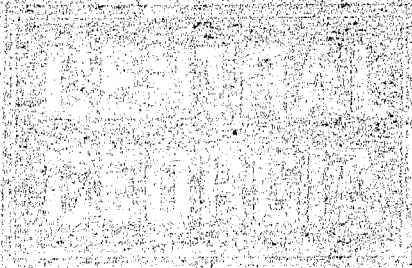


CENTRAL OF GEORGIA
RAILWAY COMPANY

SAFETY RULES



EFFECTIVE APRIL 1, 1950

**CENTRAL OF GEORGIA RAILWAY
COMPANY**

SAFETY RULES

Effective April 1, 1960

These safety rules are not to be understood as superseding any of the established rules of the different departments, but are to be accepted as supplementary thereto.

**W. E. DILLARD,
President and General Manager**

**SAFETY POLICY OF THE
CENTRAL OF GEORGIA RAILWAY COMPANY**

To provide the utmost in safety so that our patrons may travel and ship safely, and so that our employes may work under safe conditions.

To work with and encourage all employes to perform their duties safely and efficiently, and to help correct conditions arising either from unsafe practices or physical hazards.

To maintain the best possible housekeeping methods and practices, so that safe working conditions may be combined with attractive surroundings.

To review constantly our safety rules to keep them meaningful and understandable.

To insist upon complete honesty in reporting accidents and injuries in accordance with rules and regulations, and to maintain records that will enable us to measure accurately our progress toward the goal we are seeking.

GENERAL NOTICE

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

Obedience to rules is essential to safety.

Employes who habitually disregard the safety of themselves and others will not be continued in the service.

The service demands the faithful, intelligent, courteous and safe discharge of duty.

Officers and supervisors will make observations and checks and take such action as may be necessary to insure compliance with these rules.

The term "supervisor" as used in these rules applies to any officer or individual who supervises the work of others.

While the subjects treated in these rules are subdivided for convenience, they apply equally to all and must be observed wherever they relate in any way to the proper discharge of the duties of any employe.

GENERAL RULES

1. Each employe will be furnished a copy of the safety rule book, and shall keep this book readily available at all times while on duty.
2. Each employe is responsible for the safety of himself and fellow employes and will be held responsible for violation of safety rules, whether or not such violation results in personal injury.
3. Employes must be conversant with and obey the rules and special instructions. If in doubt as to the meaning of any rule, the worker must apply to his supervising officer for an explanation.
4. Teamwork is essential to safety. When working in groups, all concerned should understand the moves to be made with full consideration of safety.
5. Employes must render every assistance in their power in carrying out safety rules and must report to the supervising officer any violations thereof.
6. The new employe should be watched and assisted to acquire the safety habit.
7. Employes must keep premises subject to their control clean and orderly, and must take every precaution to guard against accident or fire.
8. Disposing of garbage, bottles, ashes or other refuse, tools or material about shops or buildings or from engines, trains or cars where there may be a hazard to safety or health, is prohibited.
9. Material must not be left with nails, screws or sharp pieces of metal protruding where they may be stepped upon or brushed against. Remove the material to a place of safety.
10. Brake shoes, brake beams, air hoses, pieces of material and other objects which will endanger

footing must not be left between or near the sides of tracks.

11. When physically able to do so, employes sustaining an injury of any kind while on duty or on company property will report the injury and the cause to their foreman, supervisor or agent as early as practicable.

12. If emergency medical treatment of an injury outlined in rule 11, is necessary after leaving the company premises, prompt report must be made to supervising officer.

13. The use of intoxicants or narcotics by employes subject to duty, or the possession or use while on duty, is prohibited. The use of intoxicants or narcotics at any time when it subjects the company to criticism or loss of good will is sufficient cause for dismissal.

14. Reading newspapers, books or periodicals, not in connection with their duties, playing games or commercial radio while on duty is forbidden. Employes must not sleep while on duty. Lying down or in a reclining position with eyes closed or covered will be considered as sleeping.

15. Employes must be suitably shod and clothed to perform their duties safely. Unbuckled over shoes, long coats, torn or baggy clothing, are dangerous. Employes engaged in work where there is a falling or tripping hazard are advised to fasten the bottom of their trousers closely around the ankles. Safety shoes are recommended. Do not allow wiping rags to hang down from pockets of clothing.

16. Employes must not wear wrist watches or finger rings around moving machinery, or while handling material, or performing work around electrical equipment.

