

# **Western Pacific Railroad Museum**

**Feather River  
Rail Society**

**General Code  
of  
Operating Rules**

These rules take effect  
April 1, 2016 at 12:01 AM

***“Safety is of the first importance in the discharge of duty”***

**“Rule 108: In case of doubt or uncertainty, the safe course  
must be taken”**



*Preserving “The Feather River Route”*



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## General Notices

Safety is of the first importance in the discharge of duty.

Obedience to the rules is essential to safety and is required.

To enter or remain in the service is an assurance of willingness to obey the rules. The service demands the faithful, intelligent and courteous discharge of duty.

The utmost care and diligence must be used in the maintenance and handling of museum equipment, due to its unique nature, age and historical significance.

To obtain promotion, ability must be shown for greater responsibility.

Cooperation is essential to success. Cooperation between employees is required for proper functioning under the rules and instructions.

The term "employee" will include all volunteers associated with the museum.

Suggestions from employees intended to promote safety, economy, or improved service are solicited and will receive consideration.

The rules contained herein are issued for the purpose of ensuring greater protection to lives of employees, the public, and the property of the museum and its traffic.

The public judges the museum by the appearance and conduct of its employees, quality of service, and condition of the property. Courteous, considerate treatment of visitors is of the first importance in retaining and increasing our volume of patronage, and governs the extent of opportunity for advancement of employees.

Possession by employees of a current Red Cross First Aid and CPR cards is strongly recommended.

## General Rules

**A.** Employees whose duties are prescribed by these rules must provide themselves with a copy and have such copy available for reference when needed.

**B.** Employees must be conversant with and obey the rules and instructions. If in doubt as to

their meaning, they must apply to proper authority for explanation. If immediate action is necessary, the safe course must always be taken.

**C.** Employees designated by proper authority must pass the required examinations before entering service and as prescribed for promotion. Designated members must attend rules classes annually, or as required by proper authority. When reporting for rules classes, they must present their copy of the operating rules for inspection.

**D.** Persons employed in any train, mechanical or maintenance of way service are subject to the rules, bulletins and special instructions.

**E.** Employees must render every assistance in their power in carrying out the rules and special instructions. They must report promptly to the proper official any violation thereof or any misconduct or negligence affecting the interest of the museum.

**F.** Accidents, defects in tracks, bridges or signals, or any unusual condition which may affect the movement of trains must be protected at the location and supervisor informed of the condition promptly, using first available means of communication.

**G.** The use of alcoholic beverages or other intoxicants, narcotics or similar substances by employees subject to duty or their possession or use while on duty is prohibited. Employees shall not report for duty under the influence of any drug, medication, or other substances, including those prescribed by a physician or dentist, that will in any way affect their alertness, coordination, response, safety or ability to perform their work properly, nor shall such drug, medication or other substance be used by employees while on duty. Employees must not have consumed alcohol within eight (8) hours before reporting for duty.

**H.** Smoking is prohibited on museum property where the danger of fire therefore exists and where designated by proper authority.

**J.** Employees on duty must be neat and clean in their appearance. Their hair must be worn so that eyes are not covered and no longer than will allow for the safe conduct of their duties.

Employees using cutting or welding torches must have beards cut short or well covered. Persons required to use respirators must not wear beards.

They must wear protective clothing or appliances, as prescribed, while on duty.

They must be suitably clothed for the performance of their duties consistent with safety. Suitable footwear around shops, tracks and moving equipment does not include sandals, high-heeled boots or shoes, and tennis shoes.

Any locker or cabinet furnished will be maintained in a sanitary manner and free of any fire hazard. Such lockers and cabinets are subject to inspection.

**L.** Fire or other danger to the museum's property must be reported promptly and employees must unite to protect it, taking every precaution to guard against injury and loss or damage from any cause.

No open fires are permitted on museum property. Other devices containing enclosed fires, such as barbecues, camp stoves, etc., may be used only in areas designated by proper authority.

Employees must report, at the first opportunity, the presence of fires on museum property unless fire is being controlled by other employees. In case of danger of fire spreading to any structures or museum equipment, all employees must assist in extinguishing fire.

Employees must familiarize themselves with the use and location of fire extinguishers.

**M.** Employees are responsible for their own safety. Constant presence of mind to ensure safety to themselves and others is the primary duty of all employees and they must exercise care to avoid injury to themselves and others. They must observe the condition of equipment and tools, which they use in performing their duties, and when found defective, will put them in safe condition, reporting defects to proper authority.

Employees are prohibited from getting on roof of cars or locomotives except when necessary to make repairs and for inspection or servicing. Proper blue flag protection must be used during such work.

Employees must expect the movements of trains, engines or cars at any time, on any track, in either direction. When walking around the end of standing equipment, be alert and give yourself at least twenty (20) feet of clearance to avoid being struck by unexpected movement.

Employees must not stand on track in front of an approaching engine or car. They must not ride footboard of engine in direction of movement or trailing footboard when engine is pulling cars.

Employees must not attempt to get on or off equipment moving at a speed which would endanger their safety. Employees must inform themselves as to the location of structures or obstructions where clearances are close. Engine room doors must be closed on all locomotives, except when in immediate use. Safety chains or guards must be used, if provided.

Employees must maintain a safe distance from equipment and must not go between standing equipment if the opening is less than fifty (50) feet except when connecting air hoses or cutting in the air after properly notifying the engineer that they are going between the cars.

Employees must not go into the red zone for any reason without first notifying the engineer of their intent and waiting for the engineer to respond that the engine controls are set and centered (set and centered means that the locomotive brakes are set and the reverse lever is in the centered/neutral position.)

**N.** Employees reporting for duty are expected to be amply rested in order to be physically and mentally fit for the proper and safe performance of their duties. Employees must be familiar with and comply with the requirements of the Federal Hours of Service Act, if applicable. Those affected by such laws shall be in compliance. Trains, engines or cars must not be left without proper protection as prescribed by Rule 99. Trains, engines or cars must be properly secured before exceeding hours of service.

**O.** Special instructions or bulletins supersede any rule of the Feather River Rail Society General Code of Operating Rules with which they conflict.

**P.** Before going on duty, an employee shall read and understand all special instructions and bulletins in effect at that time.

## Definitions

**AIR BRAKE:** A combination of devices, operated by compressed air, arranged in a system and controlled manually or pneumatically, which retards or arrests the motion of a car or locomotive.

**AIR BRAKE HOSE:** A reinforced tube, attached to a nipple that screws into the angle cock at the end of the brake pipe on each end of a car or engine. The other end is fitted with a coupling (gladhand) which engages with an identical coupling on the adjoining car. The complete arrangement forms a flexible air connection between the brake pipes of cars or engines throughout the train.

**AIR COMPRESSOR:** A device on a locomotive that compresses air which is used in operating the air brakes and all other air operated devices on locomotives and cars.

**AIR PRESSURE GAUGE:** An instrument for indicating air pressure usually expressed in pounds per square inch (PSI).

**ANGLE COCK:** A manually operated valve, located at each end of the brake pipe on locomotives and cars, to permit or prevent the flow of air.

**BACK-UP VALVE / HOSE:** A device, either portable or permanently connected to the brake pipe, used for the purpose of controlling the air brakes from the rear end of the train. Also called a tailhose.

**BAIL BLOCKED:** The process of fastening or using a device to permanently place the independent brake handle in the bail off position when so equipped. (Reference Rule 1534)

**BAIL OFF:** When the air brakes have been applied using the Automatic Train Brake, it is the process of depressing the independent brake handle to reduce the brake cylinder pressure to zero on a locomotive(s) while the independent brake handle is in the release position. (Not all Locomotives air brakes work the same.)

