:

- Walk around the vehicle and confirm that it is safe to move.
- Look in the direction of movement.
- Sound horn prior to back up move if back up alarm is inoperative or unavailable.
- Not exceed 5 MPH, conditions may require a lower speed.

When rearward vision is impaired, when equipment is standing on one or more tracks adjacent to the road, or in a Union Pacific parking lot, the following applies:

- When a second person is available:
  - A job briefing must be performed prior to movement, addressing the direction of move and position of person protecting the move.
  - The second individual, when safe to do so, must be near the rear of the vehicle to direct the movement.
  - Driver must immediately stop if the person who is directing the movement disappears from the driver's view.
- When a second person is not available:
  - The driver must stop every 150 feet, secure the vehicle and visually confirm that nothing has entered the path of the rearward movement of vehicle.
  - This will be repeated consecutively every 150 feet or until back-up move is no longer required.

### **76.11 Spike Maul**

#### **Change rule to read:**

Inspect the tie plate area and brush away any loose material that might fly on impact. When possible, set the spike from the same side of the rail you are standing on, holding the spike palm side up. Strike light blows until the spike is firmly set. Establish good footing, take a firm grip on the handle, keep your eyes on the spike head and spike by swinging the maul in a smooth arc at an even rhythm. Spike mauls must only be used for setting and driving railroad spikes. When two employees are spiking along the same rail, each must spike on their side of the rail, and both must face the same direction. One employee spiking alone may spike over the rail.

### **76.13 Sharp Edged Tools**

#### **Change rules as follows.**

**Delete:** Pocket Knives from table:

#### **Add Note under table:**

Use of personal knives is prohibited while on duty or on company property.

#### **Delete first sentence first paragraph that reads:**

The use of pocket knives for cutting or removing gaskets is prohibited.

#### **Change first sentence of second paragraph to read:**

When using sharp edged tools, the cutting edges must be directed away from the body or hands.

### **76.24 Securing Jacked Equipment**

**Under part 2. change second bullet to read:**

- In rip track or shop applications, using in-floor jacks with positive stop features will be considered the same as using secondary support; otherwise, stands or blocking must be used.

**Add Note:** Car shops using in-floor jacks with self-locking mechanism and rip tracks using concrete jacking pads with stands or blocking will be considered secondary support. Portable jacks with locking rings (i.e. electric powered hydraulic jack) will not be used as secondary support or a jack stand.

**79.2.3 Proper Clothing**

**Change rule to read:**

When cutting, heating or welding, wear hearing protection, high top boots, leather welding gloves or leather welding mittens and flame resistant clothing. When performing overhead electric arc or oxy/fuel operations, wear an approved full leather welding jacket.

Always wear flame resistant clothing. Flame resistant clothing should not be synthetic or synthetic blends such as nylon, rayon, polyester, etc. Clothing should protect the skin from infrared and ultraviolet radiation, as well as reduce the possibility of it catching fire or melting from hot sparks or hot slag.

Additional protective outerwear such as leather aprons, leather leggings, spats or sleeves shall be worn for overhead welding and for any other applications where clothing or body is in danger of being exposed to sparks or hot slag.

Kevlar jacket or kevlar jacket with leather sleeves may be worn for lightweight cutting or welding and are not intended for overhead welding. Arms must be covered; tee shirts are not acceptable.

All buttons on jackets must be buttoned. Sleeves and pockets must be secured against sparks or hot slag. Clothing must be free of oil or grease and trousers or overalls must be without cuffs.

Do not carry cigarette lighters or matches where they may be exposed to sparks or excessive heat.

**81.1.2 Precautions near Passing Trains or Equipment**

**Change second bullet to read:**

- Stand clear of all tracks when trains are approaching or passing in either direction. Do not stand on one track while trains are passing on an adjacent track. However, engineering department employees are governed by Chief Engineer Instruction Bulletins and other MofW rules when working on adjacent tracks.

**81.2.1 Walking Near or Crossing Tracks**

**Change title and rule to read:**

Before fouling or crossing tracks:

- Ensure no movement is closely approaching.
- Look in both directions.
- Look for conditions that could interfere with footing.

When walking near or crossing tracks:

- Walk straight across tracks.
- Avoid conditions that could interfere with footing.
- Step over rails, frogs, switches, guardrails, etc.

**81.2.2 Sufficient Distance**

**Change rule to read:**

Unless otherwise authorized, when crossing/stepping foul of tracks, employees must not:

- cross or step foul of tracks closely in front of or behind moving equipment,
- go between standing equipment if the opening is less than 100 feet,
- cross tracks unless there is at least 20 feet between the employee and the equipment.

Unless otherwise authorized, employees must separate equipment at least 100 feet when it is necessary to separate equipment to make adjustments or to open a knuckle by hand.

Employees may go between or around the equipment in less than the specified distance provided the equipment is protected by Rule 5.13, 81.23 or 83.1.3 and the employee knows that no movement will be made. Employees may go around the end of equipment in less than 20 feet when the equipment is protected by Rule 81.5.4 and the employee knows that no movement will be made.

Whenever employees go around the end of equipment, they must provide sufficient distance to avoid injury in case of movement from cars with moveable center sills.

**81.7 Riding Equipment**

**Change rule to read:**

**1. Determine if You Should Ride**

Ride cars or equipment only if necessary when duties require and only after determining that you can do so safely.

When determining whether cars or equipment should be ridden employee must consider:

- Alternatives such as repositioning locomotives to pull instead of shoving cars, repositioning of crew members or utilizing other employees to complete the task without having to ride moving equipment.

- Weather conditions that may cause unsafe conditions to ride, e.g. ice storms.
- Designs and configuration of cars that may make them unsuitable to ride.
- Selecting or repositioning other cars to ride.
- Your physical limitations.
- Potential slack action.
- Applicable Operating and Safety Rules.

## 2. Do Not Ride

Employees must not ride:

- On cars that are rolling free, except where a "Gravity Switch" has been authorized by a "Superintendent Bulletin" and then only when movement can be controlled by a hand brake located on the trailing end of the trailing car in the direction of movement (See Rule 7.7.1 Gravity Switch).
- On the end of a moving car – except as provided in this rule.
- On equipment where track conditions can not be clearly observed because of debris, snow, ice, water, grain, sand or mud.
- On sill step of cars (stirrup beneath ladder), engine steps, caboose steps or vestibule steps of cars when moving over a street or highway crossing, or yard access crossing. Yard access crossing means a grade crossing that is located within the physical confines of a railroad yard and is either:
  - Open to unrestricted public access;
  - or
  - Open to persons other than railroad employees going about their normal duties, e.g., business guests or family members.
- On side ladders leading to engine cabs on full body type locomotives.
- On tank cars if it can possibly be avoided and never on the side ladder providing access to top of tank car.
- Inside equipment i.e. hopper cars, gondola cars, etc.
- On any part of coupler apparatus, center sill, side sill, or end sill.
- In a location where you may be struck or pinched by moving lading or equipment.

## 3. How to Ride

When riding on equipment employees must:

- Maintain three-point contact with hands and feet on fixed platforms and/or grab irons designed for this purpose. Hand brake may not be used as one of the required points of contact.
- Look in the direction of movement.
- Ride on the side of the car, the vertical plane of the end of the car must not be broken; except:
  - May ride on the brake or end platform on the trailing end of the last car in direction of movement.
  - When allowed to ride on the deck of a flat car.
  - May ride on end platform of ARMN cars equipped with an end platform and hand rails. The platform is located on the "A" end of the car.
- Only ride on cars equipped with two vertical hand holds or horizontal hand hold positioned to allow an erect body position.

## 4. Where to Ride

When riding on equipment employees must be positioned:

- When practicable, while making a pulling movement, on the brake or end platform on the trailing end of the last car in direction of movement.
- On the side of leading end of equipment in direction of movement.
- On deck of empty flat car or on a TOFC/COFC flat car only if you can mount the car safely and kneel or sit as near as possible to the center of the car until the car has come to a complete stop. If equipped with two vertical hand holds or horizontal hand hold positioned to allow an erect body position employee may ride on side of car.
- When riding empty bulkhead or centerbeam flat car, employee may ride on the deck behind the bulkhead in the direction of movement and maintain three point contact while facing the direction of movement.

### Riding tank cars:

Employees may only ride a tank car when the tank car is the first car of a shoving movement or the last car in a cut of cars being handled.

Employees must maintain 3 or 4 point contact and:

- When shoving:
  - o Be on leading end of leading car.
  - o Be positioned to ride behind the safety bar outside the gauge of the rail track. If unable to ride behind the safety bar, employee may ride on the outer portion of the crossover platform facing direction of movement, positioned outside the gauge of the track.
  - o Place both feet on the car to provide secure contact with the car. If unable to place both feet in a secure position, employee must not ride the car.
- When pulling:
  - o Be on the trailing end platform of the last car, facing the direction of movement.
  - o Place both feet on the end platform to provide secure contact with the car.

### 81.7.1 Designated Riding Places

Delete rule

#### 81.7.4 Riding Flat Cars or Intermodal Cars

Delete rule

#### 81.7.4.1 Riding Bulkhead Flat Cars and Centerbeam Flat Cars

Delete rule

#### 81.7.5 Riding Tank Cars

Delete rule

#### 81.7.7 Riding Locomotive Cranes and Work Equipment

Change rule to read:

Do not go out on a ledge, running board or any other outside part of a moving locomotive crane or other roadway equipment. However, a designated groundman is permitted to ride on the locomotive crane footboard that is equipped with a standard riding cage under the following conditions:

- Riding is only allowed at the project site and as necessary to support bridge work. The limitations of the project site shall be as follows:

- (a) From the material staging area to the bridge, not to exceed 1,400 feet.  
and
- (b) No more than 300 feet past either end of the bridge.

- Riding is not permitted through public road crossings.
- The maximum crane speed is 10 MPH.
- When riding on the leading end, the crane operator must have the rider in visual sight at all times.
- Riding is not permitted on the same end of the crane that cars are coupled to.
- The crane will approach no closer than one car length from standing equipment.

The footboard shall be large enough to completely and firmly support both feet of the rider. The rider must have three-point contact at all times.

- The footboard and riding cage must be inspected daily and repaired immediately if damaged.
- Cage must be removed when the locomotive crane is entrained.

Do not ride on cranes, ditchers, or other machines or cars on which machines are mounted without proper authority.

#### 81.8.1 Avoid Fouling Hazards

Change rule to read:

Do not leave equipment standing where it will foul equipment on adjacent tracks or cause injury to employees riding on the side of a car or engine.

On tracks where clearance point is indicated, leave equipment beyond the clearance point.

If clearance point is not indicated or visible, determine clearance point by standing outside the rail of adjacent track and extending arm towards the equipment. When unable to touch equipment, leave the equipment at least an additional 50 feet into the track to ensure equipment is beyond the clearance point.

Equipment may be left on a:

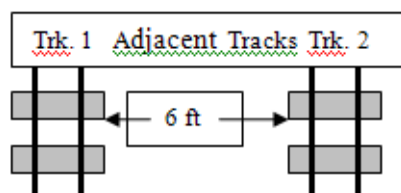
- Main track, fouling a siding track switch, when the switch is lined for the main track.
- Siding, fouling a main track switch, when the switch is lined for the siding.
- Yard switching lead, fouling a yard track switch, when the switch is lined for the yard switching lead.  
or
- Industry track beyond the clearance point of the switch leading to the industry.

When machines, tools, material or other equipment are left where adjacent track(s) may be fouled, notify supervisor. They must arrange to restrict movement on the affected track(s) until the work is completed and the fouling hazard is eliminated.

#### 81.8.3 Impaired Clearances

Add two new bullets reading:

- Any time equipment on an adjacent track is foul of or appears to be foul of clearance point.
- In a curve or through a turnout when there is less than 6 feet between the ends of ties of adjacent tracks and:
  - There are cars on the adjacent track in the curve or turnout.
  - If in doubt that the distance between the ends of the ties between the tracks is at least 6 feet.



## 81.10 Moving Equipment in Locomotive, Car, or Maintenance of Way Repair Facilities

In third bullet change rule reference at end to (see ~~Rule 5.3.7 Radio Response~~ Rule 6.5 Shoving Movements).

### 81.11 Hand brakes

#### Under End Mounted Hand Brake change to read:

End-mounted hand brake on TOFC/COFC and similarly configured cars may be operated from the ground provided the brake mechanism is within easy reach and you are able to use good body mechanics while operating them.

### 81.13 Coupling and Uncoupling

Local instructions may be issued requiring movement to stop before coupling is made.

When couplings are being made:

- Stand in the clear when a coupling or uncoupling is being made.
- Stop the movement before coupling if instructions require or when necessary to ensure couplers are in proper alignment and knuckle is open.
- Ensure couplers are in proper alignment and knuckle is open.

Do not:

- Ride the side of cars to point of impact.
- Use your feet to operate the uncoupling lever.
- Use excessive force or jerk on the uncoupling lever which may cause physical injury.
- Operate an uncoupling lever on a car or engine while riding on another car or engine.

Be alert for pinch points. Always place your hand on the portion of the uncoupling lever that is designed as the handle. Use the uncoupling lever to open knuckles when possible.

If you must use your hands to open the knuckle on standing equipment, keep both feet from between the rails if possible. During coupling operations, separate equipment at least 100 feet and stop equipment before reaching in. Make sure the knuckle pin is in place before putting your hand on the knuckle.

When air hose is charged, turn your face away from the air hose while uncoupling (see Rule 81.13.8, Coupling and Uncoupling Hoses).

#### 81.13.1 Going between Cars

##### Change last bullet to read:

- On tracks where cars are likely to roll together, apply sufficient hand brakes, but not less than two, on the unattached portion to prevent movement before going between cars.

#### 81.13.3 Coupler Adjustment

Rule reference number in second bullet should be 70.4.

### 81.13.8 Coupling and Uncoupling Hoses

#### Change rule to read:

When coupling or uncoupling hoses the following applies:

- Avoid being struck or burned when coupling air hoses or steam connections.
- Before coupling or uncoupling air hoses by hand, or before operating angle cocks, have a clear understanding with the engineer and other crew members as to the work to be performed.
- When coupling air hoses together or uncoupling air hoses by hand, keep one foot outside the rail and place the other inside the rail. However, when coupling high air dump hoses on cars so equipped, it is permissible to place both feet between the rails. Be prepared to step out should the equipment move.
- When necessary to part air brake train line hose connections, close cocks, grasp the hoses firmly, and turn your face away while making the uncoupling.
- When separating locomotives allow air hoses to pull apart with the movement of the locomotives.

### 81.15 Car Doors

#### Add paragraph:

Train service employees should not attempt to close plug or swinging type doors. If a plug door is found open enroute, car may continue in the train to the next location where mechanical forces are available to close the door.

### 81.19 Air Brake Rigging

#### Change rule to read:

When working on air brake rigging of cars or other equipment, except locomotives, the air reservoir must be drained until repairs are completed.

### 81.23 Lockout Protection Required

#### Add the following:

D. Derails

Derails that are used in conjunction with worker protection must be in the derailing position with proper flag displayed only when their use is required for such protection. When their use is not required for protection:

- Remove portable derails, and then remove flag.

or



- Lock fixed derails in non-derailing position with an effective locking device, and then remove (take down) flag.

### **83.1.2 Hearing Protection-Intermodal**

#### **Change rule to read:**

Employees must wear hearing protection anytime they are within a radius of 25 feet of operating lift or transfer equipment. Hearing protection is not required for employees who are inside the cab with the cab doors and windows closed.

~~Groundmen must wear hearing protection while performing their duties.~~ In all cases, hearing protection must be worn in compliance with the provisions of Safety Rule 71.2.

### **83.1.3 Protection of Loading and Unloading Operations**

#### **Change rule as follows:**

Lock-out protection must be provided before loading and unloading activities begin.

#### **A. Effective Lockout Protection**

##### **1. Line Switch**

Line the switch away from movement or place a derail at least 150 feet (50 feet if track speed is 5 MPH) from end of rolling equipment and secure the switch or derail with an effective locking device. The derail or switch must be able to restrict access to the portion of track where work is being performed.

##### **One Locking Device.**

Use one locking device if the employees being protected:

- Are assigned to work together as a unit under a common authority.
- Communicate with each other while working.

##### **Additional Locking Devices.**

If more than one working group exists, the employees must communicate and apply an additional locking device to the derail or switch.

##### **2. Display Red Flag**

At each lockout position, display a red flag that can be clearly seen during the day. At night, display a red light with the flag.

Do not place a derail or switch in the lockout position until red flag protection is in place. Do not remove the red flag protection until lockout protection is removed.

##### **3. Red Signal Readily Visible to Engineer**

In addition to providing protection as required, before loading and unloading activities begin, when equipment is coupled to an engine or an engine is on the track being protected:

- A red signal (flag/light/tag) must be attached to the controlling engine and must be visible to the engineer or employee controlling the engine.
- On engines equipped for remote control operations, the control must be in manual. A red tag must be placed on the switch governing remote/manual operation.
- The engine with an attached red signal must not be moved.

##### **4. Derails**

Derails that are used in conjunction with worker protection must be in the derailing position with proper flag displayed only when their use is required for such protection. When their use is not required for protection:

- Remove portable derails, and then remove flag.  
or
- Lock fixed derails in non-derailing position with an effective locking device, and then remove (take down) flag.

#### **B. Common Authority**

Common authority must be established. The person or persons in authority must:

- Communicate with all employees being protected by a red flag and lockout device.
- Control the red flag and the only keys to the lockout protection.
- Be responsible for the safety of all employees in the working area.

Do not work on the track or railroad rolling equipment until both ends of the track have a red flag and lockout protection.

## **Glossary**

### **Add:**

#### **Red Zone**

Anytime an employee is working within an area where there is the potential to be struck by moving equipment, when required to work on under or between equipment, when working with or around machinery or when entering control operator/train dispatcher work stations.

#### **Work Activities (working on the ground)**

TE & Y employees performing duties such as walking between adjacent parallel tracks, switching, inspecting, testing, repairing, or servicing equipment or components etc. Activities such as walking to and from a train, which would include getting on and off the locomotive, crew van or yard office, is not considered a work activity

## General Order

### Rule 71.2.3 Near Retarders

Change entire rule to read:

Hearing protection is required within 150 feet of master, group, or inert retarders including Dowty retarders, during humping and trimming operations. Dual hearing protection (ear plugs and muffs) is required within 15 feet of these operations.

When near operating retarders:

- Engine windows and doors must be closed when passing through operating retarders. Occupants must be inside the locomotive cab.
- Employees riding a car through operating retarders must comply with the dual hearing protection requirement.

### Rule 71.5.2 Additional Eye Protection Requirements

Change rule to read:

Specific work activities may require additional eye protection. Go to Safety Department web site "Safety Resource Manual, Personal Protective Equipment Policy (Assessment of Personal Protective Equipment), Section IV - A", for application of this rule to other specific tasks.

### Rule 81.7 Riding Equipment

Change numbering of items in SSI, pages 113 and 114 as follows:

2. Do Not Ride
3. How to Ride
4. Where to Ride

Change second dash under first bullet in Part 4 under "Riding tank cars" to read:

- o Be positioned to ride behind the safety bar outside the gauge of the track. If unable to ride behind the safety bar, employee may ride on the outer portion of the crossover platform facing direction of movement, positioned outside the gauge of the track.

### Rule 81.10 Moving Equipment in Locomotive, Car, or Maintenance of Way Repair Facilities

In third bullet change rule reference at end to (see Rule 6.5 Shoving Movements).

### Rule 83.1.2 Hearing Protection-Intermodal

Delete the first sentence from the second paragraph reading:

Groundmen must wear hearing protection while performing their duties.

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## Item 10-F: Instructions for Inspecting, Welding and Grinding

### 100.7 and 112.5

#### Continuous Welded Rail Adjustment Table

Change required adjustment in table to read:

2-1/8 as shown:

	1080 feet
25	2-1/8

And 1-1/4 as shown:

	360 feet
45	1-1/4

### 101.1 Personal Protective Equipment (PPE)

Change Table 101A as follows:

Add Kevlar to welding jacket.

**Change (5) to read:**

(5) Welding sleeves may be worn in place of jackets to protect arms.

### 101.5 Proper Clothing

**Change second and fourth bullets to read:**

**Second bullet:**

- When performing electric arc welding or oxy-fuel operations wear, as a minimum, an approved full kevlar welding jacket or welding sleeves. When performing overhead welding or any other applications where clothing or body is in danger of being exposed to sparks or hot slag then a full leather welding jacket shall be used. Flame resistant clothing should not be synthetics, synthetic blends such as nylon, rayon, polyester, etc. Clothing should protect the skin from infrared and ultraviolet radiation.

**Fourth Bullet:**

- Additional protective outerwear such as leather aprons, spats or sleeves shall be worn for overhead welding and for any other applications where clothing or body is in danger of being exposed to sparks or hot slag. Arms must be covered; t-shirts are not acceptable. All buttons on jackets must be buttoned. Sleeves and pockets must be secured against sparks or hot slag.

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## Item 10-G: Chief Engineer Instruction Bulletins, Chapters 120 to 140

### 136.2.3 Contractors

**Add qualified and authorized to first bullet as shown.**

- They have been properly trained and qualified on FRA Roadway Worker Protection regulations and have been authorized by UP to provide their own on-track safety.

### 136.4.1(G) Track Out of Service

**Change 3. to read:**

3. Place red flags to protect:

- Unsafe track,  
or  
- Working limits when a train is tied up within the limits of the out-of-service track.

### 136.4.2 Inaccessible Track

**Application:** When locking a switch or derail a MW or personal lock may be used.

### 136.4.3 Individual Train Detection

**Add three new bullets as shown:**

- ITD will not be used when light is insufficient to detect approaching equipment at the prescribed sight distance.
- When observing the approach of a train on any main track or controlled siding, the lone worker will move to the predetermined place of safety. If the train is moving on an adjacent track, the lone worker may not resume work until the train completely passes the work location or stops. If the train stops on an adjacent track near the work location, the lone worker may resume work foul the track only after he re-assesses the sight distances to ensure they have not been reduced by the presence of the train. When the train is moving on a track beyond the adjacent track, the lone worker may resume work after the head end passes the work location and he re-assesses the sight distances to ensure they have not been reduced by the presence of the train.
- The lone worker will monitor transmissions from train movements in the vicinity, either through an external speaker or handie talkie. Where conditions exist that impede the ability to hear an external speaker, the handie-talkie must be used.

When using ITD, the lone worker must produce the completed Statement of On-Track Safety upon request.

### 136.4.4 Train Approach Warning

**Change the fifth bullet as shown and add the following new bullets:**

Fifth bullet:

- The lookout's method of communicating a train approach warning is distinctive and can be clearly understood regardless of noise or work distraction. The method can consist of:

- Sounding a whistle, air horn or other audible warning device.
- Verbally communicating. Do not use radios as the sole means of communication to provide TAW.  
or
- Touching the roadway worker(s).

New bullets:

- The lookout's ability to see approaching trains and equipment is not impaired by:

- Lights.

- Inclement weather (rain, snow, fog, etc.).
- Passing trains.
- or
- Other physical conditions

- Lookout is wearing the highly visible work wear designated to identify roadway workers performing the duties of a lookout.
- The lookout has completed a Lookout Job Briefing form. The lookout will produce the completed form upon request. Completed forms will be kept for a minimum of 30 calendar days.
- The lookout or EIC is monitoring transmissions from train movements in the vicinity, either through an external speaker or handie-talkie. Where conditions exist that impede the ability to hear an external speaker, the handie-talkie must be used.
- TAW will not be used when light is insufficient to detect approaching equipment at the prescribed sight distance.
- When alerted by the lookout of the approach of a train on any main track or controlled siding, all roadway workers will move to the predetermined place of safety.

- Where track centers are 19 feet or greater and the train is passing on an adjacent track, work may not resume until the head end passes the work location and a job briefing has been conducted by the EIC or lookout to ensure sight distances have not been reduced by the presence of the train.

- Where track centers are less than 19 feet and the train is passing on an adjacent track, work may not resume until the train completely passes the work location or stops. If the train stops on the adjacent track near the work location, work may resume only after a job briefing has been conducted by the EIC or lookout to ensure sight distances have not been reduced by the presence of the train.

- When the train is moving on a track beyond an adjacent track, work may resume after the head end passes the work location and a job briefing has been conducted by the EIC or lookout to ensure that sight distances have not been reduced by the presence of the train.

- At least one roadway worker (not the lookout) is designated to inspect the passing trains for defects per GCOR Rule 6.29.1 Inspecting Passing Trains.

**136.4.5 Lineups**

Delete bulletin.

**136.5 On-Track Safety on Adjacent Tracks**

Add as first and second paragraphs and exception as shown:

Before fouling any adjacent track, determine that On-Track Safety is being provided.

Where track centers are 19 feet or less, no employee may perform work, walk or stand between on-track equipment (OTE) and an adjacent main track or controlled siding unless a lookout or adjacent track protection is provided.

**Exception:** If OTE may be entered or exited from either the field side or live track side, employees must use the field side when practical and safe to do so. Employees may exit or enter OTE on the live track side only after looking in both directions and ensuring there is no train or on-track equipment movement on the adjacent track.

**In the table**

Delete reference to "Lineup" under Controlled Track - Unplanned work;

Delete reference to "Train coordination" under Non-controlled - Planned or unplanned work.

**136.9.2 FRA Roadway Worker Protection Matrix**

Delete: "Lineup" in the cells in column titled 'ABS or ATC' and "Train Coordination" in the cells in column titled 'Non-Controlled Track'.

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**Item 10-H. : Hazardous Materials Instructions**

**Section I - General Information**

**Add 6. Making and Documenting a Positive Hand-off of Rail Security-Sensitive Materials (RSSM)**

**6. Making and Documenting a Positive Hand-off of Rail Security-Sensitive Materials (RSSM).**

- a. A positive hand-off of a RSSM shipment must be made when:
  - (1) Receiving a RSSM shipment from the shipper at any location.
  - (2) Receiving/delivering a RSSM shipment in interchange.
  - or
  - (3) Delivering a RSSM shipment within a High Threat Urban Area (HTUA).
- b. A positive hand-off must be:
  - (1) Attended by an employee or representative of the railroad and an employee or representative of the shipper/receiver or interchanging railroad.
 

**Note:** If entrance to the shipper's or receiver's facility is controlled from a security room inside the plant, then consider person in the security room as being "present" and the rail car being attended.
  - (2) Documented by the railroad employee or representative attending the positive hand-off by recording the:
    - (a) car initial and number;

- (b) first and last name of the individual who attended the transfer;
- (c) location of the transfer;  
and
- (d) date and time of the transfer on the work order or other appropriate documents.

**Note:** When accepting/receiving or delivering the RSSM shipment, provide your name to the shipper/receiver or interchanging railroad if requested.

c. If the representative of the shipper/receiver is not present or refuses to provide the required information,

- (1) notify the train dispatcher or your immediate supervisor, as appropriate;
- (2) do not pull or spot the RSSM shipment;
- (3) retain possession of the non-delivered RSSM shipment until completion of assignment;  
and
- (4) report the non-delivered shipment as work not done on the work order.

d. If the representative of the interchanging railroad is not present at the interchange or refuses to provide the required information, contact the train dispatcher or your immediate supervisor, as appropriate, for instructions.

e. Notify the train dispatcher immediately when a loaded RSSM shipment:

- (1) is set out as a bad order at other than the origin station, whether through-freight or yard/local jobs;
- (2) is not handled in accordance with work order instructions (scheduled work events) when traveling in a train of type "THRU".

## Section VII – Train Operation

### Change the definition of "key trains"

a. Definition: A "Key Train" is any train that meets one or more of the following conditions:

- (1) One (1) or more car loads of:
  - (a) Spent nuclear fuel (SNF) or high level radioactive waste (HLRW) moving under the following Hazardous Materials Response Codes - 4929142, 4929143, 4929144, and 4929147;  
or
  - (b) Hazardous material shipments that require the phrase "Poison/Toxic-Inhalation Hazard" (PIH or TIH) (Hazard Zone A, B, C, or D) on the shipping papers;  
or
  - (c) Shipments of anhydrous ammonia (Identification Number 1005) listed as "Inhalation Hazard" on the shipping papers.  
or
- (2) Twenty (20) or more car loads or intermodal portable tank loads of hazardous materials.

**Exception:** Do not count shipments carrying mixed loads of hazardous materials (MXHAZD) in box cars, trailers, or containers when determining key train status.

### Change part 4 to read:

4. Cabooseless key trains, except yard, local and transfer trains operating less than 20 miles from their point of origin must be equipped with an operable end-of-train telemetry device when operating on main track.

**(Note does not change.)**

## Glossary

### Add the following entries in alphabetical order:

**Attended** - a situation where an employee or authorized representative:

- 1. Is physically located on site in reasonable proximity to the rail car;  
and
- 2. Can and does immediately:
  - a. Respond to any unauthorized access or activity at or near the rail car;  
or
  - b. Contact law enforcement.

**High Threat Urban Area (HTUA)** - an area comprising one or more cities and surrounding areas including a 10-mile buffer zone identified as such by the Transportation Security Administration (TSA). HTUAs will be identified on work orders and train lists as necessary. (See list).

**HTUAs** include the metropolitan area of the following cities:

#### **Northern Region**

Chicago, Denver, Kansas City, Milwaukee, Omaha, St. Louis, Twin Cities.

#### **Southern Region**

Austin, Baton Rouge, Dallas, El Paso, Houston, Memphis, New Orleans, Oklahoma City, San Antonio, Tulsa.

#### **Western Region**

Anaheim, , Las Vegas, Los Angeles, Phoenix, Portland, Riverside Area, Sacramento Area, Salt Lake City, San Francisco Bay Area, Seattle, Tucson.

**Positive Hand-off of Rail Security-Sensitive Material (RSSM) Shipments** - a situation where a RSSM shipment must be:

- 1. Attended by an employee or authorized representative of both the railroad and the

shipper/receiver or interchanging railroad.

and

2. Documented by recording the car initial and number, the first and last name of the individual who attended the transfer, the location of the transfer, and the date and time of the transfer.

**Rail Security-Sensitive Material (RSSM)** - a shipment of one or more of the categories and quantities below:

1. Rail car, trailer or container containing more than 5,000 lbs. (2,268 kg) of a division 1.1, 1.2, or 1.3 (explosive) material.
2. Loaded tank car containing a material poisonous/toxic by inhalation, including anhydrous ammonia.  
and
3. Rail car, trailer or container containing Class 7 (radioactive) material moving under the following Hazardous Materials Response Codes - 4929142, 4929143, 4929144, and 4929147.

## Appendix

**Change the expiration date of Special Permit DOT-SP 9271 to read:**

### **SPECIAL PERMIT AUTHORIZATION**

#### **DOT-SP 9271**

EXPIRATION DATE: In effect until further notice.

## General Order

**Add the following to Section I - General Information, item 6:**

- e. Notify the train dispatcher immediately when a loaded RSSM shipment:
  - (1) is set out as a bad order at other than the origin station, whether through-freight or yard/local jobs;
  - (2) is not handled in accordance with work order instructions (scheduled work events) when traveling in a train of type "THRU".

**Glossary:** Change RSSM definition to include trailers and containers as follows:

Rail Security-Sensitive Material (RSSM) – a shipment of one or more of the categories and quantities below:

1. Rail car, trailer or container containing more than 5,000 lbs (2,268 kg) of a Division 1.1, 1.2, or 1.3 (explosive) material;
2. Loaded tank car containing a material poisonous/toxic by inhalation, including anhydrous ammonia;  
and
3. Rail car, trailer or container containing a Class 7 (radioactive) material moving under the following Hazardous Materials Response Codes -- 4929142, 4929143, 4929144, and 4929147.

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## Item 10-I: Programs & Policies, Chapters 90-99

### Smoking Policy

#### **What Is It?**

The purpose of this policy is to provide employees with a work environment free from the potentially harmful effects of tobacco use.

#### **Why Was It Written?**

Union Pacific Railroad Company intends to provide employees with a smoke-free work environment. This policy has been implemented because of the potentially harmful effects of tobacco use, in response to employee health concerns, and at the direction of senior management.

#### **What Are The General Provisions?**

Smoking is prohibited at the following locations and activities:

- All Company property, whether owned or leased, including mechanical facilities, along the right-of-way, in office buildings, and all service unit facilities and yards.
- In or near building entrances and contiguous sidewalks.
- In locomotive cabs, cabooses, bunk cars, company vehicles, and similar equipment.
- Meetings held at off-site locations.

### Cessation Programs

Change "Cessation Programs" information to read:

Programs are available for employees who desire to quit smoking. Interested employees should contact the Health Promotion Staff at (402) 544-2442 or toll-free at (888-767-0169). Information is also available on the [Wellness Programs Tobacco Cessation Options page.](#)

[https://xdev.employees.www.uprr.com/emp/operating/op\\_prac/gcor/safety/Chapter\\_90/90.3.htm](https://xdev.employees.www.uprr.com/emp/operating/op_prac/gcor/safety/Chapter_90/90.3.htm)

Programs are available for employees who desire to quit smoking. Interested employees should contact the Health Promotion Staff at (402) 544-2442 or toll-free at (888-767-0169). Information is also available on Health Track Page located at <http://home.www.uprr.com/emp/ec/health/tobaccocessation.htm>

### **Non-Compliance**

Failure to comply may result in the assessment of discipline

### **For Further Information**

- Questions concerning compliance with the Smoking Policy should be referred to your immediate Supervisor.
- Contact the Company Values Line at 1-800-998-2000.
- Contact the HR Customer Service Representative for your department.

### **Drugs and Alcohol**

The UPRR Drug and Alcohol Policy governs each employee, excerpts of which are stated in Safety Rule 90.1. Additionally, the policy states that no employee may report to work under the influence (.02 or more alcohol concentration) or use alcohol:

- Within four hours of reporting for covered service.  
or
- After receiving notice to report for covered service.

Further, an employee who is affected by an alcohol or drug use problem may maintain an employment relationship with the railroad if, before the employee is charged with conduct deemed by the railroad sufficient to warrant dismissal, the employee seeks assistance through the EAP for the employee's alcohol or drug use problem or is referred for such assistance by another employee or by a representative of the employee's collective bargaining unit (D&A Policy 18.1.1).

### **Operation RedBlock**

If an employee is unable to report for work or unable to continue at work after reporting because of the use of drugs or alcohol, he/she should call the Operation RedBlock toll-free number **(1-866-311-7255)** and mark off "Operation RedBlock" before notified to submit to a test. Do not use any other reason to mark off. No disciplinary action will result from a markoff for Operation RedBlock.

### **Non-Compliance**

**Failure to comply may result in the assessment of discipline.**

### **Weapons Policy**

Union Pacific employees and all other individuals on Company property or involved in Union Pacific business off Company property are prohibited from possessing or concealing weapons on their persons and in their vehicles, which includes but is not limited to grips, suitcases, gym bags and purses. This prohibition applies even if the individual is licensed to carry a concealed handgun under state law. Only Union Pacific Police and on-duty law enforcement officers acting in an official capacity are authorized to possess weapons on Company property.

For purposes of this policy, a "weapon" shall mean any device, instrument, material or substance (animate or inanimate) that is used for, or is readily capable of, causing death or bodily injury. This prohibition includes but is not limited to firearms, knives with a blade longer than three inches, tasers, stun guns and pepper sprays. Union Pacific Police are authorized to make the final determination of whether a particular item constitutes a weapon under this policy.

### **General Order**

#### **90.3 Smoking Policy**

Change "Cessation Programs" information to read:

Programs are available for employees who desire to quit smoking. Interested employees should contact the Health Promotion Staff at (402) 544-2442 or toll-free at (888-767-0169). Information is also available on the Wellness Programs Tobacco Cessation Options page.

[https://xdev.employees.www.uprr.com/emp/operating/op\\_prac/gcor/safety/Chapter\\_90/90.3.shtml](https://xdev.employees.www.uprr.com/emp/operating/op_prac/gcor/safety/Chapter_90/90.3.shtml)

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## **Item 10-J: Commuter Train Operations**

### **Geneva, Kenosha, Harvard and McHenry Subdivisions.**

#### **I. Commuter Operations Documents and Requirements**

##### **1. Commuter Operations Train Schedules**

All employees affected must have a copy of the current **Commuter Operations Train Schedules**. Freight trains and engines must attempt to clear the time of scheduled passenger trains to avoid delay. Employees in passenger train service, including engineers, must have a copy of the current METRA

Operations Profile.

2. Employees affected must have a copy of the **Passenger Train Air Brake Rules (Commuter Operations)** effective May 12, 2008 and completed training on performing air test to be considered a qualified employee. .

## II. Instructions Governing Movements Between the Ogilvie Transportation Center (OTC) and Halsted and Erie

### 1. Ogilvie Transportation Center (OTC)

a. All movements into the OTC must be controlled so stop will be made by service application of the brakes and short of the white line painted on platforms 10 feet in advance of bumping posts.

b. When movement is made over Lake Street Interlocking, when practicable, movement must be controlled by the engineer from the lead unit or cab car in the direction of movement.

c. **Rule 7.9 Switching Passenger or Occupied Outfit Cars:** When couplings are made, within the OTC, stop not less than 20 feet from the cars. Then complete coupling on signal from employee on the ground.

### 2. Lake Street Interlocking:

a. Engineer on scheduled passenger train will contact Lake Street operator via radio when the coach doors have been closed, door light is displayed in the operating control compartment, and the train is ready to depart. In the event of a door light failure, the engineer must communicate with the conductor to ascertain that all doors are closed before contacting Lake Street.

b. The first signal governing movements from each of the train shed tracks is identified by two white stars located directly above the signal light. In addition, these signals are equipped with a single white star which is in view when looking back at the signal (train or engine beyond the signal). When the indication displayed by the first signal cannot be observed due to train or engine extending beyond this signal, engineer or trainman will be governed by the single white star. When the single white star is illuminated:

- (1) The signal displays a proceed indication.
- (2) The route is lined to the next signal.

c. Movement from the mail or fuel pockets must not be made without a proceed indication and permission from Lake Street control operator.

d. Locomotives exceeding four axles must utilize crossovers west of Lake Street Tower to enter the OTC authorized tracks as specified for business cars.

### 3. Movements between Halsted or Erie and OTC.

- a. Engine bell must be rung continuously.
- b. Headlight must be dim.
- c. Ditch lights and oscillating headlight must be off.

### 4. Running Brake Test

All trains and yard movements entering the OTC will make a running air brake test approaching Halsted or Erie to know that the brakes on the train are functioning properly. Trainmen handling back-up movements into the OTC will make a running brake test through use of the valve on back-up hose or its equivalent, approaching Halsted or Erie, to know that the brakes are functioning properly. All trains and yard movements departing OTC will make a running brake test to know that the brakes on the train are functioning properly.

### 5. Cars Exceeding 16 Feet

Cars exceeding a height 16'0" above top of rail must not be operated on any track in the OTC.

## III. Additional Rules and Instructions

**Passenger Train:** A train made up of equipment designed to transport passengers.

**Letter S:** The letter S in the schedule column in Commuter Operations Train Schedules indicates a regular stop.

**Canceling Regular Stops:** When a passenger train is directed to cancel regular stops and will pass through stations where people may be crossing from one platform to another, train will not exceed 30 MPH and must whistle frequently approaching and passing these stations.

**Operating on Other Than Normal Tracks:** When movements are made on tracks other than those normally used, the engineer must notify commuter control sufficiently in advance to permit passengers to change platforms. The train must enter the station at a speed to allow all passengers to cross over before blocking crosswalk.

~~**Leaving Stations:** The Conductor will designate a member of the crew to operate the doors. All members of the crew must be notified through job-briefing process who will operate the doors. That person, and only that person, shall operate the doors and communication buzzer when necessary.~~

~~When departing a station, the designated crew member that handles the doors shall:~~

- ~~1. Close all doors except their own.~~
- ~~2. Visually check the side of the train to determine if all on and off passenger movement is completed.~~
- ~~3. Step onto the platform to visually check the side of the train if necessary to improve his vantage point.~~



4. Close his door if all passenger movements are clear of the train.

The door light will be the normal proceed signal for a train. In the event of a door light failure, the communicating buzzer will be used. If a train has a failure of both door light and communicating buzzer, use intercom or hand signals.

#### **Operation of Doors and Handling of Passengers at Station Platforms:**

The Conductor will designate one member from the train crew who will operate the doors at each station.

Exterior doors must not be opened until the train has come to a full stop at a station platform. Trainmen must position themselves evenly spaced (when possible) on the platform to ascertain that all doors have opened for those passengers entraining/detraining and to provide assistance. Conductors, Assistant Conductors, and Collectors are required to be on all station platforms at every stop except if the car they are working is not on the platform.

Trainmen assigned to work the ADA car should maximize his presence in that car and must be aware of the passengers special needs. Special attention should also be given to coaches carrying the elderly and families with small children.

When two or more cars are open, trainmen must not work from the same car, EXCEPT as required in the performance of duty.

Doors located at other than a platform or other suitable surface such as street crossing will not be used. Announcements must be made in advance, directing passengers to doors that can be opened properly.

Precautions must be taken to see that doors improperly spotted remain closed. If an unusual stop is made at a station which results in car doors not being spotted at a platform, the engineer will sound one long signal or the override circuit or make a PA announcement. The trainmen responsible for the doors must consider this an emergency signal and only open the doors which are properly spotted.

Trains are not to depart stations until the following has occurred:

- Trainman responsible for working the doors receives visual signals from all other train crew members that the train is ready to depart.
- Trainman will then close all doors except his own.
- Trainmen will then make a final check of all doors in both directions from the best possible vantage point to ensure all doors except his own are closed.
- Once it is verified that all other doors are closed except his own, the trainman will then close his door.
- After the door light indication is illuminated in the engineers compartment signifying that all doors are closed, the train can depart the station. When conditions permit, the engineer should observe the platform area, utilizing his rear view mirror or camera monitor, looking for any unsafe conditions as the train begins to depart the station.

- If, after the door closed light has illuminated and:

- train begins to pull away from the station, the engineer notices that the door closed light has gone out; a normal brake application will be made to bring the train to a stop. Trainmen will then ascertain the cause of the open door indication and correct the problem, if possible, before resuming operation.
- train is operating at speed and the engineer notices that the door closed light has gone out; the engineer will communicate with the train crew and ascertain the cause of the open door indication.

If there is a failure of the door light indication in the engineers compartment, the train may proceed under the authorization of the Conductor, only after a full understanding on an alternative method for assuring the doors are closed has been reached by all crew members through a supplemental job briefing. Please note, system failures must be reported on the Passenger Car Inspection Report.

At stations where track curvature or other circumstances restricts sight distances making it impossible for the trainman responsible for door operation to observe all cars in the train while making the final check the following should occur prior to the train departing the station:

\* All trainmen will bleed off the door of the car they are operating from.

\* All trainmen will position themselves on the platform along the length of the train in such a way that all cars can be observed.

\* All doors will be closed except those doors where a trainman is positioned.

\* After each trainman makes a final check of the cars under his observation, all crew members will exchange a second hand signal prior to boarding and closing their own doors.

\* After the door light indication is illuminated in the engineers compartment signifying that all doors are closed, the train can depart the station. When conditions permit, the engineer should observe the platform area, utilizing his rear view mirror or camera monitor, looking for any unsafe conditions as the train begins to depart the station.

- If, after the door closed light has illuminated and:

- train begins to pull away from the station, the engineer notices that the door closed light has gone out; a normal brake application will be made to bring the train to a stop. Trainmen will then ascertain the cause of the open door indication and correct the problem, if possible, before resuming operation.
- train is operating at speed and the engineer notices that the door closed light has gone out; the engineer will communicate with the train crew and ascertain the cause of the open door indication.

Door control panel on all cars must be deactivated in the closed (locked out) position except when needed for immediate use by a train crew member. Once all passengers have been loaded/unloaded the Control Panel must be locked prior to leaving the vestibule. Coach keys are to be removed after they are used.

and are not to be left in the lock at any time.

**Passenger Train:** A train made up of equipment designed to transport passengers.

**Approaching Stations:** When approaching stations:

1. Engine bell must be rung one-fourth mile in advance of stations where passengers are received or discharged and must continued until engine has passed platform. In the event of bell failure, whistle must be sounded when approaching stations.
2. Headlight must be on bright and ditch lights and oscillating headlight on except when approaching OTC.
3. A street or road crossing adjoining or immediately adjacent to the station platform will be considered a part of the platform or platform area.

**Movements between M19A and the OTC:**

Train and engine movements on the main track between M19A and the OTC must have a track warrant or determine no track bulletins are necessary by contacting Commuter Control, the Yardmaster at California Avenue Coach Yard or the M19A clerk. A copy of track bulletins in effect can be obtained at either Commuter Control or M19A.

**California Avenue Coach Yard**

Locomotives exceeding four axles are prohibited from operating within Cal Ave between Sacramento and Western Avenues, unless special permission is received from the Cal Ave Yardmaster or a Commuter Operations Manager

**1.7 Altercations:**

**Application:**

Employees must not enter into altercations with each other, passengers and/or the general public.

**2.21 Electronic Devices**

~~**1.10 Games, Reading, or Electronic Devices-**~~

**Application for commuter operations:**

The use of cell phone is prohibited and must be turned off when in engine or the control cab of moving trains. This includes Company issued cell phones unless all other forms of communications have failed. Conductors with company issued cells phones, not in the control compartment, may have cell phones on for required communications between crew members and/or commuter control.

If all other forms of communication fail, the Company issued cell may be used for communications. Cell phone communication with the engineer is limited to that required by the rules.

The train dispatcher or commuter control may authorize the use of a cellular phone in the control cab by someone other than a locomotive engineer operating the controls of a moving train, during mechanical breakdowns or other service interruptions, after a safety briefing, provided that all involved personnel agree that it is safe to do so. Any other use is prohibited in the cab.

This does not prevent the use of cell phones during emergencies.

Personal cell phones must be turned off when performing train or engine service.