17. Bare hands must not be used to remove broken glass. It must be disposed of properly and safely.

18. Employes must not attempt to break seals, remove hasps, open or close freight car doors, load or unload baggage, express or freight while cars are in motion.

19. Fasten raised windows, trap doors and lids securely to prevent falling.

20. To prevent heat exhaustion and sun stroke in hot weather, drink slightly cooled water generously (do not drink ice water), use salt tablets or salt in drinking water (1 teaspoon to a quart of water), and wear thin clothing.

21. Use only safe routes to or from yards, shops and stations. When possible, avoid stepping on surfaces covered with oil, grease, wet paint, or other substances creating a slipping hazard. Avoid dangerous short cuts. Be particularly cautious during cold weather against slipping on snow and ice. Don't walk on ice if you can avoid it. Do not walk under icicles. Correct this hazard over walkways by removing icicles. Except in emergency, do not walk through escaping steam or smoke which obscures vision.

22. When lighting fusees, hold end to be lighted far enough away and at an angle to prevent fire from dropping on hands, feet or clothing. Strike fusee away from body. Leave the igniting cap on fusee until it is to be used.

23. While working on locomotives, cars, scaffolds, or other elevated places, look before making a step in any direction, and avoid losing balance or slipping, tripping, or falling over fixed or movable parts, materials or tools.

24. Employees must not jump from car door, end sill, truck, bench, vestibule, platform, or other places of similar height, without breaking jump by holding on to some support and lowering the body by sitting down to shorten drop.

25. Where permission to park and operate automobiles on company premises is given, the movement of such vehicles on company premises must be at moderate and safe speeds at all times.

26. Cleanliness is the best safeguard against dermatitis or skin irritation. Apply protective cream or wear protective gloves when working with solvents, oils, chromates, petroleum base paint, creosote and cleaning preparations. Oil or grease left on the skin harbors dirt, dust and bacteria. Never wash with solvents, such as gasoline, naphtha, kerosene or turpentine, which wash away the skin's natural oil. Do not wear greasy garments.

27. Learn to recognize poison ivy, poison oak and poison sumac, and leave it alone. If you have touched poison ivy, poison oak or poison sumac, swab the skin with alcohol and scrub hard with soap and water. When burning bushes, keep away from the smoke. Watch out for poisonous insects, snakes, etc.

EYE PROTECTION

28. Proper goggles, properly fitted and in good condition, must be worn while:

a. Operating any machine or portable machine tool throwing off chips, sparks or particles (unless machine is equipped with a suction blower).

b. Blowing out dirt, dust or chips with compressed air.

c. Cutting off rivets or bolt heads and splitting nuts.

d. Sand blasting.

e. Scraping dry paint, rust or scale.

f. Spraying with compressed air.

g. Applying or removing chemical paint remover.

h. Observing heat in furnaces.

i. Heating, bucking or driving rivets.

j. Power adzing.

k. Striking metal with hard hammer or any metal tool or metal object (except driving spikes by hand or power).

l. Driving or pulling tacks or nails (at the discretion of supervisor).

m. Placing or removing material from lye vats.

n. Adding refrigerant to or removing it from cooling system.

29. Welders, cutters and burners must wear proper goggles, helmets and shields, depending on the type of work being performed. Where possible, arc must be obscured from other employes.

30. An employe who may perform any work requiring the use of goggles must keep the goggles readily available at all times while on duty.

31. All employes sufficiently near operations to be exposed to eye hazards must wear proper goggles.

WORKING ON OR ABOUT ENGINES OR LOCOMOTIVES

32. Steps, running boards, hand rails and other safety appliances must be kept free of oil, grease, sand and other materials.

33. Replace in secure positions, clear of tracks, all appliances used in taking fuel, water or sand.

34. Before moving a locomotive or when one locomotive is to be coupled to another, person in charge of work must give ample warning to other workmen.

35. Look in both directions for trains, locomotives and cars on adjacent tracks. Watch for structures or other obstructions alongside track where necessary to lean beyond the line of the locomotive.

36. White light or dimmed headlight must be displayed in the direction of movement on moving locomotive at night in shop territory.

37. Locomotive bell must be rung before a locomotive is moved, except where momentary stop and start is in continued switching movement. While locomotive is being operated, constant lookout must be maintained during movement.

38. Give ample warning by whistle and bell signals to persons on or near tracks, bridges or in cuts or curves as provided by Rules and/or special instructions.

