

Form No. 4269

CHICAGO, MILWAUKEE, ST. PAUL AND
PACIFIC RAILROAD COMPANY



Operating Department

SAFETY INSTRUCTIONS

* * * * *

Governing Employes in Train, Engine and
Yard Service

* * * * *

Edition 1970

230

GENERAL INSTRUCTIONS

Each employee in service will be provided with a copy of these instructions and will be required to read and understand the instructions and the Rules of the Company.

NOTICE

Suffix S as used with the instructions contained herein denotes that these are safety instructions.

The instructions set forth herein govern all employes in Train, Engine and Yard service of The Chicago, Milwaukee, St. Paul and Pacific Railroad Company and supersede all previous safety instructions inconsistent therewith.

Suggestions for the advancement of safety are requested and will be given every consideration.

L. V. Anderson

Assistant Vice President
Operation and
General Manager

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Superintendent of Safety

Approved:

F. G. Mc Ginn
Vice President - Operation

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GENERAL INSTRUCTIONS

1-5. Each employe in Train, Engine and Yard service will be furnished with a copy of this Safety Instruction book and must be conversant with and obey the instructions as prescribed by the last paragraph of Rule M of the Consolidated Code of Operating Rules.

2-5. A personal injury must be reported on Form 171 (Report of injuries to persons) before completing day's work, giving full details regarding cause. When equipment is involved employe must furnish car number and initial or engine number. Where track or structures are involved, specific switch, track, structure, etc., must be identified and shown in report. Form must be signed by the injured employe if able to do so. (See Fig. No. 1.)

Form 171 (Fig. No. 1)

REPORT OF INJURIES TO PERSONS

At _____ Station _____ Division _____
(Place of Accident)

On _____ (Date of Accident) 19____ at _____ M.

Full name of person injured _____ Service Date _____
Residence and occupation _____ On or off duty _____
Married _____ Age _____ Employe or other _____
or single _____
Name of Child, if any, and age _____
Nature of injuries received _____

Date and approximate date and location of previous injuries: _____

Was weather clear, cloudy or foggy _____ Rain or Snow _____ Daylight or dark _____

Name and address of attending surgeon and by whom called _____

Where and in whose charge was injured person placed _____

Train No. _____ Engine No. _____ Loads _____ Empty _____

Conductor _____ Engineer _____
Fireman _____ Baggageman _____
Brakeman _____ Yardmaster _____ Foreman _____

State fully cause and all particulars of accident _____

No. and initials of car or cars accident happened on or between _____

State defect in car causing accident, if any _____

If caused by defective tools or machinery, describe defect _____

At what speed were cars moving _____ Give names of all witnesses, residence and occupation of each _____

Signature, address and title of person making above report _____
Date _____ 19____

Conductors, Engineers, Yardmasters, Station Agents and all Firemen or other persons who may know facts of accidents occurring within their respective jurisdictions, will report to the General Adjuster, Division Superintendent, Shop Superintendent or other designated officer, all accidents resulting in injury to Passengers, Employees, or other persons, together with full particulars of such accidents and the nature and extent of injuries received, name, residence and occupation of person injured, and name, residence and occupation of each witness to the accident.

Notify Division Superintendent and General Adjuster immediately by telegram of all serious or fatal accidents.

File one copy of Cause Reports filed one to General Adjuster, and the other to Division Superintendent, Shop Superintendent, or other designated officer, who will supply all necessary work copy.

IT IS IMPORTANT THAT NAMES AND ADDRESSES OF ALL WITNESSES SHOULD BE OBTAINED AND REPORTED ON THIS BLANK USE reverse side for reporting highway crossing accidents.

Back of (Fig. No. 1)
REPORT OF HIGHWAY CROSSING ACCIDENT

1. Place of accident	To be filled in by Reporting Officer:	
2. Date	3. Time	Accident report No.
4. Names and addresses of persons injured and extent of injuries		
5. Dispositions of injured		
6. Name and address of each witness		
7. License Nos. of other autos near crossing		
8. Name and address of driver		
9. Reasons given by driver for accident		
10. Kind and make of auto	11. License No.	
12. Extent of damage to auto	13. Disposition of auto	
14. Speed of auto at time of accident	15. Direction moving	
16. Speed of train at time of accident	17. Direction moving	
18. Weather conditions	19. Visibility: Good, Fair, or Bad	
20. If at night, was headlight lighted	21. Bright or dim	
22. Kind of crossing protection	23. If automatic signal or gates, were same working	
24. If flagman, was driver given signal to stop		
25. Kind and location of crossing signs		
26. Are there advance warning signs located 150 feet from track		
27. Driver's view of track: Good, Fair, or Bad		
28. If view obstructed, what and where is obstruction		
29. How far could driver see train approaching		
30. Had whistle signals been sounded for crossing		
31. Where started		
32. Where ended		
33. Was bell ringing for crossing		
34. Was road or pavement wet or dry or covered with snow or ice		
35. Extent of damage to engine or cars		
36. If switching movement involved, was crossing protected by trainman		
37. If so, name		
38. Length of time cars had been standing on crossing		
39. Train No.		
40. Engine No.		
41. Engineer		
42. Fireman		
43. Brakeman		
44. Conductor		
45. Did train strike auto		
46. Did auto run into side of train or engine		
47. What part of engine or what car in train (how many cars behind engine), and type of car		
48. Did auto approach toward engineer's or fireman's side		
49. No. of cars in train		
50. Further particulars		
Signature and title of person making report		

Use reverse side for reporting other than highway crossing accidents.

3-S. In accordance with Rule D of the Consolidated Code of Operating Rules, when medical treatment, emergency or otherwise, is required after leaving company property, prompt report by phone, personal appearance or other means of communication must be made to the Supervising Officer.

4-S. Employees are required to wear suitable footwear which provides ankle support with soles thick enough to give good traction and withstand punctures from sharp material. Shoe laces must be tied. Heels that are "run over" and shoes that are made of cloth are prohibited. Safety shoes are recommended. (Note: Black oxfords may be worn by passenger trainmen.)

5-S. Employees must be suitably dressed and in a manner that will not interfere with vision, hearing or free use of hands or feet. (See Fig. No. 2.)

The following practices are required at all times while on duty:

- (a) Overshoes - must be buckled or zipped.
- (b) Trouser Cuffs - fastened around ankles.
- (c) Clothing that is torn or loose or with dangling parts is prohibited.
- (d) Jackets, raincoats or other outer clothing must be fastened.
- (e) Gloves or mittens must be worn while working around equipment to protect hands from slivers and scratches.
- (f) Keys or similar items must be carried inside clothing when not being used.



6-S. Teamwork is essential to safety. When working in groups, all concerned must understand that moves are to be made with full consideration for safety.

7-S. New employees must be assisted in every way possible to acquire the correct safety habits.

8-S. Disposing of bottles, cans, lantern batteries, fuses, scrap metal, lumber, garbage or other refuse where such items may cause fires or be a hazard to safety or health is prohibited.