**1.47 Duties of Crew Members**

**Application:**

**Calling Attention to Restrictions:**

Conductors of passenger trains must remind the engineer of track bulletin restrictions by use of the intercom and receive acknowledgement.

If the intercom fails, the communication signal buzzer will be used by 2 sounds of the communication signal buzzer. If communication is made by use of the buzzer, the engineer will sound whistle signal 5.8.2(4) as acknowledgment. Conductors failing to hear the whistle signal acknowledgment must re-establish communication with the engineer to obtain acknowledgment or take the necessary actions to stop the train prior to reaching the restriction.

**2.14 Mandatory Directive**

**Application:**

**Last Bullet ... "retained for the duration of that crew's tour of duty".** Conductor and Engineer will retain copy of mandatory directives from all trips during an entire days tour of duty including trips before and after any "release periods" during a day.

**Application:**

When a mandatory directive is issued to commuter trains, the conductor and engineer must each have a copy of the directive. The engineer may give the information to the conductor at first opportunity It will not be necessary to discuss this information with other crew members before being acted upon. If an engineer receives such information just prior to a location where the directive takes effect, the engineer must comply with the information even if the conductor has not yet received the information.

**6.30 Receiving and Discharging Passengers**

**Application:**

1. Passenger trains must not enter a station at which another passenger train is stopped to receive or discharge passengers until first bringing train to a stop, after which they may proceed with caution to or through the platform, ringing bell and sounding whistle. When a train is "laying back" to delay entering a station, the train laying back must not enter that station until the departing train has cleared the platform area and the platform area can be plainly seen.

2. When two passenger trains are nearing a station at the same time and only one of them is scheduled to stop, the train to stop must not enter the station until the other train has cleared the platform area and the platform area can be plainly seen.

3. When two passenger trains are nearing a station at the same time and both are scheduled to stop, both trains may enter simultaneously. They must enter the station with caution ringing the bell and sounding the whistle when necessary. Eastward and Southward trains have preference in the AM and Westward and Northward trains in the PM.

4. Freight trains must make every effort consistent with safety and efficient train handling:

- a. To avoid passing a station at which a passenger train is stopped to receive or discharge passengers.
- b. To avoid entering the platform area until the passenger train has departed and the platform area can be plainly seen.
- c. To control their speed to avoid entering a station during the time an on-time passenger train would normally be receiving and discharging passengers.
- d. To communicate with passenger trains that may be met or passed to determine their locations.

Freight trains and engines MUST attempt to communicate by radio with scheduled passenger trains that may be met or passed prior to the scheduled time at stations to determine the location of the passenger train and plan location of meet or pass. Also attempt to contact the train dispatcher to determine location if unable to contact passenger train by radio.

When a freight train cannot avoid passing a station after a passenger train has entered, the whistle must be sounded until the front of the freight train has passed through the platform area. Freight trains that enter a station under these conditions (except Geneva under part 6 below) must notify Commuter Control by radio and advise circumstances.

If a freight train stops or becomes disabled at station platforms at or near scheduled times of passenger trains, the engineer will, when possible contact commuter control BEFORE the train is moved so that public address announcement can be made to inform the public to stand clear. Required whistle signals must be sounded BEFORE any movement is made.

5. If it becomes necessary to operate a lift when operating on Track 2 between CP Y029 and CP Y015 or between CP Y043 and CP Y044 the following applies:

- a. The train dispatcher must be notified that operation of the lift will be necessary at (Station). This must be done as far in advance as possible to avoid unnecessary delay.
- b. Request must be made to stop all trains on Track No. \_\_\_ (the adjacent track to the side that the lift will be deployed).
- c. If advised that the control signals to protect the limits display Stop, but a train/s is in the area, the lift can not be deployed until there is an understanding with the engineer that the train/s has cleared the station or will not enter the station area until notified it is safe to do so.
- d. When advised the control signals to protect the limits display Stop and no trains are approaching on the adjacent track the lift can be deployed.
- e. The train dispatcher must be advised when the lift has been stowed and trains may operate through the station area.

6. The engineers of trains involved in the above will communicate by radio with other trains to plan the movements.

~~7. The provisions of Paragraphs (1) through (4) do not apply at Kedzie, Keeler Ave, Oak Park, River Forest, West Chicago, La Fox, Elburn Clybourn, Ravenswood, Rogers Park, Main St., Evanston (Davis St.), Central St., Indian Hill, Winnetka, Hubbard Woods, Great Lakes, Kenosha and Pingree Road.~~

#### **7.4 Precautions for Coupling or Moving Cars or Engines**

##### **Add:**

When coupling a locomotive to a passenger car or another locomotive, the slack must be stretched twice to insure that the coupling has been made.

#### **8.2 Position of Switches**

##### **Application:**

Crews handling passenger equipment from a coach yard or parking track must inspect hand operated switches and spring switches under the standing train to ascertain that they are properly lined and latched. This inspection must be made regardless of the indication on switch stand.

#### **9.9 Train Delayed Within a Block**

##### **Application:**

A Chicago Commuter passenger train is not considered delayed within a block after making a schedule stop of less than five minutes with no other delay.

#### **12.2/17.7 ATC or ATS Failure and Movement Against Current of Traffic**

##### **Additional Instructions for Passenger Trains**

##### **ATC or ATS Failure/Cut-out Enroute**

In the event of a ATC or an ATS failure:

1. A crew member will be positioned in the controlling cab as soon as practicable.
2. If the train stops or the speed is reduced to below 10 MPH when operating in a block immediately preceding an interlocking, control point or junction the train must proceed prepared to stop before passing the next signal. Speed must not exceed 40 MPH until the next signal can be clearly seen and that signal displays a proceed indication.

#### **Movement Against Current of Traffic**

When authorized to move against the Current of Traffic:

1. When operating against the current of traffic, a crew member will be positioned in controlling cab. This other crew member will enter cab prior to departing last scheduled station stop before beginning movement against current of traffic and remain in operating cab until arrival at first scheduled station stop after completing movement against current of traffic.

2. When exiting an against current of traffic movement at a non signaled hand throw crossover switch, be governed as follows:

- Verbal authorization must be received from the employee in charge of crossover switches at that location or the train dispatcher before returning to operate

with the current of traffic.

- Train must stop short of the first crossover switch at the exit location before returning to operate with the current of traffic.

#### 14.0 Track Warrants

When authorized by the train dispatcher, passenger trains may enter the main track at restricted speed, at the initial station, to load passengers before a track warrant is received.

Passenger trains, receiving a track warrant used for delivery of track bulletins only addressed to the wrong engine number, may depart the initial station before the train dispatcher verbally changes the engine number, if the address shows the correct train number and date. However, the train dispatcher must be advised at the earliest opportunity.

#### 15.2 A. Verbal Permission:

**Application:**  
In Commuter Operations Territory the bulletin number, line number, location and subdivision name will be used to begin communication. The following applies:

When granting verbal permission, begin the communication using the following words: "Foreman (name and/or Gang No.) \_\_\_\_ using track bulletin No. \_\_\_\_, Line No. \_\_\_\_ between MP \_\_\_\_ and MP \_\_\_\_, \_\_\_\_ Subdivision"

#### 17.4 Departure Test Procedures

##### A. Energized Test Loop:

**Cab Cars:** When a cab car is on energized track, the cab signal should display Clear.

- Hold down the test button and a penalty brake application should occur within 8 seconds.
- Recover the air.
- After the brakes have released, hold down the test button a second time.
- When the horn sounds, acknowledge to prevent brake application.

##### B. Deenergized Track:

In the Ogilvie Transportation Center, M19 A or West Chicago Yard, when the test was performed on deenergized track as described above, after the brakes release, move over the test loop and acknowledge the horn when moving off of the test loop to prevent brake application.

#### ATC / ATS Instructions

When changing ends on commuter trains leave the ATC/ATS converter on.

#### ATC and ATS Keys

When operating in ATC/ATS territory, the ATC and ATS Operating key must be kept in the conductor's possession at all times, except when a failure of the device makes it necessary to cut out the ATC or ATS or when the train is operating without ATC or ATS cut-in under proper authority. The following procedure must be followed:

- At turnaround and tie up point, the conductor is to deliver the key to the engineer, who will immediately cut out the ATC/ATS device, leaving the key in the actuator.
- Conductors of all trains terminating in the Chicago Passenger Terminal must not surrender ATC key to the engineer until the train has passed Halsted (CPY901) and the ATS key must not be surrendered to the engineer until the train has passed Erie (CPN001). Engineers failing to receive their key at the designated point of surrender must, as promptly as practicable, report this fact to Commuter Control or other proper authority so immediate action can be taken to retrieve the key.

#### 71.0 Eye and Hearing Protection

##### Add the following:

##### Eye Protection

Train and engine employees must wear eye protection when in the controlling cab of a train or engine whether the windows or doors are open or closed.

##### Hearing Protection:

- Employees riding in the locomotive cab of a F40PH engine must wear approved hearing protection whether the windows or doors are open or closed.
- Employees riding in the controlling cab of a cab car must wear approved hearing protection when the windows are open.

#### 81.4.1 Standing Equipment

##### Application:

On station platforms, it is permissible to get off standing equipment, facing forward, maintaining a firm handhold.

#### 81.8.3 Impaired Clearances

**Bridge Clearance:** Employees are prohibited from riding on the side of equipment when closely approaching or when on bridges in elevated track territory.

#### **Item 13.7.2 Detector Failure - Action Table - Action No. 4**

##### **Application:**

A Chicago Commuter passenger train may proceed at normal speed making inspection of their train as time permits at station stops and frequently inspecting their train while moving.

##### **General Order**

#### **Item 10-J - Commuter Train Operations**

Under part III. Additional Rules and Instructions, change all information under "Leaving Stations" on page 126, including title to read:

##### **Operation of Doors and Handling of Passengers at Station Platforms:**

The Conductor will designate one member from the train crew who will operate the doors at each station.

Exterior doors must not be opened until the train has come to a full stop at a station platform. Trainmen must position themselves evenly spaced (when possible) on the platform to ascertain that all doors have opened for those passengers entraining/detraining and to provide assistance. Conductors, Assistant Conductors, and Collectors are required to be on all station platforms at every stop except if the car they are working is not on the platform.

Trainmen assigned to work the ADA car should maximize his presence in that car and must be aware of the passengers special needs. Special attention should also be given to coaches carrying the elderly and families with small children.

When two or more cars are open, trainmen must not work from the same car, EXCEPT as required in the performance of duty.

Doors located at other than a platform or other suitable surface such as street crossing will not be used. Announcements must be made in advance, directing passengers to doors that can be opened properly.

Precautions must be taken to see that doors improperly spotted remain closed. If an unusual stop is made at a station which results in car doors not being spotted at a platform, the engineer will sound one long signal or the override circuit or make a PA announcement. The trainmen responsible for the doors must consider this an emergency signal and only open the doors which are properly spotted.

Trains are not to depart stations until the following has occurred:

- Trainman responsible for working the doors receives visual signals from all other train crew members that the train is ready to depart.
- Trainman will then close all doors except his own.
- Trainmen will then make a final check of all doors in both directions from the best possible vantage point to ensure all doors except his own are closed.
- Once it is verified that all other doors are closed except his own, the trainman will then close his door.
- After the door light indication is illuminated in the engineers compartment signifying that all doors are closed, the train can depart the station. When conditions permit, the engineer should observe the platform area, utilizing his rear view mirror or camera monitor, looking for any unsafe conditions as the train begins to depart the station.

- If, after the door closed light has illuminated and:

- train begins to pull away from the station, the engineer notices that the door closed light has gone out; a normal brake application will be made to bring the train to a stop. Trainmen will then ascertain the cause of the open door indication and correct the problem, if possible, before resuming operation.
- train is operating at speed and the engineer notices that the door closed light has gone out; the engineer will communicate with the train crew and ascertain the cause of the open door indication.

If there is a failure of the door light indication in the engineers compartment, the train may proceed under the authorization of the Conductor, only after a full understanding on an alternative method for assuring the doors are closed has been reached by all crew members through a supplemental job briefing. Please note, system failures must be reported on the Passenger Car Inspection Report.

At stations where track curvature or other circumstances restricts sight distances making it impossible for the trainman responsible for door operation to observe all cars in the train while making the final check the following should occur prior to the train departing the station:

- \* All trainmen will bleed off the door of the car they are operating from.
- \* All trainmen will position themselves on the platform along the length of the train in such a way that all cars can be observed.
- \* All doors will be closed except those doors where a trainman is positioned.
- \* After each trainman makes a final check of the cars under his observation, all crew members will exchange a second hand signal prior to boarding and closing their own doors.
- \* After the door light indication is illuminated in the engineers compartment signifying that all doors are closed, the train can depart the station. When conditions permit, the engineer should observe the platform area, utilizing his rear view mirror or camera monitor, looking for any unsafe conditions as the train begins to depart the station.

- If, after the door closed light has illuminated and:

- train begins to pull away from the station, the engineer notices that the door closed light has gone out; a normal brake application will be made to bring the train to a stop. Trainmen will then ascertain the cause of the open door indication and correct the problem, if possible, before resuming operation.

- train is operating at speed and the engineer notices that the door closed light has gone out; the engineer will communicate with the train crew and ascertain the cause of the open door indication.

Door control panel on all cars must be deactivated in the closed (locked out) position except when needed for immediate use by a train crew member. Once all passengers have been loaded/unloaded the Control Panel must be locked prior to leaving the vestibule. Coach keys are to be removed after they are used and are not to be left in the lock at any time.

### 6.30 Receiving and Discharging Passengers

Application:

Delete paragraph 7 in its entirety. The locations where paragraphs (1) through (4) do not apply are now contained in appropriate subdivision general orders.

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## Item 10-K: Main Track Switches

1. Before performing work that involves hand operating any main track switch all crew members must complete a job briefing on work to be performed and switches to be operated. After work has been completed, the conductor and engineer must participate in a job briefing to ensure all main track switches operated have been restored to normal position as required before departing location.

2. In non signaled territory conductors must record, as soon as practicable, the location and time each main track switch used is finally lined and locked to normal position. The conductor and engineer will initial each switch entry to acknowledge the completed job briefing that the switch was returned to normal position. If it is not practicable for an employee to personally initial the form due to logistics etc., an employee may make the appropriate entry for both crew members after the completed job briefing showing (e.g., "JM for MB").

a. When a remote control operation is performing service in this territory the entries will be made by the crew member handling the switch and initialed by the other crew member.

b. Entry is not required:

- Within Yard Limits or Restricted Limits.
- If the main track movement is made over the switch operated when departing location (e.g. following a head end set out or pick up.)
- Passenger train crews.

**Note:** When a switch is operated by a crew member of another train or other employee after a train clears the main track (Rule 6.9 Meeting or Passing Precautions), entry must be made in both logs to acknowledge that the involved crews completed a job briefing and that main track switches operated have been restored to normal position and locked.

Example of Switch Documentation on "Conductor Report Form 20849."

**Note:** Example indicates Engineer as MB, Conductor JM and GF other employee.

Location	Signal Name or TDD	Time	Comments & Delays
ESS Carlton		0835	Cleared MT - ESS Restored - MB/JM
Carlton		0915	Met train - UP 4419 East
WSS Carlton		0950	Departed WSS restored - MB/JM
ESS Gale		1245	Cleared MT - ESS restored by GF MB/JM for GF

3. Prior to release of track warrant authority or reporting clear of limits in non signaled territory, both the conductor and engineer must confirm, by job briefing, that all main track switches operated have been restored and locked in normal position, and that the conductor report form has all proper entries.

The crew member communicating with the train dispatcher must report:

- All main track switches operated have been restored and locked in normal position.
- The crew has completed the job briefing.
- The conductor form is properly initialed.

4. When practical, a crew member will attempt to contact an approaching train to inform them that facing point hand operated switches are properly lined for their movement, and comply with the requirements of Rule 8.7.

**5. Procedure PS:** When instructed by the train dispatcher (either verbally or by track warrant) to comply with procedure PS at (location), approach switches prepared to stop and line switches to their normal position. Crew member or employee must advise the train dispatcher when it is known switches are lined in their normal position.

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## Item 10-L: Section Reserved

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## Item 10-M: Mechanical Department (Maintenance Operations)

### GCOR Chapters 1 - 17

The following instructions modify rules or clarify the application for the Mechanical Department.

#### 1.2.5 Reporting

##### Addition:

When an employee returns to work from an off duty personal injury the employee must complete Form 52032 in any of the following cases:

- Lost time due to off duty injury.
- Returns to work with restrictions of any kind.
- Returns to work while taking prescription medication that may affect alertness.
- Returns to work and has any condition that affects the performance of duties.

Employee must sign and date the form and their signature must be witnessed.

#### 1.10 Games, Reading, or Electronic Devices

##### 1. Application Cell Phones

- Cellular phone usage applies to any device (company supplied or personally owned) that provides the following types of functions:
  - Sends or receives phone calls.
  - Sends or receives text messages.
  - Provides internet access.
  - Allows reading or sending of email.
- This applies while:
  - On duty.
  - On company property whether on duty or off duty.
  - Operating a company vehicle.
  - While conducting company business whether on duty or off.
  - All persons while in a mechanical department facility.

**Note:** This policy does not prohibit use of cellular phones in an emergency.

##### 2. Personal Use of Cell Phones

- Personal use of cellular phones must be limited to designated break and meal periods.
- Personal use of cellular phones must be restricted to designated break areas or office areas. Cellular phones used exclusively for personal use must be turned off except when in a designated break area or office.
- Cellular phones used exclusively for personal use must be off except during designated break and meal periods.
- Personal use of cellular phones except as shown above demonstrates an indifference to duty and a careless attitude toward safety.

##### 3. Cell Phone Cameras

Use of cell phone cameras is prohibited except when authorized by mechanical department supervisors.

##### 4. Business Use of Cell Phones

- Employees must ensure that cell phone usage does not compromise the safety of themselves and others. **Make a Safety Stop before responding and talking on a cell phone.**
- Cellular phones must not be used while:
  - In a red zone.
  - Walking.
  - Operating any vehicle (locomotives, car movers, forklifts, scooters, man lifts, etc.)
  - Operating machinery.
  - Moving locomotives.
  - Performing any safety sensitive work activity.
  - In the line of fire.
  - Standing foul of any track.
  - In close proximity of operating machinery.

##### 5. Specific Rules While In A Motor Vehicle

- Passengers may use cell phones or computers as long as their use doesn't distract the driver from safely operating the equipment.
- Obey all federal, state and local regulations.
- Use of cell phones is prohibited while operating a motor vehicle unless hands free device is used. This includes dialing, unless voice activated dialing or

speed dialing is available. Cell phones may be used when stopped on other than a roadway. Reference Rule 74.3 Driver Responsibility.

## 6. Application Entertainment Devices and Games

- The use of entertainment devices is prohibited while on duty or on company property. Entertainment devices include Ipods and similar type devices. Devices that show videos.

**Note:** Many cellular phones have entertainment and gaming features. Possession of cellular phones with these features is permitted, but use of these features while on duty or company property is prohibited.

- Playing games do not have any purpose at work and is prohibited. The following are examples (but not limited to) of games:
  - Personal gaming devices.
  - Cards
  - Board games
  - Dice
  - Dominos

### 5.3.6 Radio and Voice Communication

Employees may use radio and other means of voice communication to give information when using hand signals is not practical. Employees must make sure crewmembers:

- Know which moves will be made by radio communication.
- Understand that while using the radio, the engineer will not accept any hand signals, unless they are Stop signals.

## Mechanical Department Application

### Locomotive Consists

Hand signals are to be used for all movements when handling locomotive consists or motive equipment without cars and when the equipment is in clear view. Use the radio only when the equipment is not in sight of the employee giving the signals or in case of emergency.

### Car Movements

Car movements should be handled with hand signals unless the length of the cut, spotting procedures or other conditions require the use of radio.

### All Movements

Employees must job brief before the movement and all employees involved in the movement must know which moves will be made by radio communication. While the radio is being used, the hostler or employee controlling movement will not accept any hand signals, unless they are Stop signals.

### 5.3.7 Radio Response

When radio communication is used to make movements, crew-members must respond to specific instructions given for each movement.

- Radio communications for shoving movements must specify the direction and distance and must be acknowledged when distance specified is more than four cars.

**Movement must stop within half of the distance specified unless additional instructions are received.**

When the radio is used, distance and direction must be acknowledged when ANY distance is specified.

## 5.13 Blue Signal Protection of Workmen

### Section B How to Provide Protection

#### Section Blue Signal Readily Visible To Engineer.

Additional tasks in locomotive department requiring blue signal/flag protection include:

- Troubleshooting, obtaining downloads, load testing, power testing, wheel truing, drop pit units or the use of any test equipment directly attached to the locomotive.
- Inbounding and outbounding checks, testing and card tasks.
- Opening an electrical door or electrical panels and the vertical plane of the door or panel is broken with any part of the body.
- Inspecting trucks or other components under the main frame carbody and the vertical plane is broken with any part of the body.
- Fueling locomotives in mechanical department facilities

### Individual Tag

- Each locomotive department employee will affix a blue ID tag with their name and craft to the blue signals/flags. A separate red tag "working below" may be clipped to the blue ID tag to indicate who is working below.
- When work is completed each employee will remove their blue tag (s) from the blue signal/flag. The last employee to remove their blue tag will check to be certain that no other employees are on, under, or between the equipment and then remove the blue signals/flags.
- Mechanical locomotive employees making repairs outside of a designated facility must apply a blue id tag to the isolation switch of the lead unit.
- When boarding equipment employees must visually check for a blue tag on the isolation switch of the controlling locomotive. If a blue tag is present, the controls (including the horn, bell, and electrical switches) must not be operated until the blue tag is removed or instructed to operate equipment by the person who placed the tag on the isolation switch.



**Remote Control Locomotives (RCL)**

Prior to placing blue signal/flag protection, ensure that the remote control function has been disabled.

- RCL (including RCL slug units) must have the remote control selector switch placed in the "Manual Position". When applicable, the remote control air brake isolation valve must be placed in "Manual Position".
- When outside of a designated facility all mechanical department employees making repairs to a remote control locomotive or rolling equipment attached to RCL and/or RCL slug units must apply a blue ID tag to the remote/manual selector switch.
- RCL may be placed in remote mode under blue flag protection to service equipment/functions only when all of the following requirements are met:
  1. Employee placing locomotive in remote mode has been trained to repair and operate RCL.
  2. Employees involved on the unit and/or track are job briefed and warned against possible inadvertent movement of locomotive.

**Distributed Power Units - Servicing Or Repairing On Other Than A Main Track**

- When servicing or repairing a locomotive in a DPU consist or DPU train, the front and rear of the DPU consist or DPU train must be protected per Rule 5.13.
- When servicing or repairing a locomotive in a DPU consist or DPU train, a blue signal with individual tag (s) must be applied on the lead controlling locomotive.
- When servicing or repairing a locomotive in a DPU consist or DPU train, any remote locomotive that will be linked to the controlling locomotive, must have blue signal applied. If any remote locomotive to be linked is not in the rear most position, the rear most locomotive must also have blue signal applied.

**Radio Linking**

Blue signal protection is not required when radio linking unless required to work between the equipment.

**Tasks Not Requiring Blue Signal Protection**

The following list of tasks is all inclusive. If the task is not on this list then it requires blue signal protection:

- Supplying cabooses, engines, or passenger cars with items such as ice, drinking water, tools, sanitary supplies, stationery, or flagging equipment.
- Making visual observations while on or alongside a caboose, engine, or passenger car. Repositioning the activation switch or covering the photoelectric cell of the marker when the rear of the train is on the main track. The employee inspecting the marker must contact the employee controlling the engine to confirm that the train will remain secure against movement until the inspection is complete.
- Starting, shutting down and checking engine oil dipstick.
- If a blue signal is not available for employees performing emergency repairs on, under, or between an engine or rolling equipment coupled to an engine, the employee controlling the engine must be notified and appropriate measures taken to provide protection for the employees.

**Blue Flag and Name Tag Placement**

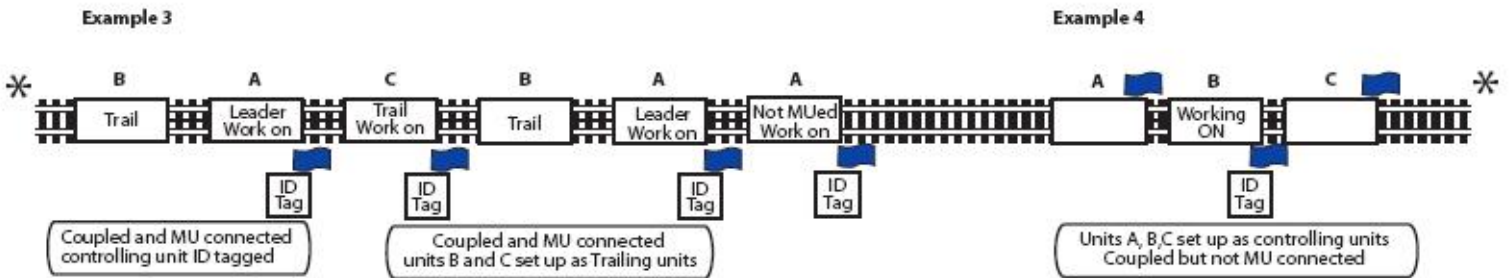
**Minimum Blue Signal Requirements - System**

**READY TRACKS**



\* Entry to designated area flagged and switch locked (Mandatory)

**SERVICE TRACKS**

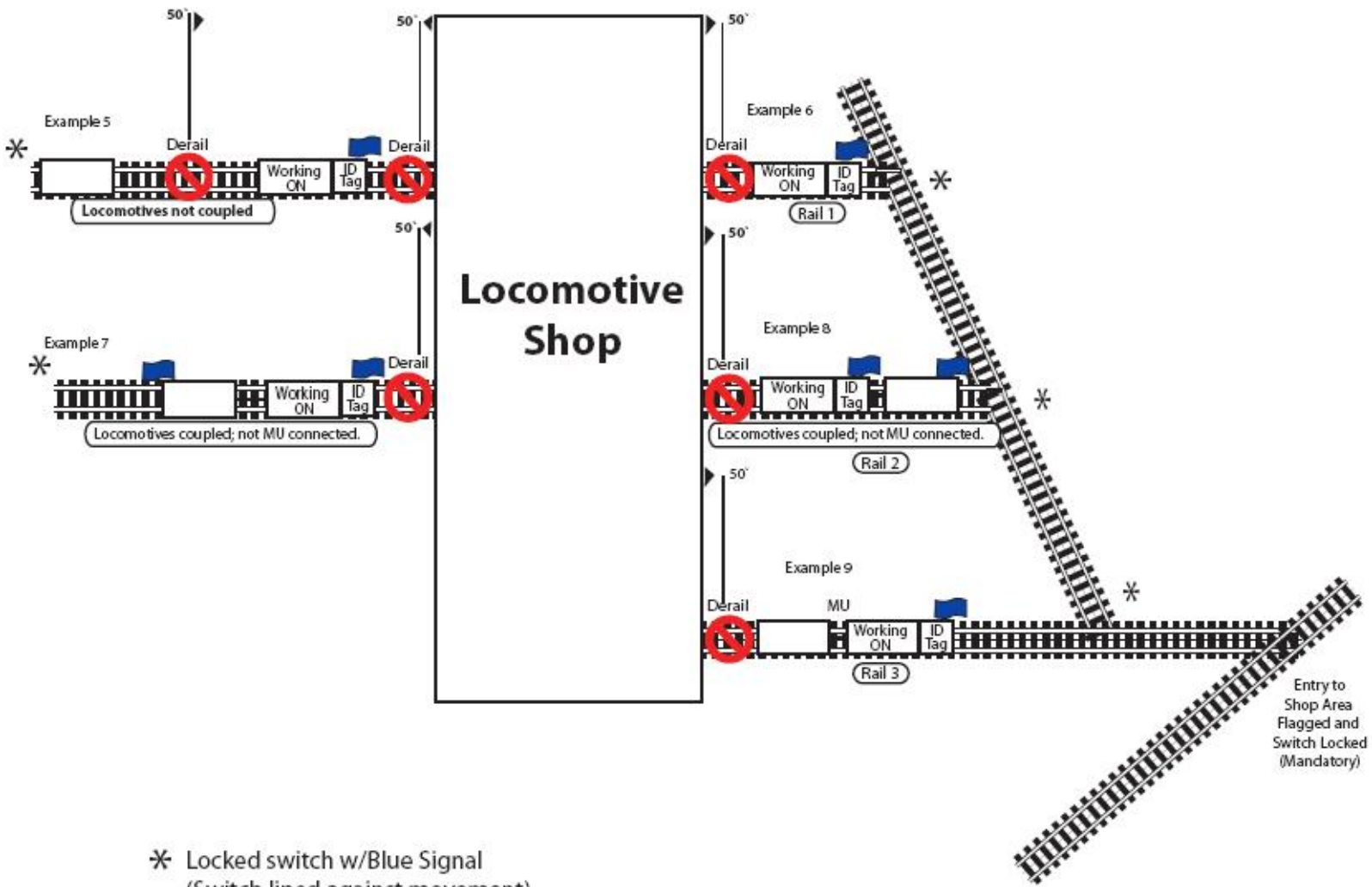


Note 1-Each facility will designate the end (East, West, North and South) of track where name tag are placed.

\* Entry to designated area flagged and switch locked (Mandatory)

**SHOP TRACKS**

# SHOP TRACKS



\* Locked switch w/Blue Signal  
(Switch lined against movement)

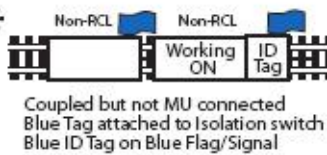
Entry to  
Shop Area  
Flagged and  
Switch Locked  
(Mandatory)

## Minimum Blue Signal Requirements - System

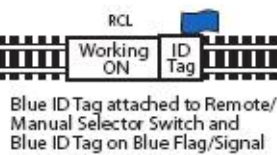
Continued

### OUTSIDE DESIGNATED MECHANICAL FACILITY

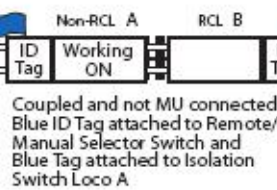
Example 10



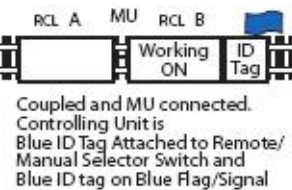
Example 11



Example 12



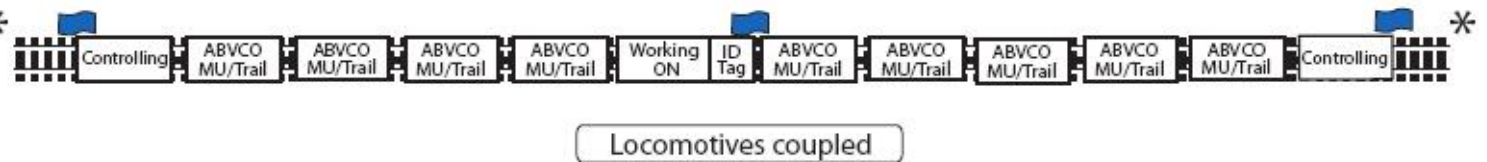
Example 13



\* Entry to designated area flagged and switch locked (Mandatory)

### STORAGE TRACK

Example 14



\* Entry to designated area flagged and switch locked (Mandatory)

#### General Notes:

- 1- Must flag lead-controlling locomotive on MU connected and coupled consist.
- 2- ID tags can only be removed by individuals that placed them or their Supervisors. ID tags must be attached to blue flag or facility designated panel.
- 3- Remote Control Locomotives (RCL) must have the selector switches on the Receiver and Air Brake Panels placed in the "Manual Position".
- 4- RCL Slug units must be blue flagged with personal ID tags placed on the receiver panel and the blue flag
- 5- Shop access must be locked and lined away from shop if switches on shop tracks are not locked or equipped with derail.
- 6- All yard trucks will have a copy of Blue Flagging procedures for all associated yards in that shop's region.
- 7- Blue Signal Procedure for Outbound Consists on Ready Tracks.
  - a- All units in consist will be posted so that all involved know what units will be on what train.
  - b- All employees working consist will attach name tags to the blue flag on the outbound unit.
  - c- Starting in the lead unit cab and proceeding through all trailing units to setup air/electrical controls as trailing.
  - d- Starting at the rear of the consist make up all M.U. hose and electrical connections.
  - e- After consist is properly M.U.'d the outbound work will proceed.
  - f- When work is completed each employee will remove their name tag. The last employee removing their tag will remove the blue flag and return to proper storage area.
- 8- If in doubt take the safe course and blue flag all locomotives coupled to the one that you will be working.

#### 5.14 Signs Protecting Equipment Application:

The loading and unloading of sand for sand towers, the unloading of fuel or other similar operations should be protected by a sign reading "Stop, cars

being loaded or unloaded". This sign should be placed at the location providing positive protection for the track(s) being used, either at each switch providing access to the track and the switch lined and locked to prevent movement to that track or, at each fixed derail locked in the derailing position, preventing movement into the cars being protected.

## 7.6 Securing Cars or Engines

### Application:

The following applies:

- Before working on rolling equipment a handbrake or chock must be applied to the equipment and to adjacent rolling equipment on the same track.
- Before coupling into or cutting away from a single, coupled and/or consisted locomotive(s), a minimum of one hand brake and air brakes must be applied.
- When left unattended on non-grade (no slope) track, a minimum of one handbrake will be applied to any uncoupled locomotive; any group of coupled locomotives and any locomotive consist.
- When rolling equipment is left unattended on grade (sloped) track, 100% of the handbrakes will be applied.
- When work requires the hand brake to be released, alternative means such as chocks or coupling to another locomotive, coupled and/or consisted locomotives with a hand brake set must be used to prevent movement.
- On units with under slung brake cylinders (attached to brake levers between the wheel versus mounted on the truck) insure the valve bleeds the air brakes off the truck when applying the hand brakes. If the brakes do not bleed off cut the truck out, apply the hand brake and cut the truck back in.

## Switching or Spotting Operations in Car and Locomotive Shop Tracks

In addition to compliance to Rule 81.10; 81.5.4 and supplement moving equipment in locomotive, car or maintenance of way repair facilities, the following also applies:

- Any ground crew member intending to foul track or equipment must notify the operator before such action can take place. Operator must then apply the brakes and have reverser centered or car mover in neutral, and then confirm this action with the individual on the ground. (e.g. UP Smith to car mover/loco unit #1234 "going into the red zone to adjust the knuckle/drawbar -- over" to which the operator will respond "Car mover/loco unit #1234 to UP Smith. I understand. I am set and centered - out". If equipment is not equipped with a reverser, it must be placed in neutral or park with the brakes applied. Job briefing and/or agreed upon hand signals may be used to accomplish the above.
- Any ground crew member that intends to adjust knuckles/drawbars must ensure that the equipment to be coupled into is separated by no less than 50 feet. Also the person on the ground must ensure that the equipment will not move ensuring that sufficient hand brakes or wheel chocks are applied.
- After exiting the red zone, ground crew member should signal/notify the locomotive/car mover operator that they are clear of the red zone.

## Working In Bowl and Yard Tracks or Main Tracks

### Application:

- Contact train crew and yardmaster confirming intentions to make repairs to cars and/or locomotives.
- Apply blue signal protection including locking out the track.
- Ensure 2x2x2 requirements are met. Equipment is separated at least 2 car lengths (100 feet) and wait 2 minutes (to assure that all equipment is at rest) before stepping between the rails. Also apply 100% handbrakes on standing equipment opposite of equipment that requires repair.
- When possible, work in team of two to allow for making repair and observe for unexpected movement, then effect repairs.
- Mechanical forces will apply the automatic brake with a 20-psi brake pipe reduction after completion of the air brake test.

## Securing Railed Equipment at Derailments

### Application:

- Comply with rules on properly securing cars and locomotives and the instructions in the first paragraph of this supplement.
- Be aware that all equipment may not have functional handbrakes and that necessary precautions must be taken to secure this equipment, i.e. coupling to another car or locomotive with a good handbrake applied and/or properly chocking the wheels.
- When rerailling operations are being performed on any grade (sloped) territory a derail will be applied to the low end of any track (including the mainline if applicable) on which railed cars are positioned. Portable derails are to be used if permanent derails are not available and placed as close to the equipment as feasible. Contractors are also required to comply with this rule.

## 8.20 Derail Location and Position

### Application:

If a derail used for blue flag protection is found in the derailing position and is **not** being used in conjunction with Rule 5.13, employees are to:

- Warn oncoming rolling equipment to stop.
- Notify supervisor or manager by quickest available means.
- Place derail in non-derailing position as instructed.

## Safety Rules Chapters 70 - 90

The following instructions modify rules or clarify the application for the Mechanical Department.

## 72.12 Ignition Sources

### Application:

1. Manager or foreman general will be notified that welding, heating or cutting must be used and the work cannot be moved to another location to perform the task.

2. The supervisor in charge of the area will see that all procedures and precautions are followed and a job briefing is developed and conducted.

3. The job briefing will include the following:

- Only qualified employees will perform the welding, heating or cutting.
- All personal protective equipment will be used.
- The area must be cleaned with soap and flushed with water and no standing fuel or oil in the area. Also the area must be free of trash and debris.
- All fueling operations within 50 feet of the operation must be stopped. This includes adjacent pits or fueling locations.
- All individuals in the area must be notified that welding, heating or cutting will be taking place.
- A fire watch must standby during the entire operation and be trained to operate and use the fire extinguishing equipment.
- Potential hazards associated with the work are identified and discussed during the job briefing. This could include: securing the material being removed, equipment to handle the material or other special needs.

## **79.5 Equipment Condition**

### **Application:**

The proper sequence of closing the cylinder valves and torch valves after use will be explained. All oxygen and fuel gas torches will be tested per the following procedure:

**A. Check oxygen hose from the cylinder/manifold to the torch.**

1. Connect oxygen hose to the torch. Disconnect fuel gas hose at the torch.
2. Close all valves on torch.
3. Open oxygen supply valve on cylinder/manifold. Set regulator at 25 psi.
4. Close oxygen supply valve. Back out adjusting screw on regulator.
5. Observe high and/or low pressure gauge for one minute on the regulator for leakage. If leakage is observed, check connections, hose, and regulator nut. Repair. Start again at A. If no leakage is observed, proceed to B.

**B. Check torch**

1. Apply the test fixture to the torch tip.
2. Open all torch valves. Depress high pressure cutting lever. A small drop in pressure will occur. Pressure should stabilize.
3. Observe high and/or low pressure gauge for one minute on the regulator for leakage. If leakage is observed, check test fixture, connections, tip, tip nut, and lever valve. Make repair. Open the oxygen supply valve on the cylinder/manifold. Set regulator at 25 psi. Close oxygen valve, back out adjusting screw on regulator. Start again at B. If leak still present after second test, remove torch from service. If no leakage is observed, proceed to C.

**C. Check fuel from the cylinder/manifold to the torch.**

1. Close all valves on the torch. Remove test fixture. Connect fuel gas hose to the torch.
2. Open fuel supply valve on cylinder/manifold and set pressure to 10 psi.
3. Close fuel supply valve. Back out adjusting screw on regulator.
4. Observe high and/or low pressure gauge for one minute on the regulator for leakage. If leakage is observed, check connections, hose and regulator nut. Repair. Start again at C. If no leakage is observed, proceed to D.

**D. Purge system of mixed gases.**

1. Purge the system.
2. Open supply valves on cylinder/manifold for oxygen and fuel gas.
3. Set regulators to operating pressures.
4. Open oxygen valve on torch 1/8 turn. Ensure flow at tip. Purge 5 seconds / 25 feet of hose. Close oxygen valve on torch.
5. Open fuel gas valve on torch 1/8 turn. Ensure flow at tip. Purge 5 seconds / 25 feet of hose. Close fuel gas valve on torch, test complete.

After torch test is complete, a tag must be placed on the oxygen regulator to indicate test date and initials of individual performing the torch test.

When you have finished your cutting/welding operation ensure the following:

1. First, shut off the torch oxygen valve. Then, shut off the torch fuel valve.
2. Close both cylinder valves.
3. Open the torch handle oxygen valve. Let the oxygen in the system drain out. Close the torch oxygen valve.
4. Turn the adjusting screw on the oxygen regulator counterclockwise to release all spring pressure.
5. Open the torch handle fuel valve. Release the pressure in the system. Close the torch fuel valve.

6. Turn the adjusting screw on the fuel gas regulator counterclockwise to release all spring pressure.
7. Check the high pressure gauges after a few minutes to be sure the cylinder valves are turned off completely.
8. If the cylinders are mounted in a service truck the operator must insure that the above procedure is completed prior to the cabinet doors being closed.

## **80.23 Fall Protection**

### **Instructions:**

The use of fall protection anywhere a worker is subjected to a fall of four feet or greater (thirty inches or greater in California). A risk assessment for fall hazards should also be made for job sites where fall distances are less than those listed above. If the risk assessment warrants a personal fall protection system, it must be worn.

Work activity performed on the sides of a car or locomotive that meet the above height guidelines can be met with a work positioning harness and lanyards while tethered to a fixed ladder rung or handhold or while operating out of a boom type man lift with fall restraint / arrest systems (e.g. change out front or rear locomotive headlights). Work on top of cars or locomotives must either utilize an overhead fall protection system or the appropriate man lift with equipped fall restraint / arrest system.

Work done while standing on a portable ladder (less than 20 feet in height) does not require fall protection.

Employees must be properly trained in the use of fall protection. If fall protection is not available and/or the employees are not trained, then the work cannot be done until these conditions are met.

### **Written Plan**

Local fall protection minimum requirements in written plan will include:

- Identification of tasks with a fall hazard of four feet or more (30 inches in California).
- Annual employee fall protection awareness training (Meccs 04).
- Local rescue and retrieval procedure in the event of a fall.
- Pre use and annual inspection of fall protection equipment
- Performance evaluations check and adjust training as required

Each individual must observe for oily, icy or slippery conditions and review the safety aspects of the job task looking for any at risk conditions that might create loss of balance or use of force. The supervisor or manager and employee will review the risk assessment and correct any safety issues before work is authorized to begin.

### **81.2.2 Sufficient Distance**

#### **Application:**

In mechanical department facilities equipment must be separated at least 50 feet instead of 100 feet before going between the equipment unless protected by Rule 5.13.

### **81.5.2 Stepping from One Car to Another**

#### **Application:**

When stepping between the decks of one multilevel car to the deck of a connecting multilevel car, maintain three point contact (two feet and one hand or two hands and one foot) and keep hands free of objects. When the distance between the cars is too great to maintain a comfortable three point contact, do not step between cars.

### **81.8.3 Impaired Clearances**

#### **Application:**

Do not ride outside the cab of a locomotive, on the side of a moving car, or other equipment under impaired clearance conditions that will not allow safe passage, such as:

- Next to a structure (elevated ramps, sand towers, air emission Towers, etc.).
- Through gates, doorways, into, out of or within buildings.

Before entering an impaired clearance area the:

- Movement must be stopped at least 20 feet from the impaired clearance area.
- Employee controlling the movement must get off the locomotive, or equipment, and precede it in the clear.
- Movement shall only be made upon signals from the controlling employee.

In addition, do not position yourself, or knowingly allow others to position themselves, between a structure and moving car(s), engine(s) or other equipment when clearance is impaired.

## **81.7 Riding Equipment**

### **Application:**

Car and locomotive department employees are prohibited from riding any freight car, hood cart or other specifically made device used to transport parts or material by rail.

## **81.10 Moving Equipment in Car and Locomotive Facilities**

### **Addition:**

These additions incorporate SOFA recommendations.

### **Locomotive Movers**

One of the team members making a move must have completed 60 days of service with the railroad. Locomotive movers and attendants are required to wear required reflective outerwear. Attendant will use a Company approved switching lantern at night or during foggy or other low visibility conditions.

### **Two or More Locomotive Mover Crews**

When two or more locomotive mover crews are working in the same facility, extra precaution must be taken. Two or more crews are prohibited from switching in the same track or on adjacent track or tracks, at the same time, without establishing direct (face to face) communication with all other crew members involved. This communication must be in the form of a face-to-face job briefing.

### **Training**

In order to move locomotives, an employee must be trained, qualified, and be re-certified annually as a locomotive attendant or locomotive mover. The minimum qualifications are as follows:

Locomotive movers and attendants must:

- Complete minimum classroom instruction of 3 days and pass a written exam with a score of 85% or better.
- Complete a minimum of 5 student trips of 8 hours each for a minimum of 40 hours of trip time. One of these student trips must be during darkness hours.
- Complete a qualification ride where student demonstrates proficiency in moving locomotives.

### **81.15 Car Doors**

#### **Addition:**

When opening or closing doors, keep fingers clear of the edge or door jamb, casting or rail on which the door travels. Keep your body clear of the door opening to avoid injury from falling freight.

Check box car doors for damage by thoroughly inspecting the top and bottom track and rollers. On plug doors examine the roller assembly, locking rods and all crank arms. Make sure the door is properly tracked before opening it. If the door is off track, take necessary precautions before opening it. If there is evidence of load shift, i.e. bulging door, take action to relieve the pressure on the car door before opening it. Guard against spinning or kicking of handles.

Do not move car, without door stops in place, unless the door has been secured by other means to prevent movement of the door.

Close and open doors with a mechanical device if normal force used by one person cannot accomplish the task. Use of excessive force is prohibited. Always position yourself in the clear, should the door fall, and be prepared for any sudden movement of the door. Use proper body positioning to prevent injury.

#### **Paragraph 4**

Paragraph 4 applies when mechanical assistance is required to slide a car door along its tracks. When checking door tracks for damage, also ensure that end stops are in place and in good condition.

When mechanical assistance is necessary, it could mean that the door assembly is unstable. Before any attempt is made to move the car door:

- All employees must be clear of the door, and out of the line of fire and the red zone.
- All door latching devices such as pins, wedges etc. must be suspended in a release position, by whatever means is available.