39. A proper tag or lock must be placed on starting control panel and starting fuse removed before doing any work on diesel engine or generator. On engines not equipped with starting fuse, starting contactors must be blocked open with wooden wedges. Tag, lock or wedges must be removed only by employes applying them.

40. Diesel engines and steam heat generators shall not be allowed to run for extended periods of time in buildings or shops unless adequate ventilation is provided.

41. All safety guards, equipment, cabinet covers and ceiling hatch covers must be in place and securely fastened before putting locomotives into service. Except in emergency, covers must not be removed while engine is running.

42. Keep hands out of radiator shutters or any equipment which operates automatically.

43. When testing fuel spray nozzles, do not place hands under the spray. The fuel oil will penetrate the skin. Open flame or smoking is prohibited in the vicinity of tests.

44. Avoid putting face or hands near main generator, or any high voltage equipment, while it is working under load. A flashover may cause burns or shock.

45. When starting or testing steam generators, in diesel house, ample warning must be given to other workmen.

46. Steam generators must not be blown down and train line shut off valve must not be opened at station platforms or any location where persons are likely to be injured by live steam.

47. Cab doors, doors leading from cab to engine-room, engine room side and end doors must be kept closed except when in use. The nose door on all "A" type units must be closed, latched and both locking bolts kept in closed position.

48. The removable steps from cab to engine-room and removable cab floor sections must not be removed without providing adequate protection.

49. Electric cabinet doors must be kept closed and latched while diesel unit is in operation except when making repairs, inspections, etc. No repairs to switches, relays, contactors, or fuse renewal should be attempted while unit is under load. Additional precautions, as may be necessary, should be taken to avoid shorting of electrical equipment and electrical shock. Only qualified and authorized persons shall work in high voltage cabinets.

50. Employes must not ride top of moving diesel locomotives.

51. When necessary to shut down diesel engine because of low oil pressure, pounding, possible piston or bearing seizure, excessive smoke or odors or any abnormal condition, the engine should not be restarted nor crankcase cover removed until sufficient time has elapsed (minimum 45 minutes) for necessary cooling, to preclude possibility of crankcase explosion. Keep body in the clear when taking off first air box or crankcase cover, to prevent possible injury in the event of a delayed explosion.

52. Boarding or alighting from locomotive, cab or car with luggage or other object which might cause misstep or injury is prohibited.

53. When diesel units are isolated enroute due to a continuous wheel slip indication or a continuous ground relay action, it must be known that all wheels are turning freely as long as the isolated unit remains in the consist.

54. When checking lubricating oil level, with engine at operating temperature, do not wipe oil from bayonet gauge with fingers, as oil will be hot enough to burn the skin.

55. Wetting down cab floor is prohibited, except by designated personnel.

56. Engineroom floors, cab floors, catwalks, steps and grab irons must be kept free of oil, grease, rags, chains or other materials to avoid the possibility of slipping, stumbling or falling.

57. Cleaning fluids which are toxic must not be used unless complete and adequate ventilation is provided.

58. Ground relay protection knife switch must not be opened to prevent repeated tripping of ground relay, except in case of emergency, in order to clear main track, or on authority of proper officer.

59. When making hi-potential tests, keep persons not engaged in making tests away from the locomotive.

60. Do not place wrenches or other metal objects over batteries where they might fall and short battery terminals causing a fire or possible battery explosion. When work is being performed on the main battery switch, the battery lead should be disconnected.

61. Do not permit battery acid to come in contact with eyes, skin or clothing. If this should occur, immediately rinse with water.

62. While electrical equipment is rotating, the changing of brushes is prohibited.

63. Only authorized persons are permitted to perform work on or around diesel locomotives while engine is on load test.

64. Diesel locomotives must not be stopped over burning fusees or open flames.

65. When making fan or radiator compartment inspection while engine is running, keep safe distance from revolving fans.

66. No attempt should be made to adjust or install any Vee belts while the equipment is running.

67. When maintenance work has been performed on the locomotive, shop forces must inspect the locomotive to see that no tools have been left lying around electrical equipment or rotating equipment.

68. Locomotive crews and shop maintenance forces must familiarize themselves with the operation and locations of the emergency fuel cutoff pull rings or handles. In case of a fire on the locomotive, any of the pull rings or handles should be pulled and shut off the supply of fuel oil, thus preventing the fire from entering the fuel oil tank. The fuel oil transfer pump should also be shut off.

69. The air box covers must not be removed or tightened while the engine is running. If for any reason, a cover has to be removed, the engine must be shut down. All air box and crankcase covers must be in their proper position and tightened before starting engine.