9-S. Employees working in the electrified territory must have a copy of Form 3170 (Special Rules and Instructions covering Electrical Operation.)



Fig. No. 2

WALKING, CROSSING OR WORKING ABOUT TRACKS

30-S. In complying with Rule 103 of the Consolidated Code of Operating Rules, care must be taken to avoid having signals for movement of trains or cars mistaken by pedestrian or vehicular traffic. (See Figs. Nos. 3 and 3-a.)



31-S. Employees must avoid stepping on rail, frog, switch, guard rail, interlocking machinery or connections. (See Fig. No. 4.)

32-S. When crossing tracks, employees must keep at least 10-feet away from end of standing train, engine or car. (See Fig. No. 4.)

33-S. Employees must avoid standing or walking foul of tracks except when necessary in the performance of duty and must look in both directions for moving equipment before crossing over or walking foul of tracks.

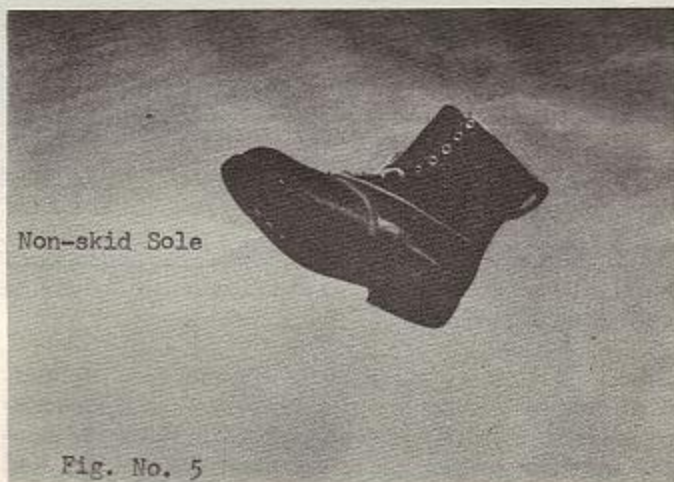
34-S. Materials with protruding nails or screws, sharp pieces of metal or similar sharp objects must not be left where they may be stepped on or brushed against and must be removed to a safe place when practicable.

35-S. When necessary to remove brake beams, brake shoes, knuckles, air hoses, boards, blocking or other objects, employees must not leave them where they may be stepped on or bumped against.

36-S. When possible, step over or walk around surfaces covered with oil, grease, wet paint or other slippery substances. When this cannot be avoided, extra care must be used to avoid slipping and falling.

37-S. Employes must observe the following winter weather tips:

- (a) When necessary to walk on snow or ice, use extra care to guard against slipping and falling. Heel ice creepers are recommended.
- (b) Remove icicles over doorways or walkways when practicable or report the unsafe condition for correction.
- (c) Avoid walking under icicles.
- (d) When view is obscured by smoke or escaping steam, wait momentarily for it to clear or walk around the area when possible to do so.
- (e) Be particularly cautious to prevent accidents and injuries during inclement weather.
- (f) Nonskid footwear is recommended to avoid slipping. (See Fig. No. 5.)



38-S. Always keep a safe distance from passing cars, engines and trains to avoid being struck by falling or projecting objects. When necessary to be close to moving equipment in the performance of duties, be alert for such objects.

39-S. If practicable, employes must warn unauthorized persons, particularly children, against trespassing on company property and if unable to escort them to a place of safety, proper authorities should be notified.

40-S. Sitting, lying or crawling under standing cars is prohibited except when required in the performance of duty and then only when proper protection is provided.

41-S. Sitting on rails, ends of ties, bridge railings or any part of track structure is prohibited.

42-S. Employes must keep a careful lookout for obstructions, debris, holes, ground irregularities, etc., to prevent tripping, slipping or falling or turning ankles. While walking, if necessary to look back, stop before doing so.

COUPLING OR UNCOUPLING ENGINES, CARS, AIR HOSE OR STEAM HOSE

60-S. When, for any reason, adjustment is necessary to a drawbar, knuckle, knuckle pin, or locking block prior to making coupling or when coupling does not make, employes must, before going between standing engines or cars:

- (a) Arrange 20-foot opening.
- (b) Have clear understanding about protection against movement.
- (c) Wait until slack has adjusted.
- (d) Know that cars are secure when on a grade.
- (e) Look in both directions to observe if engines or cars are approaching.

61-S. Before going between engines or cars to uncouple air hose, employes must:

1. Have clear understanding about protection against movement.
2. Wait until slack has adjusted.
3. Know that cars are secure when on a grade.
4. Look in both directions to observe if engines or cars are approaching.

62-S. Adjustment of drawbar lateral play necessitated by reason of track curvature or other conditions must be made while engines or cars are standing.

63-S. Before making coupling on standing car when knuckle cannot be opened by using the uncoupling lever, employe must reach over and open it by hand, first examining to see that pin is not missing to prevent knuckle from falling.

64-S. When necessary to remove knuckle pin, the knuckle must also be removed. (See Fig. No. 6.)



65-S. The use of hands or feet to adjust drawbars, couplers, knuckles or lock pins while cars or engines are approaching or about to couple, is prohibited.

66-S. Uncoupling lever must be used to uncouple cars. If cars fail to uncouple, stop movement, signal for slack and make another attempt. When necessary to cross over to the opposite side and use lever on other car, employe must first give stop signal and have proper understanding that no move will be made without further signal from him.

67-S. When operating uncoupling lever from the ground, employes must face direction of movement, watch footing conditions, use only one hand on pin lifter and when practicable, grip grab iron on car with other hand. Keep the body in the clear of corner and side of following car. (See Figs. Nos. 7 and 8.)



Fig. No. 7



Fig. No. 8

68-S. Use of finger to adjust lock pin through hole at bottom of coupler is prohibited.

69-S. When riding on a car to make an uncoupling, employe must use the uncoupling lever on the car he is riding and no attempt made to operate uncoupling lever on the next car.

70-S. When uncoupling moving cars while riding the sill step or stirrup, employes must be governed by the following:

On cars equipped with push down type lever, maintain firm grip with both hands, push down on uncoupling lever with one foot, keep other foot in stirrup.

On cars equipped with pull type lever, keep both feet in stirrup, retain firm grip with one hand and lift lever with other hand.

71-S. Employes must always be on lookout for moving equipment on adjacent tracks.

72-S. Employes must keep clear and face moving cars or engines when coupling is being made.

73-S. When uncoupling air hoses under pressure:
(a) Have both angle cocks on brake pipes closed. (See Fig. No. 9.)
(b) Have a firm grip on end of both hoses. (See Fig. No. 10.)