**BLUE FLAG / SIGNAL:** A clearly distinguishable blue flag or blue light by day, or a blue light by night.

**BULLETIN:** A notice, published by proper authority, which supersedes any operating or mechanical rule with which it may conflict.

**CHOCK:** A device placed on the rail to prevent movement of stationary rolling equipment.

**CONDUCTOR:** Passenger Conductor or Yard Conductor, who is in charge of the train or yard crew.

**CONDUCTOR'S VALVE:** A manually operated device, installed on passenger cars and cabooses, for applying the air brakes on the train.

**CREW CALLER:** A person who is in charge of calling, scheduling or dispatching train or yard crews.

**DERRAIL:** A protective device that guides engines, vehicles or other on-track equipment off the rails.

**EFFECTIVE LOCKING DEVICE:** When used in relation to a switch or derail, a lock that can be locked or unlocked only by the employee or group of employees applying the lock.

**EMPLOYEE:** For purposes of these rules, any paid employee of the museum or recognized volunteer in performance of authorized duties.

**ENGINE:** (Locomotive) A locomotive unit propelled by any form of energy or combination of such units operated from a single control, used in train or yard service.

**ENGINEER:** The operator of a locomotive.

**ENGINEMAN:** Engineer, fireman (helpers), and hostlers.

**FACING POINT SWITCH:** A switch which is approached from the moving end of the switch points, allowing continuous direction on either track, depending on the alignment.

**FEED VALVE:** This valve is located on the side of the brake stand near the cab floor. The setting of this valve controls the brake pipe pressure.

**FIREMAN:** A person in charge of maintaining steam pressure in a steam locomotive and the engineer's assistant on a diesel locomotive.

**FIXED SIGNAL:** A signal of fixed location indicating a condition affecting the movement of a train or engine, including but not limited to, such signals as switch, train-order, block, interlocking, semaphore, stop signs, yard limit signs, slow signs, or any other means for displaying indications that govern the movement of a train or engine.

**FLAG:** A device made of cloth, metal, or other suitable material, used for warning or for signaling.

**FLAGMAN:** Any employee of, whatever designation, to whom the term flagman is applicable under the rules governing flag protection.

**FLAG PROTECTION:** Refer to Rule 99.

**FOULING POINT:** The location, in the vicinity of a switch, marking the safe passing clearance with another track.

**GENERAL MANAGER:** The person who, under the direction of the board of directors, is authorized to represent and manage the museum in all matters.

**GENERAL SUPERINTENDENT:** The person who, under the direction of the president, is authorized to manage, coordinate and organize safety, policies, training specifications and museum activities.

**GRADE CROSSING:** The place where a railroad intersects a roadway or other railroad on the same level.

**GREEN FLAG:** A green sign (board) or flag used to mark the end of a track restriction.

**HAND BRAKE:** A mechanical arrangement of levers, chains, rods, gears, and fulcrums, when applied manually by wheel or lever, acts to force the brake shoes against the braking surfaces (wheel tread or disc) to control car or locomotive movement.

**HE, HIM, and HIS:** Is not a particular reference to gender, and in all cases encompassed the singular, plural and corporate.

**HERDER:** A person responsible for lining switches.

**HOSTLER:** A qualified employee who operates engines in designated shop areas.

**INDEPENDENT BRAKE VALVE:** A brake valve that provides control of the locomotive brakes, regardless of the position of the automatic brake valve handle.

**LOCOMOTIVE:** See Engine.

**MARKER:** A red light, flag or other prescribed signal, affixed to rear of equipment being operated as a train.

**NOTICES:** Written instruction issued by proper authority.

**OUTFIT CARS:** House cars used by personnel for living or eating quarters, not including maintenance of way cars transporting roadway equipment.

**POINT:** the tapered rail of a switch.

**PROPER AUTHORITY:** General manager or other employee designated for such functions as train dispatching, car Inspection, track maintenance, locomotive maintenance, or other functions required by the rules.

**RED FLAG:** A red sign (board) or flag used to mark a STOP indication.

**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 air hoses and cutting in air.

**RESTRICTED SPEED:** A speed that will permit stopping within  $\frac{1}{2}$  the range of vision short of train, engine, on-track equipment, railroad car, stop signal, derail or switch not properly lined, while looking out for broken rail, and not exceeding ten (10) miles per hour.

**ROAD FOREMAN OF ENGINES:** A person who governs the adherence to the rules and efficient operations of locomotive by enginemen.

**ROADMASTER:** A person who is in charge of the right of way and maintenance of way crews.

**ROLLING STOCK:** Engines and railroad cars.

**SKATE:** A metal device placed on the rail designed to stop the movement of rolling equipment.

**SLACK:** The accumulation of clearances and wear in the associated parts of couplers and springs in draft gears.

**SLACK ACTION:** Movement of parts of a coupled train at a different speed than other parts of the same train.

**SUPERINTENDENT OF OPERATIONS:** Person authorized to be in charge of all trains and train related operations.

**SUPERVISOR:** Person to be in charge of the daily operation of the Operating Department when authorized by the Superintendent of Operations in his/her absence.

**SWITCH:** A device to connect one track diverging from another.

**SWITCH TENDER:** See herder.

**TRACK BULLETIN:** A notice containing information as to track or other conditions necessary for the safety of trains and crews.

**TRACK CAR:** A self-propelled vehicle, operating on the rails, with or without trailer or push cars, used for transporting men and/or material to or from a job site or for inspection.

**TRAILING POINT SWITCH:** A switch which is approached from the pivotal or stationary end of the switch points, allowing continuous movement on only one track.

**TRAIN:** An engine or engines coupled, with or without cars, displaying markers.

**TRAIN DISPATCHER:** The person who is in charge of dispatching trains.

**TRAINMASTER:** A person who is responsible for monitoring employees' adherence to the rules.

**TRAINMEN:** Conductors, brakemen, switchmen or herders.

**VARIABLE SWITCH:** A switch, designated by the letter "V" that, when trailed through the switch points, remains lined in the position to which forced.

**YARD:** A system of tracks and switches, other than main tracks, within defined limits provided for the making up of trains, storing of cars and other purposes.

**YARDMASTER:** A person designated as being in charge of yard operations.

**YELLOW FLAG:** A yellow sign (board) or flag used to indicate a CAUTION (reduce speed by one-half and be ready to STOP at next signal).

## Signals

**7.** Employees whose duty may require them to give signals must provide themselves with the proper appliances, keep them in good working order, and ready for immediate use.

**7A.** Signals must be given and acted upon strictly in accordance with the rules. Trainmen, enginemen and others must keep a constant lookout for signals. Those giving hand, flag or lamp signals must locate themselves so as to be plainly seen, signals must be given in such a manner that they can definitely be understood. The utmost care must be exercised by the trainmen and enginemen to avoid acting upon signals that are not understood or that may be intended for other trains or engines. Unless trainmen and enginemen are positive that signals given are intended for them, they must not move until proper understanding is assured.

**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** the movement unless the way is seen or is known to be clear, the movement is directed by radio or controlled by tail-hose. When practicable, signals should be given on engineer's side of track.

**7B.** When radio communication is used to direct movement, distances will be called out in car lengths such as "ten, nine, eight," etc. Should continuous contact with the employee directing movement be lost, the movement must be stopped immediately. Refer to Rule 48.

**8.** When flags (cloth or metal) are used by day, they must be of the prescribed color. Lights of the prescribed color must be used at night.

**8A.** Electric lanterns may display white lights only, except as specifically authorized for signaling purposes.

**9.** Day signals must be displayed from sunrise to sunset, but when day signals cannot be plainly seen, night signals must be used in addition.