70. Before an engine is rotated with a turning bar, engine turning jack or other device, be sure that the fuel transfer pump switch is in "OFF" position, the starting fuse is removed and the cylinder test valves (where used) are opened two or three turns.

71. Before starting the engine after the engine turning bar, turning jack or other device has been used, be positive that the turning device used has been removed from the flywheel before the "START" button is pressed.

72. If any engine equipped with test valves is to be rotated with the starter, the cylinder test valve must not be opened more than two or three turns, as there is a possibility that the high compression might force the valve out of the valve body. The

fuel pump must be "OFF" and the layshaft manual control lever held in the "no fuel" position. Do not stand in line with any of the open test valves.

73. Should traction motors or any equipment under the locomotive have to be checked while the engines are running, the generator field switch must be pulled "out," the independent air brake and hand brakes applied, and chains or blocks placed at the wheels. The reverse lever should be removed from the controller.

74. When a locomotive has been standing inoperative for some time and the air pressure is down, do not move the locomotive until the air pressure has been pumped up to the specified pressure, and it is known that the brakes apply and release.

75. Before moving locomotive it must be known that brakes are operating on locomotive by observing piston travel of the brake cylinders, that wheel blocks or chains have been removed and brakes released.

76. When diesel locomotives, with engines running, are left unattended, the generator field switch must be disengaged (if so equipped), the engine brake fully applied; the reverse lever placed in neutral position, then removed or locked and hand brakes applied. At points other than designated track at terminals the engineman will retain the removable reverse lever in his possession or put in designated place. If, in the judgment of the engineman, additional safeguards are required when leaving locomotives unattended, locomotive shall be left in charge of some competent person.

78. If the locomotive is to be left standing unattended, with the engine shut down, the hand brake must be applied and chains or blocks placed at the wheels. The throttle should be placed in

"IDLE," the reverse lever removed from the controller, switches at the engineer's stand should be opened and the main battery switch should be opened.

79. Before draining main reservoir make sure that all persons are clear of the drains.

80. Safety bars must be kept in place across all open doors.

81. Tightening joints on steam generator while under pressure is prohibited.

COUPLING OR UNCOUPLING LOCOMOTIVES AND CARS AND WORK INCIDENT THERETO

82. Walking directly in front of moving car or locomotive for any purpose is prohibited except when at a reasonable distance from equipment to be coupled.

83. Standing between the rails of a track for the purpose of getting on an approaching car or locomotive is prohibited.

84. Adjusting drawbars of moving cars or locomotives for any purpose, is prohibited.

85. If, for any reason, adjustment is necessary to a drawbar, knuckle, knuckle pin, or locking-block to make coupling, or when coupling does not make, the locomotive or cars must be separated a reasonable distance before going between to make the adjustment.

86. Before going between standing locomotives or cars, employes must:

a. Have clear understanding about protection against movement.

b. Wait until slack has adjusted.

c. If cars are on grade, know that they are secure.

d. Look in both directions to see whether locomotives or cars are approaching.

87. Signal to move locomotive or car must not be given when anyone is between cars or between locomotive and car; nor should engineman accept signal to move when it is known anyone is between cars or between locomotive and car.

88. Use lever to couple or uncouple. If lever is inoperative, have proper understanding and full protection before going between cars to use or examine lift pin.

89. Employes must not use both hands on Push down style uncoupling lever or place full weight with either one hand or both feet on such lever while cars are in motion. If the lever cannot be operated with one hand or foot, equipment must be brought to a stop.

90. Employes must not place thumbs or fingers in bottom hole of coupler to adjust lock pin, except when lock pin cannot be dropped, then extreme precaution must be taken to avoid injury.

91. Before stepping from between standing locomotives or cars, be on the lookout for equipment in motion on adjacent tracks.

92. Opening the angle cock at the front end of a moving car, in any manner, or going between cars or a car and locomotive while they are in motion, is prohibited except in case of emergency.

93. Before uncoupling air hose, have both angle cocks on brake pipe closed and have a firm hold on hose; gradually break connection to reduce pressure remaining in hose before completing uncoupling. Turn face slightly sideways to prevent

air escaping from hose from blowing particles in eyes.

