



WESTERN PACIFIC RAILROAD MUSEUM CREW TRAINING



Celebrating the legacy of
the Feather River Route



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Safety Procedures for Train Operations

Last Revised 1/5/24

General Yard & Caboose Train Operations Safety

This course contains necessary safety rules and procedures to follow while working at the Western Pacific Railroad Museum.



Blue Signal Protection Definitions

Blue Signal means a clearly distinguishable blue flag or blue light by day and a blue light at night.

Effective locking device when used in relation with a manually operated switch or derail means one which is:

- Vandal resistant
- Tamper resistant
- Capable of being locked and unlocked only by the class, craft or group of employees for whom the protection is being provided

Rolling equipment includes locomotives, railroad cars, and one or more locomotives coupled to one or more cars.

Switch providing access means a switch which, if traversed by rolling equipment, could permit that rolling equipment to couple to the equipment being protected.



Blue Signal Protection

- ⦿ Blue signals signify that workers are on, under, or between rolling equipment.
- ⦿ When so displayed:
 - the equipment may not be coupled to
 - the equipment may not be moved, except as provided for in Sec.218.29
 - other rolling equipment may not be placed so as to reduce or block the blue signal
 - Rolling equipment may not pass a blue signal

Blue signals must be displayed for each craft or group of workers prior to their going on, under, or between rolling equipment and may only be removed by the same craft or group that displayed them.



Movement of Trains & Engines

Who is responsible for your Safety when working around rail equipment?

YOU ARE!

Always expect the movement of equipment at any time, on any track in either direction.

Never turn your back on a move, as you may be struck by the equipment. Consequently, you are required to remain alert & attentive at all times in the performance of your duty. Always look both ways before crossing tracks. A "Live Track" is defined as a track that may have moving equipment running on it.

When walking around the end of a piece of standing equipment, do so at a distance of not less than 25' . When walking between standing equipment, do so at a distance of not less than 50' . If there is not sufficient clearance to pass between the equipment, walk around or use the crossover platform.



Movement of Trains & Engines

RED ZONE PROTECTION

RED ZONE: The area between standing equipment with a separation of fifty (50) feet or less which includes the space between coupled standing equipment when coupling are hoses and cutting in air.

When working in train operations, personnel will call for a "*RED ZONE*" as protection from further movement of the equipment. The Engineer will reply back with "RED-ZONE - Set & Centered". The trainman will *NOT* place any part of his/her person in the "Red Zone" until confirmation is made by the engineer. If a Red-Zone is called by ANY member of the crew for ANY reason, movement is to cease immediately, with the reverser of the locomotive controls placed in the center or neutral position, and train movement is to cease until the person calling the "Red-Zone" reports him/herself "CLEAR".



Movement of Trains & Engines

- Before operating any equipment:
 - Ensure all personnel have proper authority and qualifications to perform their functions
 - All personnel attend a Job Briefing
 - Engine crew performs engine inspection
 - Train crew walks train and inspects for mechanical defects, proper coupling, air hoses and angle cocks in proper working order, inspect all emergency valves, and ensures that train is ready to add locomotive(s).

Coupling speed is limited to **TWO (2) Miles Per Hour MAXIMUM**. Proper communication is essential. Once Coupling is made between engine, and or cars, perform a full stretch to ensure that all couplings have been made. Once rear car's coupler is stretched (without moving car), stop the stretch, call for Red-Zone and cut in the air. After the air is cut in, release all handbrakes on the train.



Movement of Trains & Engines

Application & Release Air Test Procedure

An application and release test must be made on the rear car of a train when:

- Any time an angle cock has been turned or the consist has been changed, except when a solid block of cars has been detached from the rear
- After a crew change
- When taking charge of a train that has been left unattended

Engineer will make a twenty (20) pound reduction and sound proper whistle signal after brake pipe has been charged to within fifteen (15) pounds of the setting of the feed valve on the engine. Trainman will then inspect last car to determine that brake is applied.