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Updated: 1/20/2012

# ITEM 11: Moveable Point Frogs

- [Item 11: Moveable Point Frogs](#)

## Item 11: Moveable Point Frogs

### Location:

- Listed on subdivision pages by symbol (11-2) or (11-3). Switches equipped with 2 switch machines will be identified with the character (11-2), and switches equipped with 3 switch machines are identified with character (11-3).
- Identified by signs that are 24 inches wide by 18 inches high.

### Signs:

- Approaching trains can view white signs with black borders and black lettering reading "Moveable Point Frog". These signs are placed directly across the track from each switch machine.
- Employees who are facing switch machines can view white signs with red borders and red and black lettering. These signs are placed directly across the track from each switch machine.
- In addition, decals are attached to each switch machine. These signs and decals read "IMPORTANT: This turnout is equipped with a moveable point frog."

### Hand Operation #20 & #24 switches (11-2)

At #20 and #24 switches (11-2), there are two switch machines one of which is a moveable point frog machine.

### After Receiving Permission:

#### At The Switch Point Machine:

1. Inspect switch points (Ensure free of debris). (Do not remove debris until switch is placed in hand position.)
2. Unlock switch machine & place in hand position.
3. Operate the switch back and forth until switch point is seen to move. (This must be done even if the switch appears lined for intended route).
4. Line switch point for intended route & inspect.

#### At The Frog Point Machine:

5. Inspect frog points (Ensure free of debris). (Do not remove debris until switch is placed in hand position.)
6. Unlock frog machine & place in hand position.
7. Operate the frog back and forth until frog point is seen to move. (This must be done even if the frog appears lined for intended route).
8. Line frog point for intended route & inspect point.

### Returning Dual Control Switch Machines to Power:



9. After at least one unit or car has passed over the switch points, the employee must return the switch to power unless otherwise instructed by the control operator.

### **Hand Operation # 30 switches (11-3)**

At # 30 switches (11-3) there are a total of three switch machines one of which is a moveable point frog machine.

#### **After Receiving Permission:**

#### **Always Operate the Frog Machine First.**

1. Inspect frog points (Ensure free of debris). (Do not remove debris until switch is placed in hand position.)
2. Unlock frog machine & place in hand position.
3. Operate the frog back and forth until frog point is seen to move. (This must be done even if the frog appears lined for intended route).
4. Fully line frog point for intended route & inspect point.

#### **At the first switch point machine:**

5. Inspect switch points (Ensure free of debris). (Do not remove debris until switch is placed in hand position.)
6. Unlock switch machine & place in hand position.
7. Operate the switch back and forth until switch point is seen to move. (This must be done even if the switch appears lined for intended route).
8. Line switch half way, handle is in vertical position, and proceed to middle switch machine.

#### **At the Middle Switch Machine:**

9. Inspect switch points (Ensure free of debris). (Do not remove debris until switch is placed in hand position.)
10. Unlock middle switch machine & place in hand position.
11. Operate the switch back and forth until switch point rail is seen to move. (This must be done even if the switch appears lined for intended route).
12. Fully line switch for intended route & inspect point.

#### **Return to Point Switch Machine:**

13. Finish lining switch point for intended route. Inspect switch points.

#### **Returning Dual Control Switch Machines to Power:**

14. After at least one unit or car has passed over the switch points, the employee must return the switch to power unless otherwise instructed by the control operator.

#### **Job Briefing**

A job briefing must be conducted with the control operator so everyone has a clear understanding on the control point, route to be taken, and which switches must be operated by hand. When making crossover movements and hand operation is required, both ends of the crossover must be hand operated. You must operate double the number of switch machines. Inspect all switch points and all frog points.

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Updated: 9/24/2011

## ITEM 12: Track Breach Protection

- [Item 12: TRACK BREACH PROTECTION.](#)

### Item 12: TRACK BREACH PROTECTION.

Track Breach Protection (TBP) is required on main track or controlled siding when occupying the area between:

- A main track and an adjacent track.  
or
- A controlled siding and an adjacent track.

#### Exceptions

This process does not apply under the following conditions:

- Employee is covered by Rule 5.13 (Blue Flag) or Roadway Worker Protection.
- Employee is crossing track(s) at a 90° angle.
- Employee's equipment occupies or prevents entry into the adjacent track.
- Employee's train has TWC authority in non-signaled territory on the adjacent track.
- Employee's train has authority to move in either direction on the adjacent track except in yard limits.
- When the train dispatcher informs the employee the adjacent track(s) is out of service.  
or
- Employee occupying area adjacent to a foreign railroad's main track unless timetable instructions require protection.

**Note:** When employees are working on a track protected by Rule 5.13 (Blue Flag) or Roadway Worker Protection, TBP is not required on the adjacent track(s).

#### Track Breach Protection Process

For an employee to establish TBP the following applies:

##### Step 1 - Establishing

##### **Main Track & Controlled Siding (outside Yard Limits or Restricted Limits):**

Contact train dispatcher or EIC and provide the following information:

- Train/Job ID, including name of employee establishing TBP.
- Limits, which must be defined by control points or whole mileposts.
- Track(s) to be protected.

Train Dispatcher or EIC must repeat back the information and employee establishing TBP must confirm by stating "That is correct".

##### **Within Yard Limits and Restricted Limits**

Employee will establish Protection as designated in timetable.

##### **Train Dispatcher or EIC Notification:**

Contact train dispatcher or EIC and provide the following information:

- Train/Job ID, including name of employee establishing TBP.
- Limits, which must be defined by Yard Limits, Restricted Limits and/or mileposts.
- Track(s) to be protected.

### **Employee Established Over the Radio**

Announce over the designated radio channel Track Breach Protection has been established (specifying limits with necessary detail using the following format):

Train/Job ID, Employee Name\_\_\_\_, I am establishing "Track Breach Protection":

- at Location\_\_\_\_
- between MP \_\_\_\_ and MP \_\_\_\_.
- or
- on Track\_\_\_\_\_.

### **Step 2 - Recording**

TBP will be recorded in the employee's Job Briefing Book or on the prescribed form to include the following information:

- Date and time.
- Limits, including track(s).
- Name of employee(s) working with the employee establishing TBP. When crews are working together within TBP limits, all employees working within the limits must be listed on the TBP log.
- Time released.

### **In Effect**

Track Breach Protection Requirements:

- Before entering TBP limits or designated Yard Limits/Restricted Limits, movements must attempt to contact the employee that established the TBP for instructions. Trains must make 3 attempts (on the designated radio channel) to contact employee in the area. If response is not received, train may enter area looking out for employees working in the area. When cars are on the adjacent track, crew must continue to attempt to contact employee while passing through limits.
- TBP is not in effect until the designated supervisor has been notified or designated employee announces the establishment of TBP over the radio or the train dispatcher confirms information has been relayed to approaching train(s).
- Employee receiving confirmation from the train dispatcher must repeat back the information and the train dispatcher will state "That is correct".
- Before granting permission for a train to enter TBP limits, employee must first notify all employees listed on the TBP log of the approaching train. However, crews may work together when necessary to complete work such as exchanging power etc.
- TBP cannot be transferred from one employee to another employee.
- TBP may not be released until it is known that all employees listed on the TBP log are clear of the protected track.
- TBP remains in effect until released by the employee who established TBP, the employee is no longer on duty or employee's hours of service limit has expired.

### **Initiating Movement**

Prior to initiating movement on main track or controlled siding, crew must attempt to ascertain whether track breach protection is in effect using the following methods:

- Crew must contact designated supervisor.
- or
- Make 3 attempts (on the designated radio channel) to contact crew(s) working in the area to determine if track breach protection is in effect. If response is not received, train may initiate movement, looking out for employees working in the area.

**Exceptions:** If train is initiating movement on or to the main track or controlled siding at a controlled signal displaying a proceed indication or when crew has received information that TBP is not in effect from prior crew, it is not required to ascertain whether TBP is in effect.

**Terms:**

**Adjacent Track**

Parallel tracks that are not separated by a single lane roadway or similar distance are considered adjacent tracks.

**Note:** This definition only applies when determining if Track Breach Protection is required.

**Breach**

To enter area between two adjacent tracks.

**Track Breach Protection (TBP)** - Protection provided to restrict or prevent movements on adjacent track(s) while an employee is in the area between adjacent track(s). Rule 5.13 or 81.5.4 must be complied with when required.

**General Order**

**Add:**

Add "Restricted Limits" wherever "Yard Limits" is used in rule.

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Updated: 10/22/2010

# ITEM 13: Train Defect Detectors

- [Item 13: Train Defect Detectors](#)

## Item 13: Train Defect Detectors

### 13.1 General Instructions For All Detectors

#### A. Required Action

To determine required action at a train defect detector, comply with these general instructions and instructions governing the specific type detector. Some locations have more than one type defect detector in service.

#### Stop Signal (Hold Signal)

When a Stop signal is used in connection with a detector, the signal will display Stop until the entire train passes the detector and it identifies no defect.

#### B. Avoid Braking or Speeds Below ~~10~~ 15 MPH

When approaching or passing detectors avoid stopping or reducing train speed below ~~10~~ 15 MPH when possible. Speeds below ~~10~~ 15 MPH may cause result in an "Integrity Failures" or "Slow Train" message. When a "Slow Train" message is announced refer to Item 13.7 (Detector Failure) for instructions. Excessive braking may cause false indications on hot box detectors.

#### C. Detector Failure

When a train defect detector fails for any reason, refer to Item 13.7 (Detector Failure).

#### D. Axle Count

When a detector gives an axle count for a defect location, a crew member must:

- Physically count axles from the head end, including locomotive axles, to the indicated axle.
- Inspect indicated axle and all axles on both sides of that car or platform. If no defect is found, inspect 20 axles ahead and 20 axles behind, on both sides of train, from the indicated car or platform.

When a verbal defect detector transmits an axle count that disagrees with the TCS train consist by a variance of +/- 3 axles, the train crew must:

- Immediately reduce speed to 30 mph and report the inaccuracy to the train dispatcher.
- After receiving corrective information, resume authorized speed.

**Note:** If previous detectors have transmitted correct axle counts and the train speed has not been below 10 MPH, the train may

proceed at authorized speed. The inaccuracy must be reported to the train dispatcher.

## **E. Inspection**

The inspection must ensure that:

- Retaining valve is in exhaust position.
- Hand brake is fully released.
- Brakes are not sticking.
- Truck bolster is not broken.
- Brake rigging is not down or dragging.
- Lading is not down or dragging between cars.
- Wheels are not broken.
- Lading has not dropped down through container floors or cross members of multi-platform/well cars.

When a defect is found that cannot be corrected, and car is safe to move, set the car out and notify the train dispatcher. Mechanical personnel may inspect and/or repair the car and approve it for movement.

## **F. Notification**

Notify the train dispatcher any time a train defect detector requires the train to stop and inspect for defects. The train dispatcher may have additional information from a remote readout.

Detectors may be on different subdivisions, crew districts or train dispatching territories. Therefore, train dispatchers and conductors must communicate information relative to inoperative detector or defective car to one another.

## **G. No AC Power**

When detector transmits "No AC Power" message, notify the dispatcher. This is not to be considered a detector failure.

## **H. Unable to Complete Inspection**

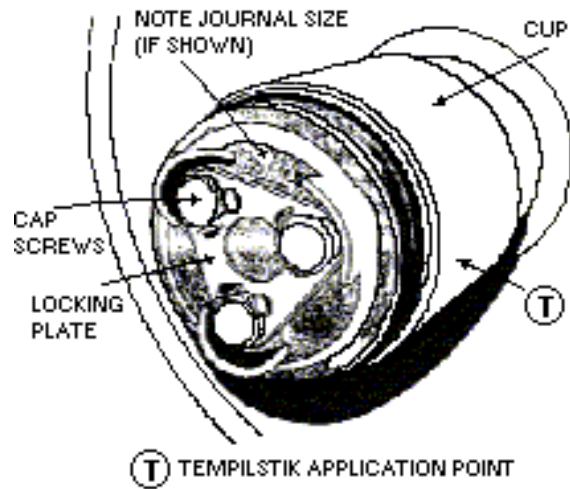
If a bridge or other physical characteristic prevents the required inspection, move the train not exceeding 5 MPH, no further than necessary to make the inspection. Observe movement, especially cars approaching a bridge structure. If any unusual condition is detected, stop movement at once.

## **I. Hot Box Detectors**

Inspect a car or platform for a hot journal identified by axle count as follows:

- Train may be moved ahead not exceeding 5 MPH to the location of the indicated defect under the following conditions:
  - Train is not a KEY train.
  - Train is not operating on rails with concrete ties.
  - Indicated axle will not pass over a switch.
  - It is not the second hot box detector activation on the same car.

- A visual observation of the train indicates no smoke, flame or abnormal amount of dust.
- The train does not require excessive power to continue movement.
- Inspect the journal identified by axle count using a 200 degree F temperature stick or temperature heat gun to determine if the journal is overheated. Set the car out if the overheated journal bearing melts the mark made with the temp stick or the temperature heat gun reading exceeds 200 degrees.



- If there are no obvious signs of overheating:
  - Cautiously place your bare hand on the truck side frame. -- Move your hand toward the roller bearing cap, keeping in mind that any part of this equipment may be extremely hot.
- If you cannot hold your bare hand on the side frame or the roller bearing cap for a few seconds, set out the car.
- If any journal is noticeable warmer than other journals on the car, set the car out.
- Set out any car in a key train that experiences a hot box detector actuation that cannot be corrected, even if the overheated journal cannot be found on that car. However, do not set that car out if an overheated journal is found within 20 axles ahead of or behind that car or platform. Mechanical personnel may inspect and/or repair the car and approve it for movement.
- Set out any car that experiences two consecutive hot box detector actuations, even if the inspection reveals no hot journal. However, passenger equipment and business cars do not need to be set out if the inspection reveals no hot journal.

When a car is to be set out:

- Move the car not exceeding 5 MPH to the nearest location where it can be set out, unless a different location or speed is specified by the train dispatcher.
- Note the type of defect on proper tags and attach tags, one on each side of the car.
- Notify the train dispatcher.

**Exceptions:**



- Passenger equipment, business cars, and roadway maintenance equipment do not need to be set out if the inspection reveals no hot journal.
- If a detector identifies hot journals on more than 2 cars or platforms on a train, it is usually a malfunction of the detector. In such case, if no defect is identified during the inspection, cars do not need to be set out at that location. Comply with Action No. 3 4 contained in 13.7.2 (Detector Failure - Action Table).
- When an overheated journal is identified on a steam locomotive or tender, it is not necessary to stop and inspect. However, the assigned manager in charge may instruct otherwise.

## **J. Dragging Equipment Detectors**

When a defect is detected, visually inspect the train for dragging equipment as required by existing instructions. When operating on rails with concrete ties, if no defect is found, perform an audible inspection, listening for indications of a broken wheel, as follows:

- If grade conditions permit, position yourself 10 cars ahead of the indicated axle and roll the train by 20 cars, listening for indications of a broken wheel. If no axle count is given by the detector, audibly inspect the entire train.
- If grade conditions do not permit, proceed not exceeding 20 MPH to the first location where grade conditions do permit making the audible inspection.
- If a sound is heard suggesting a broken wheel (thumping sound), set out the car having that wheel and report it to the train dispatcher.

## **K. Hot Wheel Detectors**

When a hot wheel is identified by a train defect detector the following applies.

- Inspect the car or platform identified by axle count. Train may be moved ahead not exceeding 5 MPH to the location of the indicated defect.
- Ensure that all hand brakes on car or platform are released.
- Ensure that the retainer valve is in the exhaust position.
- Inspect for sticking air brakes. Cut out air brakes if necessary to release brakes (Refer to Rule 30.4). If there are no obvious signs of overheating, cautiously place your bare hand near the wheel tread. If no heat is detected, cautiously move your bare hand on the wheel closer to the wheel tread, keeping in mind that any part of this equipment may be extremely hot. Inspect all wheels on the identified car or platform.
- During inspection check wheels for flat spots and tread build-up.
- If no defect is found, inspect the wheels and brakes on 20 axles ahead and behind the identified car/ platform on both sides of the train.

When obvious signs of overheating are identified and the cause cannot be corrected or car is not safe for movement, set the car out and notify the train dispatcher. When a car is set out due to a defect being identified, move the car if safe, not exceeding 5 MPH to the nearest location where it can be set out unless a different location is specified by the train dispatcher. Note the type of defect on proper tag and attach near defect

Releasing an applied handbrake or rectifying a stuck brake situation by cutting out the air or moving the retainer to the proper position will be considered a correction for a hot wheel defect. When the car or platform will remain in the train, inspect that car or platform for a hot journal.

When a hot wheel is identified on a steam locomotive or tender, it is not necessary to stop and inspect. However, the assigned manager in charge may instruct otherwise.

## **13.2 Hot Box or Hot Box (Hot Wheel) and Dragging Equipment Detector Stations Equipped with Radio Transmitted**

## Verbal Defect Indicators

This applies to Timetable Characters "#" (Hot Box) and "(#)" Hot Box (Hot Wheel) and Dragging Equipment. The # detectors inspect for hot journals. The (#) detector inspects for hot journals and dragging equipment and may inspect for hot wheels.

The detector may announce to the crew that the system is operational when movement begins over the detector. The detector transmits a "No Defect" message if no defects are detected after the train passes the detector.

When a defect is detected:

- Immediately begin to reduce speed using train handling techniques to minimize in-train forces. Stop the train once the train has cleared the detector.
- Inspect the train for the indicated defect(s) as required by Item 13.1.

### **13.3 Hot Box or Hot Box (Hot Wheel) and Dragging Equipment Detector Stations Equipped with Radio Transmitted Verbal Defect Indicators - Talk On Defect Only**

This applies to Timetable Characters "\$" (Hot Box) and "@ " Hot Box (Hot Wheel) and Dragging Equipment. The \$ detectors inspect for hot journals. The @ detector inspects for hot journals and dragging equipment and may inspect for hot wheels.

The detector will normally not transmit a "No Defect" message. When detector does transmit this message, report the transmission to the train dispatcher so the Stop signal may be cleared. This is not considered a detector failure.

When a defect is detected:

- Immediately begin to reduce speed using train handling techniques to minimize in-train forces. Stop the train once the train has cleared the detector.
- Inspect the train for the indicated defect(s) as required by Item 13.1.

### **13.4 High Wide Shifted Load Detector and Dragging Equipment Detector Stations Equipped with Radio Transmitted Verbal Defect Indicators**

This applies to Timetable Characters "&" and "(&)"

Some detectors announce to the crew that the system is operational when movement begins over the detector.

When a defect is detected:

- Stop the train at once and inspect the train for the indicated defect.
- Follow instructions that apply in Item 13.1 (General Instructions for All Detectors).

- A crew that receives a high wide shifted load message must inspect the train for any load that has excessive width or height, or any load that has shifted. Train may be moved not to exceed 5 MPH to assist making inspection. If necessary, set the car out. In addition, notify the train dispatcher, who will call the signal maintainer to reset the detector.

Detectors identified by "&" only transmit a message, if a defect is found.

### **13.5 Dragging Equipment Detectors Equipped With Radio Transmitted Verbal Defect Indicators - Talk On Defect Only**

This applies to Timetable Character "%".

The detector announces only when it detects a defect.

If a defect is detected, an alarm tone or message transmitted, stop the train at once and inspect for dragging equipment. If no axle count is given, and the train has cleared the detector, inspect the entire train. If the train has not cleared the detector, inspect the portion of the train that has passed over the detector. If another defect is detected when departing, inspect the portion of the train not previously inspected.

### **13.6 Wheel Impact Detectors Equipped With Radio Transmitted Verbal Defect Indicators - Talk On Defect Only**

This applies to Timetable Character "@".

The detector announces only when it detects a defect.

The detector announces defects approximately 30-45 seconds after the entire train has passed the detector.

The detector will transmit total high impact wheels detected for the entire train followed by each individual impact including the Level of each impact. Car initial and number (when available) along with total car count from head end of train including the locomotives will follow. For Level 2 impact defects, the specific wheel location on the indicated car will also be announced.

- For Level 1 impacts, reduce train speed to 30 MPH and set indicated car out at next available location, unless a different location is specified by the train dispatcher.
- For Level 2 impacts, stop the train and inspect indicated car for damaged wheel. Also, inspect the car to determine if:
  1. The car has bulging sides, doors, ends, or top chords.
  2. The car is leaning to one side.
  3. The springs are completely compressed on one side and loose on the other.
  4. There is interference between the wheels and car body. If safe to do so, move indicated car not exceeding 10 MPH and set out at next available location.

If transmission is not clearly understood, reduce train speed to 30 MPH and contact the train dispatcher for defective equipment identification.

### **13.7 Detector Failures**

When a detector fails to operate properly, refer to Item 13.7.1 (Failed Detector Situation Table) to identify the specific detector failure situation and train type. Note the action number listed on the right side of the table for that type failure situation and train type directly under the type detector that has failed. Refer to the table in Item 13.7.2 (Detector Failure - Action Table) and comply with the instructions for that action number.

#### **13.7.1 Failed Detector Situation Table**

Failed Detector Situation	Type of Train	Type Detector				
		13.2 (#) or # Hot Box or Hot Box (Hot Wheel) & Dragging Equipment Detector	13.3 \$ or @ Hot Box or Hot Box & Dragging Equipment Detector- Talk on Defect Only	13.4 & or (& High Wide Shifted Load Detector/ Dragging Equipment Detector	13.5 % Dragging Equipment Detectors Equipped W/ Radio Verbal Defect - Talk On Defect Only	13.6 (@) Wheel Impact Detectors Equipped With Radio Transmitted Verbal Defect - Indicators - Talk on Defect Only
		<del>(#) or # Hot Box/Hot Wheel and Dragging Equipment Detector with Radio Transmitted Defect Indicators with Radio Transmitted Defect Indicators</del>	<del>\$ or @ Hot Box/ Hot Wheel and Dragging Equipment Detector with Radio Transmitted Defect Only</del>	<del>&amp; or (&amp; High Wide Shifter Load Detector and Dragging Equipment with Radio Transmitted Verbal Defect Indicators</del>	<del>% Dragging Equipment Detectors Equipped With Radio Transmitted Verbal Defect Indicators Talk On Defect Only</del>	
a. Track bulletin or verbal information from the train dispatcher instructs crew that the detector is out of service.	KEY Trains	4 <u>3</u>	4 <u>3</u>	5 <u>4</u>	NAR	NAR
	Other Than KEY Trains	6 <u>5</u>	6 <u>5</u>	5 <u>4</u>	NAR	NAR
b. Detector announces "Integrity Failure" or "Detector Malfunction" message and <b>NO</b> defect tone or message received.	KEY Trains  <u>All Trains</u>	2 & 3	2 & 3	2 & 5 <u>4</u>	NAR	NAR
	Other Than KEY Trains	2 & 4 <u>3</u>	2 & 4 <u>3</u>	2 & 5 <u>4</u>	NAR	NAR
c. Detector announces " <u>Slow Train</u> " " <u>Integrity Failure</u> " or " <u>Detector Malfunction</u> " message and a <u>NO</u> defect message or tone was received.	Key Trains	1 & 2  2 & 3	1 & 2  2 & 3	2 & 5  2 & 4	NAR	NAR
	Other than KEY Train	<u>5</u>	<u>5</u>	<u>NAR</u>	<u>NAR</u>	<u>NAR</u>

d. Detector announces "Integrity Failure" or "Slow Train" message and a defect message or tone was received Crew members receive <b>NO</b> exit message from detector.	KEYTrains	1 & 2	NAR	2 & 5	NAR	NAR
	Key Trains		<u>1 &amp; 2</u>	2 & <u>5 4</u>	<u>1 &amp; 2</u>	
	All Trains					
	Other Than KEY Trains	2 & 4	NAR	2 & 5	NAR	NAR
e. Crew members do not understand the receive <b>NO</b> exit message from the detector. and <b>no</b> defect message or tone was received.	KEY Trains	1 & 2	NAR	2 & <u>4 5</u>	NAR	NAR
	Other Than KEY Trains	2 & <u>3 4</u>	NAR	2 & <u>4 5</u>	NAR	NAR
f. Crew members do not receive or understand the exit message from the detector and <b>NO</b> defect tone or message <b>was</b> received.	All	1 & 2	1 & 2	2 & 5	1 & 2	7
	Key Train	<u>1 &amp; 2</u>	<u>NAR</u>	<u>2 &amp; 4</u>	<u>NAR</u>	<u>NAR</u>
	Other than KEY Train	<u>2 &amp; 3</u>	<u>NAR</u>	<u>2 &amp; 5</u>	<u>NAR</u>	<u>NAR</u>
g. Crew members do not receive or understand the exit message from the detector and a defect tone or message received.	All Trains	<u>1 &amp; 2</u>	<u>1 &amp; 2</u>	<u>2 &amp; 4</u>	<u>1 &amp; 2</u>	<u>6</u>

**NOTE:** "NAR" in the action number column means "No Action Required."

### 13.7.2 Detector Failure - Action Table

Action No.	Failure Detector - Action Required
1.	Stop the train at once and inspect train on both sides for defects. For Hot Box detectors (13.2) immediately reduce speed using train handling techniques to minimize in-train forces. Stop the train once the train has cleared the detector.
2.	Immediately attempt to report condition to the train dispatcher.
3.	<ol style="list-style-type: none"> <li>1. If KEY train moved at 10 MPH or above over the detector, stop the train at once and inspect the train on both sides for defects (train may be moved not exceeding 5 MPH to assist inspection).</li> <li><b>—or</b></li> <li>2. If KEY train stopped or moved at less than 10 MPH over the detector, be governed by Action 4 of this table.</li> </ol>

<p><b>3 4.</b></p>	<p>Proceed <u>as follows</u>: <del>not exceeding 30 MPH</del>.</p> <ul style="list-style-type: none"> <li>• <u>Key trains not exceeding 30 MPH.</u></li> <li>• <u>All other trains may proceed at maximum authorized speed.</u></li> </ul> <p>Within 30 miles of the failed detector, one of the following conditions must be complied with:</p> <ol style="list-style-type: none"> <li>a. Train passes other detector(s) that checks for <del>any</del> <u>all</u> of the same defects. All of the same defects must be checked for within the 30 miles.</li> <li>b. Crew may establish roll-by inspection of the train by qualified employees located on both sides of the train. Speed must not exceed 10 MPH during this inspection.</li> <li>c. Stop the train and make a roll-by inspection of the train by crew members located on the ground. Speed must not exceed 10 MPH during this inspection. <del>If only one crew member is available, Roll-by inspection may be made on one side. and A walking inspection or Rule 6.6 may be used to make inspection of opposite side. made on the other side.</del></li> <li>d. The train dispatcher may choose to stop the train and have the crew make an inspection of the entire train.</li> <li>e. Stop and inspect the entire train when the next consecutive detector that checks for any of the same defects fails.</li> </ol>
<p><b>4 5.</b></p>	<p>Freight trains approaching the protected structure must stop and inspect entire train before reaching protected structure. Freight trains moving away from the protected structure must stop and inspect entire train unless instructed that the detector is out of service. When an inspection is required, train may be moved not to exceed 5 MPH to assist making inspection.</p>
<p><b>5 6.</b></p>	<p>Proceed at maximum authorized speed unless otherwise instructed by the train dispatcher. Stop and inspect the entire train when the next consecutive detector that checks for any of the same defects fails.</p>
<p><b>6 7.</b></p>	<p>Reduce train speed to 30 MPH and immediately contact the train dispatcher to determine if t train contains a defective car.</p> <ol style="list-style-type: none"> <li>1. If train does not contain any defective car, train may proceed at maximum authorized speed.</li> <li>2. If train contains a Level 1 impact defect, continue not exceeding 30 MPH and set indicated car out at next available location, unless a different location is specified by the train dispatcher.</li> <li>3. If train contains a Level 2 impact defect, stop the train and inspect indicated car for damaged wheel. If safe to do so, move indicated car not exceeding 10 MPH and set out at next available location.</li> </ol>

**Note:** If the train dispatcher has access to a remote readout, crew may be governed by train dispatcher's instructions. If remote readout shows there is no defect, the train dispatcher may authorize the train to continue at normal speed. If remote readout shows location of a defect, the train dispatcher may authorize the train crew to perform the required inspection using axle count for defect location.

**General Order**

**Item 13.1: General Instructions For All Detectors**

Change Part B to read:

B. Avoid Braking or Speeds Below 15 MPH

When approaching or passing detectors avoid stopping or reducing train speed below 15 MPH when possible. Speeds below 15 MPH may result in an Integrity Failure or Slow Train message. When a Slow Train message is announced refer to Item 13.7 (Detector Failure) for instructions. Excessive braking may cause false indications on hot box detectors.

Part I - Hot Box Detectors

Change third sentence in second bullet under "Exceptions" to read:

Comply with Action No. 3 contained in 13.7.2 (Detector Failure - Action Table).

**Item 13.5: Add the following as the first sentence to last paragraph:**

If a defect is detected, an alarm tone or message transmitted, stop the train at once and inspect for dragging equipment.

**Item 13.7.1 Failed Detector Situation Table**

Revise table to read:

Failed Detector Situation	Type of Train	Type Detector				
		13.2 (#) or # Hot Box or Hot Box (Hot Wheel) & Dragging Equipment Detector	13.3 \$ or @ Hot Box or Hot Box & Dragging Equipment Detector- Talk on Defect Only	13.4 & or (& High Wide Shifted Load Detector/ Dragging Equipment Detector	13.5 % Dragging Equipment Detectors Equipped W/ Radio Verbal Defect - Talk On Defect Only	13.6 (@) Wheel Impact Detectors Equipped With Radio Transmitted Verbal Defect - Talk on Defect Only
a. Track bulletin or verbal information from the dispatcher instructs crew that detector is out of service.	KEY Trains	3	3	4	NAR	NAR
	Other Than KEY Trains	5	5	4	NAR	NAR
b. Detector announces "Integrity Failure" or "Detector Malfunction" message and <b>NO</b> defect tone or message received.	All Trains	2 & 3	2 & 3	2 & 4	NAR	NAR
c. Detector announces "Slow Train" message and <b>NO</b> defect message or tone was received.	Key Trains	2 & 3	2 & 3	2 & 4	NAR	NAR

	Other than KEY Train	5	5	NAR	NAR	NAR
d. Detector announces "Integrity Failure" or "Slow Train" message and a defect message or tone was received.	All Trains	1 & 2	1 & 2	2 & 4	1 & 2	NAR
e. Crew members receive NO exit message from detector.	KEY Trains	1 & 2	NAR	2 & 4	NAR	NAR
	Other Than KEY Trains	2 & 3	NAR	2 & 4	NAR	NAR
f. Crew members do not understand the exit message from the detector and <u>NO</u> defect tone or message received.	Key Train	1 & 2	NAR	2 & 4	NAR	NAR
	Other than KEY Train	2 & 3	NAR	2 & 5	NAR	NAR
g. Crew members do not receive or understand the exit message from the detector and a defect tone or message received.	All Trains	1 & 2	1 & 2	2 & 4	1 & 2	6

**NOTE:** "NAR" in the action number column means "No Action Required."

### 13.7.2 Detector Failure - Action Table

Delete item 3.

Change action number 4 to read 3.

Previous Item 4 - new action number 3 changed to read as follows:

<b>3.</b>	<p>Proceed as follows:</p> <ul style="list-style-type: none"> <li>• Key trains not exceeding 30 MPH.</li> <li>• All other trains may proceed at maximum authorized speed.</li> </ul> <p>Within 30 miles of the failed detector, one of the following conditions must be complied with:</p> <ol style="list-style-type: none"> <li>a. Train passes other detector(s) that checks for all of the same defects. All of the same defects must be checked for within the 30 miles.</li> <li>b. Crew may establish roll-by inspection of the train by qualified employees located on both sides of the train. Speed must not exceed 10 MPH during this inspection.</li> <li>c. Stop the train and make a roll-by inspection of the train by crew members located on the ground. Speed must not exceed 10 MPH during this inspection. Roll-by inspection may be made on one side. A walking inspection or Rule 6.6 may be used to make inspection of</li> </ol>
-----------	--



opposite side.

- d. The train dispatcher may choose to stop the train and have the crew make an inspection of the entire train.
- e. Stop and inspect the entire train when the next consecutive detector that checks for any of the same defects fails.

Change action number 5 to read 4.  
Change action number 6 to read 5.  
Change action number 7 to read 6.

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Updated: 8/05/2011

## ITEM 14: Operating With Foreign Railroads

- [Item 14-A: UPRR Crews Operating Over Foreign Railroads](#)
- [Item 14-B: Foreign Railroads Operating on UPRR Tracks](#)

### Item 14-A: UPRR Crews Operating Over Foreign Railroads

Unless otherwise specified, operation over foreign railroads will be governed by the following:

- Operating Rules of the foreign railroad. However, may use UPRR Conductor Report Form. However, UPRR crews operating on a foreign railroad are required to properly complete a UPRR Conductors Report Form or a similar foreign railroad form as required by UPRR rules.
- Timetable and Special Instructions of the Foreign Railroad
- UPRR Air Brake and Train Handling Rules
- UPRR Safety Rules
- UPRR Instructions For Handling Hazardous Materials (Form 8620)
- Respect all restrictions listed in UPRR System Special Instructions Item 2 (paragraphs 1, 2 and 9 through 12), Item 2-A, Item 2-B and Item 14 unless foreign railroad's requirements are more restrictive.

When operating on foreign railroads that have more restrictive speed restrictions for empty cars, consider any car as empty when the explanation in the Commodity column of the TCS consist shows NONREV or the car as a revenue empty (REVMTY or MTYTTX). This is true despite the entry in the Car Kind column.

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### Item 14-B: Foreign Railroads Operating on UPRR Tracks

#### A. Train Make-up Requirements.

Foreign railroads operating on the UPRR are governed by that railroads train make-up requirements.

#### B. Track Stability

When track work has affected track stability, the train dispatcher may advise all affected trains that Air Brake Rule 33.12 applies on a track restriction using either of the following methods:

1. Issue a Form C track bulletin, using the words "Air Brake Rule 33.12 applies to Track Bulletin No. \_"  
or
2. Issue a Form A track bulletin, including in the TRACK(S) column the identification of the tracks affected, followed by "33.12". When using this method the following train handling instructions applies only to the limits identified on that line of the track bulletin.

When using this method, the following train handling instructions apply only to the limits identified on that line of the track bulletin.

When Level 1 or Level 2 heat restrictions are in effect, Rule 33.12 applies to the extent practicable.

The conductor must remind the engineer sufficiently in advance of any restriction or known conditions to allow the engineer to use

train handling techniques that will minimize in-train forces.

When going through the limits of the track bulletin and to minimize in-train forces, the engineer must use the following train handling techniques when possible to comply with Rule 33.12:

- Use throttle modulation or low dynamic brake amperage.
- Avoid making slack adjustments.
- Avoid applying or releasing automatic brakes.
- Make power and brake adjustments before or after the restriction.
- If operating with distributed power at the rear of the train on:

-- Level or ascending grades, operate in synchronous mode with low throttle settings or operate in independent mode with distributed power 1-3 throttle positions below the lead consist.

-- Descending grades, operate in synchronous mode with low dynamic brake settings or operate in independent mode with distributed power 1-3 dynamic brake positions above the lead consist.

### **C. Conductor Awareness Forms.**

Foreign railroad crews operating on the UPRR are governed by that railroad's rule concerning awareness forms.

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Updated: 9/24/2011

## ITEM 15: Work Orders

- [Item 15: Work Orders](#)

### Item 15: Work Orders

**These instructions apply to conductors.**

#### A. Work Order Document

For crews that move railroad cars between Circ-7's (stations), pickup and/or spot industries or pull and/or deliver interchanges, a computer-generated Work Order document prescribing the moves will be provided (may be generated by the conductor). This document will be furnished to the conductor at the beginning of or during their tour of duty. The conductor must record the following times on this document:

- Pull and/or Pickup times
- Station/Yard Setout times
- Industry Placement (spot) times
- Interchange Delivery times.

When making Station/Yard Setouts the conductor must record the yard number and track number of the track into which each car was setout. Also record the direction and sequence of each setout car showing how each car lines up within the track.

When handling any car differently from the instructions that appear on the Work Order document, note the exception to the car detail line in the blank space appearing above it. Print the Setout Exception code in the "EX" column of the car detail line. For every line of scheduled work not done, the conductor must print the appropriate "Not Done Reason" code in the "EX" column. All car detail lines prescribing work within the limits of the crew assignment must be accounted for as either done or not done.

As each block of work is completed, record the movement data in a timely manner.

The conductor must sign and date the completed form.

#### B. Form 29363

When performing unscheduled or additional work (work not prescribed by the Work Order document), the conductor must record the moves on Form 29363.

#### C. Other Documents and Instructions

Treat the document used (such as a track list) as a work order at locations where the crew does not receive Work Order documents or where a job is designated to pickup or setout cars from an industry/interchange. Note on the document the work done as explained in section **A**.

##### 1. Verbal Work Instructions

When the conductor receives verbal instructions, record the work done. When the customer requests intraplant switching moves, record the name of the customer's employee requesting such moves in the RSN field of Form 29363. If form is not available, record the car movements on the reverse side of the Work Order document.

## 2. **Customer Document**

If the customer provides switch lists to the crew, the conductor has two alternatives:

1. If the conductor can retain the customer document:
  - Note the date and time each block of work was completed.
  - Note type of work the crew did, even if the customer previously noted the work on the document. Examples include pulls, placements, or switches to another spot.
  - Note any exceptions (or work not done) to the documents under the appropriate equipment ID's.
  - Date and sign the bottom of the list.
2. If the customer chooses to retain the document for its own records and will not release the list:
  - Transfer all pertinent information from the document to Form 29363 (see section B) or a handwritten list if Form 29363 is not available.
  - Date and sign the list.

## **D. WORK COMPLETED**

Upon completing all work, the conductor must close out the Work Order document. On the "WORK COMPLETED BY" line the conductor records the Circ-7, date and time showing where and when the document is closed out and also affixes his or her signature. If forms are not available, mark and sign the track lists used in the manner prescribed above.

## **E. ATCS-GUI**

### **INTRODUCTION TO ATCS-GUI**

The Advanced Train Control System - Graphical User Interface (ATCS-GUI) Work Order reporting applies to all through freights, local freights, industry jobs, and interchange transfers. The Service Unit continues to provide ATCS-GUI training on the desktop computers located in the crew rooms. All conductors must complete ATCS-GUI training.

Instructions for obtaining ATCS-GUI training are available through the TE&Y Portal on the OFF DUTY page under Job Aids.

Lack of training does not relieve an employee from reporting freight car movement activity by means of ATCS-GUI. Contact the ATCS-GUI help desk for assistance.

### 1. **Work Order Reporting**

Upon completing all documents prescribing car movement information (including the Work Order Issues) the conductor must furnish car movement data to the Transportation Control System (TCS). The preferred method is by means of the ATCS-GUI Work Order reporting system.

The conductor is to report work by means of the available computer equipment found in Company facilities. The same desktop computers found in depots, yard offices, crew shanties, and crew lodging facilities have software for logging-on to TCS and for reporting ATCS-GUI Work Order activity. Work may be reported at any time during the shift and whenever possible, conductors must arrange their work activities to allow enough time, at end of shift, to report Work Order activity before the expiration of their Hours-of-Service. Where this is not possible, be governed by the requirements of the Hours-of-Service Law.

### 2. **ATCS-GUI Help Desk**

Help with using the ATCS-GUI Work Order reporting system may be obtained by calling the ATCS-GUI help desk at Company telephone 8-544-5555 Option 7 then Option 2 or toll free long distance 1-800-621-8953 Option 7 then Option 2.

## **F. Automatic Equipment Identification (AEI)**

As each assignment makes its way through a terminal, or across a territory, it may pass one or more AEI scanners. AEIs may report some pickups and/or setouts, industry placements, and interchange activity. Do not assume that an AEI is doing any or all of the Work Order reporting. Logon to ATCS-GUI at the final terminal and confirm that all scheduled and unscheduled work has been reported correctly.

## G. Hours of Service Situations

### 1. Approaching 12 Hours on Duty

Whenever an assignment is approaching 12 hours on duty, the conductor will have the assignment's Work Order Issue document completed to that point. All car detail lines appearing on the Work Order Issue document covering work between the crew's initial station and the 12-hour duty limit point must be properly completed with all appropriated entries. This includes both scheduled work and unscheduled, or additional work recorded on customer supplied documents or Form 29363.

### 2. Failure to Complete Trip

If an assignment fails to reach its final terminal, the conductor will ascertain from the train dispatcher, appropriate yardmaster, carrier officer, or other proper authority as to whether he or she should either

- o Leave the Work Order documents with the train for a relieving conductor to report or
- o Take the Work Order documents into final terminal for handling per local instructions.

Whenever a conductor is called to perform relief service, the conductor must report all Work Order data that was left with the train being relieved. Upon reaching the final terminal report all work for the relieved train before performing additional Hours-of-Service relief moves or other work. This instruction applies both to a conductor specifically called for relief service and to a conductor temporarily diverted from their present assignment for the purpose of performing relief service.

## H. Faxing to the National Customer Service Center (NCSC)

Sending a completed Work Order Issue document to the appropriate Work Order representative at the NCSC by means of facsimile (FAX) transmission may be done only under the following circumstances:

- No functioning desktop computer is available,
- The desktop computer is unable to establish a communication link with the ATCS-GUI server, or
- TCS is down.

Before faxing, call the ATCS-GUI Help Desk at Company telephone 8-544-5555 Option 7 then Option 2 or toll free long distance 1-800-621-8953 Option 7 then Option 2 to obtain a Fax Authorization Number. Record the Fax Authorization Number on the first page of the Work Order Issue document (or its equivalent) before faxing.

The NCSC cannot process any scheduled or unscheduled work without a Fax Authorization Number.

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Updated: 4/28/2010

## ITEM 16: Tornado Watch and Warning Instructions

- [Item 16: Tornado Watch and Warning Instructions](#)

### Item 16: Tornado Watch and Warning Instructions

#### Background:

Tornadoes are the most violent of all storms. Paths of destruction range from a few hundred feet in width to more than a mile, and extend the length of a city block to three hundred miles. Rotating winds exceed 200 MPH. Forward travel varies from 5 to 70 MPH, with an average speed of 40 MPH. It is impossible to predict exactly where they will develop or touch ground. The greatest potential for such storms exists from April through September and ordinarily occurs between noon and midnight, with more than 50% striking between 1500-1900.

#### Standard Personnel Protection:

In a home or office go to the basement, away from windows, and seek protection under a workbench, heavy table, stairway, or in a closet. In a building lacking a basement, go to an inner hallway or room, including bathrooms or closets, on the lowest floor. Cover yourself with heavy blankets to protect from flying glass and debris. If unable to reach one of the above areas safely, the nose compartment of a diesel unit is a suitable shelter. Abandon mobile homes.

#### Tornado Warning Means:

A tornado has been sighted or verified by the National Weather Service or by persons associated with official weather spotters. The train dispatcher will keep trains informed of limits of Tornado Warnings. Train crews are to follow the instructions as outlined below:

- During a Tornado Warning, all train movements and yard activities must stop. Any train en route will stop and employees will seek appropriate shelter.
- Consistent with the safety of all involved, avoid stopping a train:
  - On high bridges,
  - Across railroad and highway crossings at grade, or
  - Anyplace where the presence of a train could be a hindrance.
- After a Tornado Warning has been cleared and such information has reached the train crews, if the path of the tornado crossed the tracks at their location or in the immediate vicinity, crew members must:
  - Inspect their train before moving to find out if any damage or derailment has occurred to the train, and
  - Inspect track structure for signs of damage from the tornado.
- After inspecting the train and track, the train may go. However, be prepared to stop when approaching bridges, culverts

and other points likely to be affected within the limits of the tornado path. If unable to go safely, stop the movement and do not resume movement until safe to do so. Advise the train dispatcher of such conditions by the first available means of communication. In case of communication failure, strictly follow standard operating procedures.

### **County-Based Tornado Warning Means:**

A tornado has been sighted or verified by the National Weather Service or by persons associated with official weather spotters somewhere within the county. Train crews notified of such warnings are to follow the instructions as outlined below:

- During a County-Based Tornado Warning continue all train movements and yard activities, keeping alert for any signs of weather change. The danger signs to look for are severe thunderstorms, hail, roaring noise, a funnel cloud or any combination of the above.
- In the event a crew spots a funnel cloud, immediately notify the train dispatcher consistent with the crew's safety, giving details as to the sighting.
- Any train or yard assignment having an occupied caboose, upon being notified of a County-Based Tornado Warning will stop and move the occupants from the caboose to the locomotive consist. If while moving to the head end, the County-Based Tornado Warning turns into a Tornado Warning or a funnel cloud is spotted, the exposed persons should seek shelter in a nearby ditch, ravine, culvert, under a bridge, or in a depression. If none of these are available, lay face down on the ground with the hands over head. Be far enough away so the caboose or any other car in the train cannot topple on you.

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Updated: 9/24/2011



## ITEM 17: Accessing General Orders and Bulletins Electronically

- [Item 17: Accessing General Orders and Bulletins Electronically](#)

### Item 17: Accessing General Orders and Bulletins Electronically

System General Orders, Subdivision General Orders, and Superintendent Bulletins are stored in electronic files. All employees have access to view these files by logging on to TCS, using their User ID.

To view the Main Menu for General Orders and Superintendent Bulletins, type: =**ON** [enter]

The Main Menu offers a choice of service class which can be specified in order to review those General Orders of Superintendent Bulletins pertaining to that service class or department. Place an "X" to the right of the service class you wish to view.

The Main Menu offers the option to select System General Orders, Subdivision General Orders, and Superintendent Bulletins. Begin by placing an 'X' to the left of the option you want to view. NOTE: Do not attempt to view more than one option at a time.