**10.** Color Signals: Colors and their indications are prescribed by the applicable rules.

**10G.** When an unattended red flag or lamp is displayed on or near the track, train or engine must stop before any part of train or engine has passed the red signal.

A signal so displayed will not apply to the track on which a train or engine is running, if displayed beyond the first rail of adjoining track.

**10J.** Speed prescribed must not be exceeded.

**11.** The use of fusees and torpedoes is prohibited.

**13.** Any object waved violently by anyone on or near the track is a signal to stop.

**14.** Whistle must be sounded at all places where required by rule or law and where necessary as a warning signal.

In case of whistle failure, speed of train must be reduced consistent with safety and bell rung continuously when approaching and passing through stations and over grade crossings.

Radios may be used in place of whistle signals to convey information, except Rules 14A, 14L and 14P and when working in conjunction with mechanical or maintenance of way employees, in which case whistle must be sounded before making all moves.

Note: The signals prescribed are illustrated by “o” for short sounds; “—” for longer sounds. The sound of the horn or whistle must be distinct, with intensity and duration proportionate to the distance signal is to be conveyed.

### Sound Indication

**(A)** o Apply brakes. Stop.

**(B)** — Proceed. Acknowledgment of signal to release air brakes.

**(G)** o o Answer to any signal not otherwise provided for, except stop signal.

**(H)** o o o When standing, back up.

**(J)** o o o o Call for signals.

**(L)** — o — Approaching crossings at grade, stations or other points where view may be obscured and to warn trackmen or other workmen.

**(M)** — Air brakes applied for test in response to signal to apply brakes.

**(P)** Succession of short sounds: Alarm for persons or livestock on track.

### Train Signals

**17.** The headlight will be displayed to the front of every train by day and by night.

**17A.** By night, when standing or moving about yards, an engine must display a dimmed headlight to the front and rear.

**17B.** If headlight fails en route, train must proceed at restricted speed when engine passes through stations or over grade crossings. Whistle must be sounded frequently and bell rung continuously.

**17C.** Except when approaching and moving over crossings at grade, the headlight must be dimmed at night under the following conditions:

**(1)** Approaching and passing front and rear of train or engine standing or moving on adjacent tracks.

**(2)** While standing on or passing through yards where yard engines are working.

**18.** Yard engines, when moving, will display headlight in the direction of movement. The headlight may be extinguished on the end coupled to cars.

The headlight will be dimmed approaching and passing other engines, when other engines or trains are passing on adjacent tracks or when circumstances or safety of employees are required.

**19.** A red marker must be displayed to the rear of the train during the hours of operation.

### Blue Signal Protection

**26.** As used in rule 26, the following definitions apply:

**Workmen:** Museum employees assigned to inspect, test, repair or service railroad rolling equipment or their components including brake systems. Train and yard crews are excluded, except when assigned to perform such work on railroad rolling equipment that is not part of the train or yard movement they have been assigned to operate.

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

**Blue Signal:** A clearly distinguishable blue flag or blue light by day and a blue light by night.

**Effective Locking Device:** When used in relation to a switch or derail, a lock that can be locked or unlocked on by the employee or group of employees applying the lock.

**Engine:** A self-propelled unit of equipment designed for moving other equipment or engines including a self-propelled unit designed for carrying freight or passenger traffic, or both, and may consist of one or more units operated from a single control.

**Engine Crew:** Museum employees assigned to operate an engine: including engineer, fireman and hostler.

**Switch Providing Access:** A switch, which if traversed by rolling equipment, would permit that rolling equipment to couple to equipment being protected.

**(A)** Blue signals displayed in accordance with **Rule 26A** will signify that workmen are on, under or between rolling equipment.

When a blue signal is displayed:

- (1)** Equipment must not be coupled to nor approached within (50) feet.
- (2)** Equipment must not be moved.
- (3)** Other rolling equipment must not be placed on the same track so as to reduce or block the view of the blue signal.
- (4)** Rolling equipment must not pass a displayed blue signal.

**(B)** Blue signals must be displayed in accordance with **Rule 26A** by workmen prior to going on, under or between rolling equipment and may only be removed by the same workmen that displayed them.

**26A.** When workmen are on, under or between rolling equipment:

**(1)** A blue signal must be displayed at or near each manually operated switch providing access to that track.

**(2)** Each manually operated switch providing access to the track on which the equipment is located must be lined against movement to that track and locked with an effective locking device.

**(3)** A blue flag by day and a blue flag and blue light by night must be displayed on rolling equipment to be protected on the end nearest a switch providing access. If there are switches providing access on both ends of track holding rolling equipment to be protected, blue signals must be displayed on both ends of equipment to be protected and switches must be locked by effective locking devices.

**(4)** If rolling equipment to be protected includes one or more engines, a blue signal must be attached to the controlling engine at a location where it is readily visible to the engine crew or operator at the controls of that engine.

**30.** The engine bell must be rung when an engine is about to move, except after momentary stops in continuous switch movements. It must also be rung while approaching and passing crossroads at grade and elsewhere where necessary as a warning signal. The unnecessary use of the bell is forbidden.

**30A.** In case of engine bell failure, speed of train must be reduced consistent with safety and whistle sounded continuously while approaching and passing grade crossing and elsewhere when necessary as a warning signal.

**34.** All members of engine and train crews must, when practical, communicate in a distinct and audible manner to each other the names of all signals affecting the movement of their train or engine as soon as they become clearly visible, and call any changes of indication until they are passed.

If engineer fails to control speed in accordance with signal indication or speed restriction, other crew members must take action to ensure safety.

## Radio Rules

**40.** Radio communications, if distinct, may be used the same as any other means of communication to effectuate any operation prescribed by the rules. Radios must be used only in connection with museum business and in compliance with operating rules.

**41.** During each tour of duty, engineers and conductors are responsible for verifying that engine and caboose radios, when installed, are working. Portable or pack set radios must be tested in accordance with these requirements.

Radio tests must consist of an exchange of voice communications, determining quality and readability of transmission.

**41A.** A malfunctioning radio must not be used and each member of the crew and superintendent of operations or a supervisor must be notified as soon as practical.

**41C.** When radios are manned, they must be set to the appropriate channel with volume adjusted to receive communications. Radio calls must be promptly acknowledged. Acknowledgment may be delayed if it would interfere with other duties related to safety.

**41D.** An employee who receives a transmission must repeat it to the transmitting party, except when the communication:

**(1)** Relates to yard switching operations.

**(2)** Is general in nature and does not contain any information, instruction or advice which would affect the safety of museum operations.

**41E.** When radio is used to transmit any mandatory directive for movement, it must be copied and acknowledged by the employee receiving the transmission and repeated to the employee transmitting it.

**42.** Radio communication must be made in accordance with Federal Communications Commission (FCC) regulations.

**(1)** No employee shall knowingly transmit false emergency calls or communications.

**(2)** Unnecessary, irrelevant or unidentified communications are forbidden.

**(3)** Obscene, indecent or profane language is prohibited.

**(4)** No employee shall knowingly transmit while emergency traffic is being handled on the channel.

**(5)** Any employee receiving inquiry concerning any violation shall answer within 24 hours after receipt of notice, to permit the museum to provide an answer to an official notice within three days.

**(6)** Any employee shall permit inspection of the radio equipment in his charge and all Federal Communications Commission documents pertaining thereto, by a duly accredited representative of the Federal Communications Commission at any reasonable time.

**43.** Employees using radios must satisfy themselves that they are in communication with the proper station and person and must not consider communication complete until they are certain that they have heard all of the conversation, repeating the same when required, indicating that the total communication is understood and utilizing "over" at end of transmission.