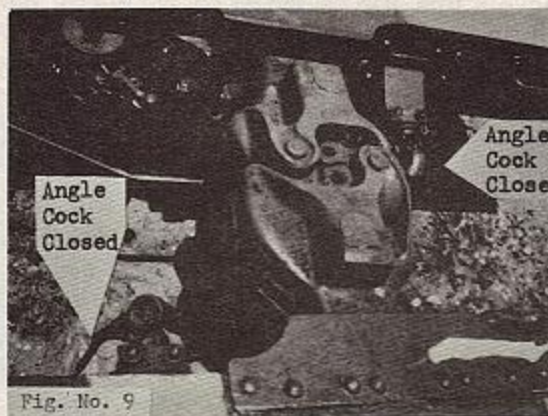


Fig. No. 9



Fig. No. 10

- (c) Turn head to prevent particles being blown in eyes account air which remained in hose. (See Fig. No. 11.)
- (d) Gradually open connection to relieve pressure remaining in hoses before completing uncoupling.



Fig. No. 11

74-S. When opening angle cock at end of a train line, have a firm grip on top of connection at lower end of air hose to prevent hose from getting out of control. (See Fig. No. 12.)

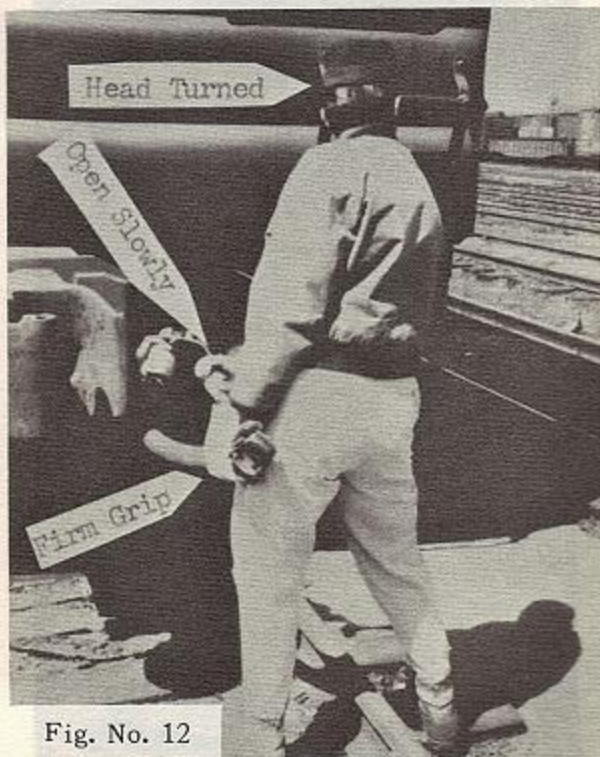


Fig. No. 12

75-S. Unless it is known that train line steam hose has been blown out before arrival, the valves on both sides of steam joint must be closed before uncoupling connections.

Relieve pressure by bleeding gravity traps on coupler heads when so equipped and on others relieve pressure by tapping on under side of head.

76-S. When removing steam connection from carrying chains, keep hands and other parts of body clear of ends to prevent burns from hot water that may have accumulated.

77-S. When passenger cars are being coupled or uncoupled employe must not step from one car to another.

OPERATING HAND BRAKES

90-S. To safely control the movement of cars by use of hand brakes, employes must have knowledge of how to properly (1) board the car, (2) position themselves when operating hand brakes, (3) identify the type of brake and (4) operate the brake with which car is equipped. ALL EMPLOYES WHOSE DUTIES REQUIRE THE OPERATION OF HAND BRAKES, INCLUDING THOSE NOT SHOWN IN THIS MANUAL, ARE EXPECTED TO ACQUIRE SUCH KNOWLEDGE AND BE GOVERNED ACCORDINGLY.

1 BOARDING THE CAR:

- (a) Board side stirrup of car and climb side of car to a point where feet are level with and opposite the brake platform. (See Figs. Nos. 1-A and 1-AA.)

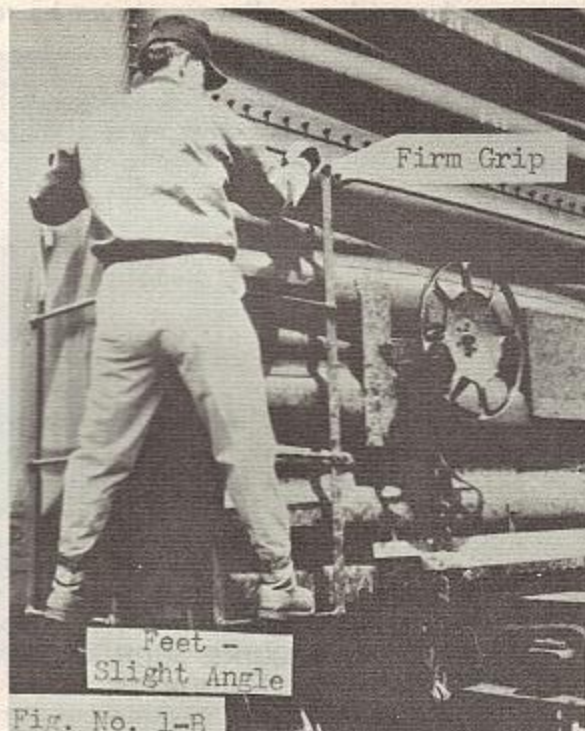


Fig. 1-A



Fig. 1-AA

- (b) When moving into position to operate brake, have firm grip on grab iron or handhold. (DO NOT USE BRAKE WHEEL OR HANDLE AS A HANDHOLD.) (See Figs. Nos. 1-B and 1-BB.)



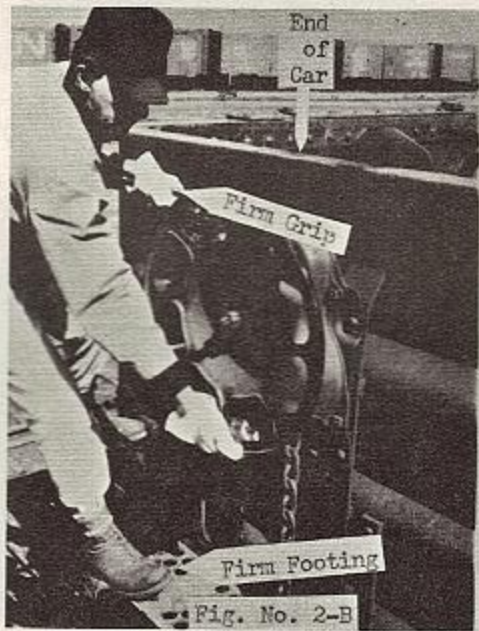
2 POSITION THEMSELVES WHEN OPERATING HAND BRAKES ON CARS WITH HAND BRAKE INSTALLATION AS ILLUSTRATED IN FIGURES 2A TO 2F INC.



- (a) Figs. 2-A & 2-AA - Place right foot firmly on brake platform. - Place left foot at a slight angle on rung of end ladder. - ALWAYS USE left hand to maintain hold on grab iron, handhold or ladder rung (applies whether hand brake is high or low).



- (b) Fig. 2-B (Gondola) - Place one foot firmly on brake platform. Place one foot firmly on rung of end ladder. Always use one hand to maintain hold on grab iron, hand hold or ladder rung. (DO NOT PUT ARM OR HAND OVER END OF CAR.)