1. For System General Orders, the next screen will list ten categories pertaining to System Special Instructions Items. New System General Orders will be issued within these categories according to the Special Instructions Item information to be affected. Each System General Order issued will be cumulative, therefore, when a new General Order is issued, the previous General Order within the category will become void. From the screen you may (P)rint or (V)iew the order with a category according to the instructions below.

2. For Subdivision General Orders, after placing an "X" to the left of the Subdivision option, the cursor will tab to the right of the option. Type the Subdivision number using 4 digits (Example: 0943). The subdivision number is shown on each subdivision page of the timetable, immediately following the Subdivision Name (in parenthesis). The Subdivision number is also shown in the Table of Contents for each Area timetable. Press "Enter" and the latest General Order for that Subdivision will be displayed. Each Subdivision General Order issued will be cumulative, therefore, when a new General Order is issued, the previous General Order will become void. From this screen you may (P)rint or (V)iew the General Order according to the instructions below.

3. For Superintendent Bulletins, after placing an "X" to the left of the Subdivision option, the cursor will tab to the right of the option. Type the Service Unit number using 2 digits (Example: 03). The Service Unit numbers are shown on the inside front cover of the System Special Instructions. Press "Enter" and a complete list of Superintendent Bulletins currently in effect for that Service Unit will be displayed. From this screen you may (P)rint or (V)iew the Superintendent Bulletin according to the instructions below.

To view a General Order or Superintendent Bulletin, place a 'V' to the left of the specific order you want. (NOTE: Do not try to view more than one order at a time). Press "Enter" twice and the order will be displayed.

To (P)rint a General Order or Superintendent Bulletin, place a 'P' to the left of the specific order you want to print. You may print one

or more at a time. Tab down to the lata field and enter the appropriate printer lata designation. Press "Enter" and the order(s) will be printed.

At any time you may return to the Main Menu by tabbing down to the Return to Index field, type "Y" and press [enter]. Be sure to remove any "P" or "V" commands before attempting to return to the Main Menu.

The timetables, subdivision general orders, system general orders and superintendent bulletins now may be accessed from the UPRR Employee website. Select **Departments**. Then under **Operating**, select **Operations Support**. Then under **Rules**, select **UP Timetable Data**.

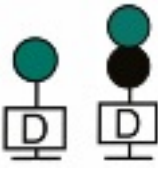
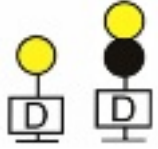

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Updated: 4/28/2010

# ITEM 18: Distant Signals

- [Item 18: Distant Signals](#)

## Item 18: Distant Signals

RULE	NAME	ASPECT	INDICATION
9.1.1	Distant Signal Clear		Proceed.  If delayed as per Rule 9.9 or Rule 9.9.1 between this signal and block or interlocking signal, proceed prepared to stop before any part of train or engine passes the next signal.
9.1.2	Distant Signal Approach		Proceed prepared to stop before any part of train or engine passes the next signal or switch point indicator.  The maximum speed is 20 MPH+ within interlocking limits or within the limits of the control point for which Distant Signal Approach is displayed at the distant signal.
9.1.3	Distant Signal Approach Diverging		Proceed prepared to advance on diverging route at next signal at prescribed speed through turnout.




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Updated: 9/24/2011

# ITEM 19: Block and Interlocking Signals

- [Item 19: Block and Interlocking Signals](#)

## Item 19: Block and Interlocking Signals

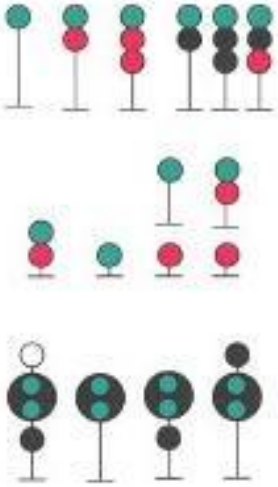

Explanation of symbols:  White light  Dark  Flashing color

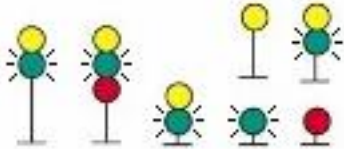

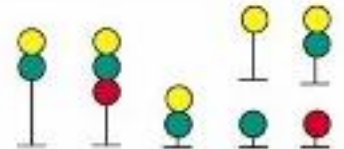

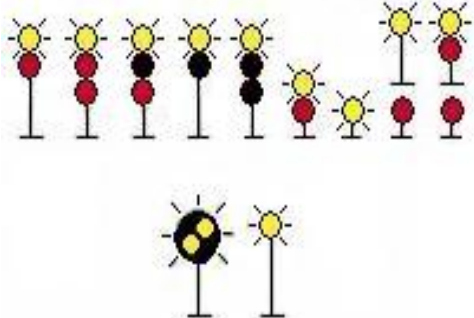

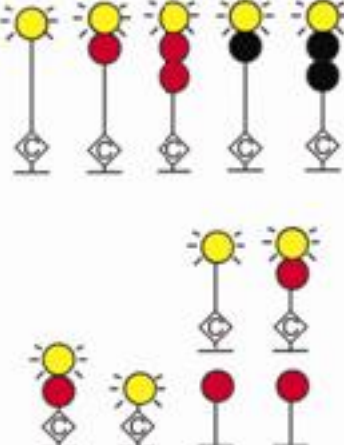

 "G" plate  Lunar light  Number plate  "C" plate



Color position signal head - When one color only is displayed in a color position signal head, it is to be considered the same as two lights.

Unless otherwise specified or signal mast is shown with a number plate, signal aspects shown apply to signals with or without number plates.

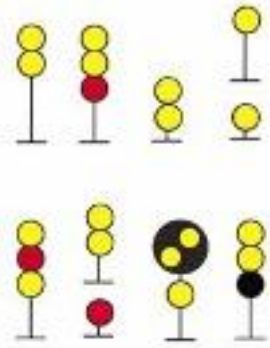
Rule	Name	Aspect	ACS	Indication
9.2.1	Clear			Proceed.

9.2.2	Approach Clear Sixty		 <p>Proceed. Freight trains exceeding 60 MPH must immediately reduce to 60 MPH. Passenger trains may proceed, but must be prepared to pass the next signal not exceeding 60 MPH. When signal governs the approach to a control point with a 60 MPH turnout speed be prepared to advance on diverging route.</p>
9.2.3	Approach Clear Fifty		 <p>Proceed. Freight trains exceeding 50 MPH must immediately reduce to 50 MPH. Passenger trains may proceed, but must be prepared to pass the next signal not exceeding 50 MPH. When signal governs the approach to a control point with a 50 MPH turnout speed be prepared to advance on diverging route.</p>
9.2.4	Advance Approach		 <p>Proceed prepared to stop at second signal. Freight trains exceeding 40 MPH must immediately reduce to 40 MPH. Passenger trains may proceed, but must be prepared to pass the next signal not exceeding 40 MPH. When signal governs the approach to a control point with a 40 MPH turnout speed be prepared to advance on normal or diverging route.</p>
9.2.4P	Advance Approach Passenger		 <p>Proceed prepared to stop at second signal. Freight trains exceeding 40 MPH must immediately reduce to 40 MPH. Passenger trains may proceed, but must be prepared to pass the next signal not exceeding 60 MPH.</p>

With diamond shaped "C" plate  
and with or without number plate

9.2.5

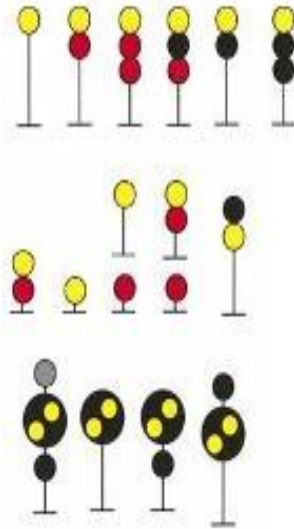
Approach  
Diverging



Proceed prepared to advance on diverging route at next signal at prescribed speed through turnout.

9.2.6

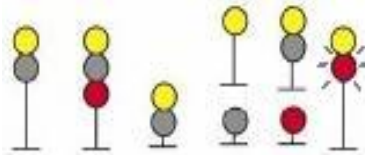
Approach



Proceed prepared to stop before any part of train or engine passes the next signal. Freight trains exceeding 30 MPH must immediately reduce to 30 MPH. Passenger trains exceeding 40 MPH must immediately reduce to 40 MPH.

9.2.7

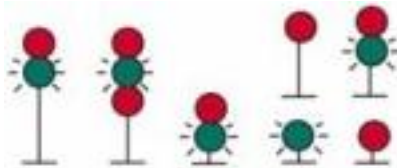
Approach  
Restricting



Proceed prepared to pass next signal at restricted speed, but not exceeding 15 MPH.

9.2.8

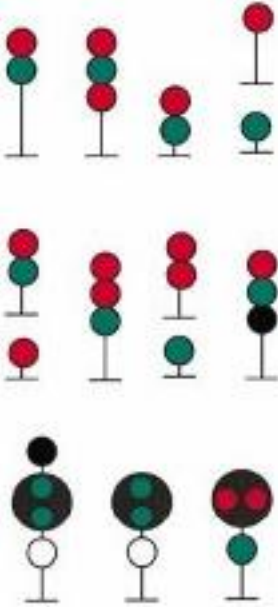

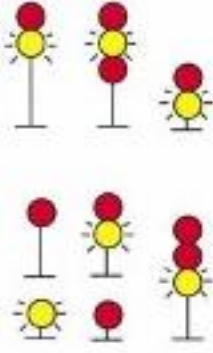

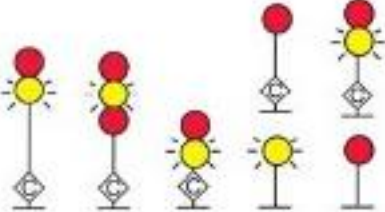

Diverging  
Clear  
Limited

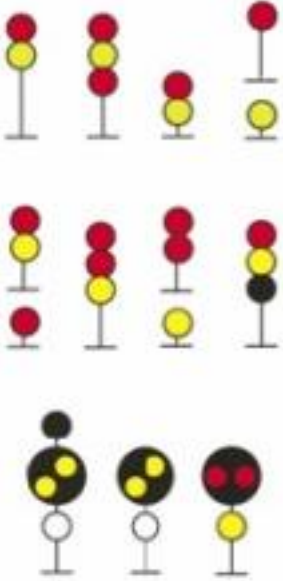





Without number plate

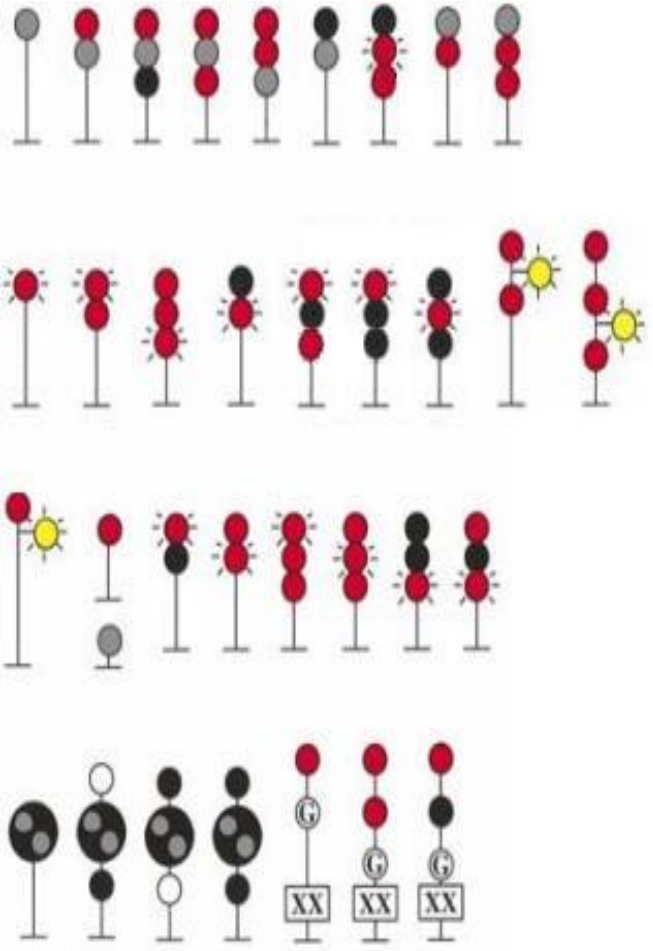


Proceed on diverging route. Speed through turnout must not exceed 40 MPH

9.2.9	Diverging Clear	 <p>Without number plate</p>		<p>Proceed on diverging route not exceeding prescribed speed through turnout.</p>
9.2.10	Diverging Advance Approach	 <p>Without number plate</p>		<p>Proceed on diverging route not exceeding prescribed speed through turnout and be prepared to stop at second signal. Freight trains exceeding 40 MPH must immediately reduce to 40 MPH. Passenger trains may proceed, but must be prepared to pass the next signal not exceeding 40 MPH.</p> <p>When signal governs the approach to a control point with a 40 MPH turnout speed be prepared to advance on normal or diverging route.</p>
9.2.10P	Diverging Advance Approach Passenger	 <p>With diamond-shaped "C" plate and without number plate</p>		<p>Proceed on diverging route at prescribed speed through turnout prepared to stop at second signal. Freight trains exceeding 40 MPH must immediately reduce to 40 MPH. Passenger trains exceeding 60 MPH must immediately reduce to 60 MPH.</p>

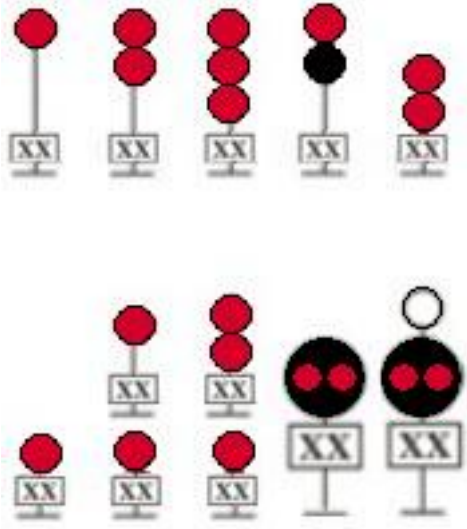
<p>9.2.11</p>	<p>Diverging Approach</p>	 <p>Without number plates</p>		<p>Proceed on diverging route at prescribed speed through turnout prepared to stop before any part of train or engine passes the next signal. Freight trains exceeding 30 MPH must immediately reduce to 30 MPH. Passenger trains exceeding 40 MPH must immediately reduce to 40 MPH.</p>
<p>9.2.12</p>	<p>Diverging Approach Diverging</p>	 <p>Without number plates</p>		<p>Proceed on diverging route not exceeding prescribed speed through turnout prepared to advance on diverging route at the next signal at prescribed speed through turnout.</p>
<p>9.2.13</p>	<p>Restricting</p>			



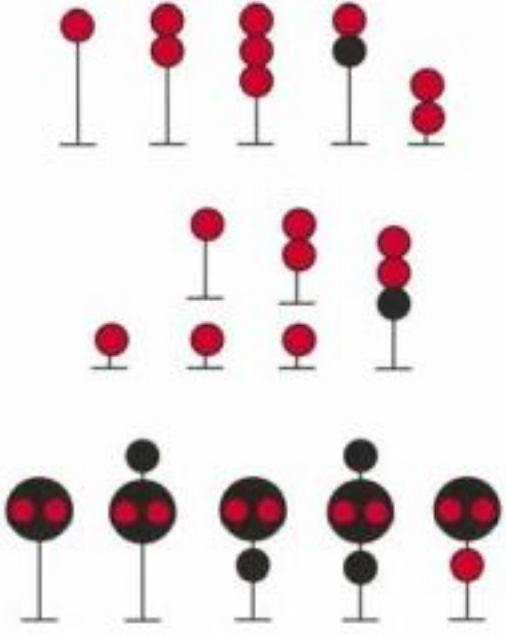








Proceed at restricted speed, not exceeding prescribed speed through turnout when applicable.

9.2.14 Restricted Proceed



Proceed at restricted speed.

9.2.15	Stop	 <p style="text-align: center;">Without number plates</p>		<p>Stop before any part of train or engine passes the signal.</p>
9.2.16	Diverging Approach Clear Fifty			<p>Proceed on diverging route at prescribed speed through turnout. Freight trains exceeding 50 MPH must immediately reduce to 50 MPH. Passenger trains may proceed, but must be prepared to pass the next signal not exceeding 50 MPH.</p> <p>When signal governs the approach to a control point with a 50 MPH turnout speed, be prepared to advance on diverging route.</p>
9.2.17	Clear Restricting	<p style="text-align: center;">Lake St. Interlocking</p> 		<p>Proceed at restricted speed, not exceeding 10 MPH.</p>

9.2.18	Approach Restricting	<p style="text-align: center;">Lake St. Interlocking</p> 	<p style="text-align: center;">Proceed at restricted speed, prepared to stop.</p>
9.2.19	Stop	<p style="text-align: center;">Lake St. Interlocking</p> 	<p style="text-align: center;">Stop before any part of train or engine passes the signal.</p>

**General Order**

**Item 19 Block and Interlocking Signals**

Add the following signal aspects to the following signal rules:

- Rule 9.2.1 - Green over Dark over Red.
- Rule 9.2.4 - Flashing Yellow over Dark over Red.
- Rule 9.2.6 - Yellow over Dark over Red.
- Rule 9.2.7 - Yellow over Flashing Red.
- Rule 9.2.13 - Flashing Red over Dark over Red. Flashing Red over Dark over Dark. Dark over Flashing Red over Dark. Dark over Flashing Red over Red.

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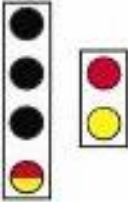


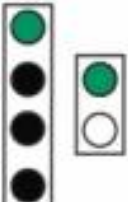
Updated: 1/20/2012

## ITEM 20: Automatic Cab Signals

- [Item 20: Automatic Cab Signals](#)

### Item 20: Automatic Cab Signals

Note: Refer to Rule 13.3.1

RULE	NAME	ASPECT	INDICATIONS
9.3.1	Restricting		Proceed at restricted speed.
9.3.2	Approach		Proceed prepared to stop before any part of train or engine passes the next signal. Freight trains exceeding 30 MPH must immediately reduce to 30 MPH. Passenger trains exceeding 40 MPH must immediately reduce to 40 MPH.
9.3.3	Advance Approach		Proceed prepared to stop at second signal. Freight trains exceeding 40 MPH must immediately reduce to 40 MPH. Passenger trains may proceed, but must be prepared to pass the next signal not exceeding 40 MPH.
9.3.4	Clear		Proceed.


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Updated: 4/28/2010

## ITEM 21: Slide Warning Indicator

- [Item 21: Slide Warning Indicator](#)

### Item 21: Slide Warning Indicator

RULE	NAME	ASPECT	INDICATION
9.4.1	Slide Warning	SLIDE WARNING INDICATOR (To apply to trains governed by fixed signal with which connected).  (Illuminated)	When signal requires movement at restricted speed to next signal. Keep close lookout for rocks or other obstructions, broken, bent and damaged rail.

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Updated: 4/28/2010

## ITEM 22: Roadway Signs

- [Item 22: Roadway Signs](#)

### Item 22: Roadway Signs



FOR CROSSINGS\*



FOR TUNNELS, ETC.

At locations where crossing signs are displayed sound whistle as required by Rule 5.8.2 (7) regardless type of crossing train is approaching.

\* If a number sign is attached to the crossing sign, it shows the number of crossings for which the whistle signal is required.

Crossings where quiet zones are in effect.



If a number sign is attached to this crossing sign, it shows the number of successive crossings for which the sign applies.



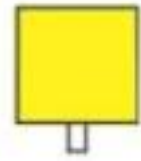
YELLOW-RED FLAG  
PROTECTING MEN  
OR EQUIPMENT



RED FLAG



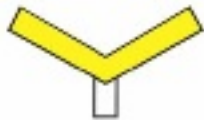
STOP SIGNS



YELLOW FLAG



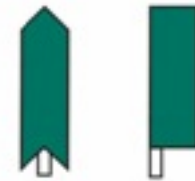
GREEN FLAG



YARD LIMIT SIGN



PERMANENT SPEED  
RESTRICTION SIGN



PERMANENT RESUME  
SPEED SIGN





DERAIL SIGN



CROSSING WARNING  
DEVICE MALFUNCTION

Stop, Rule 6.32.2 A -  
Procedure 1 applies  
at the crossing

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Updated: 10/22/2010

## ITEM 23: Security Alert Instructions

- [Item 23: Security Alert Instructions](#)

### Item 23: Security Alert Instructions

To protect our employees, the general public and our railroad from terrorist acts, Security Alert Levels 1 - 4 have been established. As the Alert Level increases, the actions to be taken by our crewmembers also increases. The actions required by crewmembers include all actions for the current level, as well as those for the lower Alert Levels. For example, if Alert Level 3 is in effect, actions required in Alert Levels 1, 2 and 3 are required.

#### Definitions:

**Alert Train:** Any train that is handling one or more hazardous materials in class 1.1, 1.2, 2.1, 2.3, anhydrous ammonia, any hazardous material shipment that requires the phrase "Poison or Toxic Inhalation Hazard" on the shipping paper, or otherwise identified. These shipments are identified on the train consist as "ALERT SHIPMENT" or RSSM SHIPMENT".

**Alert Level:** The level of threat to security of rail operations.

**Unusual Item:** An attachment to railroad rolling stock that is not a part of the normal rail equipment, or a suspicious package or container located on or near railroad property.

**Unusual Stops:** As used in Level 3, examples of this include:

- Any radio transmission from an unknown person requesting the train to stop.
- Any unknown person attempting to stop the train by hand signals.
- A dark signal or signals than are improperly displayed.
- Stop or Stop and Proceed signals at other than meeting points.
- Unattended fusee.
- Detectors that are out of service without a track bulletin.
- Emergency vehicles fouling the track without prior notification from the dispatcher.

The following are the minimum requirements for train and engine crews, based on the various Alert Levels. Each level has additional requirements.

**Alert Level 1** (The "new normal" day-to-day operations):

- Remain vigilant for suspicious activities, trespassers, or vehicles (abandoned or occupied) on or near railroad property. Report suspicious activities to the train dispatcher, or to RMCC (1-888-UPRR-COP / 1-888-877-7267).
- Keep required employee identification immediately available at all times.

**Alert Level 2** (Heightened security awareness):

- When inspecting train, increase vigilance and scrutiny of railcars, looking for unusual items.

**Alert Level 3** (A credible threat of attack on the U.S. or railroad industry):

- Train dispatcher will communicate with crews on Alert trains at least once every 60 minutes to determine location and status in areas where train tracking through the train dispatch system is not available, such as in TWC or Rule 9.14 territory.
- Immediately notify the train dispatcher of any unusual stops.

**Alert Level 4** (A confirmed threat of attack against the U.S. railroad industry or actual attack in the U.S.):

- Crew members must identify themselves by employee identification badge when picking up outbound locomotives at service facilities.
- Meeting points with passenger trains will be established and communicated to crews by the train dispatcher.
- Train inspections from the ground may be eliminated on instruction of the train dispatcher.
- Do not leave unattended and unsecured locomotives on line without the authority of the train dispatcher.
- Alert trains will not be allowed to operate in a tunnel at the same time with a passenger train.

When Security Alert level is above Level 1, when crews complete switching operations at all plants and facilities equipped with gates, the gates must be immediately shut and locked to maintain security for those facilities. Local railroad instructions may provide relief for facilities not requiring that degree of security.

When Security Alert levels are above Level 2, crews must not provide any shipping information. Instruct customers to contact the NCSC for inquiries.

Other requirements may be imposed by local management or the train dispatcher, as necessary.

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Updated: 4/06/2010

## ITEM 24: California Proposition 65 Warning

- [Item 24: California Proposition 65 Warning](#)

### Item 24: California Proposition 65 Warning

Locomotives, diesel equipment, and work areas in the State of California contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

California Proposition 65 requires that companies warn employees of exposures to chemicals which are "known to the State of California" to cause cancer, birth defects, or other reproductive harm. Over 500 chemicals are included in California's list, including alcoholic beverages, aspirin, caffeic acid (contained in coffee), diesel engine exhaust, gasoline engine exhaust, lead, oral contraceptives, silica (sand), tobacco smoke, and unleaded gasoline (wholly vaporized).

Any questions about Proposition 65 may be addressed to the Union Pacific Values Line at 1-800-998-2000.

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Updated: 4/28/2010

# ITEM 25: Instructions for Electronically Controlled Pneumatic Brakes

- [Item 25: Instructions for Electronically Controlled Pneumatic Brakes](#)

## Item 25: Instructions for Electronically Controlled Pneumatic Brakes

### A. Overview

The ECP brake system controls train brakes utilizing a brake controller (automatic brake handle) that sends electrical signals through an ECP trainline cable to CCDs (referred to as Air Brake Devices within these rules) at each car. An additional ECP display on the locomotive control stand is provided for configuring the ECP train brake system and displaying ECP brake commands. During ECP brake operation the locomotive equalizing reservoir and the brake pipe will normally display 90 psi continuously.

### 1. ECP Operations

Existing GCOR Safety and ABTH rules will apply to the operation of ECP-equipped trains except as noted in "B" below

While in ECP operation the Brake Pipe will remain at 90 psi except in the case of an emergency brake application where it will go to zero. Use the following table when required by Air Brake and Train Handling rules to make specific brake pipe reductions. ECP brake commands are expressed as a "percentage".

<b><u>Brake Pipe Equation Chart</u></b>	
<u>REL (release)</u>	0% Braking
<u>Minimum B/P Reduction</u>	10% Braking
<u>10 lb B/P Reduction</u>	25% Braking
<u>20 lb B/P Reduction</u>	80% Braking
<u>Full Service</u>	100% Braking
<u>Emergency</u>	120% Braking

**Note:** Increasing the brake application by 2 to 5 percent equals approximately a 1 – 2 pound increase in the brake application under normal operation.

### 2. Wired Distributed Power

Distributed power equipment on the ECP train utilizes the same ECP trainline cable to control entrained locomotives or distributed power at the rear of the train. This technology is referred to as Wireline Distributed Power (WDP). During wireline DP operation, use of DP data radios is suspended.

Locomotive displays provide set-up and control for wired DPU and is similar to existing radio distributed powered system setup.

## **B. Rule Applications and Changes Applying Only to ECP Operation**

### **1. SAFETY RULES**

#### **81.5.4 Understanding Between Crew Members Before Crossing Through or Fouling Equipment**

Revise second bullet to read:

- The engineer must apply locomotive air brakes and center the reverser. Train air brakes must be applied when necessary, ECP trainline power must be deactivated using the commands on the ECP display. The engineer will then notify the employee the engine is "set, centered and trainline powered down". The engine must not be left unattended until the employee reports clear.

**Add New Rule:**

#### **81.13.8.1 Coupling and Uncoupling ECP Connectors**

When coupling or uncoupling ECP connectors use caution to avoid pinch points. Depress spring tab button until the spring tab is fully retracted to connect and disconnect ECP connections.

## **2. Air Brake and Train Handling Rules**

### **30.4 Operative Brakes**

**Application:**

ECP train system will initiate a penalty application if the train's percentage of operative ECP brakes drops below 85%.

### **30.6 Standard Brake Pipe Pressures**

**Revise third bullet to read:**

- Graduated release may be used on trains operating in ECP mode.

### **30.9 Brake Pipe Leakage Test**

**Application:** Brake pipe leakage test is not required.

### **30.10 Initial Terminal**

**Application:**

Qualified mechanical inspector must perform Initial Terminal air brake test (Class 1).

#### **30.10.1: Requirement For Test**

**Application:**

A. Test must be conducted:

- Where the train is originally assembled (initial terminal). Train may make complete designated trip cycle before requiring additional test.
- Where the train consist is changed, other than adding or removing a solid block of cars.
- Where an ECP brake unit or cycle train has traveled 3500 miles since its last Initial Terminal Air Brake Test, Class 1.

**Revise Part B, second bullet to read:**

- That portion of the train has not been kept charged. (off air for over 24 hours).

### **30.10.2: Procedure for Initial Terminal and Road Air Brake Test and Inspection.**

**Revise part 4 to read:**

4. Inspect the entire train or cars added not pre-tested to determine that:

- Brakes are applied and remain applied until signal is given to release on each car and piston travel meets the requirements of Rule 30.18 (Piston Travel). 95 percent of the ECP train brakes must be operative before departing. Cars previously reported defective may not be considered when determining the percent of the trains operative brakes. Cars previously reported defective must be repaired or setout at the initial terminal. Brakes must remain applied until signal to release is received
- Brake rigging does not bind or foul.
- All parts of the brake equipment are properly secured.

### **30.12 1000 Mile Inspection Test (Class 1A Brake Test)**

**Application:** Does not apply.

### **30.17 Inbound Train Inspection**

**Application:** Does not apply

### **32.1.4 Train Break-in-Two**

**Add note:**

ECP trains must be set to Switch Mode after closing angle cock.

### **32.5.1 Minimizing Sticking Brakes**

**Application third bullet:** Does not apply.

### **32.7.1 Cutting out Brake Equipment**

**Application:**

ECP equipment will require the CCD to be cut-out on the ECP display. The car must be drained manually for at least 30 seconds after closing the branch pipe cutout cock.

### **32.13.1 through 32.13.5 End of Train Telemetry**

**Application:** Does not apply.

**Add Note:**

If EOT is required, ECP EOT must be used with ECP operation, conventional radio EOT will not work with ECP. (ECP equipped EOTs - 88359, 88360, 88362)

### **32.14 and 32.14.1 Emergency Capability from Rear of Train**

**Application:** Does not apply.

### **33.3.1 Applying and Reapplying Automatic Brakes**

**Application:** Only number 3 and 4 apply to ECP trains.

### **33.3.2 Delayed Departure**

**Application:** Train check not required.

### **Rule 33.7.7 Retaining Valves**

**Application:** Does not apply

### **33.8 Emergency Brake Applications**

#### **Application:**

Emergency toggle switch is not functional during ECP operation, activation of emergency toggle switch is not required for ECP trains.

#### **C. Miscellaneous:**

Employees who set up or operate ECP trains must have in their possession a copy of the current ECP job aide.

#### **Locomotives & Cars equipped with ECP brakes.**

<b><u>Locomotives</u></b>	<b><u>Car Initials &amp; Numbers</u></b>				
<u>UP 7901</u>	<u>DTTX 741209</u>	<u>DTTX 748793</u>	<u>DTTX 749081</u>	<u>DTTX 749282</u>	<u>DTTX 749503</u>
<u>UP 7902</u>	<u>DTTX 748408</u>	<u>DTTX 748799</u>	<u>DTTX 749084</u>	<u>DTTX 749300</u>	<u>DTTX 749707</u>
<u>UP 7903</u>	<u>DTTX 748434</u>	<u>DTTX 748803</u>	<u>DTTX 749090</u>	<u>DTTX 749475</u>	<u>DTTX 749545</u>
<u>UP 7904</u>	<u>DTTX 748556</u>	<u>DTTX 749009</u>	<u>DTTX 749153</u>	<u>DTTX 749485</u>	<u>DTTX 749683</u>
<u>UP 7905</u>	<u>DTTX 748616</u>	<u>DTTX 749075</u>	<u>DTTX 749250</u>	<u>DTTX 749496</u>	<u>DTTX 749771</u>
<u>UP 5302</u>	<u>DTTX 743429</u>	<u>DTTX 743906</u>	<u>DTTX 744270</u>	<u>DTTX 744014</u>	<u>DTTX 742917</u>
<u>UP 5303</u>	<u>DTTX 744489</u>	<u>DTTX 743211</u>	<u>DTTX 743231</u>	<u>DTTX 742889</u>	<u>DTTX 744399</u>
<u>UP 5304</u>	<u>DTTX 743894</u>	<u>DTTX 743912</u>	<u>DTTX 744163</u>	<u>DTTX 744536</u>	<u>DTTX 742979</u>
<u>UP 5305</u>	<u>DTTX 744112</u>	<u>DTTX 744128</u>	<u>DTTX 744508</u>	<u>DTTX 744397</u>	<u>DTTX 743937</u>
	<u>DTTX 744561</u>	<u>DTTX 743863</u>	<u>DTTX 744257</u>	<u>DTTX 743934</u>	<u>DTTX 742380</u>

#### **Operative Brake Comparison**

After powering on the ECP Display and energizing the ECP system , the engineer will compare:

- Locomotive and car count (displayed as vehicles) then compare.
- CCDs to the number of operative brakes listed in the TCS consist.

If incorrect determine reason for the discrepancy and make necessary corrections..

#### **Defective Equipment**

Immediately contact the dispatcher if ECP equipment becomes defective enroute and be governed by their instructions.

#### **Switch Mode**

Movements made in Switch Mode must not exceed 20 MPH, speeds in excess of 20mph will initiate a penalty application.

#### **General Order**



**A. Overview**

The ECP brake system controls train brakes utilizing a brake controller (automatic brake handle) that sends electrical signals through an ECP trainline cable to CCDs(referred to as Air Brake Devices within these rules) at each car. An additional ECP display on the locomotive control stand is provided for configuring the ECP train brake system and displaying ECP brake commands. During ECP brake operation the locomotive equalizing reservoir and the brake pipe will normally display 90 psi continuously.

**1. ECP Operations**

Existing GCOR, Safety and ABTH rules will apply to the operation of ECP-equipped trains except as noted in "B" below

While in ECP operation the Brake Pipe will remain at 90 psi except in the case of an emergency brake application where is will go to zero. Use the following table when required by Air Brake and Train Handling rules to make specific brake pipe reductions ECP brake commands are expressed as a "percentage".

<b>Brake Pipe Equation Chart</b>	
REL (release)	0% Braking
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**Note:** Increasing the brake application by 2 to 5 percent equals approximately a 1 – 2 pound increase in the brake application under normal operation.

**2. Wired Distributed Power**

Distributed power equipment on the ECP train utilizes the same ECP trainline cable to control entrained locomotives or distributed power at the rear of the train. This technology is referred to as Wireline Distributed Power (WDP). During wireline DP operation, use of DP data radios is suspended.

Locomotive displays provide set-up and control for wired DPU and is similar to existing radio distributed powered system setup.

**B. Rule Applications and Changes Applying Only to ECP Operation**

**1. SAFETY RULES**

**81.5.4 Understanding Between Crew Members Before Crossing Through or Fouling Equipment**

Revise second bullet to read:

- The engineer must apply locomotive air brakes and center the reverser. Train air brakes must be applied when necessary, ECP trainline power must be deactivated using the commands on the ECP display. The engineer will then notify the employee the engine is "set, centered and trainline powered down". The engine must not be left unattended until the employee reports clear.

#### **Add New Rule:**

#### **81.13.8.1 Coupling and Uncoupling ECP Connectors**

When coupling or uncoupling ECP connectors use caution to avoid pinch points. Depress spring tab button until the spring tab is fully retracted to connect and disconnect ECP connections.

### **2. Air Brake and Train Handling Rules**

#### **30.4 Operative Brakes**

##### **Application:**

ECP train system will initiate a penalty application if the train's percentage of operative ECP brakes drops below 85%.

#### **30.6 Standard Brake Pipe Pressures**

##### **Revise third bullet to read:**

- Graduated release may be used on trains operating in ECP mode.

#### **30.9 Brake Pipe Leakage Test**

**Application:** Brake pipe leakage test is not required.

#### **30.10 Initial Terminal**

##### **Application:**

Qualified mechanical inspector must perform Initial Terminal air brake test (Class 1).

##### **30.10.1: Requirement For Test**

##### **Application:**

A. Test must be conducted:

- Where the train is originally assembled (initial terminal). Train may make complete designated trip cycle before requiring additional test.
- Where the train consist is changed, other than adding or removing a solid block of cars.
- Where an ECP brake unit or cycle train has traveled 3500 miles since its last Initial Terminal Air Brake Test, Class 1.

##### **Revise Part B, second bullet to read:**

- That portion of the train has not been kept charged. (off air for over 24 hours).

##### **30.10.2: Procedure for Initial Terminal and Road Air Brake Test and Inspection.**

##### **Revise part 4 to read:**

4. Inspect the entire train or cars added not pre-tested to determine that:

- Brakes are applied and remain applied until signal is given to release on each car and piston travel meets the requirements of Rule 30.18 (Piston Travel). 95 percent of the ECP train brakes must be operative before departing. Cars previously reported defective may not be considered when determining the percent of the trains operative brakes. Cars previously reported defective must be repaired or setout at the initial terminal. Brakes must remain applied until signal to release is received
- Brake rigging does not bind or foul.

- All parts of the brake equipment are properly secured.

### **30.12 1000 Mile Inspection Test (Class 1A Brake Test)**

**Application:** Does not apply.

### **30.17 Inbound Train Inspection**

**Application:** Does not apply

### **32.1.4 Train Break-in-Two**

**Add note:**

ECP trains must be set to Switch Mode after closing angle cock.

### **32.5.1 Minimizing Sticking Brakes**

**Application third bullet:** Does not apply.

### **32.7.1 Cutting out Brake Equipment**

**Application:**

ECP equipment will require the CCD to be cut-out on the ECP display. The car must be drained manually for at least 30 seconds after closing the branch pipe cutout cock.

### **32.13.1 through 32.13.5 End of Train Telemetry**

**Application:** Does not apply.

**Add Note:**

If EOT is required, ECP EOT must be used with ECP operation, conventional radio EOT will not work with ECP. (ECP equipped EOTs - 88359, 88360, 88362)

### **32.14 and 32.14.1 Emergency Capability from Rear of Train**

**Application:** Does not apply.

### **33.3.1 Applying and Reapplying Automatic Brakes**

**Application:** Only number 3 and 4 apply to ECP trains.

### **33.3.2 Delayed Departure**

**Application:** Train check not required.

### **Rule 33.7.7 Retaining Valves**

**Application:** Does not apply

### **33.8 Emergency Brake Applications**

**Application:**

Emergency toggle switch is not functional during ECP operation, activation of emergency toggle switch is not required for ECP trains.

## **C. Miscellaneous:**

Employees who set up or operate ECP trains must have in their possession a copy of the current ECP job aide.

## **Locomotives & Cars equipped with ECP brakes.**

<b>Locomotives</b>	<b>Car Initials &amp; Numbers</b>				
UP 7901	DTTX 741209	DTTX 748793	DTTX 749081	DTTX 749282	DTTX 749503
UP 7902	DTTX 748408	DTTX 748799	DTTX 749084	DTTX 749300	DTTX 749707
UP 7903	DTTX 748434	DTTX 748803	DTTX 749090	DTTX 749475	DTTX 749545
UP 7904	DTTX 748556	DTTX 749009	DTTX 749153	DTTX 749485	DTTX 749683
UP 7905	DTTX 748616	DTTX 749075	DTTX 749250	DTTX 749496	DTTX 749771
UP 5302	DTTX 743429	DTTX 743906	DTTX 744270	DTTX 744014	DTTX 742917
UP 5303	DTTX 744489	DTTX 743211	DTTX 743231	DTTX 742889	DTTX 744399
UP 5304	DTTX 743894	DTTX 743912	DTTX 744163	DTTX 744536	DTTX 742979
UP 5305	DTTX 744112	DTTX 744128	DTTX 744508	DTTX 744397	DTTX 743937
	DTTX 744561	DTTX 743863	DTTX 744257	DTTX 743934	DTTX 742380

### **Operative Brake Comparison**

After powering on the ECP Display and energizing the ECP system , the engineer will compare:

- Locomotive and car count (displayed as vehicles) then compare.
- CCDs to the number of operative brakes listed in the TCS consist.

If incorrect determine reason for the discrepancy and make necessary corrections..

### **Defective Equipment**

Immediately contact the dispatcher if ECP equipment becomes defective enroute and be governed by their instructions.

### **Switch Mode**

Movements made in Switch Mode must not exceed 20 MPH, speeds in excess of 20mph will initiate a penalty application.

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Updated: 4/28/2010

## Explanation of Characters

- [EXPLANATION OF CHARACTERS](#)

### EXPLANATION OF CHARACTERS

Symbol Represents	
CTC	CENTRALIZED TRAFFIC CONTROL
CTC ATC	CENTRALIZED TRAFFIC CONTROL AUTOMATIC TRAIN CONTROL
ATC	AUTOMATIC TRAIN CONTROL
ABS	AUTOMATIC BLOCK SIGNAL SYSTEM
DT	DOUBLE TRACK
DTC	DIRECT TRAFFIC CONTROL
DTC ABS	DIRECT TRAFFIC CONTROL AUTOMATIC BLOCK SIGNAL SYSTEM
TWC	TRACK WARRANT CONTROL
TWC ABS	TRACK WARRANT CONTROL AUTOMATIC BLOCK SIGNAL SYSTEM
#MT	MULTIPLE MAIN TRACK – # (number MT's)
!	SIDING WITH ENTERING SIGNAL ALLOWING ASPECT MORE FAVORABLE THAN LUNAR
(A)	AUTOMATIC INTERLOCKING
B	BASE RADIO STATION
D	DRAW BRIDGE
(G)	GATE-NORMAL POSITION AGAINST CONFLICTING ROUTE
G	GATE-NORMAL POSITION AGAINST THIS SUBDIVISION
(M)	MANUAL INTERLOCKING
(S)	STOP SIGN
T	TURNING FACILITY
(X)	RAILROAD CROSSING AT GRADE
X	CROSSOVER BETWEEN MAIN TRACKS – DUAL CONTROL SWITCHES
Y	YARD LIMITS
(Z)	MANUAL INTERLOCKING WITH RELEASE BOX AND A M/W KEY RELEASE IF EQUIPPED
(9)	SPECIAL INSTRUCTIONS APPLY ITEM 9
(11)	SPECIAL INSTRUCTIONS APPLY ITEM 11
(11-2)	SPECIAL INSTRUCTIONS APPLY ITEM 11 - 2 SWITCH MACHINES
(11-3)	SPECIAL INSTRUCTIONS APPLY ITEM 11 - 3 SWITCH MACHINES
N	NORTHWARD
S	SOUTHWARD
E	EASTWARD
W	WESTWARD
C	CENTER

+	HEAD – END RESTRICTION ONLY
(R)	REDUCE / RESUME SPEED SIGNS AT OTHER THAN PRESCRIBED LOCATION
(#)	HOT BOX AND DRAGGING EQUIPMENT DETECTOR STATION EQUIPPED WITH RADIO TRANSMITTED VERBAL INDICATOR
#	HOT BOX DETECTOR STATION EQUIPPED WITH RADIO TRANSMITTED VERBAL INDICATOR
@	HOT BOX AND DRAGGING EQUIPMENT DETECTOR STATION EQUIPPED WITH RADIO TRANSMITTED VERBAL INDICATOR – TALK ON DEFECT ONLY WITH HOLD OR STOP SIGNALS
\$	HOT BOX DETECTOR STATION EQUIPPED WITH RADIO TRANSMITTED VERBAL INDICATOR – TALK ON DEFECT ONLY
%	DRAGGING EQUIPMENT DETECTORS WITH RADIO TRANSMITTED VERBAL INDICATOR – TALK ON DEFECT ONLY
&	HIGH WIDE SHIFTED LOAD AND DRAGGING EQUIPMENT DETECTOR EQUIPPED WITH RADIO TRANSMITTED VERBAL INDICATOR
(@)	WHEEL IMPACT DETECTORS EQUIPPED WITH TRANSMITTED VERBAL DEFECT INDICATIONS - TALK ON DEFECT ONLY
(&)	HIGH WIDE SHIFTED LOAD AND DRAGGING EQUIPMENT DETECTOR EQUIPPED - TALK ON DEFECT ONLY

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## Other Available Reference Material

- [Other Available Reference Material](#)

## Other Available Reference Material

### OTHER AVAILABLE REFERENCE MATERIAL

Area #	Area Name	Timetable Item #
1	Portland	PB-27020
2	Salt Lake City	PB-27021
3	Roseville	PB-27022
4	Los Angeles	PB-27023
5	Sunset	PB-27024
6	Denver	PB-27025
7	North Platte	PB-27026
8	Council Bluffs	PB-27027
9	Kansas City	PB-27028
10	Salina	PB-27029
11	Iowa	PB-27030
12	Twin Cities	PB-27031
13	Chicago	PB-27032
14	St. Louis	PB-27033
15	North Little Rock	PB-27034
16	Dallas/Ft. Worth	PB-27035
17	Houston	PB-27036
18	San Antonio	PB-27037
	All Area 3-Hole Singles	PB-27038
	3" Binder	PB-27019
	Area Tabs (19 Each)	PB-27018
	System Special Instructions	PB-27015

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Updated: 4/28/2010

# Introduction

- [1.: Policy](#)
- [2.: Questions](#)
- [3.: Effective Date](#)
- [4.: Additions and Corrections](#)

## 1.: Policy

In addition to complying with other operating rules, Union Pacific Railroad (UPRR) employees will transport hazardous materials in compliance with UPRR's **Instructions for Handling Hazardous Materials** Form 8620 (PB 20800).

These instructions describe how to perform your duties so that both you and UPRR comply with the **Hazardous Materials Regulations** of the United States Department of Transportation (DOT). These instructions are consistent with the **United States Hazardous Materials Instructions for Rail** written jointly by the major railroads and the Association of American Railroads (AAR), in conjunction with DOT.

UPRR employees who inspect or transport hazardous materials by rail must have either a printed or UPRR approved electronic version of, and comply with, the instructions in this document when:

- working on UPRR property; *or*
- operating over a foreign road unless that railroad's requirements are more restrictive.

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## 2.: Questions

For technical interpretation of the regulatory aspects of these instructions, call Hazardous Materials Management at 8-544-2345 (402-544-2345), 8-544-4981 (402-544-4981), or 8-544-3313 (402-544-3313). If no one answers, please leave a message:

- State your question.
- Give your name.
- Give a callback number or mailing address where someone can reach you with an answer to your question.