**44.** When a message or instruction is to be transmitted to a train by radio, the employee operating the radio shall listen a sufficient interval to be sure that the channel is not already in use, particularly for emergency traffic.

**45.** Except for yard switching operations, instructions relating to the movement of trains or engines shall be repeated to the sending station by the person receiving them. All other instructions and messages received by radio shall be acknowledged to the sending station by the person receiving them.

**46.** Any instruction or message which is not repeated or acknowledged as being fully understood in accordance with these procedures shall not be acted upon and shall be treated as though not received.

**47.** When a message or instruction is to be communicated by radio, the intended receiving party must be identified by name, position and/or locomotive number by the employee making the transmission.

**48.** When radio communication is used in connection with switching, backing, or pushing a train, engine or cars, complete instructions must be given or continuous radio contact must be maintained.

If the instructions are not understood or continuous radio contact not maintained, movement must stop immediately and not be resumed until the misunderstanding has been resolved, radio contact has been restored, or communication by other means has been established.

In event the radio communication is overridden by another radio, movement must be stopped immediately and new instructions given.

**53.** Radio transmissions will not be attempted when signs indicate blasting caps are being used.

### Transportation Rules

**93.** Within yard limits, trains and engines may use track without train order authority and will not exceed restricted speed.

**(1)** Yard operating speed is five (5) miles per hour MAXIMUM while the museum is open to the public.

**(2)** Yard limits definition:

- (a)** East of Malfunction Junction
- (b)** East of the Edenwold Grade Crossing

**99.** When a train is moving under circumstances where it might be overtaken by another train, flagman must take action necessary to ensure protection. The front of the train must be protected in the same way, if necessary, by the brakeman or by the fireman if the brakeman is not available.

Conductors and engineers are responsible for the protection of their trains or engines.

**103.** When shoving cars, precautions must be taken to prevent damage or fouling other tracks. When conditions require, a member of the crew must take a conspicuous position on the leading car, with the proper signals.

**103A.** Switching must be done in a careful manner to avoid severe shocks by sudden starting or stopping or by impact in making couplings and to prevent personal injury, damage to equipment or lading.

When cars are cut off in an open track, precautions must be taken to prevent fouling other tracks. When necessary to control cars by hand brakes, it must be known, before cars are cut off, that such brakes are in good order.

Cars and engines must not be permitted to couple at a speed in excess of two (2) miles per hour.

Cars with plug type doors and refrigerator cars must not be moved unless doors are closed and properly secured.

**103B.** Kicking and dropping of cars or locomotives is prohibited.

**103C.** A sufficient number of hand brakes must be set to hold cars standing on any track. If brakes are inoperative, cars must be secured otherwise, such as with skates or chocks.

Proper precautions must be taken to prevent damage or fouling other tracks before coupling to equipment that may roll away when coupling is attempted. Whenever coupling is attempted by engine or car or other equipment, the joint must be stretched to know that the knuckles are locked before further movement is made or before air, steam and electrical connections have been made.

**103D.** Any movement into spur tracks, inside buildings and end of spur which ends at building or abutment must first have hand brakes set on lead car or cars of movement and if necessary to couple to cars already on these tracks, hand brakes must be checked on these cars to know they are properly set before coupling into them. Cars must not be permitted to roll free on such tracks. Hand brakes must be set on each end of cut of cars left inside buildings or cars must be secured by skates or chocks.

**104.** Conductors are responsible for the position of switches and derails used by them and members of their crews. This, however, does not relieve other crew members where and when they are handling a switch or derail or are able to observe the positions of switches and derails.

**104A.** Switches and derails must be properly lined after having been used. When practicable, Enginemen must see that the switches and derails nearest the engine are properly lined.

A train or engine must not foul a track until switches connected with the movement are

properly lined, unless it can be seen there is no conflicting movement.

**104B.** Employees lining switches must see that points fit properly and that switches are lined for route intended before initiating movement over them. If a rigid switch is run through, it is thereafter unsafe and must be protected. If an engine or car is run partially through a switch, the entire movement must be continued. When a switch is damaged, report must be made immediately to proper authority and switch spiked unless proper authority takes charge.

**104C.** During storms or drifting snow, special care must be used in handling switches. Remove snow from the points, using a broom when necessary. Never use force to put the switch in place against the obstruction of snow, as it may be possible to spring the lever into place.

**104D.** No equipment shall be spotted on or near a switch so as to obstruct the points from view unless switch has been spiked.

**105.** Engines and trains must not exceed restricted speed on museum trackage. Maximum allowable speed is ten (10) miles per hour.

**106.** Both conductor and engineer are responsible for the safety of the train or engines and for the observance of the rules. Under conditions not provided for by the rules, they must take every precaution for protection. This does not relieve other crew members of their responsibility under the rules.

**107.** When a passenger train is receiving or discharging traffic on the side toward the station, a train or engine must not pass between it and the station platform until all passengers and all employees have cleared the track between the passenger train and the station platform. Thereafter, train or engine may pass when preceded by an employee walking just ahead of the engine, or first car when shoving cars, to protect the movement.

**108.** In case of doubt or uncertainty, the safe course must be taken.

**110.** When practicable, when leaving station and at every opportunity on the road, crew members must carefully inspect the train for defects. Crew members will in addition, when practicable, observe the track at rear of train, looking for marks on track that indicate dragging equipment.

**112.** Unless previous inspection has been made, cars must not be coupled to or moved until they are inspected and determined they are in condition to be handled.

**113.** During operation of passenger trains, switches so equipped shall be locked when not in immediate use. Switch lock or keeper must be placed in hasp on switch stand before movement is made over switch.

### **Additional General Rules**

**700.** Employees whose duties are prescribed by these rules will report to and comply with instructions issued by the officers of various branches of the service and such others as may have proper jurisdiction when applicable to their duties.

**702.** Employees in train and engine service must wear corrective lenses when their driver's license requires them.

**705.** Civil, polite deportment is required of all employees in their dealings with the public and with each other. Courtesy and attention to visitors is demanded.

Employees are prohibited from entering into altercations with any person, regardless of provocation. They will make note of the facts, if necessary and report to their immediate supervisor.

Employees are prohibited from having loaded or unloaded firearms in their possession while on duty or on museum property.

Horseplay, sparring or any form of practical joking is forbidden on duty or on museum property.

**706.** Carelessness, negligence or indifference in the performance of duties will not be condoned.

**707.** Employees who are either disloyal, dishonest, insubordinate, incompetent, make false reports or statements or conceal facts concerning matters under investigation will not be retained in the service.

**723.** Permission must be obtained from yardmaster before moving any outfit car in use. Before coupling or moving outfit cars, notice must first be given to all occupants and all ladders, electrical, plumbing and other equipment cleared.

**724.** Sign reading "Occupied Outfit Cars" must be placed on switch stand leading to tracks occupied by outfit cars and may only be removed by proper authority.

**760.** A personal injury sustained by an employee on duty must be promptly reported to proper authority. Normally, employees will report injuries sustained by them to their immediate supervisor.

**773.** Motor vehicles must be driven at a safe and reasonable speed, observing all traffic regulations, giving due regard to traffic, local conditions and safety to the public.

**776.** Operators of museum owned vehicles must possess the proper class of driver's license to operate the particular vehicle when on public roads. Operators are responsible for the safety of the occupants and must see that seat belts are used at all times on vehicles so equipped.

**777.** When equipment is moved in and out of the diesel shop, doors must be fully open.

**778.** All members, when working at the museum, will fill out a personal work report on a daily basis. Work report forms are available in the Operating Department office and when completed, will be put in the box provided.

### **Additional Transportation Rules**

**800.** The general direction and movement of a train is in charge of the conductor and all persons employed on the train are subject to the conductor's instructions.