- (c) Fig. 2-C (Tank Car) - Place one foot securely on brake platform or running board and other foot against the "dog" or pawl of ratchet. Maintain firm grip on handhold with one hand.



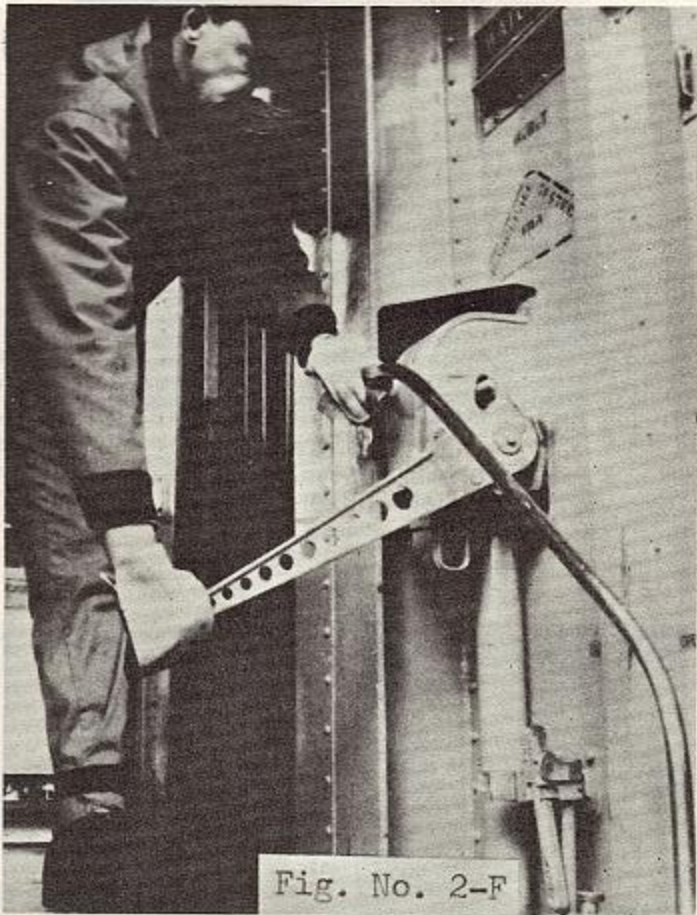
- (d) Fig. 2-D (Flat Car) - Place feet firmly on deck of car. Face end of car. (DO NOT ATTEMPT TO OPERATE HAND BRAKE ON MOVING FLAT CAR.)



- (e) Fig. 2-E (Multi-level Auto Car) - Place both feet securely in stirrup. Maintain handhold on grab iron with one hand. Fig. 2-EE (Piggy-back) - Place both feet securely on deck. Maintain grip on handhold with one hand.



- (f) Fig. 2-F (Passenger) - Trap door should be lowered. Place both feet firmly. Maintain handhold with one hand.

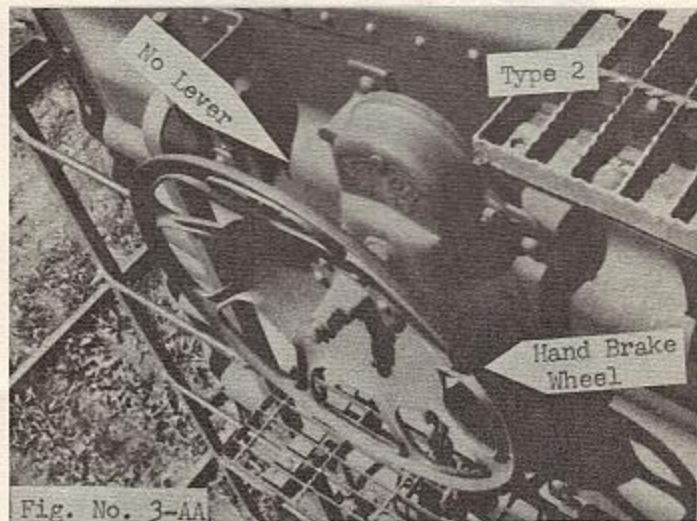
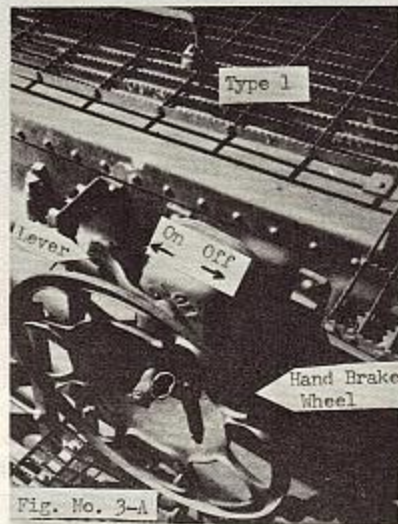


3 IDENTIFICATION AND OPERATION OF TYPES OF HAND BRAKES MOST COMMONLY USED:

Vertical Wheel Power Hand Brakes. Basically there are two types of vertical wheel power hand brakes hereinafter referred to as: Type 1 (See Fig. No. 3-A) and Type 2 (See Fig. No. 3-AA).

IDENTIFICATION

- (a) Type 1 has a lever located on top of the gear housing behind the hand brake wheel indicating "ON" and "OFF" (See Fig. No. 3-A).



OPERATION OF BRAKE - vertical wheel power hand brake - Type 1 - To apply - use right hand to move lever to extreme left (toward you) to the "on" position. (See Fig. No. 4-A.)



Grasp brake wheel with right hand on outer rim and turn wheel clockwise to take up slack and to make sure it is in good working order, then pull up on wheel until necessary brake pressure is secured. (See Fig. No. 4-AA.)



To Release - use right hand, placing it BEHIND brake wheel and lift lever to vertical position. (See Fig. No. 4-B.)



Then move to "off" position (away from you), push down forcefully to release brake, applying pressure to prevent spinning of the brake wheel. (See Fig. No. 4-BB.)

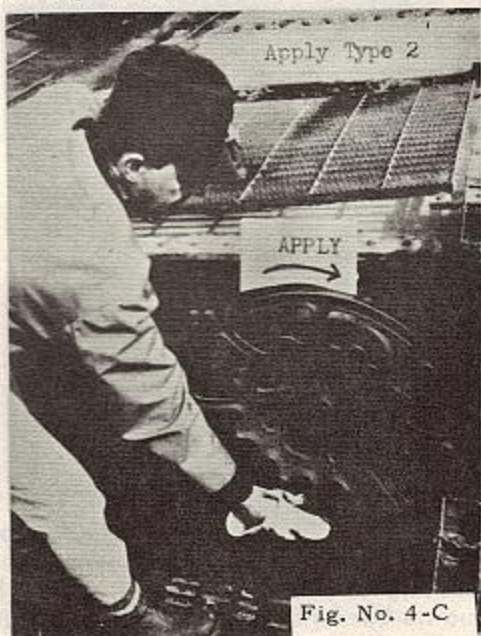


HANDS, BODY AND CLOTHING MUST REMAIN CLEAR OF THE BRAKE WHEEL WHEN HANDLING THE OPERATING LEVER. REACHING THROUGH SPOKES OF BRAKE WHEEL TO MOVE OPERATING LEVER IS PROHIBITED.