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## 3.: Effective Date

The instructions in this document take effect 0900 CDT, Monday, September 22, 2008. They replace all previous rules and instructions not consistent with this document.

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## 4.: Additions and Corrections



Changes to the instructions in this document will be made through general orders, the UPRR **System Special Instructions**, and applicable timetable special instructions.

**D. J. Duffy**

Executive Vice President - Operations

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Updated: 4/28/2010

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## Section I - General Information

- [1.: Definition of Hazardous Materials](#)
- [2.: General DOT Requirements](#)
- [3.: Expediting Hazardous Material Shipments](#)
- [4.: Exceptions for U.S. Government Material](#)
- [5.: International Shipments](#)
- [6.: Making and Documenting a Positive Hand-off of Rail Security-Sensitive Materials \(RSSM\)](#)

### 1.: Definition of Hazardous Materials

- a. Hazardous materials are defined as "a substance or material which the Secretary of Transportation has determined to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce."
- b. The term "hazardous material" includes hazardous substances, hazardous wastes, elevated temperature materials (HOT or MOLTEN), and marine pollutants.  
Hazardous materials are classified according to their chemical and/or physical properties. There are nine numbered classes, some of which are further divided into divisions, and there are two worded classes (see Table 1, page 5). A hazardous material
- c. is assigned to only one class, even if it meets the definition of more than one hazard class. In this document, "**class**" refers to both "class" and "division."

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### 2.: General DOT Requirements

- a. No person may offer, accept, or transport a hazardous material in commerce unless that material is properly classed, described, packaged, marked, labeled, and placarded and is in proper condition for transportation according to DOT and/or international regulations.
- b. No person may transport a hazardous material in commerce unless the hazardous material is handled and transported according to DOT regulations.

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### 3.: Expediting Hazardous Material Shipments

Loaded hazardous material shipments **and** both loaded and residue/empty time-sensitive hazardous material shipments (see Table 2, page 6) must be forwarded **either**:

- a. within 48 hours (excluding Saturdays, Sundays, and holidays) after accepting them at the shipper's facility or receiving them in any yard, intermediate (transfer) station, or interchange point; **or**
- b. when only bi-weekly or weekly service is performed, on the first available train toward the destination.

**Note:** The requirements in 3a and 3b above do not apply to shipments that are constructively placed or set out for repairs.

<p><i>Table 1</i> <b>Hazard Classes and Divisions</b></p>
---

### Numbered Classes and Divisions

#### 1 - Explosives

- 1.1 – Explosive with mass explosion hazard
- 1.2 – Explosive with projection hazard
- 1.3 – Explosive with predominantly fire hazard
- 1.4 – Explosive with no significant blast hazard
- 1.5 – Very insensitive explosive; blasting agent
- 1.6 – Extremely insensitive detonating substance

#### 2 - Gases

- 2.1 – Flammable gas
- 2.2 – Nonflammable, nonpoisonous/nontoxic, compressed gas
- 2.3 – Gas poisonous/toxic by inhalation

#### 3 - Flammable Liquids

#### 4 - Flammable Solids and Reactive Solids/Liquids

- 4.1 – Flammable solid
- 4.2 – Spontaneously combustible material
- 4.3 – Dangerous when wet material

#### 5 - Oxidizers and Organic Peroxides

- 5.1 – Oxidizer
- 5.2 – Organic peroxide

#### 6 - Poisonous/Toxic Materials and Infectious Substances

- 6.1 – Poisonous/toxic material
- 6.2 – Infectious substance

#### 7 - Radioactive Materials

#### 8 - Corrosive Materials

#### 9 - Miscellaneous Hazardous Materials

### Worded Classes

**Combustible Liquids** (*regulated in bulk packaging*)

**ORM-D (Other Regulated Materials)** (*regulated in air transportation only; not regulated in rail transportation*)

Table 2

#### Time-Sensitive Hazardous Materials Shipments

##### 20 Day

- (1) Chloroprene, stabilized – UN 1991
- (2) Ethylene, refrigerated liquid – UN 1038
- (3) Flammable Liquid, N.O.S. (Methyl Methacrylate Monomer, uninhibited) – UN 1993
- (4) Hydrogen chloride, refrigerated liquid – UN 2186
- (5) Hydrogen, refrigerated liquid – UN 1966
- (6) Vinyl fluoride, stabilized – UN 1860

##### 30 day

- (1) Flammable Liquid, N.O.S (Recycled styrene) – UN 1993
- (2) Styrene monomer, stabilized – UN 2055

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## 4.: Exceptions for U.S. Government Material

Department of Energy (DOE) and Department of Defense (DOD) shipments made for the purpose of national security **and**

- a. accompanied by escorts (personnel specifically designated by or under the authority of DOD or DOE) are **not** subject to DOT regulations or to the instructions in this document.

- b. Escorts must travel in a separate transport vehicle from the rail car carrying the hazardous material.
- c. Escorts must have, in their possession, a document certifying that the shipment is for the purpose of national security.

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## 5.: International Shipments

International shipments of hazardous material (including shipments to and from Mexico and Canada), moving with proper international documents and international placards, may be transported in the United States (U.S.):

- a. from a U.S. port of entry to their U.S. destination;
- b. when moving through the U.S. to a foreign destination;
- c. from a U.S. point of origin to the international port of entry, when the cars are either:
  - (1) returning residue/empty shipments; **or**
  - (2) regulated internationally but not in the U.S.

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## 6.: Making and Documenting a Positive Hand-off of Rail Security-Sensitive Materials (RSSM)

a. A positive hand-off of a RSSM shipment must be made when:

(1) Receiving a RSSM shipment from the shipper at any location.

(2) Receiving/delivering a RSSM shipment in interchange.

or

(3) Delivering a RSSM shipment within an High Threat Urban Area (HTUA).

b. A positive hand-off must be:

(1) Attended by an employee or representative of the railroad and an employee or representative of the shipper/receiver or interchanging railroad.

**Note:** If entrance to the shipper's or receiver's facility is controlled from a security room inside the plant, then consider person in the security room as being "present" and the rail car being attended.

(2) Documented by the railroad employee or representative attending the positive hand-off by recording the:

(a) car initial and number;

(b) first and last name of the individual who attended the transfer;

\_\_\_\_\_ (c) location of the transfer;

\_\_\_\_\_ and

\_\_\_\_\_ (d) date and time of the transfer on the work order or other appropriate documents.

**Note:** When accepting/receiving or delivering the RSSM shipment, provide your name to the shipper/receiver or interchanging railroad if requested.

c. If the representative of the shipper/receiver is not present or refuses to provide the required information,

\_\_\_\_\_ (1) notify the train dispatcher or your immediate supervisor, as appropriate;

\_\_\_\_\_ (2) do not pull or spot the RSSM shipment;

\_\_\_\_\_ (3) retain possession of the non-delivered RSSM shipment until completion of assignment;

\_\_\_\_\_ and

\_\_\_\_\_ (4) report the non-delivered shipment as work not done on the work order.

d. If the representative of the interchanging railroad is not present at the interchange or refuses to provide the required information, contact the train dispatcher or your immediate supervisor, as appropriate, for instructions.

e. Notify the train dispatcher immediately when a loaded RSSM shipment:

\_\_\_\_\_ (1) is set out as a bad order at other than the origin station, whether through-freight or yard/local jobs;

\_\_\_\_\_ (2) is not handled in accordance with work order instructions (scheduled work events) when traveling in a train of type "THRU".

## **System Special Instruction**

### **Add:**

#### **6. Making and Documenting a Positive Hand-off of Rail Security-Sensitive Materials (RSSM)**

a. A positive hand-off of a RSSM shipment must be made when:

(1) Receiving a RSSM shipment from the shipper at any location.

(2) Receiving/delivering a RSSM shipment in interchange.



or

(3) Delivering a RSSM shipment within an High Threat Urban Area (HTUA).

b. A positive hand-off must be:

(1) Attended by an employee or representative of the railroad and an employee or representative of the shipper/receiver or interchanging railroad.

**Note:** If entrance to the shipper's or receiver's facility is controlled from a security room inside the plant, then consider person in the security room as being "present" and the rail car being attended.

(2) Documented by the railroad employee or representative attending the positive hand-off by recording the:

(a) car initial and number;

(b) first and last name of the individual who attended the transfer;

(c) location of the transfer;

and

(d) date and time of the transfer on the work order or other appropriate documents.

**Note:** When accepting/receiving or delivering the RSSM shipment, provide your name to the shipper/receiver or interchanging railroad if requested.

c. If the representative of the shipper/receiver is not present or refuses to provide the required information,

(1) notify the train dispatcher or your immediate supervisor, as appropriate;

(2) do not pull or spot the RSSM shipment;

(3) retain possession of the non-delivered RSSM shipment until completion of assignment;

and

(4) report the non-delivered shipment as work not done on the work order.

d. If the representative of the interchanging railroad is not present at the interchange or refuses to provide the required information, contact the train dispatcher or your immediate supervisor, as appropriate, for instructions.

e. Notify the train dispatcher immediately when a loaded RSSM shipment:

(1) is set out as a bad order at other than the origin station, whether through-freight or yard/local jobs;

(2) is not handled in accordance with work order instructions (scheduled work events) when traveling in a train of type "THRU".

## **General Order**

### **Add to item 6:**

e. Notify the train dispatcher immediately when a loaded RSSM shipment:

(1) is set out as a bad order at other than the origin station, whether through-freight or yard/local jobs;

(2) is not handled in accordance with work order instructions (scheduled work events) when traveling in a train of type "THRU".

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Updated: 9/24/2011

## Section II - Required Documentation

- [1.: General Documentation Requirements](#)
- [2.: Checking for Acceptable Shipping Papers](#)
- [3.: Reviewing Shipping Description Entries](#)
- [4.: Checking for Hazardous Material Response Information](#)
- [5.: Checking for Position-in-Train Document](#)
- [6.: Handling Hazardous Waste Shipping Papers and Manifests](#)
- [7.: Handling Requests for Shipping Papers or Hazardous Material Response Information](#)

### 1.: General Documentation Requirements

The following documents are required when accepting and/or transporting a hazardous material shipment by rail:

- a. Acceptable **shipping papers** (see item 2 below and Table 3 on page 8);
- b. Appropriate **hazardous material response information** (see item 4 and Table 4, page 14); and
- c. Current **position-in-train document** (see item 5, page 14).

*Notes:*

1. This documentation provides railroad and emergency response personnel with accurate information about each hazardous material being transported, including its location in a train.  
Update all documentation as soon as work assignments are completed. Be sure to keep all current hazardous material
2. documents neat, orderly, and available on or near the train in case of an emergency or for inspection. Properly discard superseded documents to eliminate the possibility of confusing or inconsistent information.

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### 2.: Checking for Acceptable Shipping Papers

A member of the crew must have, in their possession, a paper copy of an **acceptable shipping paper** (see Table 3, page 8)

- a. with the required shipping description entries (see item 3, pages 9-13) for each hazardous material in the shipment, whether loaded or residue/empty, when:
  - (1) **accepting/pulling** a hazardous material shipment from a customer's facility, interchange point, or other location (pick-up point);
  - (2) **switching** a hazardous material shipment **outside** a yard;  
*Exception:* When moving a hazardous material shipment within a yard or at a customer's facility, interchange point, or other location, crews are not required to have shipping papers in their possession.
  - (3) **moving** a hazardous material shipment in a train;
  - (4) **setting out** a hazardous material shipment at a customer's facility, interchange point, or other set out point.  
*Exception:* Although they may remain placarded and/or marked, **residue/empty** tank cars of Class 9 and Elevated Temperature Materials do not require hazardous material shipping papers and hazardous material response information.

*Table 3*

**Acceptable Shipping Papers**

Any one of the following documents is acceptable as a shipping paper for a hazardous material shipment. The document must include the required shipping description entries **and** be legible and printed (manually or mechanically) in English. (see item 3, pages 9-13).

1. **Railroad-produced documents** — for example:  
Train Lists, waybills, work orders, or other similar documents;
2. **Connecting carrier's documents**;
3. **Hand-printed document** (printed, not cursive letters).

*Note:* This hand-printed document is **not** acceptable when pulling a hazardous material shipment at a customer's facility, interchange point, or other location; **however**, a hand-printed document is acceptable to correct a problem found during transportation (see item 2c, page 9); *or*

4. A United Parcel Service (UPS) produced document or a copy thereof.

b. **When accepting/pulling a shipment** from a customer's facility, interchange point, or other location (pick-up point) **and** the shipping papers are not available/present:

- Do **not** accept/pull any shipment, hazardous material or not, unless the car is listed on your work order **and**, if that
- (1) shipment is a hazardous material, the proper shipping description entries are listed after the "HAZARDOUS MATERIALS RESPONSE INFORMATION" section on the Train List under "ANTICIPATED PICKUP AT . . .".

*Note:* When accepting/picking up an interchange train outside of a yard and a shipment without acceptable shipping papers is found, move the train to the first location where the shipment(s) without shipping papers can be set out and then set out the shipment(s) without shipping papers. If entries are available from the train dispatcher, follow the instructions under item 2c on page 9.

- (2) Leave the first shipment **not** listed on your work order **and all** following cars in that cut behind at the customer's facility or interchange point within a yard.

*Note:* This instruction does **not** apply to intraplant switching or to cars left off-spot by UPRR crews. It applies **only** to the cut of cars listed on the work order to be pulled.

c. **During transportation** when the shipping papers are not available, contact the train dispatcher or your supervisor, and request the shipping papers.

- (1) If the actual shipping papers **cannot** be provided, but the required entries (see item 3, pages 9-13) are available, legibly print the entries on a sheet of paper or on your Train List and keep them available during transportation.
- (2) If, after checking, the shipping description entries are still not available, move the train to the first location where the shipment(s) without shipping papers can be set out and then set out the shipment(s) without shipping papers.

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### 3.: Reviewing Shipping Description Entries

Review the shipping description entries for each hazardous material on the shipping papers and make sure that the following entries (see items a-g in the boxes on pages 10-12) are present. (Figure 1 on page 10 shows the railroad standard format for displaying shipping description entries.)

a. **When accepting/pulling a shipment** from a customer's facility, interchange point, or other location **and** all required shipping description entries are not present, do **not** accept/pull the shipment. Leave the first shipment without the required shipping description entries and **all following cars in that cut** behind at the customer's facility or interchange point (see Note under item 2b(2) on previous page).

c. **During transportation** when all required hazardous material shipping description entries are not present on the shipping paper, contact the train dispatcher or your supervisor and request the required shipping description entries.

- (1) If the required shipping description entries (see item 3, pages 9-13) are available, legibly print the entries on a sheet of paper or on your Train List and keep them available during transportation.  
If, after checking, the shipping description entries are still not available, move the train to the first location where the
- (2) shipment(s) without shipping papers displaying the appropriate shipping description entries can be set out and then set out the shipment(s) without shipping papers displaying the appropriate shipping description entries.

Figure 1

### Shipping Description Entries

Vertical Format (*Railroad Standard*)

GATX 12345 (a)	1/TC (b)
***** (h13)	SULFURIC ACID (c)
* DANGEROUS *	8 (d)
*****	UN1830 (e)
EMERGENCY CONTACT:	PG II (f)
800-424-9300 (g)	RQ (SULFURIC ACID) (h3)
	HAZMAT STCC = 4930040 (h11)

Notes: Items (a)-(g) are required entries for the basic hazardous material description. Item (h) refers to additional entries that may appear. Typically, items (b)-(f) are in the sequence shown; however, certain items (technical name and subsidiary hazard class) may appear in parentheses between items (b)-(f). The identification number (e) may be found either before the proper shipping name (c) or after the hazard class (d) until January 1, 2013 when the identification number must appear before the proper shipping name (c).

**Reporting Marks (Initials) and Number** The shipping paper for a rail car, freight container, transport vehicle, or portable

a. tank must include the reporting mark and number **only** when the reporting mark and number are displayed on the rail car, freight container, transport vehicle, or portable tank.

**b. Total Quantity Notation**

For empty packagings, bulk packagings, or cylinders of Class 2 materials, an indication of the total quantity must be

- (1) shown. Some abbreviations are acceptable; for example, "1/TC" (1 tank car), "1/CL" (1 car load), or "10 CYL" (10 cylinders).
- (2) For non-bulk packaging, the total quantity is given by both the:
  - (a) weight or volume (including the unit of measure); for example, "100 LB", "55 GAL", "5 KG", or "208 L"; and
  - (b) number and type of package; for example, "12 drums", "12 drums (UN 1A1)", "15 4G", or "UN 3H1JERRICAN".
- (3) For Class 1 materials, the quantity must be the net explosive mass.

**c. Proper Shipping Name**

The proper shipping name of the hazardous material may be one or more words, such as "CHLORINE" or "SULFURIC

(1) **ACID**". The proper shipping name may include a number that indicates the concentration of the material.

When a N.O.S. (Not Otherwise Specified) shipping name appears, the technical name of the product may appear in parentheses immediately after the N.O.S. shipping name; for example, "CORROSIVE LIQUID, N.O.S. (CAPRYL

(2) **CHLORIDE)**".

Residue/empty shipments in tank cars will begin with "RESIDUE: LAST CONTAINED," followed by the proper shipping

(3) name.

For waste shipments, the word "WASTE" will precede, or be part of, the proper shipping name of the material.

(4)

**Hazard Class – numeric or worded** (See list of hazard classes and divisions in Table 1, page 5.)

d.

(1) For certain hazardous materials, a subsidiary hazard class will appear in parentheses after the primary class. For example, Ethylene Oxide is listed as "2.3 (2.1)".

(2) The worded hazard class need not be repeated for **COMBUSTIBLE LIQUIDS, N.O.S.** shipments.

(3) Classes 1.1, 1.2, 1.3, 1.4, 1.5, and 1.6 may show a compatibility group letter after the class (for example, **1.1A**). The letter has no significance in rail transportation.

#### e. Identification Number

The 4-digit identification number must include the prefix "UN" (United Nations) or "NA" (North America) as appropriate.

*Note:* The identification number(e) may appear either before the proper shipping name(c) **or** after the hazard class(d) in the shipping description entries until January 1, 2013 when the identification number must appear before the proper shipping name (c).

*Exception:* Identification numbers are not required when the proper shipping name is "gas generator assemblies for aircraft."

#### f. Packing Group

The packing group must appear on the shipping papers in Roman numerals ("I", "II", or "III"). The packing group may be preceded by the letters "PG" ("PG I", "PG II", or "PG III").

*Exception:* Classes 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3, 4.1 (self-reactive liquids or solids, types B-F), 5.2, 6.2, 7, and ORM-D do not require the packing group notation.

#### Emergency Response Telephone Number

g. Shipping papers for hazardous material shipments must show a 24-hour emergency response telephone number. This telephone number must include the area code or international access code.

*Exception:* Emergency response telephone numbers are **not** required when the hazardous material is shown as a "LIMITED QUANTITY", "LTD QTY", or its proper shipping name is:

- (1) battery powered - equipment or vehicle;
- (2) carbon dioxide, solid or dry ice;
- (3) castor - bean, meal, flake, or pomace;
- (4) consumer commodity;
- (5) engines, internal combustion;
- (6) fish - meal or scrap, stabilized;
- (7) fumigated unit;
- (8) refrigerating machine;
- (9) wheelchair, electric;
- (10) vehicle, flammable gas powered or vehicle, flammable liquid powered.

#### h. Additional Description Entries

Some hazardous material shipping descriptions also may require one or more of the following entries:

- (1) "Residue: Last Contained ..." (for packages emptied to the maximum extent possible);
- (2) "HOT" notation added before a proper shipping name for elevated temperature materials;
- (3) "RQ" for Reportable Quantity notation of a hazardous substance;

- (4) "MARINE POLLUTANT" notation;
  - (5) "POISON" or "TOXIC" notation;
  - (6) "POISON(TOXIC)-INHALATION HAZARD (PIH or TIH)" or "INHALATION HAZARD (IH)" notation;
  - (7) Hazard Zone notation ("ZONE A," "ZONE B," "ZONE C," or "ZONE D");
  - (8) "LIMITED QUANTITY" or "LTD QTY" notation;
  - (9) FRA Movement Approval (for example, "FRA 0109123"), DOT Special Permit (for example, "DOT-SP 9271", Special Approval Number (for example, "SA 920403"), or Competent Authority Number (for example, "CA 9701001");
  - (10) DOT-113 notation ("DOT-113, Do Not Hump or Cut-Off in Motion");
  - (11) Hazardous Materials Response Code (STCC numbers "48xxxx" or "49xxxx");
  - (12) certain shipments described using Canadian regulations may contain both an Emergency Response Plan number and its activation telephone number [for example, "ERP-2-1008 (800-555-5555) // SPECIAL COMMODITY"];
  - (13) box of asterisks with or without wording (not required by DOT, but may appear on railroad-produced documents);
  - (14) Shipper's Certification (see Glossary, item ae, page 53);
  - (15) additional radioactive material entries;
  - (16) name and address of the place of business in Canada of the consignor/consignee;
  - (17) additional hazardous waste shipping description
  - (18) for international shipments, the following additional information may be present - "DANGEROUS GOODS IN EXCEPTED QUANTITIES" with an indication of the number of packages.
- Note:* Voluntary January 1, 2009; mandatory January 1, 2010.

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## 4.: Checking for Hazardous Material Response Information

- a. Before accepting and transporting a hazardous material shipment, make sure a copy of the hazardous material response information is available for the shipment (see Table 4 below).

*Note:* Hazardous material response information is not required to be in the switch crew's possession when moving a hazardous material shipment within a yard or at a customer's facility.

- b. When hazardous material response information is **not** available, do **not** accept or transport the car.

*Table 4*

### Acceptable Hazardous Material Response Information

Either of the following documents is acceptable as hazardous material response information:

1. Hazardous material response information printed as part of the Train List, /RD Track List, or TTH inquiry;

*Note:* Information for another shipment of the same hazardous material already on the Train List is acceptable.  
or

2. *Emergency Response Guidebook* (ERG).

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## 5.: Checking for Position-in-Train Document

Before moving a hazardous material shipment in a train, make sure a member of the crew has a Train List or other document showing the current position in the train of each hazardous material shipment (loaded and residue/empty). This document may

- a. be computer-generated or hand-printed.  
When making pickups or setouts, update the position-in-train document before proceeding.

*Note:* The train crew can update the position-in-train document with hand-printed notes or by attaching another document to it.

- b. If the document indicating the current position-in-train of each hazardous material is **not** available:

- (1) Update the documents already in your possession;

*or*

Create a hand-printed list showing the position-in-train of each hazardous material shipment.

- (2) *Note:* The list must show the reporting marks and number for each hazardous material shipment in the train and its actual position in the train.

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## 6.: Handling Hazardous Waste Shipping Papers and Manifests

- a. The shipping paper for a hazardous waste shipment must have the following entries in addition to those required for other hazardous material shipments:

- (1) proper shipping description;
- (2) name, address, and telephone number of the hazardous waste generator;
- (3) name and address of the hazardous waste disposal facility;
- (4) name of transporter(s);
- (5) waste manifest number;
- (6) special handling instructions.

- b. When accepting/pulling a hazardous waste shipment, pick up the car containing hazardous waste as long as you have railroad-produced shipping papers containing the manifest entries (see item 6a above) even though you do **not** have a copy of the hazardous waste manifest.

*Note:* If given the hazardous waste manifest:

- (1) Sign the hazardous waste manifest as requested.
- (2) Return a copy of the hazardous waste manifest to the person requesting the signature.
- (3) Mail the remaining copies of the hazardous waste manifest to the National Customer Service Center (NCSC).

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## 7.: Handling Requests for Shipping Papers or Hazardous Material Response Information



When receiving a request for shipping papers or hazardous material response information from a railroad employee, regulatory enforcement officer, or emergency response personnel in an emergency:

(a) Share **all** the information on the shipping papers for the shipment.

(b) Share **all** available hazardous material response information.

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Updated: 4/28/2010

## Section III - Inspection

- [1.: General Requirements](#)
- [2.: Inspection Procedures](#)
- [3.: Handling Defects](#)

### 1.: General Requirements

Hazardous material shipments must be inspected to make sure they are in acceptable condition for transportation.

- Inspect **all** loaded and residue/empty hazardous material shipments at the following points:
  - Before accepting them from the shipper;
  - When receiving them in interchange;  
*Note:* Run-through trains received in interchange may continue to the next location where an inspection is required.
  - When placing them in a train.
- Accept or transport **only** those hazardous material shipments that conform to these instructions. For shipments that do not conform, notify your supervisor and note the shipment as "Work Not Done" on the work order.

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### 2.: Inspection Procedures

In addition to inspecting rail cars for compliance with air brake and train handling rules, visually inspect each loaded or residue/empty hazardous material shipment (including flat cars transporting placarded or marked trailers or containers) **from ground level** (do **not** climb on or go under the car) and check for:

- leaking contents;
- required placards and markings (including stenciling, car certificates, and tank car qualification dates when appropriate) (see Section IV - Placards and Markings, page 21);
- secure fastening of closures and intact condition of seals; **and**
- signs of tampering - such as suspicious items or items that do not belong, the presence of an "Improvised Explosive Device" (IED), and other signs that the security of the car may have been compromised.

*Note:* Where an indication of tampering or a foreign object is found, take the following actions:

- Do not accept or move the rail car.
  - Immediately move yourself and others to a safe location away from the rail car before using radios and cell phones to make notifications.  
For cars at a customer's facility, immediately contact local plant personnel. If local plant personnel are not available or
  - cannot explain what you see, immediately contact the train dispatcher or the Response Management Communications Center (RMCC) at 1-888-877-7267 for instructions.
  - For cars on interchange tracks or in the yard, immediately contact the yardmaster, train dispatcher, or the RMCC at 1-888-877-7267 for instructions.
- Inspecting All Hazardous Material Shipments** (*from ground level*)
    - In addition to completing other inspection requirements in this section, make sure that the hazardous material shipment is not leaking.

- (a) Look for leaking contents – drips, wetness, or material on the car or on the ground.
  - (b) Look for a vapor cloud.
  - (c) Listen for hissing sounds of the contents escaping.
  - (d) **Take these actions when there is any sign of leakage:**
    - (i) Follow the instructions in Section VIII - Emergency Response, pages 44-46.
    - (ii) Do **not** accept a hazardous material shipment or allow one to continue in transportation until the leak is controlled.
 

*Note:* Leaking hazardous material shipments may be moved without repair or approval, with proper railroad authority, **only** as far as necessary to reduce or eliminate the immediate threat of harm to human health, the environment, or railroad operations within a yard. If further movement of a leaking hazardous material shipment is required, a written Movement Approval must be obtained from DOT authorizing the conditions of the move.
    - (iii) When it is necessary to move a leaking hazardous material shipment, use an adequate number of buffer cars between the locomotive and the leaking car to prevent chemical exposure.
- (2) Make sure placards and markings are appropriate for the shipment and displayed correctly (see Section IV, Placards and Markings, pages 21-34).
- (3) Before accepting a hazardous material shipment from the shipper, make sure that:
- (a) all customer loading and unloading lines are disconnected;
  - (b) derails, chocks, and blue flags are removed;
  - (c) all platforms are raised or are in the clear.

**Inspecting Placarded/Marked Tank Cars** *(from ground level)*

- b.** In addition to completing other inspection requirements in this section, check placarded tank cars **or** tank cars marked with an identification number to see that:

- (1) protective housing covers are closed;
- (2) manway cover swing bolts are up and in place;
- (3) all valves and fittings appear to be closed and secure;
- (4) visible plugs or caps (including bottom outlet caps) or other fittings are securely in place;

*Note:* When heater coil caps are provided and the shipment is a load, the heater coil caps must be applied.

- (5) each car is equipped with "double shelf couplers" and roller bearings.

**Inspecting Placarded/Marked Gondola Cars** *(from ground level)*

- c.** In addition to completing other inspection requirements in this section:

- (1) Look for loosely fastened gondola covers.
- (2) Make sure the cover or tie downs do not foul any safety appliances.

**Inspecting Placarded/Marked Hopper Cars** *(from ground level)*

- d.** In addition to completing other inspection requirements in this section, check that hopper car discharge gates are closed and secured.

- e. Inspecting Shipments Placarded EXPLOSIVES 1.1 or 1.2** *(from ground level)*

- (1) In addition to completing other inspection requirements in this section, check shipments

Figure 2

**Text of Car Certificate**

\_\_\_\_\_ Railroad  
No 1 \_\_\_\_\_ Station \_\_\_\_\_ 20 \_\_\_\_\_

I hereby certify that I have this day personally examined Car Number \_\_\_\_\_ and that the car is in condition for service and complies with the FRA Freight Car Safety Standards (49 CFR Part 215) and with the requirements for freight cars used to transport explosives prescribed by the DOT Hazardous Materials Regulations. (49 CFR Part 174)

\_\_\_\_\_  
Qualified Person Designated Under 49 CFR 215.11

No 2 \_\_\_\_\_ Station \_\_\_\_\_ 20 \_\_\_\_\_

I have this day personally examined the above car and hereby certify that the explosives in or on this car, or in or on vehicles or in containers, have been loaded and braced; that placards have been applied, according to the regulations prescribed by the Department of Transportation; and that the doors of cars so equipped fit or have been stripped so that sparks cannot enter enter.

\_\_\_\_\_  
Shipper or authorized agent

\_\_\_\_\_  
Qualified Person Designated Under 49 CFR 215.11

No 3 \_\_\_\_\_ Station \_\_\_\_\_ 20 \_\_\_\_\_

I hereby certify that I have this day personally supervised the loading of the vehicles or containers on, and their securement to, the above car car.

\_\_\_\_\_  
Shipper or railway employee inspecting loading and securement

*Note 1: A shipper must decline to use a car not in proper condition.*

*Note 2: All certificates, where applicable, must be signed.*

placarded EXPLOSIVES 1.1 and 1.2 for the following:

- (a) Look for indications of damage to the contents.
- (b) Make sure that completed "car certificates" (see Figure 2 above) are displayed on both sides of the rail car.
  - (i) Car certificates must be removed after the rail car, trailer, or container is unloaded.
  - (ii) Car certificates are either 7.1 by 7.1 inches or 5.9 by 7.9 inches in size.
- (2) Do not accept or transport the car until all damage has been corrected and car certificates are in place.

- (3) When car certificates are lost in transit, inspect the shipment and replace the car certificates at the next terminal where the train is classified. (Use Union Pacific Form 29065 or other format similar to Figure 2 above.)

f. **Inspecting Placarded/Marked Intermodal Shipments** (*from ground level*)

In addition to completing other inspection requirements in this section:

- (1) Make sure that an intermodal tank container of hazardous material is not transported with a container above or below the tank.
- (2) Make sure that placards are fully visible when containers are loaded in a well car.
- (3) Make sure that intermodal tanks are placed so that the bottom outlet valve points toward the ends of the well or platform.

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### 3.: Handling Defects

When a hazardous material shipment does not appear to be prepared for transportation:

- a. Do **not** accept or pull the hazardous material shipment or allow it to continue in transportation.
- b. Notify the customer, train dispatcher, yardmaster, or your immediate supervisor, as appropriate, and explain the problem.

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Updated: 4/28/2010

## Section IV - Placards and Markings

- [1.: General Requirement](#)
- [2.: Placard Requirements](#)
- [3.: Inspecting for Placards](#)
- [4.: Inspecting for Markings](#)

### 1.: General Requirement

Hazardous material shipments, whether loaded or residue/empty, must **not** be accepted for transportation or transported unless they are properly placarded and marked. Not all hazardous material shipments require placards.

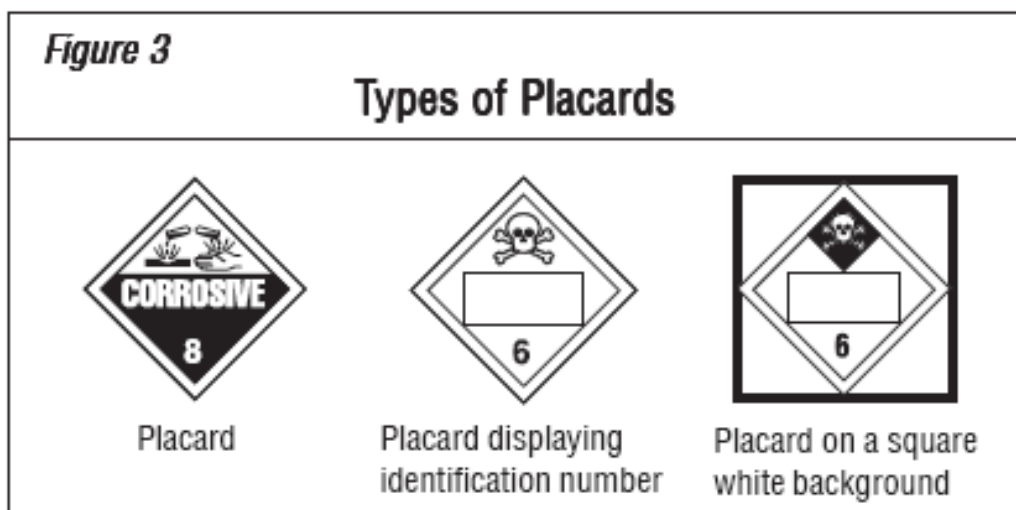
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### 2.: Placard Requirements

Each rail car, freight container, trailer, transport vehicle, or bulk packaging containing a hazardous material must be placarded on each side and each end in accordance with the instructions below.

*Note:* Unless the shipping papers indicate that the shipment is a limited quantity, all international (including Canada and Mexico) shipments of hazardous material require placards.

**Placard** - a sign measuring 10.8 in (273 mm) by 10.8 in (273 mm) square-on-point, communicating a hazard by symbol, color, and words or numbers (when displayed). (See Figure 4, pages 24 and 25 for pictures of placards.)



- a. Placards are required when transporting **any quantity** (bulk or non-bulk) of the following hazard classes:
- 1.1 Explosive with mass explosion hazard;
  - 1.2 Explosive with projection hazard;
  - 1.3 Explosive with predominantly fire hazard;
  - 2.3 Gas poisonous/toxic by inhalation;
  - 4.3 Dangerous when wet material;

5.2 Organic peroxide, Type B, liquid or solid, temperature controlled;

6.1 Material poisonous/toxic by inhalation;

7 Radioactive Yellow III shipments or exclusive use shipments of low specific activity (LSA) materials and surface contaminated objects.

b. Placards are required when transporting a total weight of **1001 lb (454 kg) or more** (bulk or non-bulk) of the following hazard classes:

1.4 Explosive with no significant blast hazard;

*Note:* Placards are not required for Class 1.4S materials.

1.5 Very insensitive explosive - blasting agents;

1.6 Extremely insensitive detonating substances;

2.1 Flammable gas;

2.2 Nonflammable, nonpoisonous/nontoxic compressed gas;

3 Flammable liquid;

4.1 Flammable solid;

4.2 Spontaneously combustible material;

5.1 Oxidizer;

5.2 Organic peroxide, other than "organic peroxide, Type B, liquid or solid, temperature controlled" (item 2a on the previous page);

6.1 Poisonous/toxic material (other than material poisonous/toxic by inhalation);

*Note:* For domestic (US/Canada) transportation of Class 6.1 PG III materials, a POISON (TOXIC) placard may be used in place of a PG III.

8 Corrosive material;

9 Miscellaneous hazardous material;

*Exception:* For U.S. transportation, Class 9 placards are not required; however, bulk shipments of Class 9 materials in the U.S. must be marked with the identification number (see item 4a, pages 28-29).

Combustible Liquids [see item 2c(7) on the next page for non-bulk packaging];

Mixed hazardous material classes in this item (see item 2f on the next page).

c. Placards are **not** required for:

(1) Hazardous material shipments with less than 1001 lb (454 kg) total weight, when the classes are included in item 2b (above).

(2) ORM-D (Other Regulated Materials - D);

(3) Class 6.2 (Infectious Substances);

(4) Class 9 (U.S. transportation) materials that display the identification number;

(5) Limited Quantity (LTD QTY) shipments when identified as such on shipping papers;

(6) Cryogenic atmospheric gases, other than Oxygen (for example, Argon);

(7) Combustible liquids in non-bulk packaging (for example, drums), usually found in intermodal shipments, unless the material is a hazardous substance or hazardous waste;

(8) Rail cars and intermodal tanks that previously transported hazardous materials but have been cleaned and purged;

(9) Shipments listed as Radioactive White I or Radioactive Yellow II on shipping papers;

(10) Class 1.4S;

(11) Shipments of molten sulfur moving to the United States from Canada, provided the identification number and the words "MOLTEN SULFUR" appear on each side of the tank car.

d. Placards may be displayed on a hazardous material shipment, even when not required, provided the placard is appropriate for the contents of the shipment.

*Note:* If displayed, then all instructions for that placard apply.

When required to be affixed to a rail car, certain hazard classes require the display of the primary placard on a white square background, including: (See Figure 3, page 21.)

e.

(1) Class 1.1 or Class 1.2 explosives;

(2) Class 2.3 Zone A **or** Class 6.1 Hazard Zone A poison/toxic-inhalation hazard material, including tank cars containing only a residue of the material;

(3) Division 2.1 flammable gases in cryogenic form loaded in DOT-113 tank cars, including tank cars containing only a residue of the material.

f. When a rail car, trailer, or container is loaded with 1,001 lb (454 kg) or more of non-bulk packages involving two or more classes of hazardous materials from item 2b, page 22, either the DANGEROUS placard or the separate placards for each hazard class may be displayed.

*Note:* When the DANGEROUS placard is displayed and 2,205 lb (1,000 kg) or more of one class of material is loaded at one loading facility, the placard for that class as specified in item 2b, page 22, must also be displayed.

Adobe Acrobat file of [Placards for Hazardous Materials by Hazard Class-pg 24](#)

Adobe Acrobat file of [Placards for Hazardous Materials by Hazard Class-pg 25](#)



**Figure 4**  
**Placards for Hazardous Materials by Hazard Class**

**Class 1 (Explosives)**



Division 1.1  
(Explosive with Mass Explosion Hazard)



Division 1.2  
(Explosive with Projection Hazard)



Division 1.3  
(Explosive with Pre-dominantly a Fire Hazard)



Division 1.4  
(Explosive with No Significant Blast Hazard)



Division 1.5  
(Very Insensitive Explosive)



Division 1.6  
(Extremely Insensitive Explosive)

**Class 2 (Gases)**



Division 2.1 (Flammable Gas)



Division 2.1 (Flammable Gas in cryogenic form in DOT 113 Tank Car)



Division 2.2 (Nonflammable Gas)



Canadian Anhydrous Ammonia



Division 2.3 Zone A (Poison Gas)



Division 2.3, Zone B, C or D (Poison Gas)



**Notes:** The word "TOXIC" can be used in place of the word "POISON." May appear in conjunction with U.S. "POISON" GAS placard (INHALATION HAZARD CLASS 2) on Canadian or International Shipments.



Oxygen



**Class 3 (Flammable Liquids)**



Class 3 (Flammable Liquid)



**Combustible Liquids**



Combustible Liquid



**Class 4 (Flammable Solids & Reactive Solids/Liquids)**



Division 4.1 (Flammable Solid)



Division 4.2 (Spontaneously Combustible Material)



Division 4.3 (Dangerous When Wet Material)



**Class 5 (Oxidizers & Organic Peroxides)**



Division 5.1 (Oxidizer)



Division 5.2 (Organic Peroxide)



Valid through 2010 U.S. & Canada Only



**Class 6 (Poisonous Materials)**



Division 6.1 Zone A (Poison Inhalation Hazard or PIH)



Division 6.1 Zone B, (Poison Inhalation Hazard or PIH)



Division 6.1 PG I, PGII (Poison) or PG III



Division 6.1 PG III

**Note:** The word "TOXIC" can be used in place of the word "POISON."

**Class 7**



Class 7 (Radioactive Material)

**Class 8**



Class 8 (Corrosive Material)



**Class 9 (Miscellaneous Hazardous Materials)**



Class 9 (Miscellaneous Hazardous Material)



**Mixed Load**



U.S.



Canadian

Text indicating the hazard is not required on placards other than the DANGEROUS and RADIOACTIVE placards. Worded hazard class text, except for DANGEROUS and RADIOACTIVE, does not have to be in English as long as the size, color, hazard class, and symbol are correct.

- g. Some shipments of hazardous material require subsidiary placards that represent secondary hazards. Subsidiary placards must **not** display a 4-digit identification number, but will display the class number at the bottom.  
*Note:* Subsidiary placards must be displayed when the subsidiary hazard class is 2.3 or 6.1 with the notation Poison-Inhalation Hazard or Toxic-Inhalation Hazard present on the shipping papers **or** when the subsidiary hazard class is 4.3.
- h. For residue/empty hazardous material shipments, the rail car, trailer, or container must remain placarded in the same manner as the loaded shipment, unless the packaging:
- (1) has been cleaned of residue; *or*
  - (2) has been purged of vapor to remove any hazard; *or*
  - (3) has been refilled, with a material requiring different placards or no placards, to such an extent that any residue remaining in the packaging is no longer hazardous; *or*  
contains a residue of an elevated temperature material;
  - (4) *Note:* This material may remain placarded in the same manner as when it contained a greater quantity even though the material no longer meets the definition of an elevated temperature material.  
*or*  
contains a residue of a Hazardous Substance, Class 9, that does not meet the definition of another hazard class/division and is not a hazardous waste or marine pollutant.
  - (5) *Note:* This materials may remain placarded in the same manner as when it contained a greater quantity even though the material no longer meets the definition of a Hazardous Substance, Class 9.

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### 3.: Inspecting for Placards

- a. Make sure that all required placards are:
  - (1) consistent with the shipping description entries on the shipping papers;
  - (2) on both sides and both ends of the shipment;
  - (3) in placard holders or securely attached to the rail car, trailer, or container;
  - (4) not damaged, faded - color should be similar to the color printed in this document (see Figure 4, Placard Chart, pages 24-25), or obscured by dirt or car part;
  - (5) oriented horizontally, so you can read them from left to right;
  - (6) readily visible from the direction they face, except from the direction of another rail car, trailer, or container to which the placarded rail car, trailer, or container is coupled.
- b. When **picking up** a hazardous material shipment at the customer's facility or siding, and a placard is not correct, does not meet the standards above, or is missing:
  - (1) Notify the customer, train dispatcher, yardmaster, or your supervisor, as appropriate.
  - (2) Do not accept the hazardous material shipment until corrections have been made.
- c. When a placard does not meet the standards above or is discovered missing **en route**, notify the train dispatcher, yardmaster, or your supervisor, as appropriate. Corrections must be made at the next terminal or inspection point.

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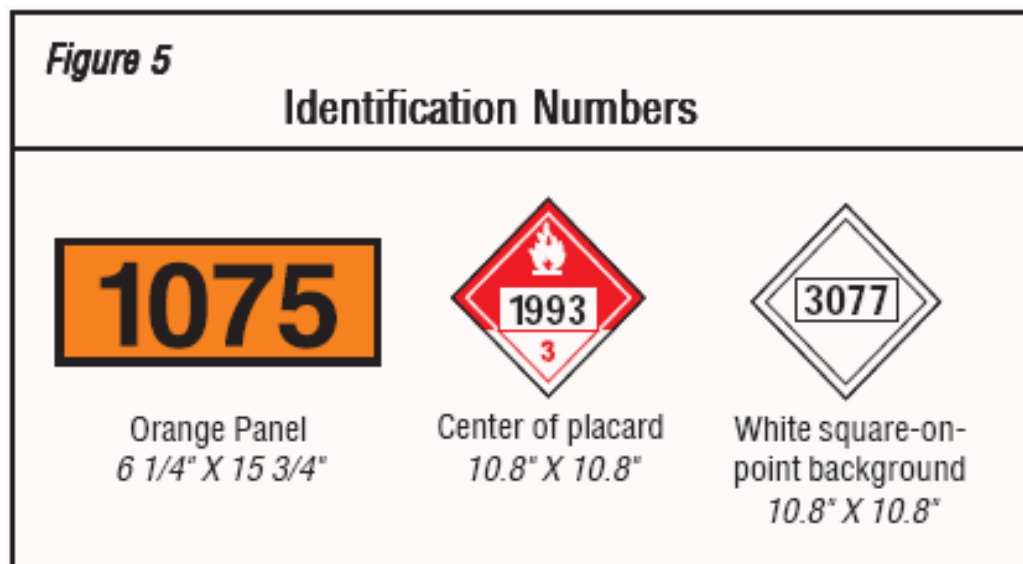
## 4.: Inspecting for Markings

**Marking** - a descriptive commodity name, identification number, caution, such as INHALATION HAZARD, HOT, MOLTEN, MARINE POLLUTANT, FUMIGANT, NON-ODORIZED (NOT ODORIZED), or tank car qualification date displayed on hazardous material shipments.

Make sure the markings listed above are displayed on bulk packagings of hazardous material as follows:

### a. Inspecting for Identification Number Marks

- (1) Identification numbers can be displayed in one of three ways, as Figure 5, below shows:



- (2) Identification number markings must appear on the placard or in proximity to the placard, when placard is displayed, on both sides and both ends of a:
  - (a) **bulk package** of hazardous material (includes Class 9 materials when no placard is required);  
*Note:* Identification number markings are not required on the ends of multi-compartmented tank cars transporting more than one hazardous material having different DOT identification numbers.

- (b) rail car, trailer, and container loaded with 8820 lb (4000 kg) or more of **non-bulk packages** of hazardous material meeting the following conditions:
  - (i) Non-bulk packages when all contents have the same proper shipping name and identification number;
  - (ii) Packages were loaded at one location; and
  - (iii) The transport vehicle does not contain any other hazardous or non-hazardous material.