94. Before reducing brake pipe pressure with angle cock, hold hose firmly with one hand.

95. When cutting off cars from the ground, care must be used to avoid stumbling or falling.

96. When cutting off cars from the sill step; on cars equipped with push down type lever, maintain firm hand hold with both hands, push down on uncoupling lever with one foot, keeping one foot on stirrup. On cars equipped with pull type lever, keep both feet on the stirrup, retain firm hold with one hand and lift lever with other hand. Keep body close to side of car and ride "free" car when practicable.

97. Before uncoupling steam connection, close valves on both sides of joint and relieve pressure by tapping on under side of head.

98. When removing steam connection from carrying chains, keep hands and other parts of body clear of end of connection to avoid burns from hot water that may have accumulated.

99. Place and fasten vestibule gates, chains or bars and unfasten diaphragm curtains before uncoupling or separating passenger equipment.

100. Employes must not step from one car to another after cut has been made between them.

101. Stepping from one car to another which has just coupled, before it is definitely known that coupling has been made, is prohibited.

102. Cars on industry, team, freight house tracks or other tracks where cars are being loaded or unloaded, must not be moved, until it is certain that all gang planks, boards, oil tank couplings,

elevator spouts and similar connections are removed and clear, and that all persons working in or about the cars have been warned. When such cars are disturbed in switching they must be replaced and hand brakes applied.

103. Cars left on tracks must be properly secured and clear of all tracks so they will clear a man riding on side of car on an adjoining track. If a car is set out with defective brakes, the wheels must be securely chocked. When brakes are found defective and car is left chocked, proper report should be made to dispatcher or other proper officer.

104. Cars must be left as far from public crossings as conditions permit so best possible view of approaching trains is provided. Cars must never be left projecting over line of public crossings.

105. When necessary to cut a train to open a public crossing, cars should not be left within 50 feet of either side of the crossing when practicable, and a trainman must, when practicable, protect crossing against approaching trains.

106. Where work or outfit cars are found on tracks, crews must consider them as occupied and conductors, trainmen or yardmen will be held responsible for safe handling.

107. When coupling to occupied passenger equipment, or camp cars, care must be used to avoid injury to occupants. Fasten diaphragm curtains as soon as coupling is made.

OPERATING HAND BRAKES

108. Take proper position on car as required by type of hand brake to be operated. Have a secure footing and firm hold to prevent slipping, falling or body strain.

109. Observe closely condition of brake wheel, lever, pawl and ratchet for defects before operating hand brakes.

110. When cars are left standing on tracks, sufficient hand brakes must be applied to prevent their rolling out and fouling other tracks. When conditions require, wheels must be chocked.

111. When necessary to control the speed of cars by hand brakes, they must be tested before cars are cut off except in classification yards or when making up or breaking up trains.

113. Never use a brake club on a vertical or power brake.

114. Before applying heavy stress on brake club, test it to know that it is in firm position in wheel. When movement permits, any stress on horizontal brake wheel, with or without club, must be toward the car. Apply pressure steadily and without jerk.

115. When releasing staff brake wheel, with or without club, apply sufficient stress to release dog without forcing it from ratchet; if impossible to do this, obtain help; be prepared to engage dog instantly to prevent wheel from spinning. Release brake a few notches at a time to permit slack adjustment before completing release.

116. Vertical or power hand brakes should be operated with the right hand. The left hand must be on the hand hold or ladder rung, and not the wheel, and the use of foot in the brake wheel to apply pressure is prohibited.

117. When releasing brake equipped with lever control release or other device, keep all parts of your body clear of revolving mechanisms.

118. Do not swing from side ladder to end ladder until body has reached point level with brake platform.

119. Step on end ladder and retain a secure hand hold when going from side ladder to brake platform.

120. Using any part of adjacent car for foot rest when applying or releasing brake is prohibited.

OPERATING TRACK SWITCHES AND DERAILS

121. Look in both directions for moving equipment on adjacent tracks and keep clear of it.

122. Keep body in position where it will not be struck or caught between engines or cars and switch lever or stand.

123. Keep all parts of body clear of switch lever travel to avoid being struck. Keep hands and feet in positions where they will not be caught by lever, ball, or derail.

124. Stand with feet in a secure position. Lift with legs, rather than applying strength with back to avoid strains and sprains.

125. Before operating switches, warn employes who may be repairing or cleaning them.

126. Employes must not unlock nor stand within twenty feet of a main track switch on the approach or during the passing of any train, and when practicable, will stand on the opposite side of the track from the switch stand.

127. Main track switches and others provided with locks must be kept locked when not in use.

128. Derails, except when track is being used, must be kept in derailing position and locked whether or not there are cars on the track on which they are located.