Should there be any doubt as to the authority or safety of proceeding, he must consult the engineer who will be responsible with him for the safety and proper handling of the train and other precautions as circumstances may require.

**800A.** Conductor, or in the absence of the conductor, the engineer, must require trainmen to position themselves as in their judgment may be necessary.

**802.** When on duty, trainmen are subordinate to conductors and firemen are subordinate to engineers. Conductors and engineers must see that their subordinates are familiar with their duties, ascertain the extent of their experience and knowledge of the rules and instruct them in the proper and safe performance of their work.

When the conductor is not present, trainmen must promptly obey the instructions of the engineer.

**819.** When coupling to a caboose, passenger car or locomotive, or coupling such equipment to other cars, movement must be made with special care. Occupants of such equipment must be warned in advance of impending couplings. Persons occupying such equipment must brace themselves and remain seated while coupling is being made.

**852.** When cuts are to be made between occupied passenger cars while switching, trainmen must know that vestibule curtains are unhooked and end gates closed at the end of each car where cut is to be made and the electrical connections, if any, must be taken down.

**854.** Conductors must comply with instructions in placing cars and doing other station work designated by proper authority.

**863.** In case of personal injury, loss of life or damage to property, conductors must furnish immediate report of the facts to the proper authority. Everything possible must be done for the immediate and proper care of the injured.

The conductor must immediately secure the names, addresses and occupations of all persons involved or witnesses, regardless of whether these persons admit knowing anything. Names of witnesses who can testify relative to bell, whistle and flagman's signals must be obtained when possible to do so.

Other employees will assist conductor in obtaining the required information.

**864.** If an accident causes personal injury or death, all tools, machinery or other equipment involved must not be disturbed, if possible, until inspected by proper authority.

Persons making inspection will fill out written report in a timely manner.

**865.** Information concerning accidents or personal injuries must not be given to anyone except authorized representatives of the museum or an officer of the law.

**877.** Employees must see that all cases of attempted robbery, theft of property belonging to the museum or in its charge, personal injury and

other extraordinary occurrences are reported promptly to the proper authority.

**885.** Yardmasters have supervision over yards and all persons employed therein must obey their instructions.

**886.** It is the responsibility of the yardmaster to take immediate and decisive action if he has knowledge of any employee under his jurisdiction being in a condition that such employee cannot render safe or satisfactory service or is a hazard to other employees working in the yard.

**890.** Unless otherwise provided, enginemen must know before starting each day's work that their engine is furnished with sufficient fuel, water, sand and other supplies and equipment.

**893.** Engineers must be diligent in all matters pertaining to safety and while moving must keep a close lookout and watch for obstruction on and defects in track and roadway.

All other crew members on engine must assist in keeping a close lookout and must instantly give notice to the engineer of any indication of obstruction or danger.

**895.** When locomotives are being serviced, they must not be moved until hose connections are removed and it is ascertained that employees servicing are in a safe location.

**896.** Enginemen must make all reports required of them by the operating and mechanical departments, respectively, in due time and in the form and manner prescribed.

### **Use and Operation of Track Cars and Other Roadway Equipment**

**939.** Care and safety must be exercised in the operation of track cars to avoid collisions with trains or other cars.

**942.** Track cars must not be run or pushed through variable switches. Switches must be lined for movement.

**947.** Unless otherwise provided, track cars must approach all road crossings prepared to stop, giving road traffic preference. If necessary, stop must be made, traffic flagged and cars pushed over crossing.

**949.** When approaching workmen or others on or near the track, speed must be reduced and if necessary movement stopped.

**950.** Unless the movement is protected, track cars must not pass a passenger train on the side from which passengers are being received or discharged.

**953.** Immediately after starting, brakes must be tested to insure that they are in proper working condition.

**955.** Trailers and other cars being towed must be coupled with an approved coupler.

Under no circumstances must rope, wire, chain or other makeshift couplers be used.

**961.** When removed from the track, roadway equipment must be placed so that it will not foul the track. It must not be left standing at public and private grade crossings in such a position that it will in any manner obstruct or interfere with the traveled way.

**963.** Track cars must be thoroughly inspected before each use and thereafter as frequently as necessary by the operator to insure that all mechanical and safety devices function as intended. They must be kept clean and in good order. Cars that may be considered unsafe to operate must be withdrawn from service immediately and report made to the proper authority. Cars requiring repairs, although not unsafe to operate, must be similarly reported.

**964.** Materials, tools and supplies must be placed on track cars and push cars so that they will not fall off and the load should be distributed uniformly over the car.

**967.** Matches, torches or other open lights must not be used in the inspection of roadway equipment. The engine of a track car must not be allowed to run while fuel tank is being filled. Smoking is prohibited when fuel tanks are being filled.

Do not strain gasoline through a chamois skin as there is danger of ignition of the gasoline by a spark caused by static electricity.

Starting or allowing engines to run within tool or car house is prohibited.

## **Mechanical Rules**

**1000.** Foremen shall report to and receive instruction from proper authority. They must know that all employees under their charge perform their duties properly and in a safe and economical manner, instructing their crew in safe working conditions. Foremen are responsible for seeing that all rules, special instructions and standards relating to their work are observed.

**1001.** Hardhats will be worn by all employees when:

- (1)** Working with or around cranes (within 50 feet.)
- (2)** Working with or around forklifts or loaders or other similar equipment.
- (3)** Working on locomotives or other equipment when in the inspection pit.
- (4)** Working inside locomotives or other equipment where a possibility of incurring a head injury exists.
- (5)** Working in any situation where a possibility of incurring a head injury exists.

**1002.** In keeping with paragraph four of the General Notices section, sub-standard mechanical practices will not be performed. When performing mechanical work on museum equipment, manufacturer's procedures will be followed whenever possible. In the event that manufacturer's repair manuals are not available, repair or modification procedures must be performed according to good mechanical practices.

## **Use of Sand**

**1100.** During acceleration, sand should be used until sufficient speed is attained so that slipping will not occur.

If slipping occurs, do not apply sand until power is reduced and slipping has stopped. The slipping of driving wheels seriously damages rails and causes severe stresses in draft gear and mechanical parts of locomotives.

**1101.** If slipping is likely to occur when passing over track oilers, icy rail or any other condition likely to cause wheel slip, power must be reduced when practicable to do so to prevent

slipping, avoid the use of sand until the locomotive has passed such appurtenances.

## **Locomotive Rules**

**1200.** No locomotive shall be operated except under the following conditions:

- (1)** With permission of the Superintendent of Operations or a supervisor.
- (2)** By permission of the Chief Mechanical Officer when necessary for maintenance purposes.
- (3)** In an emergency.
- (4)** At the request of a Union Pacific Railroad official.

**1201.** During freezing weather, engine cooling water systems must be drained as required. Engines equipped with anti-freeze are excepted.

**1202.** No locomotive operation will take place between the hours of 10:00 PM and 8:00 A.M. except by proper authority.

**1203.** Employees starting diesel locomotives are responsible to ensure that each locomotive they operate is inspected for engine lubricating oil level, cooling water level and air compressor lubricating oil level prior to initial startup. Engine lubricating oil level and pressure will be checked after start-up and again fifteen (15) minutes after start-up.

**1203A.** All locomotives must only be operated at proper temperatures.

**(1)** Below 100°F, the locomotive must be run only in idle.

**(2)** Above 120°F, the locomotive may be used in light service.

**(3)** Within 140-180°F, the locomotive may be used in normal service.

**(4)** At 180°F, on locomotives equipped with manual temperature control, the cooling system must be operated until the water temperature is reduced to 160°F.