IDENTIFICATION

- (b) Type 2 has a hand brake wheel only.
(See Fig. 3-AA.)

OPERATION OF BRAKE - vertical wheel power hand brake - Type 2 - To Apply - use right hand to turn brake wheel in a clockwise direction to secure brake pressure. (See Fig. 4-C.)



To Release - use right hand to turn brake wheel in counterclockwise direction to relieve brake pressure. (See Fig. 4-D.)

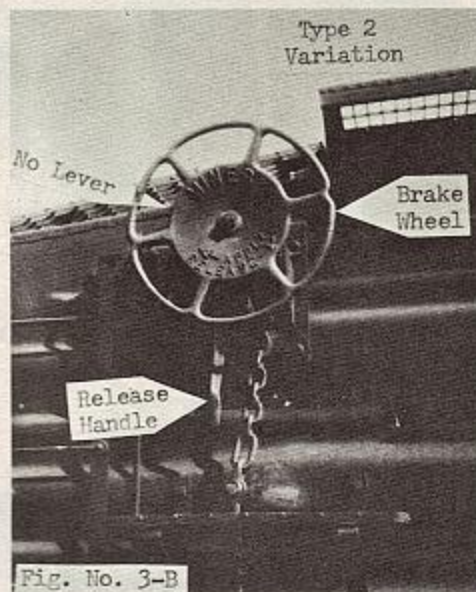


IDENTIFICATION

NOTE: A variation of the Type 2 vertical wheel power hand brake has a **RELEASE HANDLE** which when pulled upward will fully release the brake without need for handling the brake wheel. (See Fig. 3-B.)

To Apply - the same procedure as used on the Type 2.

To Release - GRADUAL RELEASE - use the same procedure as used in Type 2.

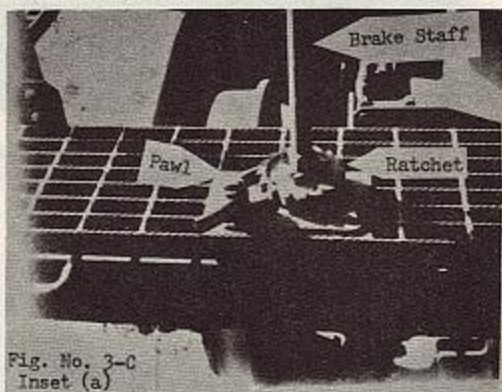
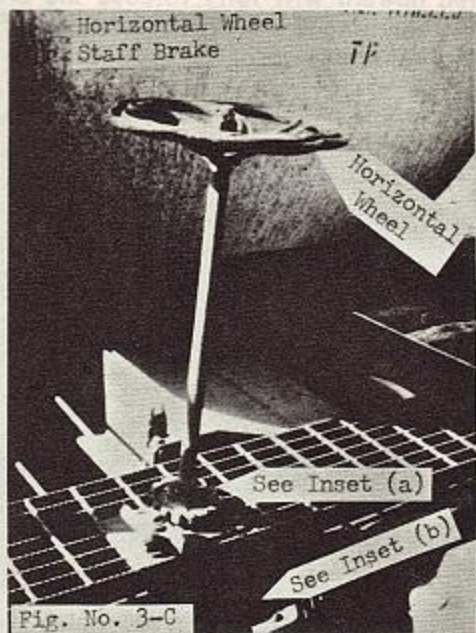


FULL RELEASE - Pull release handle upward. (See Fig. No. 4-E.)



IDENTIFICATION

Horizontal Wheel Staff Brake (a) Direct chain to staff. (See Fig. 3-C and insets.)



OPERATION OF BRAKE

Horizontal Wheel Staff Brake. (See Fig. No. 4-F.) Ratchet and pawl type.



To Apply - engage pawl in ratchet with foot, keep pressure against pawl to hold it in position in ratchet. Partially encircle brake wheel with right arm in pulling position, maintain grip with left hand on handhold. Turn brake wheel clockwise until necessary brake pressure is secured.

To Release - keep pressure against pawl with foot, being prepared to instantly engage pawl to control movement of brake wheel during release. Exert sufficient stress to release pawl without forcing it out of ratchet. Brake must be released a few notches at a time to permit slack to adjust before completing release.

IDENTIFICATION

Gear Box (chain wraps on drum). (See Fig. 3-D.)



OPERATION OF BRAKE

Gear Box - No ratchet and pawl (Chain wraps on drum).

To Apply - partially encircle brake wheel with right arm in pulling position, maintain grip with left hand on handhold. (See Fig. No. 4-G.) Turn brake wheel clockwise until necessary braking pressure is secured.

To Release - turn brake wheel counter clockwise.

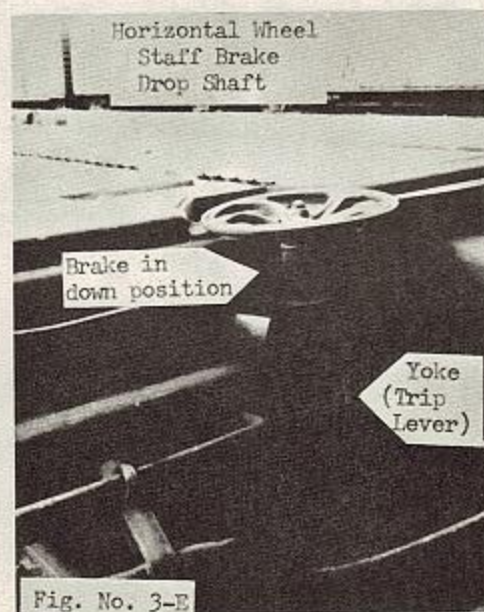


NOTE: Some horizontal wheel staff brakes are equipped with a counterweight pawl. (See Fig. No. 4-H.)



IDENTIFICATION

NOTE: Staff brakes may be of the DROP SHAFT type. (See Fig. No. 3-E.)



Shaft is held in up position (for operating brake wheel) by movable yoke (trip lever) at bottom of shaft support. (See Fig. No. 3-F.)



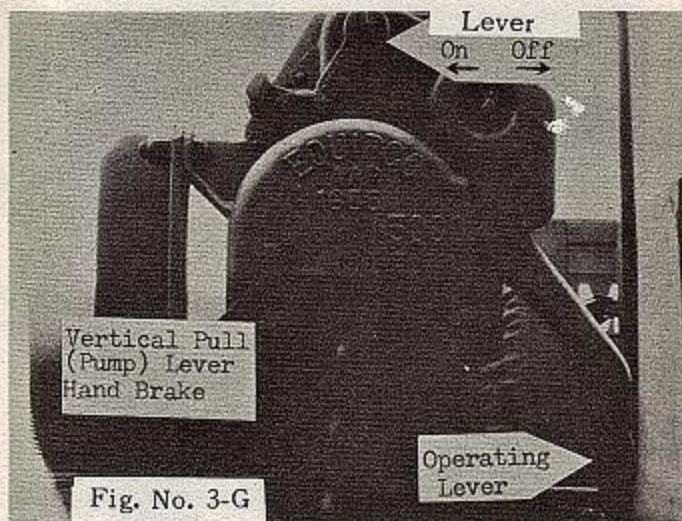
Drop shaft brakes must be fully raised and secure before operating. Care must be exercised to prevent pinching fingers during either raising or lowering procedure. (See Fig. No. 4-I.)