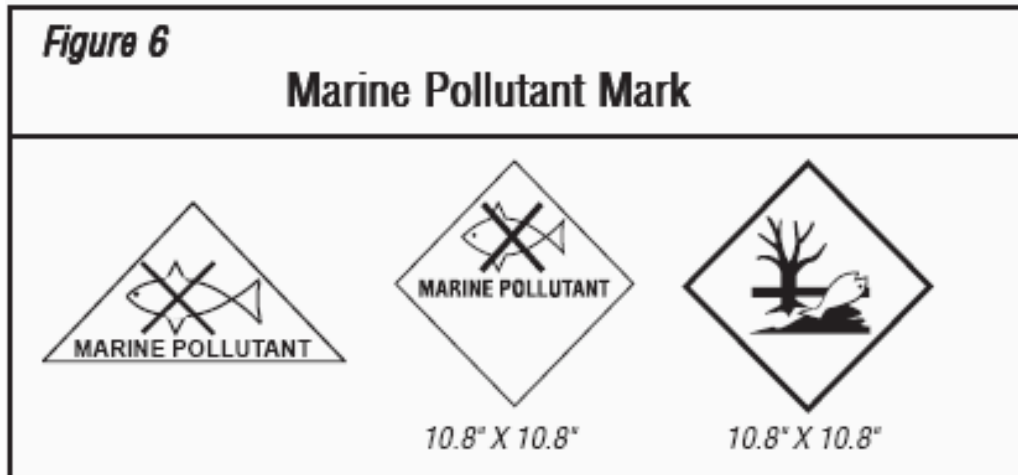
*Exception:* For Canadian shipments of molten sulfur, the identification number marking is only required on both sides of the tank car.

- (3) Identification numbers must **not** be displayed on the following:
  - (a) EXPLOSIVES 1.1, 1.2, 1.3, 1.4, 1.5, or 1.6 placards;
  - (b) Class 7 (RADIOACTIVE) placards;
  - (c) DANGEROUS placards;
  - (d) Subsidiary placards.
- (4) Make sure that the identification numbers appear as required above and agree with the shipping description entries on the shipping papers.
- (5) When **picking up** a hazardous material shipment at the customer's facility, a siding or at an interchange point and the identification number is not correct, is not legible, or is missing:
  - (a) Notify the customer, train dispatcher, yardmaster, or your supervisor, as appropriate.
  - (b) Do not accept the hazardous material shipment until corrections have been made.
- (6) When an identification number is not correct, is not legible, or is missing **en route**, notify the train dispatcher, yardmaster, or your supervisor, as appropriate. Corrections must be made at the next inspection point.

*Note:* Missing identification numbers must be replaced and may be entered on the appropriate placard, orange panel, or white square-on-point configuration by hand using a **black indelible** marker.

**b. Inspecting for MARINE POLLUTANT Marks**

- (1) For a material described on the shipping papers as a marine pollutant and the shipment does not require a placard, make sure the MARINE POLLUTANT mark appears on both sides and both ends of bulk packagings in one of the formats in Figure 6 below.



*Note:* In the U.S., MARINE POLLUTANT marks are **not** required when the bulk packaging is placarded.

- (2) When **picking up** a hazardous material shipment at the customer's facility or siding or at an interchange point, and a required MARINE POLLUTANT mark is not legible or is missing:
  - (a) Notify the customer, train dispatcher, yardmaster, or your supervisor, as appropriate.
  - (b) Do **not** accept the hazardous material shipment until corrections have been made.
- (3) When a required MARINE POLLUTANT mark is not legible or is missing **en route**, notify the train dispatcher, yardmaster, or your supervisor, as appropriate. Corrections must be made at the next inspection point.

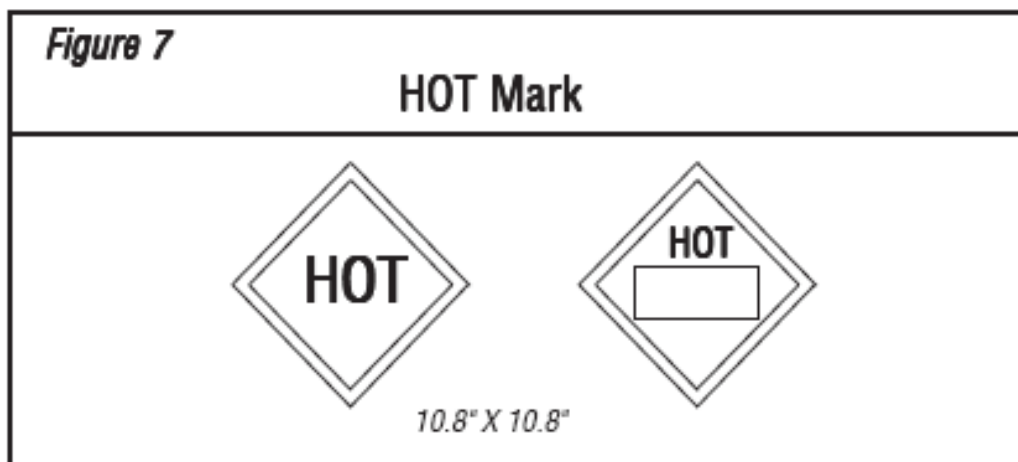
**c. Inspecting for HOT Marks**

- (1) For a material described on the shipping papers with the words "HOT," "ELEVATED TEMPERATURE MATERIAL," or "MOLTEN" and transported in a bulk packaging, the word "HOT" must be marked on two opposing sides of the bulk packaging, either:

- (a) on a plain white square-on-point configuration having the same outside dimensions as a placard (see Figure 7 below);  
or
- (b) on the packaging itself.

*Note:* The word "HOT" is **not** required for bulk packagings of molten aluminum or molten sulfur marked "MOLTEN ALUMINUM" or "MOLTEN SULFUR," as appropriate.

*As Information:* A residue/empty shipment that last contained an elevated temperature material (HOT), such as asphalt, is not considered a hazardous material and does not require hazardous material shipping description entries on the shipping paper. When the shipping paper indicates empty, the shipment may be accepted and moved in rail transportation without the hazardous material shipping description entries, even though the HOT mark and identification number are displayed.



- (2) When **picking up** a hazardous material shipment at a customer's facility or siding or at an interchange point, and a HOT mark is not legible or is missing:
  - (a) Notify the customer, train dispatcher, yardmaster, or your supervisor, as appropriate.
  - (b) Do **not** accept the hazardous material shipment until corrections have been made.
- (3) When a HOT mark is not legible or is missing **en route**, notify the train dispatcher, yardmaster, or your supervisor, as appropriate. Corrections must be made at the next inspection point.

#### d. Inspecting for INHALATION HAZARD Marks

- (1) For a material described on the shipping papers as "Poison (Toxic) - Inhalation Hazard" or "Inhalation Hazard," make sure the words "INHALATION HAZARD" appear (in at least 3.9-inch high letters) on both sides of the rail car, trailer, or container, to the right as you face the car, near the placard.  
*Exception:* When the words INHALATION HAZARD appear on the placards, the INHALATION HAZARD mark is not required on the bulk packaging.
- (2) When **picking up** a hazardous material shipment at the customer's facility or siding or at an interchange point, and the words "INHALATION HAZARD" are illegible or missing:
  - (a) Notify the customer, train dispatcher, yardmaster, or your supervisor, as appropriate.
  - (b) Do **not** accept the shipment until corrections have been made.
- (3) When the "INHALATION HAZARD" mark is illegible or missing **en route**, notify the train dispatcher, yardmaster, or your supervisor, as appropriate. Corrections must be made at the next inspection point.

#### e. Inspecting for Commodity Names

- (1) The commodity name is required on an intermodal tank transporting any hazardous materials and on a tank car transporting certain hazardous materials. The commodity name (3.9 inches in height for tank cars and 2 inches in height for intermodal tanks) must match the proper shipping name on the shipping papers and may include the technical name, although it is not specifically required. The commodity name must be on two opposing sides of the intermodal tank or tank car.
- (2) When **accepting** an intermodal tank or tank car of hazardous material from the shipper or in interchange and the commodity name is illegible or missing:
  - (a) Notify the customer, train dispatcher, yardmaster, or your supervisor, as appropriate.
  - (b) Do **not** accept the shipment until corrections have been made.
- (3) When the commodity name on an intermodal tank or tank car is illegible or missing **en route**, notify the train dispatcher, yardmaster, or your supervisor, as appropriate. Corrections must be made at the next inspection point.

**f. Inspecting for Tank Car Qualification Dates**

- (1) Make sure the stencils describing the tank car specification and qualification dates are legible. These stencils will appear on both sides of the tank car toward the end on the right as you face the car.
  - (2) Check the tank car qualification dates for pressure relief devices (PRD), tank, and interior heater coils to be sure they are current. A tank car is overdue its periodic qualification date after the last day of the year shown in the DUE column. (See Figure 8 on the next page.)
    - (a) When the tank car was loaded after the end of the qualification year, do **not** accept the loaded tank car from the shipper.
    - (b) When the tank car was loaded before the end of the qualification year, it may be accepted from the shipper and transported beyond the qualification year for unloading purposes, but must be requalified before reloading.
- Note:* When a residue/empty tank car is overdue its periodic qualification date, the tank car may move and not be in violation of DOT regulations. The regulations only address **loading** a tank car overdue for its periodic qualification.
- (3) When found in transportation, a tank car with an overdue qualification date may proceed to destination.

Figure 8

**Tank Car Qualification Stencil**

*Tank Car Qualification Stencil (Example of new style)*

**DOT 111A100W1**

		STATION STENCIL	QUALIFIED	DUE
TANK QUALIFICATION		ABC-1	2003	2013
THICKNESS TEST		ABC-1	2003	2013
SERVICE EQUIPMENT		ABC-1	2003	2013
PRD: VALVE	75 PSI	DEF-1	2003	2013
INT HTR	SPGR	FGL-1	2003	2008
LINING		ABC-1	IP	NONE
88.B.2 INSPECTION		ABC-1	2003	2013
STUB SILL INSPECTION		ABC-1	2003	2013

*Tank Car Qualification Stencil (Example of old style)*

**DOT 112J340W**

Safety 280.5  
 Valve LB  
 Tested Due  
 2006 2016  
 Tank 340  
 LB  
 Tested Due  
 2006 2016  
 Heater 200  
 Pipes LB  
 Tested Due  
 2006 2011

**g. Inspecting for Non-Odorized Marks**

*As information:* A tank car or intermodal tank container shipment containing liquefied petroleum gas (LPG) that is unodorized must be legibly marked NONODORIZED or NOT ODORIZED on two opposing sides near the commodity name or near the placards.

The NON-ODORIZED or NOT ODORIZED marks may appear on a tank car or tank container used for both unodorized and odorized LPG. Shippers may include on shipping papers the information that the shipment is not odorized, if they so choose.

**h. Inspecting for FUMIGANT Marks**

(1) *As information*, the purpose of the FUMIGANT mark (see Figure 9 below) is to warn persons unloading the rail car, trailer, or container that it has been fumigated and that they must take appropriate precautions before unloading the car. The (\*) on the mark will be replaced by the name of the fumigant.

(2) The FUMIGANT mark must be in English. However, EPA regulations allow another language in addition to the English version on the same FUMIGANT mark or an additional one.

*Note:* The fumigant marking is required on each point of entry to a trailer or container.

(3) Shipping paper entries for fumigated shipments:

(a) For U.S. shipments, shipping description entries are not required on the shipping papers.

(b) For international (including Canada) shipments, shipping description entries include: UN 3359, Fumigated Unit, name of the fumigant, amount of fumigant, date of fumigation, and any disposal information.

**Figure 9**

**Fumigant Mark**



Actual color of letters and symbol is red.

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Updated: 4/28/2010



## Section V - Switching

- [1.: General Requirement](#)
- [2.: Safety](#)
- [3.: When to Use the Switching Chart](#)
- [4.: How to Use the Switching Chart](#)

### 1.: General Requirement

Switch placarded hazardous material shipments only in compliance with the restrictions on the Switching Chart (see Figure 10, pages 37-38).

**Switching** - "The operation of moving rail cars within a yard in order to place them in a train or on a classification, repair, or storage track." Switching also includes making pickups and setouts at a customer's facility or interchange point.

Switching does **not** include moving rail cars to or from a shipper's facility or on an industrial lead into or out of the yard.

*Reminder:* When moving rail cars to or from a shipper's facility or on an industrial lead into or out of the yard, comply with **both** the train placement restrictions in Section VI **and** the required documentation requirements in Section II.

**When loaded placarded tank cars are cut off in motion, the coupling speed must not exceed 4 miles per hour.**

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### 2.: Safety

Before coupling, position yourself toward the end of a tank car, if possible, away from the manway and valves. Contents of tank cars may splash during or immediately following coupling, due to either improperly secured closures or the impact of coupling.

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### 3.: When to Use the Switching Chart

Refer to the Switching Chart:

- a. when moving a placarded hazardous material shipment in a yard to place it in a train or on a classification, repair, or storage track;
- b. when making pickups or setouts of a placarded hazardous material shipment at a customer's facility, interchange point, or other setout point.

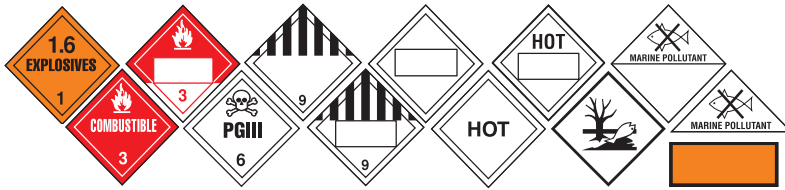
## 4.: How to Use the Switching Chart

- a. Select the applicable column and row of the Switching Chart. To do so:
  - (1) Identify the placards and/or markings applied to the car, either from information on the shipping papers or from observation.  
*Note:* When placards are displayed but are not required by regulation (permissive placarding), the rail car must be switched as required for the placard displayed.
  - (2) Determine whether the car is loaded or residue/empty.  
*Note:* Residue/empty tank cars are identified on switch lists, track lists, and track inquiries with an "E" or "DE" in the appropriate field. The notation "RESIDUE: LAST CONTAINED" on the shipping papers indicates a residue/empty shipment. If in doubt, treat as a load.
  - (3) Identify the car type involved by observation, for example, tank car, hopper car, gondola, etc.
- b. Find the applicable section on the chart, based on the placard or marking applied, the load/empty status, and the car type.
- c. Follow the restrictions listed in the applicable section of the chart.

Acrobat Adobe file of [Switching Chart](#)

Figure 10: Switching Chart

**A. There are no switching restrictions for hazardous material shipments placarded or marked:**

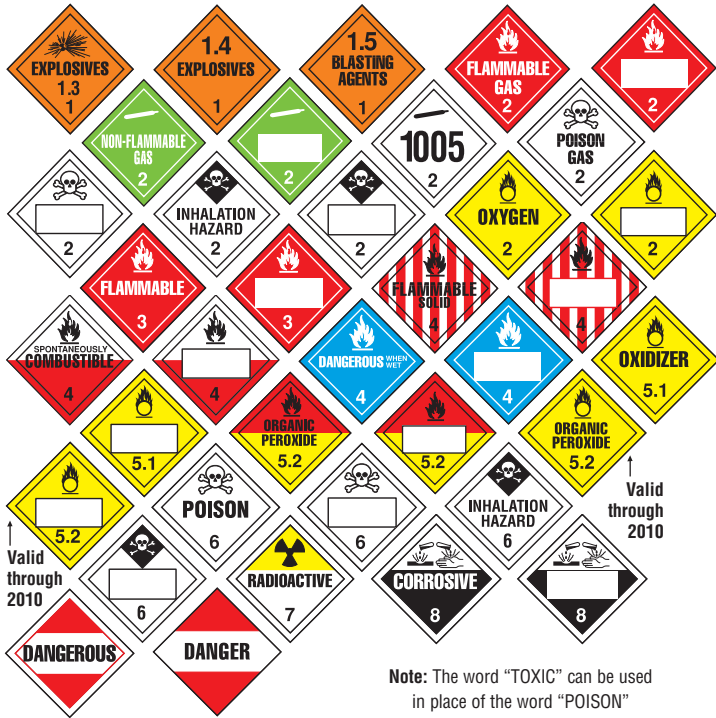


**Residue/empty tank cars** containing hazardous materials have no switching restrictions. [See Section V, Item 4 a (2), page 36.]

**Exception:** Residue/empty DOT 113 tank cars placarded FLAMMABLE GAS must be switched according to the restrictions in C below. These shipments can be identified by the notation "DESC" in the "SPCD" (Special Conditions) column of a switch list or track list or by the notation "DOT 113, DO NOT HUMP OR CUT OFF CAR WHILE IN MOTION" on the shipping paper.

**B. For hazardous materials shipments placarded:**

Note: For flat cars or articulated flat cars carrying freight containers, trailers, tote bins, portable tanks, or IM portable tanks with placards in this section, only restriction 1 in C below applies.

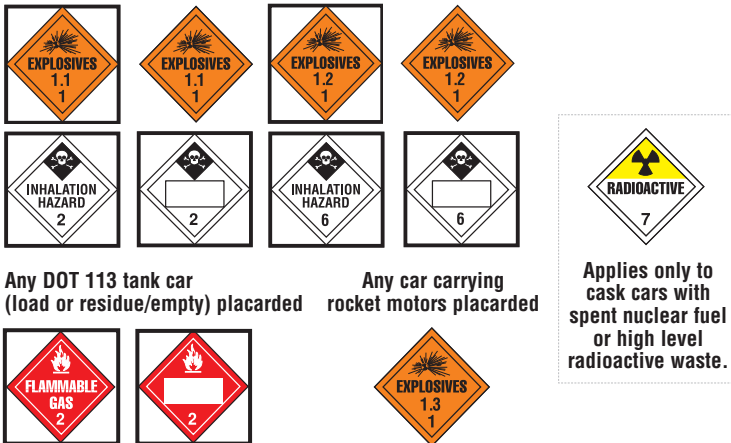


**Restrictions:**

1. **When moving over a hump,**
  - a. Release any loaded placarded cars (not subject to the restrictions in C below) to roll free only in cuts of two cars or less.
  - b. Release any rail cars to be coupled into a loaded placarded car only in cuts of two cars or less.
  - c. For loaded TIH/PIH tank cars shown on a switch list as "NK," "FLAT YARD - DO NOT KICK" or displaying INHALATION HAZARD placards or markings:
    - (1) release these tank cars **only** when any preceding cars are clear of the track these cars will enter **and** the switch is lined for that track.
    - (2) release any cars to follow into a different track or group only after these tank cars have cleared the lead and the switch is lined for the next move.
2. **Except when moving over a hump,** shove to rest any loaded TIH/PIH tank cars shown on the switch list as "NK," "FLAT YARD - DO NOT KICK" or displaying INHALATION HAZARD placards or markings - do not kick these cars or cut them off in motion.
3. **For loaded tank cars of flammable gas:**
  - a. When allowed to roll free, release them in cuts of two cars or less.
  - b. For cars allowed to roll free directly into these loaded tank cars, release them in cuts of two cars or less.

**C. For any hazardous material shipments placarded:**

Note: Restriction 1 also applies to any loaded placarded rail car including flat cars or articulated flat cars carrying freight containers, trailers, tote bins, portable tanks, or IM portable tanks with placards shown in B above.



1. **Follow these restrictions:**
  - Do not kick or hump these rail cars.
  - Do not cut off these rail cars in motion.
  - Do not couple into these cars with any more force than necessary to make the coupling.
  - Do not allow a rail car moving under its own momentum to strike these rail cars.
2. **Follow these additional restrictions for any car placarded EXPLOSIVES 1.1 or EXPLOSIVES 1.2:**
  - Separate these rail cars from an engine by at least one buffer car, either
    - a non-placarded rail car; or
    - a rail car with a placard or marking shown in A above.
  - Do not place or leave these rail cars where there is any probable danger of fire (for example, switch heater).
  - Do not place or leave these cars under bridges, under overhead highway crossings (overpasses), or along passenger stations.

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Updated: 2/27/2012

## Section VI - Train Placement

- [1.: General Requirement](#)
- [2.: When to Use the Placement in Train Chart](#)
- [3.: How to Use the Placement in Train Chart](#)

### 1.: General Requirement

A placarded hazardous material shipment must be placed in a train in compliance with the instructions on the Placement in Train Chart (see Figure 12, pages 40-41). *Note:* Correct any hazardous material train placement errors at the first location that allows switching, once the error is identified.

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### 2.: When to Use the Placement in Train Chart

Use the chart to make sure hazardous material train placement is correct:

- a. before a train departs the initial terminal;
- b. before a train departs a location where pickups and setouts were made en route;
- c. when delivering cars to or picking cars up at interchange tracks owned and operated by another railroad.

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### 3.: How to Use the Placement in Train Chart

- a. Select the applicable column of the Placement in Train Chart, pages 40-41.
  - (1) Find the placard or marking applied to the car *or* find the placard endorsement on the shipping papers. If a placard displayed is not required (permissive placarding), place the car as required for the placard applied.
  - (2) Determine the load/empty status of the car (see note 3 on Placement in Train Chart, page 41).
  - (3) Identify the type of car involved by inspection.
  - (4) Find the appropriate column (A, B, C, D, E, F, G) based on the placard applied, load/empty status, and car type or by using Figure 11 below.
- b. Follow the instructions to the right as indicated by the colored squares or "X"s in that column.

**Train** - one or more engines coupled, with or without rail cars, displaying a marker, requiring an appropriate air brake test, and authorized to operate on a main track.

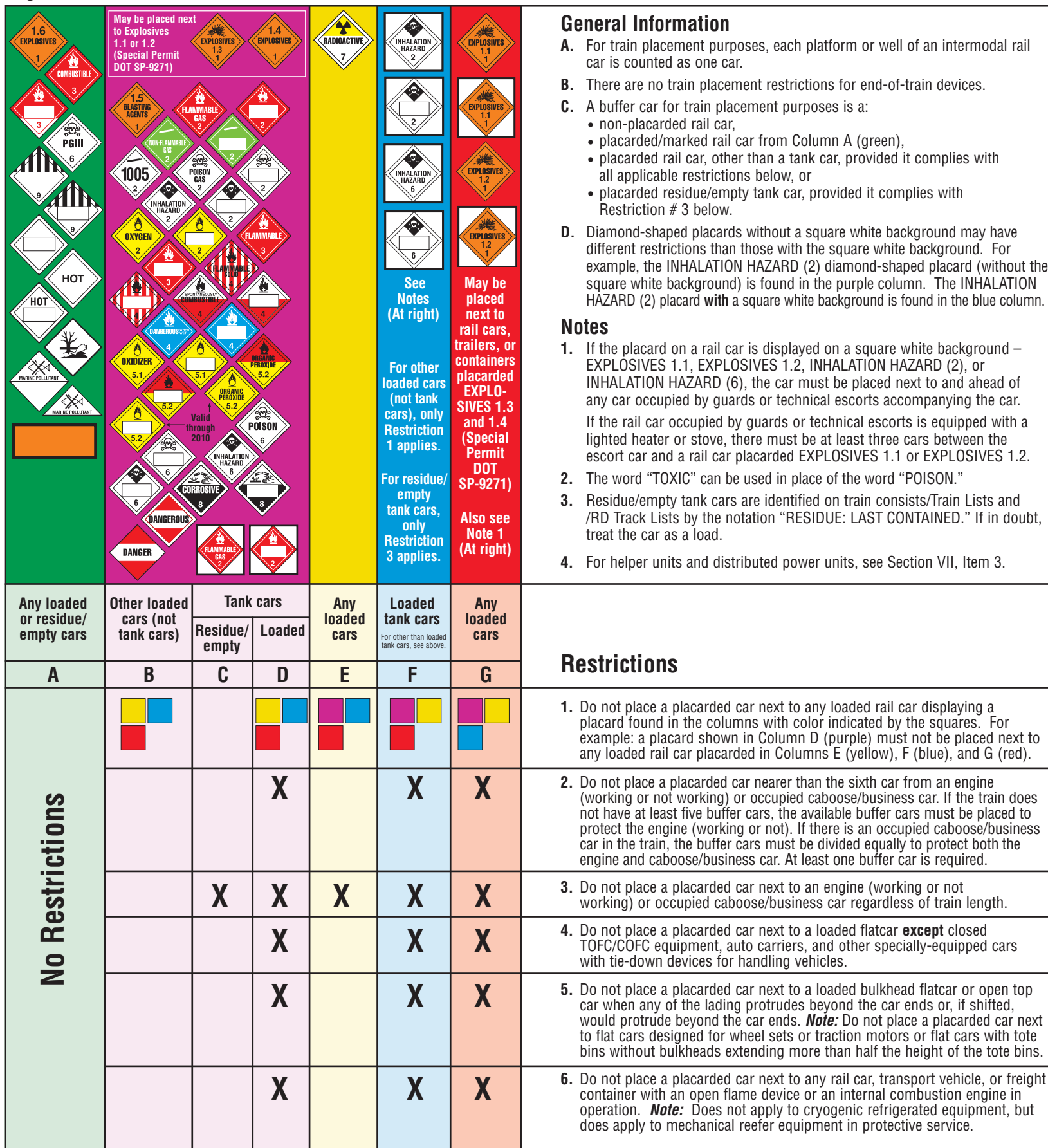
**Note:** This also applies to movements on an industrial lead.

**Figure 11**  
**Placard Endorsement Conversion Chart**

If the placard endorsement is:	Use Column
..... · (No endorsement - empty box) · .....	<b>A</b>
..... · DANGEROUS · .....	<b>B, C, or D</b>
..... · RADIOACTIVE MATERIAL · .....	<b>E</b>
..... · POISON PG I ZONE A · (1) .....	<b>F</b>
..... · POISON GAS ZONE A · (1) .....	<b>F</b>
..... · EXPLOSIVES · (1) .....	<b>G</b>
..... · EXPLOSIVES AND POISON GAS · (1) .....	<b>G</b>

**Note:** (1) Placard may have a square white background.

Figure 12: Placement in Train Chart



Updated: 2/27/2012



## Section VII - Train Operations

- [1.: General Requirement](#)
- [2.: Operating Key Trains](#)
- [3.: Helper Units](#)
- [4.: Movements on Excepted Track](#)

### 1.: General Requirement

Trains transporting hazardous materials will be operated in compliance with the DOT regulations and UPRR rules.

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### 2.: Operating Key Trains

Trains carrying a specified number of loaded rail cars, trailers, and containers of hazardous material will be operated as "key trains."

a. **Definition:**

A "Key Train" is any train that meets one or more of the following ~~three~~ conditions:

One (1) or more car loads of:

(a) Spent nuclear fuel (SNF) or high level radioactive waste (HLRW) moving under the following Hazardous Materials Response Codes - 4929142, 4929143, 4929144, and 4929147;

or

(b) Hazardous material shipments that require the phrase "Poison/Toxic-Inhalation Hazard" (PIH or TIH) (Hazard Zone A, B, C, or D) on the shipping papers;

(1)

or

(c) Shipments of anhydrous ammonia (Identification Number 1005) listed as "Inhalation Hazard" on the shipping papers.

**or**

~~one (1) or more loads of spent nuclear fuel (SNF) or high level radioactive waste (HLRW) moving under the following Hazardous Materials Response Codes --- 4929142, 4929143, and 4929144;~~

- five ~~(5)~~ or more car **loads** of **any combination** of either hazardous material shipments that require the phrase "Poison/  
(2) Toxic-Inhalation Hazard" (PIH or TIH) (Hazard Zone A, B, C, or D) on the shipping papers **and/or** shipments of  
anhydrous ammonia (Identification Number 1005); ~~or~~
- (2) twenty (20) or more car **loads** or intermodal portable tank **loads** of hazardous materials [~~including less than 5 car loads-~~  
~~under (2) above~~].
- Exception:* Do **not** count shipments carrying mixed loads of hazardous materials (MXHAZD) in box cars, trailers, or  
containers when determining key train status.

b. **Identifying Key Trains**

- (1) A computer-generated Train List will identify Key Train status in the header block on the first page.
- (2) When a computer-generated Train List is not available or hazardous material cars are added to a train, the conductor  
must review the shipping papers for all hazardous material cars and determine Key Train status.
- (3) After picking up or setting out hazardous material shipments **en route**, the Key Train status may change. The conductor  
must determine whether or not Key Train status has changed and, if so, promptly notify the train dispatcher.

c. **Instructions for Operating Key Trains**

- (1) The maximum authorized speed for Key Trains is 50 MPH, unless further restricted (see next page).  
*Note:* Where lower speed restrictions are in effect, or when the Key Train is restricted to a lower speed for other reasons,  
the lower speed governs.
- (2) Only cars equipped with roller bearings will be allowed in a Key Train.
- (3) When a train defect detector reports a defect in a Key Train, refer to **System Special Instructions**, Item 13.
- (4) All cabooselless key trains, except yard, local and transfer trains operating less than 20 miles from their point of origin,  
must be equipped with an operable end-of-train telemetry device when operating on main track.  
*Note:* When an EOT device fails en route, a Key Train can pick up a hazardous material shipment and continue to the  
next terminal where the EOT device can be repaired or replaced. At this terminal, the EOT device must be repaired or  
replaced before the Key Train can be moved farther. All other End of Train (EOT) rules in the **Air Brake and Train  
Handling Rules** remain in effect.
- When operating a Key Train or a train transporting one or more PIH/TIH shipments on a foreign road, the crew  
operating the train must notify the foreign road's train dispatcher that their train is a Key Train as defined by UPRR's
- (5) **Instructions for Handling Hazardous Materials** or is a train transporting one or more PIH/TIH shipments. *Note:*  
This notification must occur at the earliest opportunity, unless relieved of the requirement to do so by the UPRR train  
dispatcher.

## System Special Instruction

### Change the definition of "key trains"

a. **Definition:** A "Key Train" is any train that meets one or more of the following conditions:

(1) One (1) or more car loads of:

- (a) Spent nuclear fuel (SNF) or high level radioactive waste (HLRW) moving under  
the following Hazardous Materials Response Codes - 4929142, 4929143,  
4929144, and 4929147;

or

- (b) Hazardous material shipments that require the phrase "Poison/Toxic-Inhalation  
Hazard" (PIH or TIH) (Hazard Zone A, B, C, or D) on the shipping papers;

or

(c) Shipments of anhydrous ammonia (Identification Number 1005) listed as "Inhalation Hazard" on the shipping papers.

**or**

(2) Twenty (20) or more car loads or intermodal portable tank loads of hazardous materials.

**Exception:** Do not count shipments carrying mixed loads of hazardous materials (MXHAZD) in box cars, trailers, or containers when determining key train status.

**Change part 4 to read:**

4. Cabooseless key trains, except yard, local and transfer trains operating less than 20 miles from their point of origin, must be equipped with an operable end-of-train telemetry device when operating on main track.

(Note does not change.)

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### **3.: Helper Units**

a. A train with distributed power (DP) or a manned helper must comply with Restriction 2 on Figure 12: Placement In Train Chart (pages 40-41).

b. In an emergency, a train with a placarded rail car on the rear of the train may be helped as long as one buffer car is placed between the placarded rail car and the helper unit.

*Note:* A buffer car is not required if the placarded rail car on the rear is from one of the following columns in Figure 12: Placement in Train Chart (pages 40-41).

(1) Column A,

(2) Column B,

(3) Column F and is "other than a tank car."

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### **4.: Movements on Excepted Track**

Do not operate a train that contains more than five placarded hazardous material cars on any track designated as "FRA Excepted Track."

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Updated: 9/24/2011

## Section VIII - Emergency Response

- [1.: General Requirement](#)
- [2.: Actions to Take When a Fire or Vapor Cloud is Visible](#)
- [3.: Actions to Take When No Fire or Vapor Cloud is Visible](#)
- [4.: Cooperating with Local Emergency Responders](#)
- [5.: Handling Leaking Hazardous Material Shipments](#)

### 1.: General Requirement

When an emergency occurs, **SAFETY IS OF FIRST IMPORTANCE.**

- a. Make an emergency call as radio rules require.
- b. Look for a fire or vapor cloud.
- c. Determine the status of crew members in the area.
- d. Warn everyone to keep at a safe distance.

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### 2.: Actions to Take When a Fire or Vapor Cloud is Visible

- a. Take the shipping papers (including the emergency response information) and move yourself and other crew members uphill and upwind (in the direction from which the wind is blowing) at least one half mile. Stay out of ditches and low areas.
- b. Do not smoke or use fusees.
- c. Provide the train dispatcher or yardmaster with as much of the following information as is available:
  - (1) Specific location of the emergency (station, mile post location, nearest street or crossing);
  - (2) Type of emergency;
  - (3) Status of crew members;
  - (4) Cars involved, including the initials and numbers of each car involved, and each car's condition, for example, leaking, derailed, or on fire;
  - (5) Surroundings, for example, proximity to populated areas, local bodies of water, nearby drainage ditches, or storm sewers; description of terrain; location of access roads; weather conditions;
  - (6) Resources necessary to handle the situation for example, fire, ambulance, and law enforcement agencies;
  - (7) Location where a crew member with shipping papers will meet arriving emergency response personnel.
- d. Once you are in a safe location:
  - (1) Identify yourself and cooperate with the local emergency response personnel as described in item 4, page 46.
  - (2) Review your shipping papers and emergency response information.
  - (3) If necessary, move to the farthest distance recommended in:
    - (a) the Evacuation Section of the emergency response information accompanying the shipping papers; *or*
    - (b) information from the *Emergency Response Guidebook Guidebook*.

### 3.: Actions to Take When No Fire or Vapor Cloud is Visible

- a. Review the shipping papers for hazardous material shipments.
- b. Take the shipping papers (including the emergency response information) and inspect the train to identify the rail cars, trailers, or containers involved, and look for indications of the release of hazardous materials.
- c. If you encounter a hazardous material release, unusual smells, or noises during this inspection:
  - (1) Avoid contact with the material and its vapors.  
Move yourself and other crew members uphill and upwind (in the direction from which the wind is blowing) at least one-half mile. Stay out of ditches and low areas.
  - (2)
  - (3) Eliminate any ignition sources (no smoking, no fusees).
  - (4) Warn all bystanders to stay away .
- d. After completing the inspection, notify the train dispatcher or yardmaster with as much of this information as is available:
  - (1) Status of crew members;  
Cars involved, including the initials and numbers of each car involved, and each car's condition, for example, leaking, derailed, or on fire;
  - (2)
  - (3) Surroundings, for example, proximity to populated areas, local bodies of water, nearby drainage ditches, or storm sewers; description of terrain; location of access roads; weather conditions;
  - (4) Resources necessary to handle the situation, for example, fire, ambulance, and law enforcement agencies;
  - (5) Location where a crew member with shipping papers will meet arriving emergency response personnel.
- e. Once you are in a safe location:
  - (1) Identify yourself to and cooperate with the local emergency response personnel as described in item 4 below.
  - (2) Review your shipping papers and emergency response information.
  - (3) If necessary, move to the farthest distance recommended in:
    - (a) the Evacuation Section of the emergency response information accompanying the shipping papers; *or*
    - (b) information from the **Emergency Response Guidebook Guidebook**.

### 4.: Cooperating with Local Emergency Responders

- a. Share any requested information from the shipping papers with emergency response personnel.
  - (1) Provide an extra copy of the Train List, when available. If an extra copy is not available, share the copy you have with the emergency response personnel.  
*Note:* Retain any waybills and a copy of the Train List until you can deliver them to the first railroad manager on the scene.
  - (2) Provide a copy of the emergency response information provided with the shipment.
- b. Help emergency response personnel identify cars and the commodities involved. Use shipping papers or observations from a safe location to accomplish this task.

- c. Give the first railroad manager on the scene an oral description of the incident and indicate any assistance you provided emergency responders.
- d. Remain at the scene, at a safe distance, until a railroad manager relieves you.
- e. A railroad spokesperson will handle discussing the incident with the media or other non-emergency response personnel.

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## **5.: Handling Leaking Hazardous Material Shipments**

See Section III, item 2a(1)(d) on page 17 for the instructions regarding the handling of leaking hazardous material shipments.

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Updated: 4/28/2010

# Appendix

- [Appendix](#)

## Appendix

### Special Permit Authorization

#### DOT-SP 9271 (Eleventh Revision)

U.S. Department of Transportation  
Pipeline and Hazardous Materials Safety Administration  
400 Seventh Street, S.W.  
Washington, D.C. 20590

**SPECIAL PERMIT AUTHORIZATION**  
**DOT-SP 9271**  
**EXPIRATION DATE: ~~February 28, 2010~~ In effect until further notice.**

GRANTEE: Union Pacific Railroad Company  
Omaha, NE

In response to your February 27, 2006 application for renewal of DOT-SP 9271, the grantee status to DOT-SP 9271 for Union Pacific Railroad Company is hereby renewed in accordance with 49 CFR § 107.109.

Copies of this special permit may be obtained by accessing the Hazardous Materials Safety Homepage at [http://hazmat.dot.gov/sp\\_app/special\\_permit/spec\\_perm\\_index.htm](http://hazmat.dot.gov/sp_app/special_permit/spec_perm_index.htm). Photo reproductions and legible reductions of this special permit are permitted. Any alteration of this special permit is prohibited.

If you have questions regarding this action please call the Office of Hazardous Materials Special Permits and Approvals at (202)366-4535.

Issued in Washington, D.C. on **March 17, 2006.**

for Robert A. McGuire  
Associate Administrator for Hazardous Materials Safety

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This appendix is published here in compliance with the DOT special permit regarding car separation requirements for Division 1.1, 1.2, 1.3, and 1.4 explosives.

**DOT-SP 9271  
(ELEVENTH EDITION)  
(FOR RENEWAL, SEE 49 CFR § 107.109)**

1. **GRANTEE:** Union Pacific Railroad Company - Omaha, NE

2. **PURPOSE AND LIMITATION:**

- This special permit authorizes the deviation from car separation requirements for transportation in commerce of
- a. packages prescribed herein of Division 1.1, 1.2, 1.3, and 1.4 explosives. This exemption provides no relief from any Hazardous Materials Regulation (HMR) other than as specifically stated herein.
  - b. The safety analysis performed in development of this exemption only considered the hazards and risks associated with transportation in commerce.
  - c. Unless otherwise stated herein, this special permit consists of the special permit authorization letter issued to the grantee together with this document.

3. **REGULATORY SYSTEM AFFECTED:** 49 CFR Parts 106, 107 and 171-180.

4. **REGULATIONS FROM WHICH EXEMPTED:** 49 CFR § 174.203(a) in that marking the shipping paper with the special permit number is waived; and § 173.302(c) in that marking the special permit number on the packaging is waived; and § 174.85(d) Table in that deviation from car separation requirements is authorized, except as specified therein.

5. **BASIS:** This special permit is based on the application of Union Pacific Railroad Company dated August 21, 2002, submitted in accordance with § 107.109.

6. **HAZARDOUS MATERIALS (49 CFR § 172.101):**

Proper Shipping Name Hazardous Materials Description	Hazard Class/ Division	Identi- fication Number	Packing Group
Various explosives particularly Rocket motor and spacecraft assemblies	1.1 1.2 1.3 1.4	As appropriate	As appropriate

7. **SAFETY CONTROL MEASURES:** Prescribed packaging is as defined in 49 CFR Part 173, Subpart C.

8. **SPECIAL PROVISIONS:**

a. The car separation requirements of § 174.85 are waived in lieu of the following:

Flatcars carrying loaded trailers or containers placarded EXPLOSIVES 1.1 or (1) 1.2 may be placed next to flatcars loaded with trailers or containers placarded EXPLOSIVES 1.3 or 1.4 without a buffer car in between.

Flatcars in trailer-on-flatcar or container-on-flatcar service with loads placarded EXPLOSIVES 1.1 or 1.2 may be placed next to non-placarded, loaded, specially equipped cars in trailer-on-flatcar service or container-on- (2) flatcar service, or may be placed next to flatcars loaded with vehicles secured by means of a device designed for that purpose and permanently installed on the flatcar and of a type generally accepted for handling in interchange between railroad (i.e., bi-level and trilevel auto racks).

Flatcars with rocket motors, placarded EXPLOSIVES 1.1, 1.2, 1.3 or 1.4 in trailers with automatic refrigerator or heating apparatus in operation may (3) be placed next to flatcars with rocket motors, placarded either EXPLOSIVES 1.1, 1.2, 1.3 or 1.4, in trailers with automatic refrigerator or heating apparatus in operation. This apparatus must conform to DOT Special Permit 5022.



Freight cars placarded EXPLOSIVES 1.1 or 1.2 may be placed next to a  
(4) freight car placarded EXPLOSIVES 1.3 or 1.4 without a buffer car in  
between.

Carriers who receive packages covered by this exemption in interchange may  
transport the packages under the terms of this exemption provided a copy of  
b. this exemption is maintained at the carrier's principle place of business and is  
made available to a representative of the Department of Transportation upon  
request.

c. Sections 172.203(a) and 172.302(c) are waived.

9. **MODES OF TRANSPORTATION AUTHORIZED:** Rail freight.

**MODAL REQUIREMENTS:** A current copy of this special permit or a current

10. transcript of the complete text without the signature in a carrier provided  
document must be in the possession of a member of the train crew.

**COMPLIANCE:** Failure by a person to comply with any of the following may result

11. in suspension or revocation of this special permit and penalties prescribed by the  
Federal hazardous materials transportation law, 49 U.S.C. 5101 et seq :

a. All terms and conditions prescribed in this special permit and the Hazardous  
Materials Regulations, 49 CFR Parts 171-180.

b. Persons operating under the terms of this special permit must comply with the  
security plan requirement in Subpart I of Part 172 of the HMR, when applicable.

c. Registration required by § 107.601 et seq ., when applicable.

Each "Hazmat employee", as defined in § 171.8, who performs a function subject  
to this special permit must receive training on the requirements and conditions of  
this special permit in addition to the training required by §§ 172.700 through  
172.704.

No person may use or apply this special permit, including display of its number,  
when the special permit has expired or is otherwise no longer in effect.

Under Title VII of the Safe, Accountable, Flexible, Efficient Transportation, Equity  
Act: A Legacy for Users (SAFETEA-LU) - "The Hazardous Materials Safety and  
Security Reauthorization Act of 2005" (Pub. L. 109-59), 119 Stat. 1144 (August 10,  
2005), amended the Federal hazardous materials transportation law by changing  
the term "exemption" to "special permit" and authorizes a special permit to be  
granted up to two years for new special permits and up to four years for renewals.

**REPORTING REQUIREMENTS:** Shipments or operations conducted under this  
special permit are subject to the Hazardous Materials Incident Reporting  
requirements specified in 49 CFR §§ 171.15 - Immediate notice of certain

12. hazardous materials incidents, and 171.16 - Detailed hazardous materials incident  
reports. In addition, the grantee(s) of this special permit must notify the Associate  
Administrator for Hazardous Materials Safety, in writing, of any incident involving a  
package, shipment or operation conducted under the terms of this special permit.

Issued in Washington, D.C.: Robert A. McGuire, Associate Administrator for Hazardous  
Materials Safety

## System Special Instruction

### Change the expiration date of Special Permit DOT-SP 9271 to read:

SPECIAL PERMIT AUTHORIZATION

DOT-SP 9271

EXPIRATION DATE: In effect until further notice.

Updated: 2/11/2012

# Glossary

- [Glossary](#)

## Glossary

**Attended** - a situation where an employee or authorized representative:

1. Is physically located on site in reasonable proximity to the rail car;  
\_\_\_\_\_ and

a1. 2. Can and does immediately:

a. Respond to any unauthorized access or activity at or near the rail car;  
\_\_\_\_\_ or  
b. Contact law enforcement.

- Buffer car** – a rail car used to meet the hazardous material separation requirements in either switching or train operations. (See Figure 10: Switching Chart, Row C, item 2, first bullet, page 38 or Figure 12: Placement in Train Chart, General Information, item C, page 41.)
- a. **Bulk packaging** - packaging with capacity greater than 119 gal (450 l) or 882 lb (400 kg), for example: bulk bags, intermodal (IM) portable tanks, portable tanks, portable bins, gondola cars, hopper cars, or tank cars.
- b. **Container** – any freight container, IM portable tank, portable tank, or portable bin.
- c. **Emergency** – an unforeseen combination of circumstances or the resulting state that calls for immediate action, for example, derailment and leaking rail car, trailer, or container).
- d. **Hazard class** - the category of hazard assigned to a material. A class may be subdivided into divisions for clarity. A class may be expressed as a number or with words.
- e. **Hazardous material** - a substance or material which the Secretary of Transportation has determined to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce. The term "hazardous material" includes hazardous substances, hazardous wastes, elevated temperature materials (HOT or MOLTEN), and marine pollutants.
- f. **Hazardous material shipment** - a hazardous material in rail cars, trailers, or containers in rail transportation. All hazardous material shipments require shipping papers.
- g. When moved in rail cars, trailers, or containers, hazardous material shipments may or may not be placarded or marked with an identification number.
- h. **Hazardous material response information** - hazard and response information for each hazardous material, contained in either the train documentation or the **Emergency Response Guidebook** (ERG), to assist response personnel at hazardous material incidents.
- i. **Hazardous waste manifest** - a document specifically for tracking hazardous wastes in transportation. It contains the shipping description and identifies the waste generator, each transporter, and the disposal facility.
- j. **Hazard zone** - one of four levels of inhalation hazard (Hazard Zones A through D) assigned to gases, and one of two levels of hazard (Hazard Zones A and B) assigned to liquids that are poisonous/toxic by inhalation. For example, when the hazard zone is "A," it is shown on the shipping paper as "Zone A." Zone A is the most hazardous, and Zone D is the least hazardous.

**High Threat Urban Area (HTUA)** - an area comprising one or more cities and surrounding areas including a 10-mile buffer zone identified as such by the Transportation Security Administration (TSA). HTUAs will be identified on work orders and train lists as necessary. (See list).

**HTUAs** include the metropolitan area of the following cities:

**Northern Region**

Chicago, Denver, Kansas City, Milwaukee, Omaha, St. Louis, Twin Cities.

j1.

**Southern Region**

Austin, Baton Rouge, Dallas, El Paso, Houston, Memphis, New Orleans, Oklahoma City, San Antonio, Tulsa.