129. After using a switch, it must be seen that points fit properly and switch properly secured.

130. Employes must report switches found out of order or improperly lined, or locks missing or defective and when conditions require necessary safeguards must be provided.

GETTING ON AND OFF LOCOMOTIVES AND CARS

131. Employes must not get on or off moving equipment, except in the necessary performance of their duty.

132. Getting on or off locomotives or cars moving at an unsafe speed is prohibited.

133. When getting off moving equipment, maintain firm hand hold, be sure that footing is secure, look for ground irregularities, step clear of tracks, see that there is no immediate movement on the adjoining track and that no part of clothing is caught on equipment.

134. When getting off standing equipment, retain hand hold until foot is placed firmly on ground or other support.

135. Get on and off moving cuts of cars and cabooses at rear when practical.

136. Employes must use only steps, ladders, hand holds and other standard safety appliances when getting on or off moving engines or cars.

137. When getting off locomotive or car equipped with vertical steps or ladders, or stepping from roof of car to brake platform, face the equipment and place ball of foot firmly on step, ladder, brake platform or other support before placing all of weight on foot.

138. When getting off or on moving equipment near switch stands or other objects, get off or on sufficiently in advance of or beyond them to avoid striking them.

WORKING ON LOCOMOTIVES, CARS OR TRAINS

139. Employes must not ride on locomotives or cars except in the performance of duty.

140. Not more than one man will be permitted to ride on footboard, either side of coupler on forward end in direction locomotive is moving.

141. Riding drawbars of locomotives or cars is prohibited.

142. Standing on footboard between locomotive and cars that are being pushed is prohibited.

143. Employes must not stand or place arms, legs or other parts of body on or between end or side of car body and lading that is likely to shift or where there is a danger of being struck or caught by car equipment such as doors, hangers, rollers or other appurtenances.

144. When necessary to ride on top of cars, employes must place themselves in a safe position, as near the center of car as practical. A lurch or jerk must be anticipated.

145. Employes must not sit on side or end of moving car and must not stand on top of moving car near side or end, except when it is necessary for them to ride end of car to operate hand brake or back up hose or come down from car.

146. Employes must not jump from roof of car to open car, such as gondola or flat car, nor to top of car or locomotive on another track.

147. Employes must not sit on footboard or steps of standing locomotive or stirrup of standing car; they must not sit or lie under cars except in the performance of duty.

148. Lookout must be maintained in direction locomotive or car is moving to avoid coming in contact with structures alongside or over track or with cars, locomotives or trains on adjacent track. When vision is obscured and you are not sure of location, stay in the clear.

149. When locomotive, car or train is entering or passing through yard or at other places where it is known it is likely to stop or reduce speed, have firm hand and footholds and be seated, if possible, to avoid injury from sudden starting, stopping, lurch or jerk.

150. A secure hand hold must be maintained while riding car ladder or trailing footboard of locomotive.

151. Sitting or standing on hand rails, or uncoupling rods of locomotives or cars is prohibited.

152. Employes must not ride on brake wheel and must not ride between cars or between locomotive and car with one foot on locomotive or car and the other on adjoining equipment.

153. Employes must not stand in open doorway of moving equipment without first having door securely fastened and having a secure hand hold and must not sit in open doorway of moving equipment.

154. Before working or riding inside drop end gondola cars with its end up or climbing over its end, the end must be securely latched.

155. Riding on or astride the raised end of a drop end gondola car or using drop end of a gondola for hand hold is prohibited.

156. When using poles, chains, ropes or cables to move equipment, employes must place themselves in a safe location to avoid injury.

157. When adjusting piston travel or making any repair to brake rigging on locomotives or cars, employes must make sure the cutout cock in brake cylinder pipe is closed. On all cars, when making any of the above adjustments or repairs, the employe will comply with air brake rules. After repairs are completed cutout cock must be opened.

158. Riding on side of locomotive or car or leaning beyond line of cab or car while it is being moved over turntable or in or out of shop, fueling stations or wash racks is prohibited.

159. Caboose desk drawers and closet doors must be closed immediately after being used.

160. When passenger cars are ready for movement, close and fasten doors unless cleated open for ventilation.

161. Train and locomotive crews must observe trains on adjoining tracks and note hot journal bearings, loose doors or anything protruding that might strike roadway facilities, or a train on another track, and if they observe anything out of order they should notify the men upon the train by proper signal and the train dispatcher when practicable.