IDENTIFICATION

Vertical Pull (Pump) Lever Hand Brake. (See Fig. No. 3-G.)

- (a) A small lever is located on top of gear housing indicating "ON" and "OFF".
- (b) Long vertical lever is operating lever.

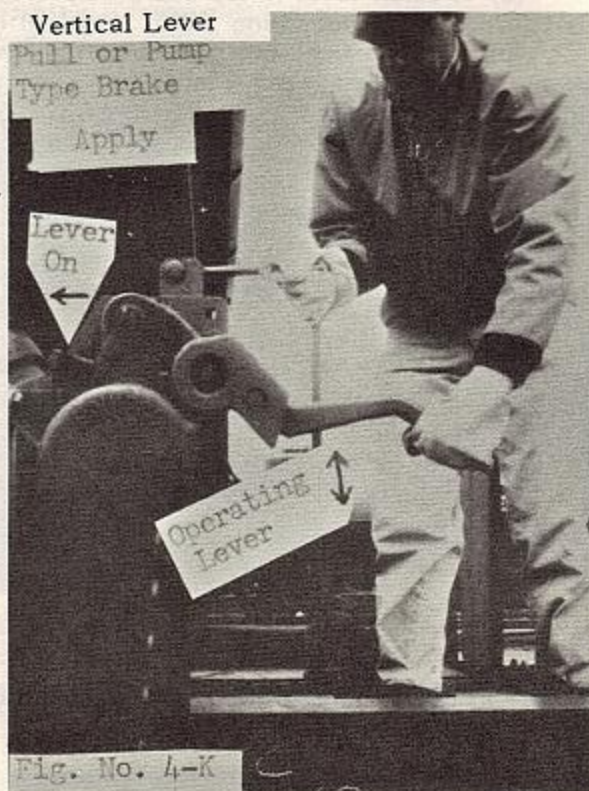


OPERATION OF BRAKE

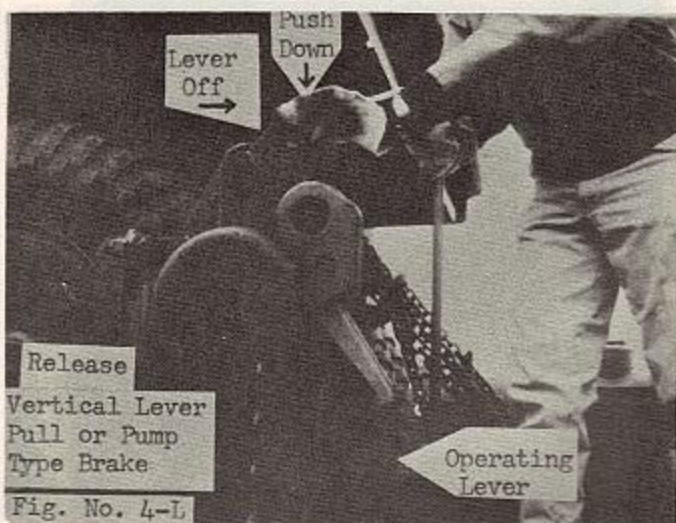
To Apply - move small operating lever on gear housing to the "ON" position. (See Fig. No. 4-J.)



Maintain handhold with one hand and move operating lever up and down until necessary brake pressure is secured. (See Fig. No. 4-K.)



To Release - Move small operating lever on gear housing to "OFF" position and push down forcefully. (See Fig. No. 4-L.)



91-S. Brake clubs must not be used on power hand brakes.

92-S. End ladders must not be used by employes to ascend or descend car to apply or release hand brake.

93-S. Thumb must always be on top or parallel with rim of brake wheel.

94-S. Bracing any part of the body against another car while applying or releasing hand brake is prohibited.

95-S. When unable to release a hand brake that had been set after air application, if practicable, follow this procedure:

1. Recharge train line of car.
2. Re-apply air brake (to relieve tension on hand brake chain).
3. Proceed to release hand brake by hand.

OPERATING TRACK SWITCHES AND DERAILS

110-S. Before operating switches, employe must give ample warning to anyone who may be repairing or cleaning them.

111-S. When operating switches, employe must keep all parts of the body clear of lever or ball to prevent being struck in the event of unexpected movement. (See Fig. No. 13.)



112-S. Place feet firmly to avoid slipping, tripping or falling. With body well braced, lift or pull steadily on switch lever. Use the stronger leg muscles rather than the back muscles when lifting or pulling. (See Fig. No. 14.)

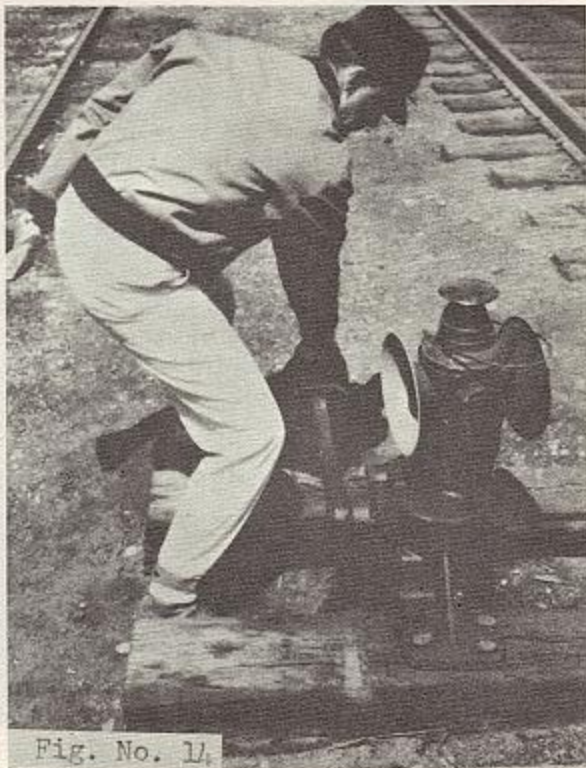


Fig. No. 14

113-S. When necessary to remove foreign material from between switch point and stock rail, a broom or similar tool must be used; never use hand or foot for this purpose.

114-S. When working on or about switches, derails or moveable point frogs within interlocking limits, employes must keep hands and feet clear.

115-S. When necessary to operate a spring switch by hand, the switch must be operated slowly keeping a steady pressure on handle. A spring switch must not be operated by hand when springs are compressed by wheels or before the points have completed their full movement after being trailed through. Employee must keep clear of handle when released.