**Western Region**

Anaheim, , Las Vegas, Los Angeles, Phoenix, Portland, Riverside Area, Sacramento Area, Salt Lake City, San Francisco Bay Area, Seattle, Tucson.

- Improvised explosive device (IED)** - is a device fabricated in an improvised manner incorporating explosives or destructive, lethal, noxious, pyrotechnic, or incendiary chemicals in its design. This device generally includes a power supply, a switch or timer, and a detonator or initiator.
- Inhalation hazard** - term used to identify certain gases and liquids that may cause health problems if inhaled/breathed in very low concentrations for short periods of time.
- Interchange** - the process of transferring rail cars to or from another railroad.
- Label** - a sign, similar to a placard, measuring 4 by 4 inches square-on-point, communicating a hazard by symbol, color, and words or numbers.
- Limited quantity (LTD QTY)** - a term used on shipping papers to indicate a hazardous material shipment which is allowed an exception to the labeling, packaging, and placarding requirements because the hazard associated with a small package is low.
- Marking** - a descriptive commodity name, identification number, caution (such as INHALATION HAZARD, HOT, MOLTEN, or MARINE POLLUTANT), or tank car qualification date displayed on hazardous material shipments (see Section IV, pages 28-34 for marking requirements).
- Movement approval** - one time authorization to move a non-conforming package (one that does not meet the applicable hazardous materials regulations). This Approval provides no relief of any regulations other than specifically stated in the Approval.
- N.O.S.** - initials, found on shipping papers, which mean "Not Otherwise Specified."
- Non-bulk packaging** - packaging with a capacity equal to or less than 119 gal (450 l) or 882 lb (400 kg), for example, bags, bottles, boxes, cylinders, or drums.
- ORM-D** (Other Regulated Material - D) - a material such as a consumer commodity that, due to its form, quantity, and packaging, presents such a limited hazard that it is not subject to the hazardous material regulations when transported by rail.
- Packing group** - a grouping of hazardous materials according to the degree of danger:
- Packing Group I (shown as "PG I" or "I" on the shipping papers) indicates great danger.
  - Packing Group II (shown as "PG II" or "II" on the shipping papers) indicates medium danger.
  - Packing Group III (shown as "PG III" or "III" on the shipping papers) indicates minor danger.
- Placard** - a sign measuring 273 mm (10.8 in) by 273 mm (10.8 in) square-on-point, communicating a hazard by symbol, color, and words or numbers (when displayed). Some placards must be displayed on a square background which is white with a black border (see Figure 4, pages 24-25 for pictures of placards).
- Placarded car** - a rail car displaying placards in accordance with DOT regulations.
- Placard endorsement** - a box of asterisks, with or without wording, printed on railroad-produced shipping papers only, to indicate the presence of hazardous material shipments. No longer required by DOT regulations.
- Poison/Toxic Inhalation Hazard (PIH or TIH) or Inhalation Hazard** - term used to identify certain gases and liquids that may cause health problems if inhaled/breathed in very low concentrations for short periods of time.

**z.** **Position-in-train document** – a document showing the current position of all hazardous material shipments within the train. This document could be the Train List or a separate document specifically for this purpose.

**Positive Hand-off of Rail Security-Sensitive Material (RSSM) Shipments** - a situation where a RSSM shipment must be:

- z1.**
1. Attended by an employee or authorized representative of both the railroad and the shipper/receiver or interchanging railroad.
  2. Documented by recording the car initial and number, the first and last name of the individual who attended the transfer, the location of the transfer, and the date and time of the transfer.

**aa.** **Protective service** - condition associated with mechanical refrigerators where temperature control is required and provided by an internal combustion engine. The internal combustion engine may be controlled by an internal thermostat or remote control via satellite. Protective Service is indicated on the Train List as PS or PROTECTIVE SERVICE.

**ab.** **Rail car** – equipment used in rail transportation, for example, box car, flat car, gondola car, hopper car, tank car, or caboose, but not an engine.

**Rail Security-Sensitive Material (RSSM)** - a shipment of one or more of the categories and quantities below:

- ab1**
1. Rail car, trailer or container containing more than 5,000 lbs (2,268 kg) of a Division 1.1, 1.2, or 1.3 (explosive) material.
  2. Loaded tank car containing a material poisonous/toxic by inhalation, including anhydrous ammonia.
  3. Rail car, trailer or container containing Class 7 (radioactive) material moving under the following Hazardous Materials Response Codes - 4929142, 4929143, 4929144, and 4929147.

**ac.** **Residue** – the hazardous material remaining in a packaging, including a tank car, after its contents have been unloaded to the maximum extent possible. It is indicated on the shipping papers by the phrase "RESIDUE: LAST CONTAINED" before the proper shipping name.

**ad.** **Security inspection for PIH/TIH shipments** - a ground level inspection of a loaded Poison/Toxic Inhalation (PIH/TIH) car for signs of tampering, including its seals and closures, any item that does not belong, suspicious items, or Improvised Explosive Devices (IEDs).

**ae.** **Shipper's certification** - a signed (or electronically printed) declaration on the shipping paper provided by the shipper to the first transporter for a loaded hazardous material shipment. It indicates compliance with the DOT regulations. The certification must be signed by hand or mechanically. It may read either:

"This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation."

*or*

"I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name, and are classified, packaged, marked, and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations."

*Note:* A shipper's certification is required on any shipping paper that the customer provides to the crew for loaded hazardous material cars.

**af.** **Shipping paper** - any document providing the appropriate entries for a hazardous material shipment (see Section II, pages 7-15, for shipping paper requirements).

**ag.** **Special permit** - a document issued by DOT permitting a person to perform a function that is not otherwise permitted under the regulations.

**ah.** **Switching** - the operation of moving rail cars within a yard, at a customer's facility, or at an interchange point, in order to place them in a train or on a classification, repair, or storage track. It does **not** include moving rail cars to or from a shipper's facility or industry track into or out of the yard.

- ai. **Technical name** - a recognized chemical name used in scientific and technical handbooks, journals, and texts to further identify a hazardous material.
- aj. **Toxic Inhalation Hazard (TIH)** - term used to identify certain gases and liquids that may cause health problems if inhaled/ breathed in very low concentrations for short periods of time.
- ak. **Train** - one or more engines coupled, with or without rail cars, displaying a marker, requiring an appropriate air brake test, and authorized to operate on a main track.  
*Note:* This also includes movements on an industrial lead.
- al. **Yard** - a system of tracks, other than main tracks and sidings, used for making and breaking up trains and for other purposes, such as repair or storage of cars.

## System Special Instruction

**Glossary** (page 50)

**Add the following entries in alphabetical order:**

**Attended** - a situation where an employee or authorized representative:

1. Is physically located on site in reasonable proximity to the rail car;  
and
2. Can and does immediately:
  - a. Respond to any unauthorized access or activity at or near the rail car;  
or
  - b. Contact law enforcement.

**High Threat Urban Area (HTUA)** - an area comprising one or more cities and surrounding areas including a 10-mile buffer zone identified as such by the Transportation Security Administration (TSA). HTUAs will be identified on work orders and train lists as necessary. (See list).

**HTUAs** include the metropolitan area of the following cities:

### **Northern Region**

Chicago, Denver, Kansas City, Milwaukee, Omaha, St. Louis, Twin Cities.

### **Southern Region**

Austin, Baton Rouge, Dallas, El Paso, Houston, Memphis, New Orleans, Oklahoma City, San Antonio, Tulsa.

### **Western Region**

Anaheim, , Las Vegas, Los Angeles, Phoenix, Portland, Riverside Area, Sacramento Area, Salt Lake City, San Francisco Bay Area, Seattle, Tucson.

**Positive Hand-off of Rail Security-Sensitive Material (RSSM) Shipments** - a situation where a RSSM shipment must be:

1. Attended by an employee or authorized representative of both the railroad and the shipper/receiver or interchanging railroad.  
and
2. Documented by recording the car initial and number, the first and last name of the individual who attended the transfer, the location of the transfer, and the date and time of the transfer.

**Rail Security-Sensitive Material (RSSM)** - a shipment of one or more of the categories and quantities below:

1. Rail car, trailer or container containing more than 5,000 lbs (2,268 kg) of a Division 1.1, 1.2, or 1.3 (explosive) material.
2. Loaded tank car containing a material poisonous/toxic by inhalation, including anhydrous ammonia.  
and
3. Rail car, trailer or container containing Class 7 (radioactive) material moving under the following Hazardous Materials Response Codes - 4929142, 4929143, 4929144, and 4929147.

## General Order

**Glossary:** Add to Rail Security-Sensitive Material (RSSM) definition "trailers or containers" in item 1 and 3 as follows:

1. Rail car, trailer, or container containing more than 5,000 lbs (2,268 kg) of a Division 1.1, 1.2, or 1.3 (explosive) material.
3. Rail car, trailer, or container containing a Class 7 (radioactive) material moving under the following Hazardous Materials Response Codes -- 4929142, 4929143, 4929144, and 4929147.

[^Top](#)

Updated: 9/24/2011

UNION PACIFIC RAILROAD COMPANY  
System General Orders

Sections ordered by Effective Date:

02/27/2012 No. 24 Sys. SI. 10-C - 10-D  
02/08/2012 No. 27 Sys. SI. 10 - 10-B  
01/20/2012 No. 8 Sys. SI. 18 - 22  
01/20/2012 No. 19 Sys. SI. 10-E - 10-G  
01/16/2012 No. 16 Sys. SI. 6 - 9  
10/21/2011 No. 12 Sys. SI. 4 - 5-C  
08/05/2011 No. 10 Sys. SI. 11 - 17  
07/29/2011 No. 5 Sys. SI. 10-H - 10-M  
07/29/2011 No. 12 Sys. SI. 1 - 3  
04/06/2010 No. 1 Sys. SI. 23 - 25

Sections ordered by Section Number:

Sys. SI. 1 - 3 No. 12 07/29/2011  
Sys. SI. 4 - 5-C No. 12 10/21/2011  
Sys. SI. 6 - 9 No. 16 01/16/2012  
Sys. SI. 10 - 10-B No. 27 02/08/2012  
Sys. SI. 10-C - 10-D No. 24 02/27/2012  
Sys. SI. 10-E - 10-G No. 19 01/20/2012  
Sys. SI. 10-H - 10-M No. 5 07/29/2011  
Sys. SI. 11 - 17 No. 10 08/05/2011  
Sys. SI. 18 - 22 No. 8 01/20/2012  
Sys. SI. 23 - 25 No. 1 04/06/2010

Sys. SI. 1 - 3

----- DOCUMENT TEXT -----

System Special Instructions  
EFFECTIVE April 07, 2010  
Order Category : Sys. SI. 1 - 3  
System General Order No. 12

---

**PURPOSE:**

SSI Item 1: Time Comparison: Delete specific time change information from previous System General Order. Standard and Daylight Savings Time requirements are contained in System Special Instructions in Item 1, page 1.

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**EFFECTIVE:** 0903, July 29, 2011

---

**CANCELLATIONS:**

This order cancels all previous orders in Order Category: Sys. SI. 1 -



**Item 2-D - Maximum Speeds: Hot Weather**

Change last sentence in first paragraph to read:

In addition, when the train is equipped with distributed power at the rear of the train, operate in synchronous mode or in independent mode with distributed power 1-3 throttle notches below the lead consist in power and 1-3 throttle positions above the lead consist in dynamic brake, except when cresting a grade or when specific train handling procedures are required by local instructions.

**Item 2-E - Maximum Speeds: Cold Weather**

Change rule to read:

During periods of extreme cold, conditions exist that could affect track structure. When advised by track bulletin that a Cold Weather Restriction is in effect, restrict train speed within the limits of the track bulletin as shown in the table.

Cold Weather Restrictions	Restriction MPH	
	Signaled Track	Non-Signaled Track
All Passenger trains, light engines, and freight trains averaging less than 90 tons per car or platform.	No Restrictions	40
Freight trains averaging 90 tons or more per car or platform	40	40

Note: Each platform of a multi-platform car is to be considered as one car when calculating tons per car/platform.

**Item 2-F - Maximum Speeds: Fuel Conservation**

Change Fuel Conservation Speed table to read:

FUEL CONSERVATION SPEED

Train Type:	FCS 40	FCS 50	No FCS Restriction
Freight trains (including light engine movements)		X	
Coal trains (loaded or empty)	X	X*	
Passenger and Business Car trains are exempt. Freight trains exempted by track bulletin.			X

-----  
\* Coal trains subject to FCS 50 when operating on the following  
subdivision: Kearney, Columbus, Omaha, Blair, Boone, Clinton and  
Geneva.

---

SIGNATURE: LANCE M. FRITZ  
SIGNATURE TITLE: EVP OPERATIONS

**Sys. SI. 4 - 5-C**

----- DOCUMENT TEXT -----

**System Special Instructions**  
**EFFECTIVE April 07, 2010**  
**Order Category : Sys. SI. 4 - 5-C**  
**System General Order No. 12**

---

**PURPOSE:**

SSI 4-5C: Item 5-B: Add new TCS consist requirement to comply with  
train make-up restrictions as identified on the TCS consist. Add 36  
EPA restriction to Table C for Bulk and Manifest trains operating on  
grades exceeding 1.9 percent. Item 5-C: Changes to the Moffat Tunnel,  
Cascade and Huntington Subdivision information.

---

**EFFECTIVE: 0904, October 21, 2011**

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**CANCELLATIONS:**

This order cancels all previous orders in Order Category: Sys. SI. 4 -  
5-C

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**Item 5-A - Shipments of Excessive Height/Width**

Change first paragraph under Dimensional Load (SSI page 24) to read:  
A "Dimensional Load" is any load with a width of 11 feet 0 inches to  
12 feet 0 inches, inclusive, as shown on the train consist. If the  
consist includes a dimensional load the conductor must conduct a job  
briefing with the train dispatcher before moving the train reviewing  
all operating restrictions for their route.

---

**Item 5-B - System Train Make-Up Requirements**

Add as new first paragraph:

When a TCS consist specifies train make-up requirements for train type different from train symbol, TCS consist will govern.

Example: QHONL 14 will operate as a bulk train.

Add the following to Table C in Part 2.

Under Maximum EPA table, "Head end" add symbol \* to the entries that contain 52 EPA.

Add the following sentence under Table C.

\*Limit head end EPA to 36 axles on grades exceeding 1.9% on Bulk and Manifest trains.

Under Part 2. "Maximum Train Length and Tonnage Restrictions".

Change Table A, last entry - Maximum Train Length to read:

80 Cars	Loaded trains containing 60 or more multilevel cars (Auto Racks) must not exceed a total of 80 cars, platforms or wells. Empty trains must not exceed 10,000 feet.
	Loaded or Empty Military Trains.

Change Table B to read:

Train Type	Territory Grade	Territory Grade
	.5% or less	> .5% and < .84%
Intermodal	650 TPA	400 TPA
Manifest	800 TPA	500 TPA
Bulk Commodity	800 TPA	575 TPA

Note: If territory grade exceeds .84% refer to corridor or subdivision tables in Item 5-C for TPA limits.

Under Part 3. "Car Placement Restrictions".

Add autorack restriction to table in the second and third cells as shown:

Trains Total	Place cars listed below no closer than the 11th car/platform behind the lead consist:
Trailing Tonnage Exceeds 5,500 tons but not more than 12,000 tons	
	ADD THE FOLLOWING RESTRICTION:
	* Autoracks weighing less than 60 tons, except when train consists entirely of autoracks.

Trains Total	Place cars listed below no closer than the 16th car/platform behind the lead consist:
Trailing Exceeds 12,000 tons	
	ADD THE FOLLOWING RESTRICTION:
	* Autoracks weighing less than 60 tons, except when train consists entirely of autoracks.

**Item 5-C - Corridor and Subdivision Train Make-Up and Helper Placement Requirements**

Add the following restriction to "Train Make-Up and Helper Requirements" on page 29, Part 1.a. as new second bullet:

- \* Autoracks weighing less than 60 tons, except when train consists entirely of autoracks.

=====

5. TPA and Coupler Limits Table by Subdivision

Under Dallas Fort Worth Area Timetable, Enid Sub. Delete entire entry. Limits default to system standard on this subdivision.

Under the Denver Area Timetable, Moffat Sub., change information as shown below:

Territory	Terr.	Bulk	Manifest	Intermodal	Standard	High
	Code					Strength
Leyden to East Portal	H	155	155	155	6110	8332
Tabernash to Winter Park	H	215	180	166	6307	8600

Under Portland Area Timetable, Cascade Sub. and Huntington Sub., change information as shown below:

Cascade Sub:

Territory	Terr.	Bulk	Manifest	Intermodal	Standard	High
	Code					Strength
Oak Ridge to Cascade Summit	H	156	156	156	7198	9815

Huntington Sub:

Territory	Terr.	Bulk	Manifest	Intermodal	Standard	High
	Code					Strength
Huntington to Encina	H	170	159	156	5952	8116

Under Kansas City Area Timetable, Cherokee Sub., delete McAlester to Wagoner information and add Wagoner to Oolaga as shown below:

Territory	Terr.	Bulk	Manifest	Intermodal	Standard	High
	Code					Strength
Wagoner to Oolaga		430	430	342	12384	16888

Under Kansas City Area Timetable, Falls City Sub., change Bulk TPA 16th Street to Atchison to 540 as shown below:

Territory	Terr.	Bulk	Manifest	Intermodal	Standard	High
	Code					Strength
16th Street to Atchison		540	392	312	11361	15493

Under St. Louis Area Timetable, Sparta Sub., change Bulk TPA Colterville to Gage Jct. to 493 as shown below:

Territory	Terr.	Bulk	Manifest	Intermodal	Standard	High
	Code					Strength
Colterville to Gage Jct.		493	358	285	10415	14202

Under Salt Lake City Area Timetable, Evanston Sub., add entry for Westward trains between Green River and Ogden as shown below:

Territory	Terr.	Bulk	Manifest	Intermodal	Standard	High
	Code					Strength
W. Green River to Ogden		430	430	400	n/a	n/a

Change first paragraph in part 4 "TPA and Coupler Limits Table by Corridor" to read:

TPA shown on TCS consist must not be exceeded. If TCS consist is not available, use TPA table shown below to determine maximum TPA for route to be operated over. Trailing tonnage behind lead and helper consist must not exceed tonnage listed in table below. Tonnage handled by helper(s) must be deducted from total tonnage to determine trailing tonnage behind lead consist.

Add as first and second sentences to part 5 "TPA and Coupler Limits Table by Subdivision":

TPA shown on TCS consist must not be exceeded. If TCS consist is not available, use TPA table shown below to determine maximum TPA for route to be operated over.

SIGNATURE: LANCE M. FRITZ  
SIGNATURE TITLE: EVP OPERATIONS

**Sys. SI. 6 - 9**

----- DOCUMENT TEXT -----

**System Special Instructions**  
**EFFECTIVE April 07, 2010**  
**Order Category : Sys. SI. 6 - 9**  
**System General Order No. 16**

**PURPOSE:**  
SSI 6-9: Item 7-A: Change Air Brake and Train Handling Rules effective date to read January 20, 2012. Change Transportation and Maintenance Operations rule numbers for ABTH rules.  
Notification of new timetable for North Platte Area, in effect 0900 on

March 19, 2012.

---

**EFFECTIVE: 0815, January 16, 2012**

---

**CANCELLATIONS:**

This order cancels all previous orders in Order Category: Sys. SI. 6 -  
9

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**Item 7-A - Reference Documents**

Change North Platte Area Timetable information to read:

- North Platte Area Timetable #4, effective 0900C on 03/19/12.

Change Twin Cities Area Timetable information to read:

- Twin Cities Area Timetable #4, effective 0900C on 11/14/11.

Change Portland Area Timetable information to read:

- Portland Area Timetable #5, effective 0900C on 11/07/11.

Change Iowa Area Timetable information to read:

- Iowa Area Timetable #4, effective 0900C on 10/10/11.

Change Salt Lake City Area Timetable information to read:

- Salt Lake City Area Timetable #4, effective 0900C on 10/10/11.

Change Houston Area Timetable information to read:

- Houston Area Timetable #5, effective 0900C on 8/29/11.

Change Kansas City Area Timetable information to read:

- Kansas City Area Timetable #4, effective 0900C on 2/28/11.

Change Council Bluffs Area Timetable information to read:

- Council Bluffs Area Timetable #4, effective 0900C on 2/14/11.

Change Sunset Area Timetable information to read:

- Sunset Area Timetable #3, effective 0900C on 11/22/10.

Change Salina Area Timetable information to read:

- Salina Area Timetable #4, effective 0900C on 10/25/10.

Change Los Angeles Area Timetable information to read:

- Los Angeles Area Timetable #4, effective 0900C on 06/14/10.

Add "Electrical Safety Rules" to the following work groups:

Engineering and Communications;

Maintenance Operations (Mechanical).

Add to Current version:

- Electrical Safety Rules, effective July 1, 2010.

Under "Transportation (TE&Y)" and "Maintenance Operations  
(Mechanical)" change the ABTH rule references to read 30-39,Glossary;

Under "Current version:", change the third item to read:

- Chapters 30 through 39, effective 01/20/2012.

SIGNATURE: LANCE M. FRITZ  
SIGNATURE TITLE: EVP OPERATIONS

**Sys. SI. 10 - 10-B**

----- DOCUMENT TEXT -----

**System Special Instructions**  
**EFFECTIVE April 07, 2010**  
**Order Category : Sys. SI. 10 - 10-B**  
**System General Order No. 27**

**PURPOSE:**

SSI 10-10B: Item 10A: Change Rule 7.4 to require that couplings be stretched by changing engine direction and that all couplings have been stretched before beginning shoving movement.

Recent changes:

Item 10A: Additional changes to Rule 1.6.1 for clarification. Rule 14.7 format change only. Delete all information contained in System Special Instructions Item 10-B. Remote control information now contained in Air Brake and Train Handling Rules, Chapter 35.

**EFFECTIVE: 1046, February 08, 2012**

**CANCELLATIONS:**

This order cancels all previous orders in Order Category: Sys. SI. 10 - 10-B

**ITEM 10 - RULE SUPPLEMENTS & AMENDMENTS**

Change rule description for Rule 6.5 to read "Shoving Movements" under 4-C and Cardinal Rules.

=====

Change Cardinal Rules as follows:

Cardinal Rules: Transportation Employees

Delete Rule 1.10 and add Rule 2.21 to list of Cardinal Rules.

Change Rule Description for Rule 81.5.4 - to read:

Understanding Between Crew Members Before Crossing Through or Fouling Equipment (Failure to establish a red zone when required).

Cardinal Rules: Maintenance of Way/Engineering

Delete Rule 1.10 and add Rule 2.21 to list of Cardinal Rules.

Cardinal Rules: Premium Operations

Delete Rule 1.10 and add Rule 2.21 to list of Cardinal Rules.

=====

Previous changes below remain in effect:

Cardinal Rules: Transportation Employees

Delete Rule 5.3.7 and add Rule 6.5 to list of Cardinal Rules.

Cardinal Rules: Maintenance of Way/Engineering

Add Rule 70.3 to list of Cardinal Rules.

**Item 10-A - Operating Rules, Chapters 1 to 19**

Rule 1.6.1 Motor Vehicle Driving Records

Change rule to read:

Certified employees, and employees that are qualified to drive commercial motor vehicles, must report any arrest, citation or conviction to an employee assistance representative within 48 hours for:

- \* Operating a motor vehicle while under the influence of or impaired by alcohol or a controlled substance.
- \* Refusal to undergo such testing when a law enforcement official seeks to find out whether a person is operating under the influence of alcohol or a controlled substance.

State sponsored diversion programs, guilty pleas, and completed state actions to cancel, revoke, suspend, or deny a driver's license are considered convictions as applied to this rule.

Rule 1.10 Games, Reading or Electronic Devices

Delete Rule 1.10 "Application" contained in SSI.

Change rule title and entire rule to read:

1.10 Games, Reading or other Media

Employees on duty must not:

- \* Play games.
- or
- \* Read magazines, newspapers, or other literature not related to their duties when:
  - On a train or engine,
  - Performing safety related activities,
  - or
  - It would delay or interfere with required duties.

This does not prohibit employees from having such material enclosed in their personal luggage.

1.47 Duties of Crew Members

Add new last bullet to Part 5:

- \* Restricted Speed documentation. Every 2 miles that the train is operating at Restricted Speed, enter mile post location, time, train speed, a "Z" to indicate that the information was communicated between crew members and amount of air brake application if any, (None, Minimum, 10#, etc.).

Under "Examples", add new example row (Restricted Speed) between Restricted Proceed and Radio Speed Restriction examples and change Radio Speed Restriction milepost and time as shown below:

94.5	RS	0625	Z - 8 MPH - None
101.3	RSR	0643	Z - 30 MPH



Under "Note", part 1, add:

Restricted Speed = RS

=====

## 2.0 Railroad Radio Rules

Change Chapter 2.0 title to read:

## 2.0 Railroad Radio and Communication Rules

=====

### 2.1 Transmitting

Change application to read:

Normal Dispatcher Call-in Procedure

To contact the train dispatcher from the field:

1. Ensure that you are on the correct dispatcher radio channel for the area you are in. The radio channel is identified in timetable subdivision instructions under Radio Display (SI-RD).
2. On the radio key pad, dial "\*" plus the 2-digit code for the dispatcher you wish to call. (For example, "\*20").

Note: After dialing the "\*XX" digits, you should receive an acknowledgment tone on your radio indicating the call-in has been detected and processed. If you do not hear the acknowledgment tone you will need to re-dial the code.

=====

### 2.10 Emergency Calls

Change application to read:

Emergency Call-in Procedure

The Emergency call-in code is "911" throughout the entire UPRR system.

To contact the train dispatcher in case of an emergency:

1. Ensure that you are on the correct dispatcher radio channel for the area you are in. The radio channel is identified in timetable subdivision instructions under Radio Display (SI-RD).
2. Dial DTMF digits "911" on the radio key pad.

Note: After dialing the "911" digits, you should receive an acknowledgment tone on your radio indicating the emergency call-in has been detected and processed. If you do not hear the acknowledgment tone you will need to resend the "911" code.

=====

Add new rule:

### 2.21 Electronic Devices

This rule outlines the requirements for use of electronic devices. As used in this rule, the following definitions apply:

Electronic Device - means an electronic or electrical device used to conduct oral, written, or visual communication; place or receive a telephone call; send or read an electronic mail message or text message; look at pictures; read a book or other written material; play a game; navigate the Internet; navigate the physical world; play, view, or listen to a video; play, view or listen to a television broadcast; play or listen to music; execute a computational function; or, perform any other function that is not necessary for the health or safety of the person and that entails the risk of distracting the employee or another employee from a safety related task.

Railroad operating employee - means an individual who is:

- \* engaged in or connected with the movement of a train including a hostler,
- \* a train employee providing commuter or intercity rail passenger transportation,

or

\* subject to hours of service governing train service employees.  
The use of any electronic device is prohibited if that use would interfere with an employee's performance of safety-related duties.

#### A. Personal or Railroad Supplied Electronic Devices

Personal or railroad supplied electronic devices may be used as necessary:

- \* To respond to an emergency situation involving the operation of the railroad,
- \* To respond to an emergency encountered while on-duty,
- \* As a communication device in the event of radio malfunction.

#### B. Personal Electronic Devices

Except when deadheading in other than a controlling locomotive, railroad operating employees on duty (including supervisors) must have each electronic device turned off and stowed out of sight with any earpiece removed from the ear when:

- \* On moving rolling equipment or on track equipment.
- \* Any member of the crew is on the ground performing safety related duties.

or

- \* Any employee is assisting in preparation of the train, engine(s) or on-track equipment.

A railroad operating employee may use a personal cell phone only for voice communication when:

- \* Rolling and on track equipment is stopped,
- \* A safety briefing is conducted with all crew members to confirm that it will not interfere with any safety related or required duty,
- \* No member of crew will foul any track.

CELL PHONE MUST BE TURNED OFF WHEN CALL HAS BEEN COMPLETED.

Railroad operating employees may use a digital storage and display function of an electronic device to refer to a railroad rule, special instruction, timetable, or other directive provided it does not interfere with any employee's performance of safety related duties and all other crew members have been briefed on its limited use. When not in use it must be turned off and stowed.

A personal stand alone camera may be used to take a photograph of a safety hazard or a violation of a rail safety law, regulation, order, or standard, provided that:

- \* A job briefing is conducted among all crewmembers and any other individuals in the controlling cab of moving equipment,
- \* It is turned off immediately after the photograph has been made;
- \* It is not used by an employee at the controls of moving equipment.

A personal stand-alone calculator, digital watch whose only purpose is as a timepiece and medical devices that are consistent with the railroad's standards may be used as necessary in the performance of duties.

#### C. Railroad Supplied Electronic Devices

Railroad operating employees may use railroad supplied electronic devices to send or receive work related information with:

- \* Railroad supervisors.
- \* Railroad customers.
- \* Railroad dispatchers.
- \* Railroad customer service employees.

or

- \* Other railroad employees as necessary in the performance of their duties.

Railroad operating employees must not use a railroad supplied electronic device for purposes other than which it was intended or while:

- \* Operating the controls of a moving locomotive.
- \* On the ground within 4 feet of any track.
- \* On the ground and engaged in an active switching operation.
- \* Riding rolling equipment during a switching operation.
- \* At the controls of the locomotive and any other employee is assisting in the preparation of the train, engine(s), or on-track equipment, including testing of railroad equipment or brakes.
- \* Inside the controlling cab of a locomotive, train or on-track equipment, unless there has been a safety briefing and all crew members agree that it is safe to do so.
- \* Verbally obtaining or releasing mandatory directives when railroad radio communication is available.

Railroad authorized electronic devices may be used in the body of a business car or passenger train for railroad business when it will not interfere with an employee's performance of safety related duties.

=====  
5.3.7 Radio Response

Delete entire rule.

=====  
5.13 Blue Signal Protection of Workmen

Add note to part C:

Note:  
Remote control locomotives may be in remote mode while under blue signal protection to service remote control locomotive equipment/functions when the following requirements are met:  
1. The employee placing the locomotive in remote mode has been trained to repair and operate remote control equipment.  
2. All employees involved on the unit and/or tracks are job briefed and warned against possible inadvertent movement of the locomotive.

=====  
6.5 Shoving Movements

Add new second paragraph:

With this and previous changes, entire rule changed to read:  
Equipment must not be shoved until the engineer and the employee protecting the movement have completed a job briefing concerning how protection will be provided. Employee must be in position, provide visual protection of the equipment being shoved and must not engage in unrelated tasks while providing protection.  
When taking a position ahead of the movement, employee must continuously observe the movement until the movement is stopped. Employee protecting the shove must not turn their back on the movement or walk backwards ahead of the movement. Radio communications for shoving movements must specify the direction and distance and must be acknowledged when distance specified is more than four cars.

MOVEMENT MUST STOP WITHIN HALF THE DISTANCE SPECIFIED UNLESS  
ADDITIONAL INSTRUCTIONS ARE RECEIVED.

Equipment must not be shoved until it is visually determined that:

- \* Portion of track to be used is clear of equipment or conflicting movements.
- \* The track will remain clear to the location where movement will be stopped.
- \* Switches and derails are properly lined.

Employees may be relieved from providing visual protection when:

- \* Local instructions specify tracks involved and how shoving movement will be protected, such as shove light or monitored cameras.
- \* A track has been pulled and equipment will be immediately shoved back into that track and that track has remained clear to location where movement will be stopped.
- \* Immediately prior to shoving, a movement is made on the adjacent track providing the employee the ability to visually determine the track to be shoved is clear and route is properly lined.
- \* Authority on main track or controlled siding allows for movement in direction of shove, provided route is properly lined, road crossings will not be fouled and movement at restricted speed is not required.  
or
- \* Picking up a crew member in accordance with Rule 6.6 (Back Up Movements).

Shoving movements over road crossings must be made in accordance with Rule 6.32.1 (Providing Warning Over Road Crossings).

Speeds when Shoving

When cars are shoved on a main track or controlled siding in the direction authorized, movement must not exceed:

- \* 20 MPH for freight trains.
- \* 30 MPH for passenger trains.
- \* Maximum timetable speed for snow service unless the employee in charge authorizes a higher speed.

Add application:

Job briefing must include the following:

- \* Who will protect the shove.
- \* Which track is being shoved.
- \* How the shove will be protected.

Examples:

- Riding the point of the equipment.
- In a position where they can observe the movement to the point where it will stop.

- \* Distance to be shoved.
- \* Position of switches and derails.

Examples:

- Switches and derails are lined for the movement.
- Be prepared to stop short of a switch or derail improperly lined.

=====

### 6.5.1 Remote Control Movements

Change entire rule to read:

Remote control movements are considered shoving movements, except when the remote control operator controlling the movement is riding the leading locomotive in the direction of movement. Before initiating movement, the remote control operator or a crew member must be in position to visually observe the direction the equipment moves.

When approaching within 200 feet of a fouling point, switch or derail,

employee controlling movement must be on the point of the movement outside the cab when riding locomotive. However, movement may be controlled from inside the cab of the lead locomotive when:

\* Operating in severe weather conditions.

or

\* It is necessary to sound the whistle.

#### Relief of Providing Protection

The remote control operator is relieved from providing protection and the requirement to stop within half the range of vision for movements with engine on leading end when:

1. The remote control zone has been activated.
2. Switches/derails are known to be properly lined.  
and
3. Track(s) within the zone are known to be clear of other trains, engines, railroad cars, and men or equipment fouling track.

When Remote Control Zone is equipped with pull back / stop protection (PSP), the operator must verify that PSP is operational. Pull back and stop protection must again be verified if PSP is overridden or disabled.

Note: These steps must be repeated each time the remote control zone is activated.

When operating in pitch and catch mode and making a shoving movement, the primary operator must be in position to protect point of movement. The primary operator at the coupling may stretch the slack to ensure couplings are made or separate equipment to make coupler adjustments after conducting a job briefing with the employee who will be protecting the point.

#### ===== 6.6 Back Up Movements

Change rule title and entire rule to read:

After obtaining permission from the train dispatcher, a train may back up on any main track or on any track where CTC is in effect under the following conditions:

1. The train dispatcher grants permission to make the movement after verifying the following within the same or overlapping limits:
  - a) Another authority is not in effect unless conflicting movements are protected.
  - b) A track bulletin Form B is not in effect.
  - c) A main track is not removed from service by a track bulletin.
  - d) Track Breach Protection is not in effect.
  - e) Permission to leave a switch in the reverse position has not been granted.
2. The crew ensures movement will not:
  - a) Exceed the limit of the train's authority.
  - b) Exceed the train's length.
  - c) Enter or foul a private or public crossing except as provided by Rule 6.32.1 (Providing Warning Over Road Crossings).
  - d) Be made into or within yard limits, restricted limits, interlocking limits, drawbridges, railroad crossings at grade, or track bulletin Form B limits.

When movement is made under these conditions, restricted speed does not apply. Trains backing up under the provisions of this rule may pass signals indicating Stop and Proceed, without stopping.

Before a crew requests and makes a move under this rule, a job safety

briefing between crew members must be conducted that includes:

Confirmation of authority limits.

Location of nearest affected road crossings in direction of movement.

Distance to be shoved.

Confirmation that train is intact, verified either visually or by determining that brake pipe continuity exists using EOT device or distributed power telemetry.

6.21 Precautions Against Unusual Conditions

Add the following application to rule.

When notified of a flash flood warning comply with the following:

VERBALLY NOTIFIED	BULLETIN OR TRACK WARRANT	PROCEDURE
"FF" in effect between _____ and _____, or at location _____.	Flash Flood warning in effect between _____ and _____. Within these limits or specified location be governed by Rule 6.21 and 6.21.2.	Be governed by Rules 6.21 and 6.21.2.

Add new rule:

6.21.3 Stop Within Range of Vision

When a train is instructed by the Train Dispatcher in the words, "BETWEEN (location) AND (location) BE GOVERNED BY RULE 6.21.3", within specified limits, train must proceed at a speed which will permit stopping short of slide, rock, washout or debris on track.

6.32.2 Automatic Warning Devices

Add new first bullet to list under first paragraph:

- \* Train, engine, and other such movements consisting of less than 12 physical axles. However, Engineering Department Track Geometry cars will be governed by Engineering Department instructions.

6.32.3 Providing Warning for Adjacent Tracks

Delete entry from SSI.

7.4 Precautions for Coupling or Moving Cars or Engines

Change rule to read:

Before coupling to or moving cars or engines, verify that the cars or engines are properly secured and can be coupled and moved safely. Make couplings at a speed of not more than 4 MPH. After coupling, engine direction must be changed to stretch slack to ensure that coupling(s) have been made. Before beginning shoving movement, ensure that all couplings have been stretched.

8.2 Position of Switches

Change the word "handling" to read "operating" in first and third paragraphs:

9.12.4 ABS Territory

Change letter reference in SSI for Control Point Locations (page 79) to read D instead of C.

=====  
14.0 Rules Applicable only Within Track Warrant Control (TWC) Limits

Change first sentence in SSI, page 83, to read:

Additions to suggested form.

=====  
14.7 Reporting Clear of Limits

Change entire rule to read:

Before reporting clear of the limits or reporting having passed a specific location, confirm with the dispatcher that the conductor and engineer have discussed their location and are in agreement with limits or warrant being released. Communication must include the track warrant number when releasing track warrants.

A train without a crew member on the rear and operating in non-signaled or double track territory may report clear of the limits, report having passed a specific location, or release the track between two specific locations only when it is known the train is complete. This must be determined by one of the following ways:

1. The rear of the train has a rear-end telemetry device, and air pressure on the head-end device indicates brake pipe continuity.
2. An employee verifies the marker is on the rear of the train.
3. A crew member can observe the rear car of the train on which the marker is placed.
4. The train is stopped, and an inspection verifies that the marker is on the rear car of the train.
5. A trackside warning detector transmits an axle count for the train, and the axle count duplicates the axle count transmitted by the previous trackside warning detector.

In non-signaled territory comply with the requirements outlined in Rule 8.3 (Main Track Switches) and advise the train dispatcher:

- \* All main track switches operated have been restored and locked in normal position.
- \* The crew has completed the job briefing.
- \* The conductor report form is properly initialed.

When a hand-operated switch is used to clear the main track, except where Rule 6.13 (Yard Limits) or Rule 6.14 (Restricted Limits) are in effect, advise the train dispatcher of the position of the switch and that the switch is locked when reporting clear of track warrant limits. Train dispatcher shall repeat the reported switch position and employee releasing the limits shall confirm to the train dispatcher this information is correct. Changes to "Roll-up" information contained in SSI. Revise and add third bullet for the initial conversation with the train dispatcher as follows:

Train dispatcher: I need to roll-up track warrant (number). What will protect the rear of your train, over?

When reporting past a specific location:

- \* Engineer and conductor will job brief and agree on train's location and location entire train is past.
- \* When using a milepost location, communication with the train dispatcher will include a whole milepost number (not tenths) the entire train is past.
- \* When using railroad identifiable points that include a direction, such as a siding switch, state and spell direction i.e.

North (N O R T H) siding switch at Dora .

=====

#### 14.11 Changing Track Warrants

Delete second sentence of second paragraph reading:

When a track warrant of a previous date is voided, the date must be included.

=====

#### 14.13 Mechanical Transmission of Track Warrants

Change last paragraph to read:

The crew must verify the designated limits and any conditions of track warrants that convey authority with the train dispatcher before initiating movement on main track.

=====

#### 15.1 Track Bulletins

Change the fifth paragraph to read:

At locations where track warrants listing track bulletins are received by printer or fax, crew members must verify that route description, if printed, covers the intended route of their train and that the track warrant includes the correct train ID and train symbol of their train. If it does not, contact the train dispatcher and determine if the track warrant is valid. Also, crew members must check the date and "OK" time on the track warrant and if the track warrant is over 4 hours old, contact the train dispatcher and determine if additional track bulletins are needed.

=====

#### Rule 15.2 Protection by Track Bulletin Form B

Change third paragraph to read:

A crew member must attempt to contact the employee in charge of a track bulletin Form B sufficiently in advance to avoid delay, giving the train's location and track being used. The crew member must inform the employee in charge if there are any excessive dimension loads in the train. The employee in charge will use the following format to establish communication with the train:

Foreman (name and/or gang number) using Track Bulletin No.\_\_\_\_  
(specifying line number when necessary) between MP\_\_\_\_ and MP\_\_\_\_  
(specifying subdivision when necessary).

=====

#### Rule 15.12 Relief of Engineer or Conductor During Trip

Change rule to read:

When being relieved before a trip is finished, contact the train dispatcher and comply with instructions concerning the handling of track warrants, track bulletins, and other instructions.

When crew members are called to relieve a train at other than the initial station, crew members must contact the train dispatcher before leaving the initial station and determine if any track warrants, track bulletins, or other instructions must be obtained.

#### Comparison of Information

The relieving conductor and engineer must compare:

- \* Track warrants, track bulletins, instructions, and pertinent information with each other.
- \* Their track warrant for bulletins number with the train dispatcher. The train dispatcher will verify that the warrant includes all required track bulletins and will provide any additional restrictions required for the route.

=====



Add new rule:

15.12.1 Relief of Engineer or Conductor at Crew Change

When making a crew change, relieving crew members must determine from the inbound crew if there are any unforeseen restrictions issued that have not been fulfilled/traversed or tasks in progress (e.g. air test). When not relieved by another crew, the inbound crew must leave this information in writing for the relieving crew and notify the dispatcher of tasks not completed. In addition, at locations where a yardmaster is on duty, the yardmaster must also be notified.

=====

19.GL: General Code of Operating Rules Glossary

Change Automatic Train Control (ATC) to read:

A system to enforce compliance with cab signal indications. If the train exceeds a predetermined speed for a given cab signal indication and speed is not reduced at a sufficient rate, brakes are automatically applied.

Add: Stowed

When required by Rule 2.21, electronic devices including cell phones, laptops, cameras, DVD's, etc., must be turned off and placed out of sight in the employee's grip, luggage, back pack, etc. Electronic devices placed in pockets or device holsters are not considered as being stowed.

Add: Train Dispatcher

Employee assigned to operate a CTC or interlocking machine, transmit or deliver orders affecting train movements, and supervise train movements and any employees connected with that movement, including control operators.

Add: Train ID

Trains will be identified by initials and engine number, adding the direction when required. When an engine consists of more than one unit or when two or more engines are coupled, the number of one unit only will be illuminated as the identifying number. The identifying number will be the number of the lead unit, unless changing direction during a trip or tour of duty when that unit is no longer the lead unit.

Add: Jump Frog

A main track frog designed for use with low traffic turnouts. The main track side is made up of an unbroken rail and the turnout side carries the wheel over the main track rail by supporting the flange of the wheel.

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**Item 10-B - Remote Control Operations Instructions**

Delete all information contained in System Special Instructions Item 10-B. Remote Control Operations Instructions are now contained in Air Brake and Train Handling Rules, Chapter 35.

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SIGNATURE: LANCE M. FRITZ  
SIGNATURE TITLE: EVP OPERATIONS

----- DOCUMENT TEXT -----

**System Special Instructions**

**EFFECTIVE April 07, 2010**

**Order Category : Sys. SI. 10-C - 10-D**

**System General Order No. 24**

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**PURPOSE:**

SI 10C-10D: Item 10C: Rule 31.8.3: Change minimum number of on-line units required when handling up to 8 units.

Recent changes:

Item 10C: New Air Brake and Train Handling Rules in effect 0900 on January 20, 2012. These rules replace previous UPRR ABTH rules dated July, 2007. All ABTH changes listed in System Special Instruction Item 10C and previous System General Orders are deleted. Rule 31.8.3: Revise rule to show additional left and right columns omitted in error during publication. See manager for replacement pages. Add new bullet under 5th paragraph. Rule 32.1.2: Add additional rule references. Rule 32.1.3: Add new last paragraph. Rule 32.1.6: Add requirement to check for white paint on hand brake chain and slack when releasing hand brakes on equipment.

Item 10D: Rule 40.15: Add new bullet under 5th paragraph.

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**EFFECTIVE: 1513, February 27, 2012**

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**CANCELLATIONS:**

This order cancels all previous orders in Order Category: Sys. SI. 10-C - 10-D

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**Item 10-C - Air Brake & Train Handling Rules, Chapters 30 to 39**

Rule 32.1.2 Securing an Unattended Train or Portion of Train with Locomotive Attached

Add the following Reference Rules to rule:

7.6

32.1.3

=====  
Rule 32.1.3 Securing an Unattended Train Before Detaching Locomotives

Add new last paragraph reading:

When removing locomotive(s) from a previously secured train or cut of cars, tie additional hand brakes on cars equal to the number of locomotives removed.

=====  
New Air Brake and Train Handling Rules are in effect 0900 on January 20, 2012.

Delete all Air Brake and Train Handling changes contained in System Special Instructions dated April 7, 2010.

Use the Air Brake and Train Handling Transition Guide to convert rule

references in documents containing previous rule numbers to the new rule number. The Transition guide is available on the UPRR Web page by using the following path: From the Home Page, go to Departments, Operations Support, UP Rule Books then select the "ABTH Transition Guide" link under Support Information, or copy the following link into your web browser:

[http://home.www.uprr.com/emp/operating/op\\_prac/gcor/index.shtml](http://home.www.uprr.com/emp/operating/op_prac/gcor/index.shtml)

=====  
 Rule 31.8.3 Light Engine Setup

Change entire rule to read as follows:

31.8.3	Light Engine Setup				
49 CFR 232.205	When light engine power transfers consisting of more than eight locomotive units are to be operated, set-up as shown below:				
----- Light Engine Power/Dynamic Brake Setup -----					
Number of Units	Minimum MU'd	Minimum on line for power and dynamic brake	Armed EOT Required	MU Cable Required between units	Headlight
1-8	All	1 Min. 8 EPA req. with 3 or more units	No	All	Lead/Rear on dim
9-12	8	4	Yes	Must not be placed between eighth and ninth units.	EOT on rear
13-15		5			
16-18		6			
19-21		7			
22-25		8			
----- Light Engine Air Brake Setup -----					
Number of Units	Train line hose	Automatic Brake Cut-in	Independent Cut-in	MU Hoses	Air Test Required
1-8			Lead Only	All	Consist
9-25	All	Lead Only	Cut-in and Released	Locomotive must be running or main reservoir must be connected	Determine that brakes apply and release on each locomotive.

| to running |  
| locomotive. |

-----  
|  
| Light engine movements must not be operated in DP mode except |  
| when moving power consists from the service track to a yard track. |  
| Site-specific instructions may be created to govern movement of |  
light engine moves within the terminal limits.