**(5)** Above 180°F, the locomotive may not be used in service.

Any failure of the temperature regulating system must be reported to the proper authority.

**1203B.** Upon startup of the locomotive, enginemen must drain moisture from the main reservoir.

Draining the main reservoir during prolonged service and upon shut down is encouraged.

**1204.** E.M.D. diesel locomotives that have not operated for forty-eight (48) hours will be rotated several turns with the cylinder relief valves open in order to ensure against a hydraulic lock condition caused by water leakage in the cylinders. This operation is known as flash-cocking the engine.

**1205.** Defects or other mechanical problems noted during inspection should be reported immediately on locomotive inspection report to the Chief Mechanical Officer or to a supervisor if the Chief Mechanical Officer is unavailable and locomotive not operated unless permission is obtained from same.

**1206.** A locomotive inspection report is to be filled out on a daily basis and filed in the Operating Department office. The locomotive inspection card, located in cab shall also be filled out daily.

**1207.** When locomotives in multiple are to be separated, after hand breaks are set, first, care must be taken to see that any safety chains that are connected between units are taken down and properly secured, then multiple unit electrical jumpers and then M.U. air hoses between units must be taken down manually and not be allowed to be pulled apart when the units are separated.

**1208.** Persons qualified to operate locomotives:

**(1)** Engineers qualified within two years by a common carrier railroad with prior approval of Feather River Rail Society proper authority.

**(2)** Engineers qualified by the Feather River Rail Society for Passenger Service.

**(3)** Engineers qualified by the Feather River Rail Society for Yard Service.

**(4)** Run-A-Locomotive Engineers qualified by the Feather River Rail Society.

**(5)** Hostlers qualified by the Feather River Rail Society.

**(6)** Student passenger engineers in training by the Feather River Rail Society for Passenger Service, but not to operate passenger trains without passenger qualified engineer and fireman in cab. Under these conditions, no passengers may be carried in the locomotive cab.

**(7)** Student yard engineers in training by the Feather River Rail Society to operate in Yard Service, under the direct supervision of a qualified passenger or yard engineer.

**(8)** Student Run-A-Locomotive Engineers in training by the Feather River Rail Society, under the direct supervision of a qualified passenger, yard engineer or Run-A-Locomotive engineer.

**(9)** Student hostler in training by the Feather River Rail Society, under the direct supervision of a qualified passenger engineer, yard engineer or hostler.

**1210.** During train or yard operations, no more than five (5) passengers will be carried in the operating cab of locomotives, when in the judgment of the engineer, it is safe and convenient to do so.

At no time shall an engineer, or crew member, have anyone sitting on their lap.

The engineer will be responsible to ensure that passengers carried in the cab do not present a safety hazard or interfere with the duties of the engine and train crew.

Passengers may ride in cabs of trailing units only when a qualified employee is present.

### **Air Brake Rules**

**1500.** Enginemen and trainmen are responsible for having a working knowledge of air brakes and train handling.

**1501.** Repairs, adjustment or modifications to any air brake equipment or brake rigging may only be done under the proper authority.

**1510.** Engines must be inspected by hostler or engineer for defective or binding brake rigging, missing or worn brake shoes, or any other condition that may prevent the proper operation of air brakes.

**1511.** Engineer must know before each trip, or when taking charge of engines, that brakes on engines are in a safe and suitable condition for service.

**1512.** Before making initial movement of an engine, engineer must apply brakes and inspect engine for proper piston travel. Brake shoes must be of sufficient thickness to accomplish the day's work.

**1513.** Dynamic brakes may only be used when authorized by the proper authority.

**1514.** Multiple engine consists must be inspected by proper authority before initial movement. Engineers will be instructed on proper procedure for multiple unit operation by proper authority.

**1515.** As soon as operating conditions permit, a running brake test must be made immediately after initial movement of a light engine, change in multiple unit consist or transfer of brake control. At a speed not exceeding five (5) miles per hour, make a service application with the automatic brake valve and note brake cylinder pressure and retarding force. With the independent brake handle in the release position, make sure the locomotive brakes are fully released by actuating the "bail off" feature of the independent brake and observing that the brake cylinder pressure is reduced to zero.

**1520.** Unless otherwise stenciled, maximum brake cylinder piston travel on engines should not exceed six (6) inches, except truck mounted cylinders should not exceed four (4) inches.

**1521.** Reservoirs should have condensate drained daily or more often as conditions require.

**1522.** Engines must have at least 105 pounds of main reservoir air pressure before attempting movement. Main reservoir air pressure must be maintained at least fifteen (15) pounds higher than brake pipe pressure and not exceed 140 pounds. In the event main reservoir air pressure falls below the minimum required pressure or compressor fails, movement must be stopped immediately and the cause must be determined. Pressure must be restored and brakes known to be in safe operating condition before resuming movement.

**1523.** Should main reservoir pressure fall below 110 pounds on a diesel engine while charging train line, engineer may open generator field switch, center reverse and advance throttle to no more than half speed. Avoid running engine in any throttle position that causes high vibration.

**1524.** Engines left unattended over pits or in engine service areas must have throttle closed, reverse lever centered and removed if removable. Wheels must be blocked, handbrake applied and generator field switch left open if so equipped. Independent brake lever must be in full application position and automatic brake lever placed in holding position. If not equipped with holding position, place in running position.

**1525.** Enginemen, and trainmen giving signals, must increase braking distance when rail is wet, frosty, greasy or oily, on descending grade or any other condition that requires extra caution. Every effort should be made to prevent wheels from sliding due to poor rail conditions.

**1526.** On locomotives equipped with 24-RL brake equipment, if equipped with Rotair Valve, valve will be place in PASS position if unit is used in lead. If unit is used in trail, Rotair Valve will be place in PASS LAP position. FRGT or FRGT LAP position will not be used.

### **Brake Pipe**

**1530.** The brake pipe must be charged to not less than 90 PSI prior to the movement of any yard or road train.

**1531.** Should for any reason, front or rear brake pipe gauge indicate less than forty-five (45) pounds during movement, an emergency application must be made immediately and movement stopped. The cause of loss of pressure must be determined, pressure restored, and brakes known to be in a safe operating condition before resuming movement.

**1532.** Only one engine brake valve may be cut in and used to control train. Under no circumstances may more than one feed valve or any other method of increasing brake pipe pressure be used. Only one brake valve may be cut in on a dual control equipped locomotive.

**1533.** Use of feed valve to make or maintain brake application, known as "feed valve braking", is prohibited.

**1534.** The independent brake valve handle must not be fastened or bail blocked in released position.

**1535.** Air brakes must be cut in and operative on all movements of derricks, cranes, outfit cars and cars in passenger service.

### Terminal Brake Test

**1540.** All trains must be given an inspection and test as prescribed by Rules 1541 through 1554 at points where a train is initially made up and on any cars added thereafter. Tests must be performed by train crew.

**1541.** Rear cock or tailhoe must be opened enough to determine that brake pipe airflow is not restricted and blow out any condensation.

**1542.** Train air brake system must be charged to within fifteen (15) pounds of the setting of the feed valve on the engine, but not less than seventy-five pounds, as indicated by a gauge at the rear end of the train, angle cocks and cutout cocks must be properly positioned, air hoses properly coupled and all other brake equipment known to be in a condition for service. Air leaks should be at a minimum.

**1543.** Upon receiving signal for test, Engineer shall make a twenty (20) pound reduction and sound proper whistle signal.

**1544.** After forty-five (45) seconds, cut off valve or pressure maintaining feature on engines so equipped must be cut out and the number of pounds per minute brake pipe leakage must be noted, after which, brake pipe reduction is increased to full service and pressure maintaining feature or cut off valve should be cut back in.