162. Trainmen and enginemen must be on the lookout for signals from employes or others at all times.

163. Train crews will inspect their train where stopped for operating reasons when time permits.

164. When going up or down ladders on cars or locomotives, feet should be turned slightly sideways and the ball portion of each foot should be placed

firmly on each ladder rung, with body as close to equipment as possible.

165. Carefully observe the condition of lading of cars containing lumber, poles, pipe, scrap or other such material; watch closely for doors swinging, slats or wires protruding from side of cars, pulpwood, or other obstructions which are likely to cause injury, and either remedy them or set out car.

166. Employes must not use end ladder of moving car or car about to be moved except where side clearance is too close to permit use of side ladder.

167. Before leaning beyond the side of locomotive or caboose, look in both directions for equipment on next track and for close clearance alongside track.

168. Leaning beyond side of moving passenger cars to operate steam heat valves located on the outside of platform, is prohibited.

169. Walking on running board of moving locomotive, except those equipped with running board hand rail, is prohibited.

170. Making adjustments or repairs from side steps, footboards, running boards, or front ends, while locomotive is in motion, is prohibited.

171. When adjustments or repairs from side steps are made on standing locomotives, maintain secure footing and hand hold.

172. Wrench must not be used to hold door winding mechanism, and fingers must not be used to release pawl from ratchet. Pawl must be knocked loose and door opened with proper wrench.

174. Placing hands or fingers in jamb or on frame of drop bottom or hopper car door or using hands to swing or close hopper door with Wine

type lock is prohibited. When closing drop bottom door with Wine type lock:

a. Make sure that persons on other side of car are clear of door.

b. Grasp flange or angle on side of car to keep from losing balance.

c. Put foot on push or locking casting (of door) where it is corrugated for this purpose. Have other foot firmly placed to avoid slipping.

d. Push or swing the door in second notch until door is engaged in the first notch of the lock.

e. Use bar to engage door in second notch or closed position. Have bar carefully placed and brace body to avoid falling if bar slips.

175. While opening or closing car doors, keep fingers clear of edge or jamb of door, casting or rail on which door travels. Keep body clear of opening made by door to avoid falling freight.

177. Employes must not attempt to remove brake cylinder head or piston without having piston rod-sleeve clamped to prevent spring from suddenly dislodging head.

178. Keep hands and fingers out of journal box except when necessary to make thermal inspection. Use packing hook, tong or other suitable device to adjust brass or wedge.

179. Interstate Commerce Commission Regulations, as well as current instructions, must be observed when repairs are to be made to empty tank cars. Under no circumstances should one enter a tank car until it is definitely known that car is free from gases, fumes, flammable materials, etc. An employe entering a tank car must display a caution sign at the point of entrance reading "MAN

IN CAR" which sign must not be removed by other than employe placing the sign.

180. When unloading ballast or other material from dump cars, extra precaution must be taken to avoid falling through dump opening. After the unloading, dump doors must be closed and latched.

181. Clothing, tools or other objects must not be placed on ladder rungs, footboards, running boards, stirrups, hand holds, or other safety appliances on cars, engines or work equipment.

182. A blue flag displayed at one or both ends of an engine, car, or train, indicates that workmen are under or about it; when thus protected it must not be coupled to or moved. Each class of workman will display the blue signals and the same class of workmen are alone authorized to remove them. Other equipment must not be placed on the same track so as to intercept the view of the blue signals, without first notifying the workmen so that they can relocate the blue signals to include such equipment.

183. The standard blue flag will be of metal and will be used at all points, except when men are sent to an intermediate station, a cloth flag may be used by day and a blue light by night.

184. When emergency repair work is to be done under or about cars in a train and a blue signal is not available, the enginemen will be notified and protection must be given those engaged in making repairs.

185. All tracks regularly or temporarily assigned to repair of cars must be protected for such use by a blue signal placed at each end and, in addition, switches must be locked with private lock.

186. On such assigned tracks the blue signals will be placed between the rails at the switch end

of a spur track and at each end of a double end track and always inside of frog clearance of the track where protection is required.

187. Before tracks assigned to repair of cars are switched, yardmen must know that all employes are out of danger.

188. When switches to tracks regularly or temporarily assigned to the repair of cars cannot be locked, or positive protection secured without interfering with switching movements, a hand operated derail should be installed.

189. Cars on industry, team, freight house tracks or other tracks where cars are being loaded or unloaded, must not be moved, until it is certain that all gang planks, oil tank couplings and similar connections are removed and clear and that all persons working in, on or about the cars have been warned. When such cars are disturbed in switching they must be returned to the same place as found and hand brakes applied.