=====  
Rule 32.1.6 Releasing Hand Brakes

Change second paragraph under part A to read:

When releasing hand brakes, check for slack and white paint showing on chain when equipped, and at least three additional hand brakes beyond the last applied hand brake.

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**Item 10-D - Maintenance of Way Rules, Chapters 40 to 69**

Rule 40.0 Maintenance-Of-Way Supplements To The General Code Of Operating Rules (GCOR)

Change the following in GCOR table cross-reference:

Chapter 1:

Remove shading from 1.4.1 and 1.10

Chapter 2:

Add 2.21 with shading.

Chapter 5:

Delete 5.7

Chapter 6:

Delete 6.19.2 and 6.19.3, shade 6.8 and 6.32.2, remove shade from 6.4.2.

Chapter 7:

Remove shading from 7.1.

Chapter 8:

Remove shading from 8.20

=====  
40.6 Chapter 6 Supplements

Add new 6.32.2 Supplement: Automatic Warning Device

When a highway crossing warning apparatus fails to indicate the approach of trains, post a watchman or flagman at the crossing until repairs are made, or until otherwise directed.

Employees must immediately report the failure of a highway crossing warning apparatus to the train dispatcher and the track or signal manager.

=====  
40.9 Chapter 9 Supplements

Change title of Supplement: 9.15.3 Track Permits - MW to read:

Supplement: 9.15 Track Permits - MW

Change last bullet under 9.17.1 supplement to read:

\* If no train or engine is heard or seen approaching the area to be protected after 5 minutes, lock the switch and display red flags to establish working limits or protect unsafe track. A properly equipped flagman will be assigned at that location to flag all approaching trains or on-track equipment from both directions. M/W

employees may then occupy the track or make the track impassable.

=====

#### 40.15 Chapter 15 Supplements

Change entire rule to read:

Supplement: 15.2 Protection by Track Bulletin Form B

##### A. Establishing Form B Protection

Form B protection must:

- \* Be requested at least 14 hours prior to work beginning.
- \* Include the following:
  - Subdivision.
  - Specify limits MP to MP.
  - Start and finish time.
  - Track(s) affected.
  - Foreman's name & Gang number.

Note: In an emergency Form B may be issued without 14 hour notice.

A job briefing between the EIC and the train dispatcher or control operator must be conducted on the day the work is being performed to determine routes that will be affected by dual-control switches.

Protection may be required between the yellow-red flags of the Form B to prevent access through dual-control switches and/or specific route information given to trains that may enter the Form B limits between the yellow-red flags.

Before occupying track(s) the employee in charge must verify with the train dispatcher or control operator that:

- \* Form B has been issued as requested;
- \* Form B track bulletin has been received by all affected trains;
- \* The yellow-red and red flags are displayed;
- \* Job briefing with Dispatcher or control operator concerning dual-control switches has been completed.

If necessary to obstruct main track, make it unsafe for trains at normal speed or, men or equipment foul track prior to verification, other protection as prescribed by the rules must be provided.

##### B. Placing Flags

When placing and removing flags used with Form B track bulletins, use the following sequence:

- \*Placing Flags: Place the yellow-red flags first, then the red flags;
- \*Removing Flags: Remove the red flags first, then the yellow-red flags.

##### C. Clearing Trains

The employee in charge (or designated employee) must be alert for approaching trains to avoid delays. Format shown below must be used to issue instructions when contacted by approaching train. If unable to contact approaching train, employee in charge (or designated employee) must go toward the train and use hand signals to stop train.

It is not necessary to stop train with hand signals when:

- \* All men and machines are clear of the track.
- \* The track is safe for train movement.

When clearing trains through the limits of the Form B, the employee in charge will:

- \* Give his/her name and gang number as required in Rule 15.2 (A).
- \* Transmit numbers in accordance with Rule 2.14.1.

Rule 15.2.1 does not apply on the Union Pacific Railroad.

Within the limits of a Form B track bulletin, track and time authority may be obtained before occupying a track in CTC territory that has an

adjacent controlled track. A job briefing must be conducted with every train that is cleared through the Form B limits. This job briefing must follow the exact verbiage outlined below and must take place prior to the actual Form B clearance.

"(Train ID), my gang is occupying track (\_\_\_). Do you understand that I will give you permission to proceed only on track(s) (\_\_\_) and except when verbally authorized, crossover movement must not be made without receiving additional instructions from me?" (Wait for response).

#### D. Hand-operated Switch Allows Access from another Subdivision or Railroad

Where a hand-operated switch allows a train from another subdivision or railroad to enter that portion of track between the yellow-red flags, the EIC must discuss with the train dispatcher which of the following methods of protection will be used to prevent unauthorized entrance to the Form B limits.

- \* Obtaining track and time, track permit, foul time, track warrant or track out of service on the portion of track through the hand-operated switch.
- \* Applying a point clamp with a private lock and a "track out of service" tag, to the hand-operated switch.  
or
- \* Displaying a yellow-red flag 2 miles in advance of the Form B limits on the adjoining subdivision or railroad. Because the yellow-red flag will be placed on a different subdivision or railroad than the Form B limits, the EIC must request that a Form C track bulletin be issued explaining the placement of this yellow-red flag.

If the yellow-red flag cannot be placed 2 miles in advance, place it in advance of the switch and note the milepost location on the Form C track bulletin.

Where the hand-operated switch is within the limits of the Form B (between red flags), a red flag should be placed in advance of the switch on the adjoining subdivision or railroad.

The employee-in-charge of the Form B must ensure that all switches operated have also been restored to normal position before clearing trains through the Form B limits and before the expiration time on the Form B Track Bulletin. In non-signaled and current of traffic territory, the EIC must record the name and location of each main track switch operated, the time each switch was initially reversed, the time that each switch was restored to normal and the initials of the employee handling each switch on the Record of Form B Clearance. This documentation must be kept for 5 calendar days after the expiration of the Form B Track Bulletin.

Before occupying any main track, employees must have information concerning all Form B track bulletins in effect that may overlap their track authority.

=====  
42.1.1 Qualification

Change watch requirement reference to read Rule 1.48.

=====  
42.2 Maximum Speeds

Change rule to read:

The maximum track speeds for track cars are listed below. Reduce

speed, if necessary to ensure safety.

Light-Duty Hy-rail inspection vehicles including suburbans and bridge inspection trucks. *Except as noted below in Maximum speeds for curves.	45 MPH
Gang Hy-rail vehicles and Rail Detector Cars *Except as noted below in Maximum speeds for curves.	25 MPH
Roadway machines and work equipment	30 MPH
Continuous action tampers (CATs)	45 MPH
Track evaluation cars (self-propelled)	70 MPH
Track evaluation cars (handled in-train)	80 MPH
Ballast undercutters (BUC)	50 MPH
One-man motor cars	30 MPH
Gang motor cars without trailers	25 MPH
Gang motor cars with push cars or trailers attached	20 MPH
Rail grinders and in-track welders	45 MPH
Track construction machines (must be handled at the rear of the train)	30 MPH
Trackmobile (light)	20 MPH
Trackmobile (handling cars)	10 MPH
Brandt Truck on grades less than 1% with cars attached or when operating without cars attached	25 MPH
Brandt Truck on grades 1% or greater with cars attached	15 MPH

Maximum speeds for equipment not listed will be designated by the Chief Engineer.

\* Approved maximum speeds for curves:

Degree of curvature	Speed
0 - 2	45 MPH
2 - 6	30 MPH
6 - 8	25 MPH
Over 8	20 MPH

#### 42.4.2 Using Track and Time Authority

Change rule reference 42.15.3 to read 42.15.

Add the following exception to the note under the fifth bullet:

Exception: At movable span bridges designated as a manual interlocking and there are no switches within the limits. When track and time is issued across a movable span bridge and EIC of the authority has confirmed with the bridge operator that the bridge will not be moved, the track and time will authorize occupancy of the interlocking limits. The bridge may not be moved without the permission of the EIC of the limits.

=====  
42.5.1 Movements Though Yard Limits

Change exception to read:

EXCEPTION TO RULE 42.15: In non-signaled territory or when flag protection is provided by lining a switch in ABS territory per Rule 40.9 (Supplement to 9.17.1), display red flags to establish working limits or protect unsafe track. A properly equipped flagman will be assigned at that location to flag all approaching trains or on-track equipment from both directions.

=====  
42.5.2 Maintenance in Yard Limits

Change exception to read:

EXCEPTION TO RULE 42.15: In non-signaled territory or when flag protection is provided by lining a switch in ABS territory per Rule 40.9 (Supplement to 9.17.1), display red flags to establish working limits or protect unsafe track. A properly equipped flagman will be assigned at that location to flag all approaching trains or on-track equipment from both directions.

Delete the note following last bullet.

=====  
42.6 Grade Crossings

Change rule to read:

Track cars and on-track equipment must approach all grade crossings prepared to stop and must yield the right-of-way to vehicular traffic. If necessary, flag the crossing to protect movement of a track car or on-track equipment. When approaching any grade crossing equipped with automatic warning devices and the automatic warning devices are not activated, all track cars and on-track equipment must stop short of the crossing and not proceed until safe to do so unless the crossing has been closed or barricaded or is protected by properly equipped flaggers.

=====  
42.7.1 Manual Interlockings

Change first bullet to read:

\* Receive foul time from the train dispatcher or control operator to proceed through the interlocking limits. If foul time cannot be granted, the train dispatcher or control operator may issue verbal authority to proceed through the interlocking limits. The dispatcher or control operator may also issue verbal authority to proceed through the interlocking limits if the interlocking is an end of siding control point or moveable span bridge and track authority is obtained on both sides of the interlocking limits.

Change rule reference 42.15.3 to read 42.15.

=====



46.5 Protecting Highway Crossing  
Delete rule.

---

SIGNATURE: LANCE M. FRITZ  
SIGNATURE TITLE: EVP OPERATIONS

Sys. SI. 10-E - 10-G

----- DOCUMENT TEXT -----

**System Special Instructions**  
**EFFECTIVE April 07, 2010**  
**Order Category : Sys. SI. 10-E - 10-G**  
**System General Order No. 19**

---

**PURPOSE:**

SSI 10E-10G: 10G: Rule 121.2.5: Additions to Form 24166, Record of Form B Clearance.

---

**EFFECTIVE: 0859, January 20, 2012**

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**CANCELLATIONS:**

This order cancels all previous orders in Order Category: Sys. SI. 10-E - 10-G

---

**Item 10-E - Safety Rules**

70.8 When Warning Traffic at Grade Crossing  
Change rule to read:

When required to be on the ground at a grade crossing to warn traffic of an approaching movement, the employee must be in a safe location to avoid injury. Do not stand in traffic lanes.

=====  
71.5.2 Additional Eye Protection Requirements  
Change rule to read:

Specific work activities may require additional eye protection. Go to Safety Department web site "Safety Resource Manual, Personal Protective Equipment Policy (Assessment of Personal Protective Equipment), Section IV - A", for application of this rule to other specific tasks.

=====  
74.2.1 DOT-Qualified Drivers  
Change rule to read:

Drivers of company vehicles that meet one or more of the following criteria will be required to become UPRR Department of Transportation (DOT) qualified:

\* Operate a vehicle with a gross vehicle weight rating (GVWR) of 10,001 lbs or more (single truck or a combination of truck and trailer),

- \* Operate a vehicle designed to carry 16 or more passengers including the driver,

- \* Operate a vehicle placarded under the hazardous materials regulations because of its hazardous cargo.

Drivers must have in their possession at all times when driving a commercial motor vehicle:

- \* Valid Commercial Driver License (CDL) for vehicles with a gross vehicle weight rating (GVWR) greater than 26,000 lbs.

- \* Valid Commercial Driver License (CDL) with a hazardous material endorsement for any vehicle placarded under the hazardous materials regulations because of hazardous cargo.

- \* Valid driver license for vehicles with a gross vehicle weight rating (GVWR) less than 26,000 lbs.

- \* Valid copy of medical certificate card when driving a commercial motor vehicle with a gross vehicle weight rating (GVWR) greater than 10,000 lbs.

- \* Current day and previous seven days hours of service (HOS) logs when driving a commercial motor vehicle with a gross vehicle weight rating (GVWR) greater than 10,000 lbs.

Drivers of vehicles with a gross vehicle weight rating (GVWR) greater than 10,000 lbs must be qualified by UPRR DOT, and familiar with Federal Motor Carrier Safety Regulations. Federal Motor Carrier Safety Regulations requires UPRR to have on file, a completed driver's qualification file that includes:

- \* Driver's DOT application for employment,

- \* Copy of motor vehicle record (MVR) by each state for the past three years,

- \* Current medical examiner's certificate card,

- \* Certificate of road test for DOT certified drivers who do not possess a CDL,

- \* Annual review of driving record (MVR),

- \* Annual violation and review.

=====

#### 74.12 Railroad Grade Crossing

Change rule to read:

Drivers must approach railroad crossings prepared to stop.

Before crossing track(s) where visibility is impaired by railroad equipment or other obstruction that prevents a clear view of approaching trains, the driver of the vehicle must:

- \* Stop the vehicle and verify (by either a flagman or personal observation) that there will be no movement on the track(s) being crossed.

or

- \* Use alternate crossing.

Vehicles designed to transport 16 or more passengers including the driver or placarded vehicles must stop at all highway railroad crossings at grade.

=====

#### 76.36 Chain Saw

Follow the manufacturer's instructions when operating chain saws.

Operators must wear:

- \* Dust goggles or face shield with safety glasses.

- \* Gloves.

- \* Long sleeved shirt.
- \* Chain saw chaps.
- \* Hearing protection.

Before employees use a chainsaw they must be trained.

#### Standing Trees

Employees must not fell standing trees that are greater than 6 inches in diameter at mid chest height. If the tree is leaning, extreme care should be used when cutting and consideration should be given to having the tree cut by an outside service provider. Standing trees that are greater than 6 inches in diameter that need to be felled must be removed by an outside service provider.

#### Fallen Trees

Employees must do a thorough risk assessment of the scene where a tree is fouling any of our tracks or structures before using a chainsaw.

This assessment must include evaluation of the position and orientation of the trunk and limbs of the fallen tree to identify any stress in the tree components due to said position and orientation (i.e. twisting or leaning against another tree or object).

All chain saws should have a chain brake. Those saws not equipped with a chain brake must have a tip protector.

Be alert for conditions which may adversely affect footing and safe operation of the saw. Avoid cutting directly overhead. Where there is a fire hazard, a fire extinguisher and shovel must be immediately available when using a chain saw.

=====  

#### 79.3.1 Protecting Area

Change rule to read:

Before leaving the work site, the person in charge must check to see that no fire or fire hazard exists and comply with their departmental fire prevention plan.

=====  

#### 80.6 Working at Night or Low Light Level

Add new last paragraph reading:

Lighting requirements for use in:

- \* Through freight, local or road switcher service:

- Trainmen - Lantern
- Engineer - Flashlight or Lantern

Trainmen and Engineers may use a hands free light in addition to required lighting.

- \* Remote Control Operator:

- Hands free light.
- Lantern may be used if hands free light fails or as an auxiliary light.

=====  

#### 81.5.4 Understanding Between Crew Members Before Crossing Through or Fouling Equipment

Change entire rule to read:

Red Zone:

Anytime a Train, Engine or Yard employee is working within an area where there is the potential to be struck by moving equipment, crossing through equipment and/or fouling equipment.

Establishing Red Zone

Employee(s) working in red zones must comply with the following 4-Step Process:

1. Request Red Zone
2. Determine Action Required
3. Confirm Red Zone
4. Release Red Zone

Exceptions

Operating the uncoupling lever.

Primary RCO opens knuckles during humping or kicking cars (movement must be stopped).

Rule 5.13 is in effect.

Crew Preparation Prior to Establishing Red Zone

Wait for movement to stop and slack to adjust.

Ascertain that all crew members have a clear understanding of the track(s) to be fouled.

Determine if other engine(s) have access to tracks where protection is required.

4-Step Process:

Step	Who	Action	Acknowledgment
Step 1. Request Red Zone	Employee requesting Red Zone	1. Notify all applicable crew members and jobs that have access to the track to be fouled. 2. Request "Red Zone" identifying the track or tracks to be fouled.	"Requesting Red Zone" by radio or approved hand signal.
Step 2. Determine Action Required	Crew Members	Select option(s) to prevent movement on or into track for any job with direct access to the affected track: Option 1-Movement(s) stopped and "Set and Centered". Option 2-Line switch away from track to be fouled. (UPRR property only)	Job Briefing
Step 3. Confirm Red Zone	Engineer or employee at the controls	Option 1: Movement Stopped and Set and Centered 1. Apply independent brakes, train air-brakes must be applied when necessary. 2. Center reverser 3. Acknowledge understanding.	"Set and Centered" by radio or 5.8.2(4)

		4.Locomotive brakes are to remain applied and reverser centered.	
		5.Locomotive is not to be left unattended until the crew member requesting protection gives prescribed hand signal or announces by radio, "Clear of the Red Zone."	
	Employee(s) of affected jobs	Option 2: Line Switch away from track to be fouled. 1.Acknowledge understanding. 2.Repeat the track(s) to be fouled. 3.Line switches to prevent access into the track where protection is required and confirm to employee requesting "Red Zone".	Line switch away from track to be fouled and confirm with employee request Red Zone.
Step 4. Release Red Zone	Employee that requested Red Zone	When physically clear of Red Zone, notify all applicable crew members and jobs.	"Clear of Red Zone" or Approved Hand Signal

Acknowledgement via Hand Signals

Prior to entering a Red Zone, a job briefing must be conducted informing all crew members that hand signals will be used to initiate and release a Red Zone using the following signals:

Prescribed Hand Signals

Entering the Red Zone

Hand Signal:

- \* Day - Use cut-in air sign by overlapping hands in a downward motion in front of body at waist height.
- \* Night - Hand signal may not be used at night, radio must be used to request and confirm Red Zone.

Prior to entering the Red Zone

Engineer must acknowledge by using whistle signal 5.8.2(4) or verbal

confirmation that brakes are applied and reverser is centered.

Clear of the Red Zone

Hand held at arm's length above the head. Engineer must acknowledge verbally or whistle signal 5.8.2 (4).

=====

#### 81.5.5 Trainline Power Cables

Add new rule:

Before going between equipment to work on or make adjustments to trains equipped with electrical power cables between cars, employees must ensure that electrical power to these cables is off unless cable is clear of the area where the employee will be working.

=====

#### 81.7 Riding Equipment

Change numbering of items in SSI, pages 113 and 114 as follows:

2. Do Not Ride
3. How to Ride
4. Where to Ride

Change second dash under first bullet in Part 4 under "Riding tank cars" to read:

- Be positioned to ride behind the safety bar outside the gauge of the track. If unable to ride behind the safety bar, employee may ride on the outer portion of the crossover platform facing direction of movement, positioned outside the gauge of the track.

=====

#### 81.10 Moving Equipment in Locomotive, Car, or Maintenance of Way Repair Facilities

In third bullet change rule reference at end to (see Rule 6.5 Shoving Movements).

=====

#### 81.11.3 Brake Sticks

Change entire rule to read:

Brake Sticks approved by the company may be used to operate:

- \* Hand brake wheels. Brake Sticks less than 5 feet in length may not be used to reach across drawbar to operate hand brake wheel.
- \* Knuckles.
- \* Angle cocks located on the side nearest where you are standing.

#### Rule 81.5.4 Understanding Between Crew Members Before Crossing

Through or Fouling Equipment must be complied with if any part of your body will break the plane of the car to perform any of these tasks.

Safety Precautions when using brake sticks:

- \* Car must be stopped.
- \* Work from the field side rather than between adjacent tracks when possible.
- \* The handle can easily foul an adjacent track, so be alert to keep clear of moving equipment.
- \* Using the hand brake quick release is prohibited.
- \* Never place the butt of the brake stick against your body.
- \* Do not climb or cross equipment with the brake stick in your hand.

=====

#### 83.1.2 Hearing Protection - Intermodal

Delete the first sentence from second paragraph reading:

Groundmen must wear hearing protection while performing their duties.

=====

83.1.11 Getting On and Off Cars

Change part 1 to read:

1. The track is known to be protected by blue and/or red flags, and

---

**Item 10-F - Inspecting, Welding and Grinding of Rail**

103.3: Condition of Oxy-Fuel Equipment

Change 2. to read:

2. Equipment has been visually inspected daily when in use.

---

**Item 10-G - Chief Engineer Instruction Bulletins**

121.2.5 Check-Off System for Form B Track Bulletin

Revise Form 24166 (see electronic version for revised form).

Delete the following from Item 1:

Large Gang Version & Contractor/Small Gang Version - Figure 121-A & B.

Add as footnote to bottom of Form 24166:

\*\* All Form B information must be recorded on the Record of Form B Clearance.

Add "Track (S)" after "Lines (S)" on the line for Track Bulletin #.

=====

122.4.1.2: Using Fall Protection Equipment

Entire rule changed to read:

Prior to performing work on any bridge, a risk assessment must be made to identify potential falls and determine how these hazards will be addressed. Eliminate any identified fall hazards or guard against them. This risk assessment is particularly important when working on bridges less than 12 feet in height. If the risk assessment warrants personal fall protection on bridges less than 12 feet in height, it must be used. A form of fall protection is required to be used when personnel are working 12 feet or more above the ground or water surface. Employees who work beyond bridge railings, over the sides of the bridge or on a bridge deck within 6 feet of gaps or holes large enough to fall through MUST use fall protection.

When the work location on a bridge is between six and twelve feet in height and the work area is not equipped with handrails on both sides of single track bridges, employees MUST be properly anchored using a retractable lanyard or be in fall restraint when using any type of prying tool (i.e. claw, lining, pinch, timber, crow, etc.) or large power tool (small tools such as 3/8 inch drills or sawzall's are not included) or while engaged in pile driving operations. The above requirement also applies on bridges that have multiple tracks when the work is being performed on an outside track that does not have an adjacent handrail installed.

Exceptions:

Fall protection is not required to be used when:

1. The bridge has walkways with permanent or temporary structurally sound railings on both sides. All railings must meet UPRR specifications and be equipped with a top rail and midrail.
  - a. When railings are attached at or within the edge of the bridge surface, the bridge itself will become the walkway.

- b. Temporary railings must be installed according to CE Drawing 83811 (Reference Appendix A).
- 2. Safety nets are erected underneath the structure, and they are tested according to published standards.
- 3. A worker is performing minor repairs and the work is completed exclusively between the outside rails. Under no circumstances, can any weight bearing portion of their body extend beyond these rails.
- 4. Bridge inspectors who are moving on or about the bridge, observing, measuring and recording the dimensions and condition of the bridge and its components and are complying with the requirements of 122.5.

NOTE: Bridge Inspectors performing duties other than bridge inspections must use fall protection.

- 5. Installing the fall arrest system poses a greater exposure to risk than the work to be performed AND a Bridge Director or equivalent gives approval.

=====

133.12.2 Boom Trucks (with Workbaskets), Aerial Workbaskets and Similar Equipment

Change 7th bullet to read:

Do not use workbaskets when exposed to winds in excess of 27 MPH or speeds recommended by the workbasket manufacture, electrical storms or other adverse weather conditions.

=====

136.3.1 Job Briefing for Roadway Work Groups

Change note to read:

Note: When track authorities overlap, the employees in charge of the respective authorities must ensure that working limits within those authorities do not overlap. When multiple work groups occupy the same working limits, only one EIC is permitted and that EIC shall authorize all movements into those working limits.

=====

136.7.4 Safe Working Distance Between Machines

Add:

NOTE: On-track equipment used for snow removal operations from the track structure such as Kershaw or Pike ballast regulators and other snow fighters must not exceed 25 mph while removing snow.

=====

See on-line versions for detailed information:

Chapter 122 - various changes to rule,

Chapter 126 - delete rule (information contained in Chapter 137).

Chapter 137 - chapter 126 and 137 now combined with multiple changes.

=====

136.9.2: FRA Roadway Worker Protection Matrix

Change entry under column reading CTC or CTC-ATC / Multiple Track, row for "Planned Work" to read:

- \* Track and Time
- \* Form B
- \* Foul time
- \* Track Out of Service
- \* Flag Protection
- \* Train Coordination



---

SIGNATURE: LANCE M. FRITZ  
SIGNATURE TITLE: EVP OPERATIONS

Sys. SI. 10-H - 10-M

----- DOCUMENT TEXT -----

**System Special Instructions**  
**EFFECTIVE April 07, 2010**  
**Order Category : Sys. SI. 10-H - 10-M**  
**System General Order No. 5**

---

**PURPOSE:**

10-H - 10-M: Item 10-J: Change rule reference and rule title on page 127 from Rule 1.10 to Rule 2.21.

---

**EFFECTIVE: 0915, July 29, 2011**

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**CANCELLATIONS:**

This order cancels all previous orders in Order Category: Sys. SI. 10-H - 10-M

---

**Item 10-H - Hazardous Materials Instructions**

Add the following to Section I - General Information, item 6; Making and Documenting a Positive Hand-off of Rail Security-Sensitive Materials (RSSM):

- e. Notify the train dispatcher immediately when a loaded RSSM shipment:
  - (1) Is set out as a bad order at other than the origin station, whether through-freight or yard/local jobs;
  - (2) Is not handled in accordance with work order instructions (scheduled work events) when traveling in a train of type "THRU".

=====  
Glossary: Change RSSM definition to include trailers and containers as follows:

Rail Security-Sensitive Material (RSSM) a shipment of one or more of the categories and quantities below:

Rail car, trailer or container containing more than 5,000 lbs (2,268 kg) of a Division 1.1, 1.2, or 1.3 (explosive) material; Loaded tank car containing a material poisonous/toxic by inhalation, including anhydrous ammonia;

and

Rail car, trailer or container containing a Class 7 (radioactive) material moving under the following Hazardous Materials Response Codes

-- 4929142, 4929143, 4929144, and 4929147.

---

**Item 10-I - Programs & Policies**

90.3 Smoking Policy

Change "Cessation Programs" information to read:

Programs are available for employees who desire to quit smoking. Interested employees should contact the Health Promotion Staff at (402) 544-2442 or toll-free at (888-767-0169). Information is also available on the Wellness Programs Tobacco Cessation Options page. [https://xdev.employees.www.uprr.com/emp/operating/op\\_prac/gcor/safety/Chapter\\_90/90.3.shtml](https://xdev.employees.www.uprr.com/emp/operating/op_prac/gcor/safety/Chapter_90/90.3.shtml)

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**Item 10-J - Commuter Train Operations**

Page 127: Change that part reading:

1.10 Games, Reading or Electronic Devices

Application for Commuter Operations:

To read:

2.21 Electronic Devices

Application for Commuter Operations:

=====  
6.30 Receiving and Discharging Passengers

Application:

Delete paragraph 7 in its entirety. The locations where paragraphs (1) through (4) do not apply are now contained in appropriate subdivision general orders.

=====  
Under part III. Additional Rules and Instructions, change all information under "Leaving Stations" on page 126, including title to read:

Operation of Doors and Handling of Passengers at Station Platforms:  
The Conductor will designate one member from the train crew who will operate the doors at each station.

Exterior doors must not be opened until the train has come to a full stop at a station platform. Trainmen must position themselves evenly spaced (when possible) on the platform to ascertain that all doors have opened for those passengers entraining/detraining and to provide assistance. Conductors, Assistant Conductors, and Collectors are required to be on all station platforms at every stop except if the car they are working is not on the platform.

Trainmen assigned to work the ADA car should maximize his presence in that car and must be aware of the passengers special needs. Special attention should also be given to coaches carrying the elderly and families with small children.

When two or more cars are open, trainmen must not work from the same car, EXCEPT as required in the performance of duty.

Doors located at other than a platform or other suitable surface such as street crossing will not be used. Announcements must be made in advance, directing passengers to doors that can be opened properly. Precautions must be taken to see that doors improperly spotted remain closed. If an unusual stop is made at a station which results in car doors not being spotted at a platform, the engineer will sound one long signal or the override circuit or make a PA announcement. The trainmen responsible for the doors must consider this an emergency

signal and only open the doors which are properly spotted.

Trains are not to depart stations until the following has occurred:

- \* Trainman responsible for working the doors receives visual signals from all other train crew members that the train is ready to depart.
- \* Trainman will then close all doors except his own.
- \* Trainmen will then make a final check of all doors in both directions from the best possible vantage point to ensure all doors except his own are closed.
- \* Once it is verified that all other doors are closed except his own, the trainman will then close his door.
- \* After the door light indication is illuminated in the engineers compartment signifying that all doors are closed, the train can depart the station. When conditions permit, the engineer should observe the platform area, utilizing his rear view mirror or camera monitor, looking for any unsafe conditions as the train begins to depart the station.
- If, after the door closed light has illuminated and:
  - \* train begins to pull away from the station, the engineer notices that the door closed light has gone out; a normal brake application will be made to bring the train to a stop. Trainmen will then ascertain the cause of the open door indication and correct the problem, if possible, before resuming operation.
  - \* train is operating at speed and the engineer notices that the door closed light has gone out; the engineer will communicate with the train crew and ascertain the cause of the open door indication.

If there is a failure of the door light indication in the engineers compartment, the train may proceed under the authorization of the Conductor, only after a full understanding on an alternative method for assuring the doors are closed has been reached by all crew members through a supplemental job briefing. Please note, system failures must be reported on the Passenger Car Inspection Report.

At stations where track curvature or other circumstances restricts sight distances making it impossible for the trainman responsible for door operation to observe all cars in the train while making the final check the following should occur prior to the train departing the station:

- \* All trainmen will bleed off the door of the car they are operating from.
- \* All trainmen will position themselves on the platform along the length of the train in such a way that all cars can be observed.
- \* All doors will be closed except those doors where a trainman is positioned.
- \* After each trainman makes a final check of the cars under his observation, all crew members will exchange a second hand signal prior to boarding and closing their own doors.
- \* After the door light indication is illuminated in the engineers compartment signifying that all doors are closed, the train can depart the station. When conditions permit, the engineer should observe the platform area, utilizing his rear view mirror or camera monitor, looking for any unsafe conditions as the train begins to

depart the station.

- If, after the door closed light has illuminated and:
  - \* train begins to pull away from the station, the engineer notices that the door closed light has gone out; a normal brake application will be made to bring the train to a stop. Trainmen will then ascertain the cause of the open door indication and correct the problem, if possible, before resuming operation.
  - \* train is operating at speed and the engineer notices that the door closed light has gone out; the engineer will communicate with the train crew and ascertain the cause of the open door indication.

Door control panel on all cars must be deactivated in the closed (locked out) position except when needed for immediate use by a train crew member. Once all passengers have been loaded/unloaded the Control Panel must be locked prior to leaving the vestibule. Coach keys are to be removed after they are used and are not to be left in the lock at any time.

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SIGNATURE: LANCE M. FRITZ  
SIGNATURE TITLE: EVP OPERATIONS

**Sys. SI. 11 - 17**

----- DOCUMENT TEXT -----

**System Special Instructions**  
**EFFECTIVE April 07, 2010**  
**Order Category : Sys. SI. 11 - 17**  
**System General Order No. 10**

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**PURPOSE:**

SSI 11-17: Item 13: Rule 13.1 Part I, second bullet under "Exceptions", change action number reference in third sentence.

Recent changes:

Rule 13.1 Part B. Change speed to 15 MPH and add "slow train" message information.

Rule 13.7.1 add new part "c", changes to action numbers in all rows.

Entire Failed Detector Situation Table revised.

Rule 13.7.2 delete action number 3. Action numbers 4 through 7 now numbered 3 through 6. Changes to new number 3.

The note below table in Rule 13.7.2 remains in effect.

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**EFFECTIVE: 1108, August 05, 2011**

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**CANCELLATIONS:**

This order cancels all previous orders in Order Category: Sys. SI. 11

**ITEM 12 - TRACK BREACH PROTECTION**

Add "Restricted Limits" wherever "Yard Limits" is used in rule.

**ITEM 13 - TRAIN DEFECT DETECTORS**

Item 13.1: General Instructions For All Detectors

Change Part B to read:

B. Avoid Braking or Speeds Below 15 MPH

When approaching or passing detectors avoid stopping or reducing train speed below 15 MPH when possible. Speeds below 15 MPH may result in an Integrity Failure or Slow Train message. When a Slow Train message is announced refer to Item 13.7 (Detector Failure) for instructions. Excessive braking may cause false indications on hot box detectors.

Part I - Hot Box Detectors

Change third sentence in second bullet under "Exceptions" to read:

Comply with Action No. 3 contained in 13.7.2 (Detector Failure - Action Table).

=====  
Item 13.5:

Add the following as the first sentence to last paragraph:

If a defect is detected, an alarm tone or message transmitted, stop the train at once and inspect for dragging equipment.

=====  
Item 13.7.1 Failed Detector Situation Table

Revise table to read:

Failed Detector Situation	Type of Train	Type Detector				
		13.2 (#) or #	13.3 \$ or @	13.4 & or (&)	13.5 %	13.6 (@)
		Hot Box or Hot Box (Hot Wheel) & Dragging Equipment Detector	Hot Box or Hot Box & Dragging Equipment Detector- Talk on Defect Only	High Wide Shifted Load Detector/ Dragging Equipment Detector	Dragging Equipment Detectors Equipped W/ Radio Verbal Defect - Talk on Defect Only	Wheel Impact Detectors Equipped With Radio Transmitted Verbal Defect-Talk On Defect Only
a) Track Bulletin or verbal in- formation from the dispatcher instructs crew that detector is	KEY Train ----- Other than KEY Train	3	3	4	NAR	NAR
		5	5	4	NAR	NAR

out of service.						
b) Detector announces "Integrity Failure" or "Detector Malfunction message" and NO defect tone or message received	All Trains	2 & 3	2 & 3	2 & 4	NAR	NAR
c) Detector announces "Slow Train" message and NO defect message or tone was received.	Key Train	2 & 3	2 & 3	2 & 4	NAR	NAR
	Other Than KEY Train	5	5	NAR	NAR	NAR
d) Detector announces "Integrity Failure" or "Slow Train" message and a defect message or tone was received	All Trains	1 & 2	1 & 2	2 & 4	1 & 2	NAR
e) Crew members receive NO exit message from detector	KEY Train	1 & 2	NAR	2 & 4	NAR	NAR
	Other Than KEY Train	2 & 3	NAR	2 & 4	NAR	NAR
f) Crew members do not understand the exit message from the detector and NO	KEY Train	1 & 2	NAR	2 & 4	NAR	NAR
	Other Than KEY Trains	2 & 3	NAR	2 & 5	NAR	NAR

defect tone or message received						
g) Crew members do not receive or under- stand the exit message from the detector and a defect tone or message received.	ALL Trains	1 & 2	1 & 2	2 & 4	1 & 2	6

13.7.2 Detector Failure - Action Table

Delete item 3.

Change action number 4 to read 3.

Previous Item 4 - new action number 3 changed to read as follows:

Proceed as follows:

- \* Key trains not exceeding 30 MPH.
- \* All other trains may proceed at maximum authorized speed.

Within 30 miles of the failed detector, one of the following conditions must be complied with:

- 3 a) Train passes other detector(s) that checks for all of the same defects. All of the same defects must be checked for within the 30 miles.
- b) Crew may establish roll-by inspection of the train by qualified employees located on both sides of the train. Speed must not exceed 10 MPH during this inspection.
- c) Stop the train and make a roll-by inspection of the train by crew members located on the ground. Speed must not exceed 10 MPH during this inspection. Roll-by inspection may be made on one side. A walking inspection or Rule 6.6. may be used to make inspection of opposite side.
- d) The train dispatcher may choose to stop the train and have the crew make an inspection of the entire train.
- e) Stop and inspect the entire train when the next consecutive detector that checks for any of the same defects fails.

Change action number 5 to read 4.

Change action number 6 to read 5.

Change action number 7 to read 6.

SIGNATURE: LANCE M. FRITZ  
SIGNATURE TITLE: EVP OPERATIONS

Sys. SI. 18 - 22

----- DOCUMENT TEXT -----

**System Special Instructions**  
**EFFECTIVE April 07, 2010**  
**Order Category : Sys. SI. 18 - 22**  
**System General Order No. 8**

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**PURPOSE:**

SSI 18-22: Item 19: Add Yellow over Flashing Red aspect to Rule 9.2.7.

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**EFFECTIVE: 0900, January 20, 2012**

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**CANCELLATIONS:**

This order cancels all previous orders in Order Category: Sys. SI. 18 - 22

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**ITEM 19 - BLOCK AND INTERLOCKING SIGNALS**

Add the following signal aspect:

Rule 9.2.7 - Yellow over Flashing Red.

=====  
Add the following signal aspects to the following signal rules:

Rule 9.2.1 - Green over Dark over Red.

Rule 9.2.4 - Flashing Yellow over Dark over Red.

Rule 9.2.6 - Yellow over Dark over Red.

Rule 9.2.13 - Flashing Red over Dark over Red.

Flashing Red over Dark over Dark.

Dark over Flashing Red over Dark.

Dark over Flashing Red over Red.

---

**ITEM 22 - ROADWAY SIGNS**

Add the following Roadway Sign for crossings where quiet zones are in effect:

```
|----|  
| X |  
|----|  
| QZ |  
|----|
```

If a number sign is attached to this crossing sign, it shows the number of successive crossings for which the sign applies.

---



SIGNATURE: LANCE M. FRITZ  
SIGNATURE TITLE: EVP OPERATIONS

Sys. SI. 23 - 25

----- DOCUMENT TEXT -----

**System Special Instructions**  
**EFFECTIVE April 07, 2010**  
**Order Category : Sys. SI. 23 - 25**  
**System General Order No. 1**

**PURPOSE:**

SSI 23 - 25 Notification that new System Special Instructions take effect Wednesday, April 7, 2010.

Item 25: Add information regarding Electronically Controlled Pneumatic Brake (ECP) Systems.

**EFFECTIVE: 2054, April 06, 2010**

**CANCELLATIONS:**

This order cancels all previous orders in Order Category: Sys. SI. 23 - 25

**ITEM 25 - MISCELLANEOUS INSTRUCTIONS**

Add: Electronically Controlled Pneumatic Brakes (ECP) Systems

A. Overview

The ECP brake system controls train brakes utilizing a brake controller (automatic brake handle) that sends electrical signals through an ECP trainline cable to CCDs(referred to as Air Brake Devices within these rules) at each car. An additional ECP display on the locomotive control stand is provided for configuring the ECP train brake system and displaying ECP brake commands. During ECP brake operation the locomotive equalizing reservoir and the brake pipe will normally display 90 psi continuously.

1. ECP Operations

Existing GCOR, Safety and ABTH rules will apply to the operation of ECP-equipped trains except as noted in "B" below.

While in ECP operation the Brake Pipe will remain at 90 psi except in the case of an emergency brake application where it will go to zero.

Use the following table when required by Air Brake and Train Handling rules to make specific brake pipe reductions ECP brake commands are expressed as a "percentage".

Brake Pipe Equation Chart	
REL (release)	0% Braking
Minimum B/P Reduction	10% Braking

10 lb B/P Reduction	25% Braking
20 lb B/P Reduction	80% Braking
Full Service	100% Braking
Emergency	120% Braking

Note: Increasing the brake application by 2 to 5 percent equals approximately a 1 - 2 pound increase in the brake application under normal operation.

## 2. Wired Distributed Power

Distributed power equipment on the ECP train utilizes the same ECP trainline cable to control entrained locomotives or distributed power at the rear of the train. This technology is referred to as Wireline Distributed Power (WDP). During wireline DP operation, use of DP data radios is suspended.

Locomotive displays provide set-up and control for wired DPU and is similar to existing radio distributed powered system setup.

## B. Rule Applications and Changes Applying Only to ECP Operation

### 1. SAFETY RULES

#### 81.5.4 Understanding Between Crew Members Before Crossing Through or Fouling Equipment

Revise second bullet to read:

The engineer must apply locomotive air brakes and center the reverser. Train air brakes must be applied when necessary, ECP trainline power must be deactivated using the commands on the ECP display. The engineer will then notify the employee the engine is "set, centered and trainline powered down". The engine must not be left unattended until the employee reports clear.

Add New Rule:

#### 81.13.8.1 Coupling and Uncoupling ECP Connectors

When coupling or uncoupling ECP connectors use caution to avoid pinch points. Depress spring tab button until the spring tab is fully retracted to connect and disconnect ECP connections

## 2. Air Brake and Train Handling Rules

### 30.4 Operative Brakes

Application:

ECP train system will initiate a penalty application if the train's percentage of operative ECP brakes drops below 85%.

### 30.6 Standard Brake Pipe Pressures

Revise third bullet to read:

\* Graduated release may be used on trains operating in ECP mode.

### 30.9 Brake Pipe Leakage Test

Application:

Brake pipe leakage test is not required.

### 30.10 Initial Terminal

Application:

Qualified mechanical inspector must perform Initial Terminal air brake test (Class 1).

#### 30.10.1: Requirement For Test

Application:

A. Test must be conducted:

- \* Where the train is originally assembled (initial terminal). Train may make complete designated trip cycle before requiring additional test.
- \* Where the train consist is changed, other than adding or removing a solid block of cars.
- \* Where an ECP brake unit or cycle train has traveled 3500 miles since its last Initial Terminal Air Brake Test, (Class 1).

Revise Part B, second bullet to read:

- \* That portion of the train has not been kept charged. (off air for over 24 hours).

#### 30.10.2: Procedure for Initial Terminal and Road Air Brake Test and Inspection.

Revise part 4 to read:

#### 4. Inspect the entire train or cars added not pre-tested to determine that:

- \* Brakes are applied and remain applied until signal is given to release on each car and piston travel meets the requirements of Rule 30.18 (Piston Travel). 95 percent of the ECP train brakes must be operative before departing. Cars previously reported defective may not be considered when determining the percent of the trains operative brakes. Cars previously reported defective must be repaired or setout at the initial terminal. Brakes must remain applied until signal to release is received
- \* Brake rigging does not bind or foul.
- \* All parts of the brake equipment are properly secured.

#### 30.12 1000 Mile Inspection Test (Class 1A Brake Test\_

Application: Does not apply.

#### 30.17 Inbound Train Inspection

Application: Does not apply

#### 32.1.4 Train Break-in-Two

Add note:

ECP trains must be set to Switch Mode after closing angle cock.

#### 32.5.1 Minimizing Sticking Brakes

Application third bullet: Does not apply.

#### 32.7.1 Cutting out Brake Equipment

Application:

ECP equipment will require the CCD to be cut-out on the ECP display.

The car must be drained manually for at least 30 seconds after closing the branch pipe cutout cock.

#### 32.13.1 through 32.13.5 End of Train Telemetry

Application: Does not apply.

Add Note:

If EOT is required, ECP EOT must be used with ECP operation, conventional radio EOT will not work with ECP.

(ECP equipped EOTs - 88359, 88360, 88362)

#### 32.14 and 32.14.1 Emergency Capability from Rear of Train

Application: Does not apply.

#### 33.3.1 Applying and Reapplying Automatic Brakes

Application: Only number 3 and 4 apply to ECP trains.

#### 33.3.2 Delayed Departure

Application: Train check not required.

#### 33.7.7 Retaining Valves

Application: Does not apply

### 33.8 Emergency Brake Applications

Application:

Emergency toggle switch is not functional during ECP operation, activation of emergency toggle switch is not required for ECP trains.

#### C. Miscellaneous:

Employees who set up or operate ECP trains must have in their possession a copy of the current ECP job aide.

Locomotives & Cars equipped with ECP brakes.

##### Locomotives

UP 7901	UP 7902	UP 7903	UP 7904	UP 7905
UP 5301	UP 5302	UP 5303	UP 5304	UP 5305

##### Car Initials & Numbers

DTTX 741209	DTTX 748793	DTTX 749081	DTTX 749282	DTTX 749503
DTTX 748408	DTTX 748799	DTTX 749084	DTTX 749300	DTTX 749707
DTTX 748434	DTTX 748803	DTTX 749090	DTTX 749475	DTTX 749545
DTTX 748556	DTTX 749009	DTTX 749153	DTTX 749485	DTTX 749683
DTTX 748616	DTTX 749075	DTTX 749250	DTTX 749496	DTTX 749771
DTTX 743429	DTTX 743906	DTTX 744270	DTTX 744014	DTTX 742917
DTTX 744489	DTTX 743211	DTTX 743231	DTTX 742889	DTTX 744399
DTTX 743894	DTTX 743912	DTTX 744163	DTTX 744536	DTTX 742979
DTTX 744112	DTTX 744128	DTTX 744508	DTTX 744397	DTTX 743937
DTTX 744561	DTTX 743863	DTTX 743257	DTTX 743934	DTTX 742380

#### Operative Brake Comparison

After powering on the ECP Display and energizing the ECP system , the engineer will compare:

- \* Locomotive and car count (displayed as vehicles) then compare
- \* CCDs to the number of operative brakes listed in the TCS consist.

If incorrect determine reason for the discrepancy and make necessary corrections.

#### Defective Equipment

Immediately contact the dispatcher if ECP equipment becomes defective enroute and be governed by their instructions.

#### Switch Mode

Movements made in Switch Mode must not exceed 20 MPH, speeds in excess of 20 MPH will initiate a penalty application.

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SIGNATURE: DENNIS J. DUFFY

SIGNATURE TITLE: VICE CHAIRMAN - OPERATIONS