**1545.** Brake pipe leakage must not exceed five (5) pounds per minute.

**1546.** Trainman or train crew, if in charge, must inspect all cars to determine that brakes are applied, piston travel is correct, rigging does not foul and retainer is in proper position.

**1547.** Brake piston travel must be between seven (7) and nine (9) inches or six (6) inches on truck mounted cylinders, unless otherwise stenciled on car. Body mounted brake cylinders not within these limits must be adjusted to nominally seven (7) inches. Cars with excess

piston travel cannot be counted as an operative brake.

**1548.** Passenger cars equipped with disc brakes are equipped with indicators above each truck. Plungers are extended when brakes are applied and retracted when brakes are released.

**1549.** Cast iron brake shoes must be at least one half (1/2) inch thick. Composition brake shoes must be at least three-eighths (3/8) inch thick including the backing plate. Brake shoes must not be missing, cracked or of the wrong type. Brake shoe keys must be in place.

**1550.** During standing test, brakes must not be applied or released until the proper signal is given.

**1551.** Defects discovered during a standing test that cannot be repaired promptly must be reported to the train crew or the conductor for appropriate action.

**1552.** On proper signal, engineer will release brakes. Trainman will then inspect train to see that brakes have been released and handbrakes are not applied. Release inspection must be made with train standing.

**1553.** When a test of the air brakes has been completed, the engineer and conductor must be notified that train is in proper condition to proceed.

**1554.** Passenger trains will not operate with any brakes cut out or inoperative.

### Application and Release Test of Rear Car

**1560.** An application and release test must be made on the rear car of a train any time an angle cock has been turned, the consist has been changed, except when a solid block of cars has been detached from the rear, after crew change or when taking charge of a train that has been left unattended.

**1561.** 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.

**1562.** Upon receiving proper signal, Engineer will release brakes. Before proceeding, it must

be known that brakes are released and brake pipe pressure is being restored.

### Running Brake Test

**1570.** All passenger trains must make a running brake test; after leaving initial terminal, after crew change, after an excessive delay or 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.

**1571.** For 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.

**1572.** Other locations that running brake test is required will be listed in the current special instructions.

### Defective Brakes

**1580.** Should an air brake become, or is thought to be, defective on a car or engine, movement of car or engine may only continue if it is safe to do so. Defective car or engine must be set out at first opportunity. Proper authority must be notified in writing.

**1581.** In the event of an air compressor failure or a failure of brake control on a locomotive, movement must be stopped, train secured and another locomotive used if repairs cannot be made.

**1582.** Steam engines must maintain not less than 125 pounds boiler pressure to insure operation of air compressor. Steam engines handling train brakes with less than 125 pounds boiler pressure or steam engines running light with less than 110 pounds boiler pressure must stop and wait for boiler pressure to rise to the minimum level before resuming movement.

**1583.** The engineer and conductor must be notified of any defective brake or any other condition affecting the stopping ability of the train.

### Rear-End Valve and Tail Hose

**1590.** Brakes must not be applied from the rear except when making a running brake test from the rear, in an emergency, or to prevent an accident.

**1591.** Tailhose must be used, when practicable, when rear of train is not equipped with a rear end valve.

**1592.** To obtain a service brake application, open valve slowly until application of brakes is effective. Valve is not to be closed until train stops except during a running brake test.

**1593.** To obtain an emergency brake application, open valve quickly and leave fully open until train stops.

**1594.** To obtain a service brake application from a rotary caboose valve, move the handle to position 2. If brakes do not apply, move to next notch for ten (10) seconds and repeat if necessary until brakes apply. Do not move handle back towards lap until train stops.

**1595.** To obtain an emergency brake application from a rotary caboose valve, move handle to full open position and leave it in that position until the train stops.

**1596.** Backup whistle must not be used unnecessarily. Undesired brake action may result.

### Handbrakes

**1600.** 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.

**1601.** Skates or chocks must be used in addition to handbrakes when required.

**1602.** Cars or engines with defective handbrakes must be left coupled to an equal number of cars or engines, or otherwise secured to prevent movement.

**1603.** Handbrakes used for switching must be tested and known to be in working order before being used.

**1604.** Handbrakes must not be used to control speed of train except when their use is required to make an emergency stop.

### Emergency Stops

**1610.** An emergency stop should only be made when there is an immediate danger to life or property. When a train is stopped with an emergency application of the brakes, whether from locomotive or train, or at a service rate of reduction from the train, the engineer will not move the locomotive until informed by a member of the crew that inspection of the entire train has been completed and that it is safe to do so.

**1611.** Engineer making emergency stop must place automatic brake handle in emergency position until train stops.

**1612.** If emergency application is made from the train, engineer must place handle in emergency position.

**1613.** Engineer must use sand during an emergency application. Independent brake should be bailed off to keep the engine from sliding. Throttle should be closed gradually or as required to control slack.

**1614.** No attempt must be made to release brakes until after train comes to a complete stop and the cause for the emergency application has been determined and the danger has passed. Train must be inspected before resuming movement.

**1616.** Should for any reason the air brakes on a train become ineffective or fail or if there is any doubt as to the ability of the air brakes to stop the train, train must be stopped at once and the conductor notified.

**1617.** Any failure of air brakes, whether actual or suspected, any car cut out or any other air brake defect, must be reported in writing to the proper authority.

**1618.** Engineer must not attempt to release brakes after an emergency application until train has been stopped at least two (2) minutes.

### Changing Consist or Engines

**1640.** Before closing angle cock, Engineer must make a twenty (20) pound brake pipe reduction and time must be allowed for brake pipe to equalize.

**1641.** When cutting off cars or engines, angle cock must be left open on at least one end and brake pipe depleted on detached portion.

**1642.** Overcharged brakes may be corrected by making a reduction to equalizing pressure, waiting for brakes to apply and then releasing. In the event this does not correct overcharge condition, place brake valve in emergency and release after two (2) minutes and repeat until overcharge is completely equalized, or secure train with sufficient hand brakes and bleed cars off and recharge brake pipe and make proper air brake test as prescribed by rule or bulletin.

### General Air Brake Rules

**1650.** A minimum brake pipe reduction must be between six (6) to eight (8) pounds.

**1651.** A minimum brake pipe reduction should be made, and train slack should be allowed to adjust, before reducing to the desired amount during normal stops.

**1652.** A reduction of at least fifteen (15) pounds should be made before brakes are released on a train that is stopped.

**1653.** No attempt should be made to make a running release of train brakes at low speeds if harsh slack action will result. Train must come to a stop before attempting to release the brakes.

**1654.** Trains must not exceed five (5) miles per hour when starting for the length of the train or until "All Moving" signal is received from the rear.

**1655.** Trainmen will be held responsible for wheels slid flat on cars of their train.

**1656.** Engineers will be held responsible for wheels slid flat on their engines and for proper train handling.

**1657.** Any train or car must not be moved if it is not safe to do so in the judgment of the engineer or conductor.

**1658.** Engineers should attempt to stop trains with a light brake application when conditions allow.

### Signals for Train and Engine Movements

**1700.** Use of hand signals during daytime movements and lantern signals during nighttime movements are the preferred forms of communication. Crews are strongly encouraged to minimize the use of radios for non-emergency traffic.

**1701.** For the purpose of lantern and radio communication, the definition of "ahead" is travel in the direction of the end of the locomotive that has the "F" lettering. In general, the engineer is seated on the right side of a locomotive when facing forward.

**1702.** Proper hand signal usage requires:

- (1) Always be on the lookout for hand signals.
- (2) Do not act on any signal that is not understood or not intended for your movement.
- (3) Always comply with the intent of the signal given.
- (4) Always tell the engine crew when you are going from hand signals to radio or radio back to hand signals.