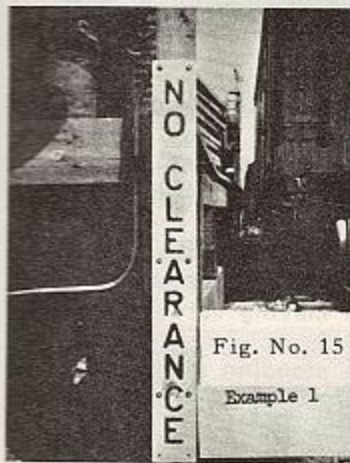
116-S. When operating derails, keep the feet and hands clear of moving parts, be well braced, have firm handgrip and use leg muscles.

GETTING ON OR OFF EQUIPMENT

130-S. When getting on or off moving equipment, employes must carefully judge the speed and if necessary, slow down the movement in order to board or alight safely.

131-S. Before riding or getting on or off moving or standing cars or engines, employes must look in both directions and know that he will clear equipment on adjacent track.

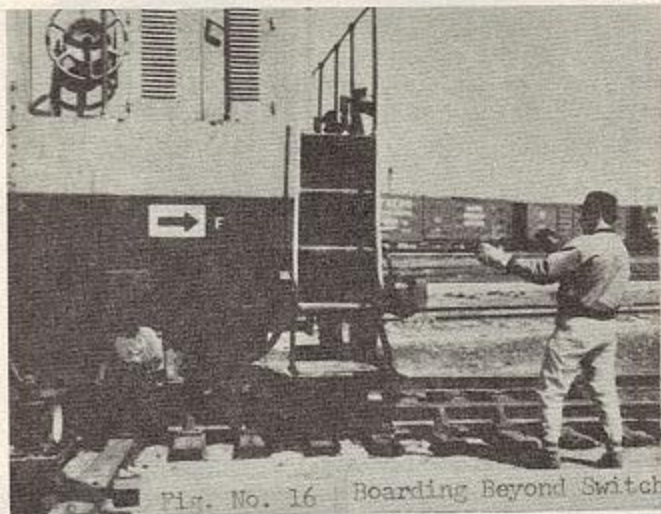
132-S. Where a sign indicating "No Clearance" is posted, employes must not ride on that side of car or engine beyond the location of the sign. (See Fig. No. 15 - Examples 1 and 2.)



133-S. When practicable, employes must always board or alight from moving engines or cars on the side where other members of crew are working.

134-S. Employes must not handle or board cars or engines that bear "Bad Order" cards without first ascertaining the nature of the defect so that the necessary precautions may be taken.

135-S. When getting on or off moving equipment near switch stands or obstructions, employes must board or alight sufficiently in advance of or beyond switch stands or obstructions. (See Fig. No. 16.)



136-S. When required to board the side of a moving car, when practicable, trainmen should select the leading end of the car. When required to ride the rear car, employes must board the rear end of the last car.

137-S. Employes must use only steps, ladders, hand rails and other standard safety appliances when getting on or off standing or moving cars or engines.

138-S. When getting off standing equipment, employes must retain handgrip until feet are firmly placed on ground.

139-S. When getting off moving equipment, employes must not alight between the rails nor on ends of ties and must always alight to clear engine or car.

140-S. When getting on or off moving or standing equipment, employes must always be on the alert for and avoid:

- (a) Stepping on or stumbling over objects.
- (b) Stepping on or stumbling over end of tie.
- (c) Stepping in depression in ground.
- (d) Stumbling over switch or rail.
- (e) Stumbling or slipping in loose gravel or similar material.
- (f) Slipping or falling on snow or ice.
- (g) Losing hand grip or footing.
- (h) Losing balance.

141-S. When alighting from moving equipment, employes should use trailing foot in direction of the movement to make initial contact with the ground. (See Fig. No. 17.)

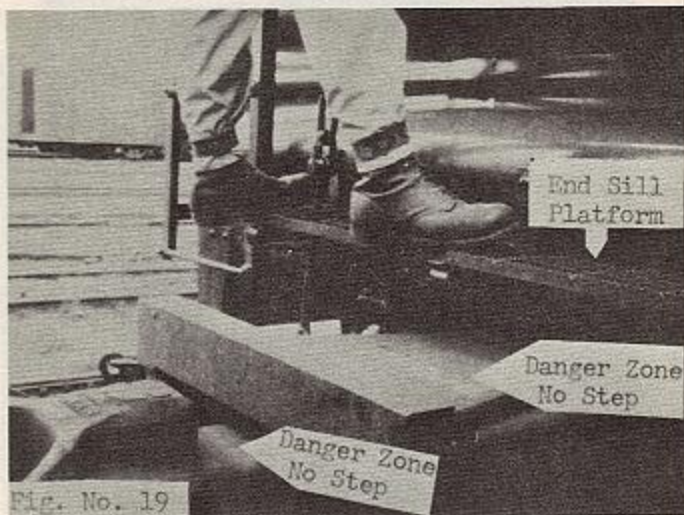


142-S. When alighting from standing or moving equipment, employes must face the equipment and have secure handgrip and footing.

143-S. Employes must board moving caboose at the rear platform except in switching operation. (See Fig. No. 18.)



144-S. Employees must not cross over drawbar between standing cars unless absolutely necessary in the performance of duty. When required, employees must endeavor to select a car with end sill platform and must avoid placing feet on any part of drawbars. (See Fig. No. 19.)



Employees are prohibited from crossing over drawbars while equipment is in motion unless equipped with an end sill platform or walkway (tank car for example).

In getting down on opposite side, turn around, use grab iron and use sill step to descend from car.

WORKING ON OR ABOUT ENGINES, CARS OR TRAINS

160-S. Employees are prohibited from:

- (1) Standing on top of cars where clearance is restricted.
- (2) Getting inside empty or loaded gondola cars or passing over the top of empty or loaded gondola cars.
- (3) Sitting in open doorway of moving equipment with feet hanging over side.
- (4) Using any unauthorized equipment or appliance when riding in engines, on cars or cabooses.
- (5) Sitting on footboard of engine.

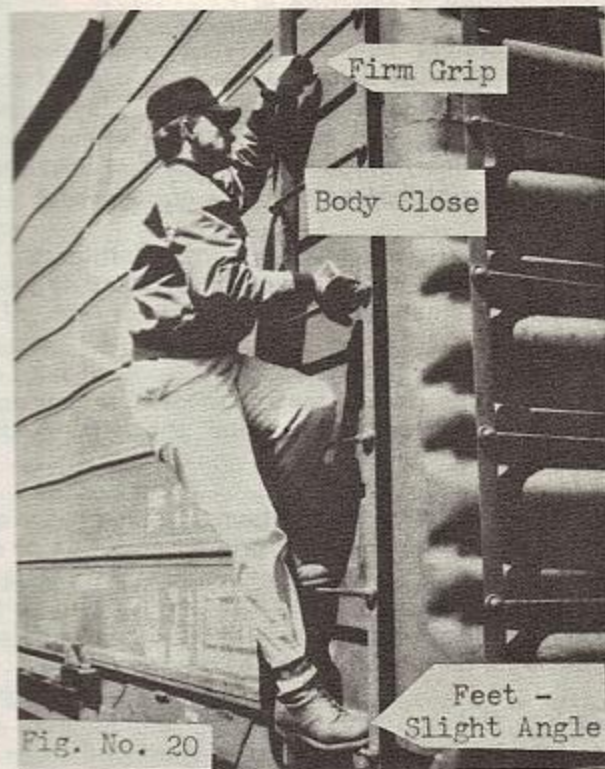
161-S. Employees are prohibited from riding:

- (1) On forward footboard or pilot steps of engine in the direction the engine is moving.
- (2) On coupler, brake beam, journal box, truss rod, brake wheel or on truck side.
- (3) On inside or ends of freight cars containing lading that may shift.