Upon receiving proper signal, Engineer will release brakes. Before proceeding, it must be known that brakes are released and brake pipe pressure has been restored.



Movement of Trains & Engines

Running Air Test Procedure

All passenger trains must make a running brake test:

- After leaving the initial terminal
- After a crew change
- After an excessive delay
- If an angle cock has been turned, except if a solid block of cars has been detached from the rear

Running brake test must be made from the rear end valve or tailhose during back up moves.

For a running brake test, Engineer will make a reduction of approximately seven (7) pounds, wait for slack to adjust itself, and then add three (3) pounds before releasing. Trainman will note reduction in rear end gauge and, following buildup in pressure when brakes are released, give proceed signal.

Other situations when a running brake test is required will be listed in the current special instructions.



Movement of Trains & Engines

Handbrakes

- A sufficient number of handbrakes must be applied to the descending end of a cut of coupled cars
- Cars left on a level track must have not less than one handbrake applied on each end of the cut
- Skates or chocks must be used in addition to handbrakes when required
- Cars or engines with defective handbrakes must be left coupled to an equal number of cars or engines, or otherwise secured to prevent movement



Switches

For High Stand Switches:

- ◉ Inspect condition of switch stand for wasps, snakes and other critters
- ◉ Check points and the ground conditions around the switch
- ◉ To throw switch:
 - With firm footing, place one foot slightly ahead of the other
 - Place one hand on the target staff and the other near the end of the switch handle
 - Keep your back straight, legs bent and body clear of handle movement
 - Use both hands and slowly pull the handle one-half the travel distance; improve your body location and complete the move
- ◉ Never use your feet on a “high stand” switch



Switches

For Ground Throw/Foot Latch Switches:

- ◉ Check the points and ground area for unstable footing conditions
- ◉ To throw switch:
 - Center your feet in front of the lever arm handle
 - Stand as close as possible to the lever arm, place one hand on the top of the switch staff or on your knee for support
 - With the other hand lift the handle with steady even pressure
 - When the handle momentum has stopped and the handle is past half-way, reposition your feet and hands and push the lever to complete movement



If it is hard to throw, get help!

Then report it to the Proper Authority for repair.

GENERAL SAFETY - REVISION HISTORY

- ◎ 2014-07-14 Paul & Kenneth Finnegan - updated
 - Slide 1: updated year (2012->2014), next year need to do same edit again.
 - Slide 4: title "Blue Signal Protection" to "Blue Signal Protection Definitions", reformatted bulleted list
 - Slide 5: removed ";", changed "- - " to ":"
 - Slide 6: "Expect" -> "expect"
 - Slide 8: indented bullets, "Job Briefing" -> "All personnel attend a Job Briefing", "once last car moves" -> "once rear car's coupler has stretched (without moving car)"
 - Slide 9: Turned paragraph into bulleted list for clarity, "pip" -> "pipe", "is being restored" -> "has been restored"
 - Slide 10: "rake" -> "brake", turned paragraph into bulleted list for clarity, "other locations" -> "other situations when"
 - Slide 11: Turned paragraph into bulleted list for clarity
 - Slide 12: Clarified & reformatted bulleted list
 - Slide 13: Clarified & reformatted bulleted list
 - Slide 14: "Portion" -> "portion from crew training"
- ◎ 2015-03-22 Paul Finnegan
 - Removed 2014 from Title Slide
- ◎ 2015-06-02 Paul Finnegan
 - Added definition of RED ZONE to slide 7
- ◎ 2018-06-11 Paul Finnegan
 - Added rev date to cover and removed last "This concludes..." slide
- ◎ 2018-11-18 Paul Finnegan
 - Removed dark background so printer friendly version is readable. Aligned some text/graphics.
 - Added slide numbers
- ◎ 2024-01-05 Paul Finnegan (based on email from Kerry Cochran)
 - Removed slide about insular Railroad