**1703.** Employees giving hand or lantern signals must remain in a position to be clearly seen by the engine crew. If necessary, hand signals may be relayed, except for "Going into Red Zone."

If the crew member controlling a movement goes out of sight of the engine crew all movement must be stopped, unless one of the following occurs:

- (1) The employee tells the engine crew they are going to radio.
- (2) The employee is seen by the engine crew passing control of the movement to another crew member in sight by rule 1740 and the second crew member is seen to acknowledge accepting control of the movement by rule 1745.

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## Daytime Hand Signals for Train and Engine Movements



**1730 - Stop.** Swing arms at a right angle to the line of sight of the engineer or engine crew member receiving your signals. For an emergency stop, swing arms violently.



**1731 - Come to Me.** As if motioning a person to come toward you.



**1732 - Go Away from Me.** As if motioning a person to go away from you.



**1733 - Easy.** Arms are extended and brought to vertical and then returned. An engineer receiving an "Easy" signal will reduce speed by one half.

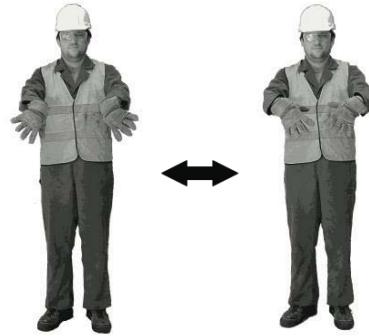


**1734 - Going into Red Zone.** Given over the level of the head, at a right angle to the line of sight of the engineer or engine crew member receiving your signal, with thumbs pointing downward. Before going between cars or engines your MUST wait for an acknowledgment of this signal from the engineer or engine crew member receiving your signal.

The Red Zone signal is not relayable by the ground crew. Only the person requesting the Red Zone may signal the engine crew.



**1735 - Engine Crew “Set and Centered”.** One arm is fully extended out the cab window with thumb pointing down.



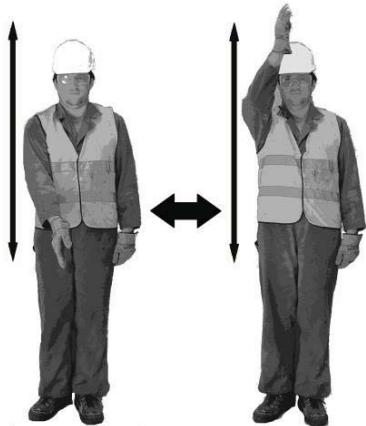
**1736 - Ground Crew Clear Red Zone.** Establish eye contact with engine crew, extend arms in front of body facing engine crew, fingers are “hanging down” and shaken as if to remove water from them.



**1737 - Engine Crew Acknowledgment of Ground Crew’s Clear of Red Zone Signal.** One handed wave out the cab window.



**1738 - Set the Brakes.** One hand is moved back and forth on a horizontal plane in a straight line as if “setting the table.”



**1739 - Release the Brakes.** One hand is moved up and down.



**1740 - Pass Movement Control to Another Crew Member.** Extend arms with index fingers pointing at the crew member who is to assume control of the movement. The second crew member acknowledges with the Highball/General Acknowledgement Signal (rule 1745) and assumes control of the movement.



**1741 - Couple Up.** Conductor and brakeman's acknowledgement Linked hands clasped directly over the head.



**1742 - Pin.** Raise one fist with thumb pointed up.



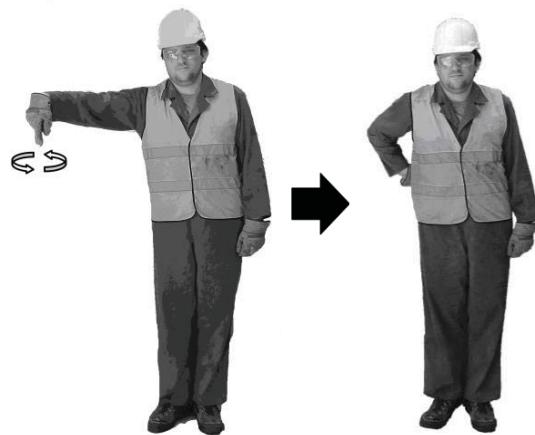
**1743 - Stretch.** A smaller version of a “Go Away from Me” where it looks like you are flicking water off the end of your fingers.



**1746 - Line Switch.** Arm extended with index finger pointed down and moved in a circular motion.

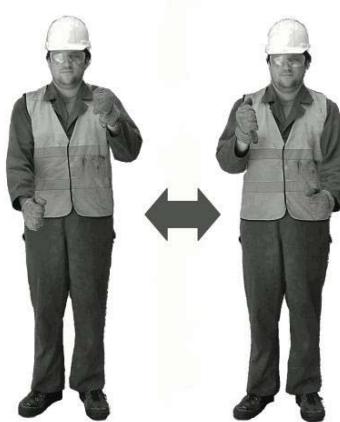


**1744 - All Moving.** One arm extended with fingers opened, moving in a “Queen Elizabeth” style wave. Movement is at the wrist.



**1747 - Line Switch Behind.** The Line Switch signal followed by moving the same hand around and patting the lower back.

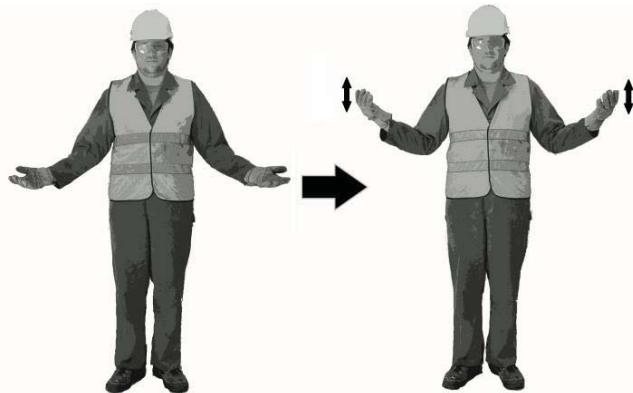
**1745 - Highball, Highball the Air, General Acknowledgment.** Uses the same signal as All Moving. Used an acknowledgement signal that the signal or message was understood or the proper response was obtained or observed.



**1748 - Set/Release Hand Brake.** Hands in front of body and moved like turning a steering wheel back and forth.



**1750 - Tie Down & Shutdown Locomotive.** While facing the engine crew, hold both fists at chest height in front of, and close to, the body with thumbs pointing up.

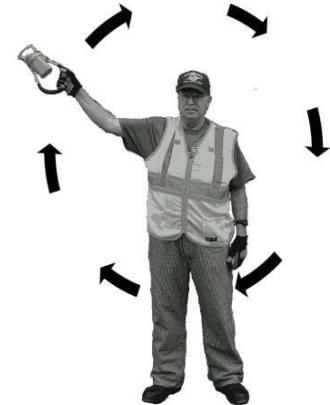


**1749 - Getting on Moving Equipment.** Arms are extended to sides at waist level with palms facing up. Palms are moved upward two times.

## Nighttime Lantern Signals for Train and Engine Movements



**1770 - Lantern Stop.** Lantern is swung at a right angle to the track. For an emergency stop, swing violently.



**1772 - Lantern Back Up.** Lantern is swung in a circle two times at right angle to the track. Trainman giving this signal must know which direction the engine is facing before giving the signal.



**1771 - Lantern Ahead.** Lantern is raised and lowered vertically two times. Trainman giving this signal must know which direction the engine is facing before giving the signal.



**1773 - Lantern Easy.** Lantern is swung in slight overhead one cycle.