162-S. When using ladders on cars or engines, employees must:

- (a) Face the equipment.
- (b) Keep feet turned slightly sideways.
- (c) Place maximum portion of ball of foot on ladder rung.
- (d) Keep body close to ladder.
- (e) Grasp grabiron firmly.

(See Fig. No. 20.)



163-S. Employees must not place clothing, tools or other objects on ladder rungs, handhold, steps or other safety appliances on engines or cars.

164-S. When pulling cars with cables, employees must see that all persons are at a safe distance. Employees required to handle cables, hooks and fastenings must be especially careful to place themselves in a position where they will not be caught between the cable and engine or car when move is made.

165-S. When necessary to leave side doors open on a refrigerator car in loading or unloading or in switching, doors equipped with hooks must be hooked to side of car.

166-S. Employees are prohibited from walking over loaded or empty skeleton or full deck log flats.

167-S. When necessary to stand in open doorway of moving car, employes must have secure handgrip and take action to prevent door from closing.

168-S. Caboose and other desk drawers must be closed when not in use.

169-S. When necessary to operate steam heat valve at end of rear car of a moving passenger train, employe must do so by operating the handle located inside at the rear of the car.

170-S. Before opening or closing car door, employes must examine door to know it is in good condition, use door handles provided and keep hands off edge of door, door post and rail on which door travels. When opening door, stand to one side and be alert for freight or material that may fall out of doorway.

171-S. Employes riding in any position on any kind of equipment must always be on guard to protect themselves against stop, start, lurch or jerk of the equipment.

172-S. When riding steps or ladders on any equipment, employes must have a firm grip with one hand before releasing the other.

173-S. Employes on platform of standing or moving caboose must keep a firm grip on grab iron or railing at all times.

174-S. Unless equipped with hand rail, employes must not walk on running board of moving engine.

175-S. Making adjustments or repairs from side steps, footboard, running board or front end while engine is in motion is prohibited. When adjustments or repairs are made on standing engines, maintain secure footing and handgrip.

176-S. When opening or closing engine doors, employes must use door handles provided and must keep hands off edge of door.

177-S. Employes are prohibited from crossing between units while engines are in motion if not equipped with a walkway.

178-S. Avoid overflowing water and fuel tanks, particularly during freezing weather, to prevent ice or slippery spots forming on ground, grab irons or footboards of engines.

179-S. After using tools, chains or other equipment, employes must return them to the places provided.

180-S. When practicable, engines being started inside buildings should be moved outside as soon after starting as it is safe to do so.

181-S. Standing in open doorways or in passages between units is prohibited. While moving on sharp curves and through turnouts, special care must be taken when opening or closing doors and when ascending or descending stairways.

182-S. Opening knife switches or pulling fuses in high or low voltage cabinets is prohibited except when unit is isolated.

183-S. Insofar as possible, steam separators must be blown down when train is in motion away from yards, stations, highway crossings and similar locations. When necessary to blow down steam separators on standing engines or heater cars, notify employes in the vicinity and see that they are out of danger before doing so.

184-S. Electrical voltage cabinet must be kept closed while engines are under load.

185-S. The use of metal cased flashlights inside electrical cabinets is prohibited. When working on electrical equipment on a diesel engine, wrist watches, rings or other uninsulated objects must not be worn.

186-S. Appliances used in taking fuel, water or sand must be restored to proper position clear of tracks and secured.

187-S. Engines must not be moved on or off turntable or transfer table until signal is received from the operator.

188-S. Employes must know how to use fire extinguishers and must know the locations of them on trains.

189-S. Hands must be kept out of cooling fans, radiators, shutter compartments and all other equipment which engage automatically.

190-S. When engines are in service all doors must be closed.

191-S. Employes must not use fingers to wipe oil from bayonet gauge when checking the level of lubricating oil in an engine at operating temperature.

192-S. Smoking in engine room is prohibited.

193-S. The use of flag staff or other objects to open or close contacts when engines are under electrical load is prohibited.

194-S. When it can be avoided engines must not be stopped over burning fuses or open flames.

195-S. The following precautions must be taken when a generator is used to rotate an engine equipped with test cocks:

- (a) See that employes are in the clear of test cocks.
- (b) Fuel pump must be shut off.
- (c) Cylinder test valves must not be opened more than two or three turns.

196-S. Before checking traction motors or any other equipment under a unit while diesel motors are running, the following precautions must be taken:

- (a) See that generator field switch is in "OFF" position.
- (b) See that independent air brake and hand brakes are applied.
- (c) See that chains or blocks are placed at the wheels.
- (d) Remove and retain reverse lever from the controller.

197-S. Traction motor lock out switches must not be operated unless unit is isolated.

198-S. A unit will not be operated with Ground Protective Relay Knife switch open unless authorized by proper authority.

199-S. In event of fire or explosion on any unit when operating a diesel engine, train must be brought to a stop, unit involved shut down and inspection made before unit is restarted.

200-S. Before making repairs on diesel engine or generator, starting fuse must be removed. Starting fuse must not be replaced in fuse clips until it is safe to do so.

201-S. Battery acid is corrosive. Employes must not permit acid to come in contact with skin or clothing.

202-S. Employes must keep safe distance from revolving fans when making fan or radiator compartment inspection while engine is running.

203-S. Employes must not attempt to adjust or install Vee belts while the equipment is running.

204-S. The air box covers must not be removed while the engine is running. If for any reason a cover has to be removed, the engine must first be shut down for a period of 30-minutes. Keep body in the clear when taking off first air box or crank case cover. All air box and crank case covers must be in their proper position and tightened before starting engine.

FUSEES AND TORPEDOES

220-S. When using fuses, care must be exercised to avoid causing fires or burns to yourself or fellow employe.

221-S. In lighting a fusee, always move portion to be lighted across the lighting cap in a direction away from the body and turn the head away. (See Fig. No. 21.)



222-S. To extinguish a fusee, it should be tapped gently on the top of rail or similar object until the burning portion has fallen off.

223-S. Torpedoes and fusees must be stored in authorized locations and must be carried in container or rack provided on equipment or in buildings.

224-S. Torpedoes and fusees must be kept away from an open flame and where they will not come into the hands of unauthorized persons.