195. When moving car by hand, have handle of car mover slightly out of line with rail and avoid catching fingers.

WORKING ON OR ABOUT TRACKS

196. Trains, engines and cars must be expected to run at any time, on any track, in either direction.

197. Employes whose duties require them to work near main tracks, running tracks in yards, car repair tracks and similar places must at all times be on the alert for moving engines, cars or trains, and, in severe winter weather, must not dress in such manner as to interfere with vision or hearing, or the free use of hands and feet.

198. Stepping on, or walking on the ball of rails, frogs, switches, guard rails, interlocking machinery or connections except when absolutely necessary is prohibited.

199. In passing around the ends of cars on any track, employes will keep at least fifteen feet away from the end of car or cars except when such cars are on tracks which are properly protected. The same care must be exercised in passing around the ends of engines except when such engines are in engine houses, or when they are properly protected.

200. Keep a careful lookout for obstructions, holes and openings, to prevent tripping, slipping, falling or turning ankle. While walking or running, if necessary to look back, stop before doing so.

201. Keep a safe distance from passing cars or engines, to avoid injury from falling objects or projections on equipment.

202. Walking, standing or sitting on track, except when necessary for the proper performance of duty, is prohibited.

203. When necessary to walk or work on track, keep a sharp lookout in both directions for approaching trains, engines or cars.

204. Look in each direction to make sure there is no approaching engine, car or train before stepping on or crossing tracks. Walk straight across when possible to do so.

205. Do not lean against standing cars or engines, since unexpected movements of these may result in falls.

206. Employes must not sit or lie under or cross under or between cars except as required in performance of their duty, and then only when proper protection is afforded.

207. When walking out of doorways or around corners, or when going around obstructions that necessitate entering upon or crossing tracks, look in every direction necessary to know that the way is clear.

209. Track work that will interfere with the safe passage of trains at normal speed must not be undertaken during blinding storms, or in fog, steam or smoke except in emergency, and then only under proper protection.

210. Before work on track is started, the foreman or employe in charge must have an understanding with his men where they will go when it is necessary to clear passing trains, engines or cars.

211. The foreman or employe in charge must—and other workmen will, as consistent with their work—be alert and watchful, and keep a lookout for approaching trains, engines or cars, and give warning upon the approach of trains, engines or cars in time for all to reach a place of safety.

212. Employes must have an understanding with the person controlling movements, and know that protection has been provided for them before performing, or permitting work to be performed which necessitates going over or between engines or cars, or which necessitates fouling engines or cars.

213. Entering or departing from work cars when such cars are placed adjacent to and less than twenty (20) feet from the ends of ties of the main track must be by end doors, or side doors on side away from the main track. Screen doors must be kept fastened at all times except when in use.

214. All employes will, as far as practicable, observe passing trains for defects, such as brakes

sticking, brake rigging down, hot journals and protruding objects, and will notify train crews of observed defects by giving them proper signals. If a dangerous condition is observed, and it is impossible to give a proper signal to the train crew, the train dispatcher must be notified as quickly as possible. If nothing irregular is noted, they will give proceed signal to the rear of passing train.

PITS AND EXCAVATIONS

215. Covers for drop pits, manholes and other openings must be kept in place when those openings are not in use.

216. Employes must place a suitable guard, or assign a person to protect open manholes, pits or other excavations near tracks, and at other places where a person might walk.

217. Keep a safe distance from edge of pits and excavations except when necessary for construction or inspection.

218. Before entering, or permitting any employe to enter any pit containing machinery, the foreman, or other person in charge must personally see that power switch to machinery is in "OFF" position, and that a sign reading "DANGER—DO NOT OPERATE" has been securely placed on switch. Sign will be removed only by the person who placed it.

219. Employes must not enter a sewer, manhole or oil tank without having another employe at the opening to render assistance if necessary. If gas is present or suspected, ventilation must be provided before entering.

220. Employes must not step or leap over pits or excavations except where it is necessary to step over small excavations in connection with work being performed.

BUILDINGS, PLATFORMS, SCAFFOLDS AND LADDERS

221. Employes must not stand on or climb upon insecure objects, subjecting themselves to falls.

222. Trucking over transfer plates, bridges or gang planks improperly placed or secured is prohibited.

223. Use care in placing or moving gang planks and skids. Look for persons on ground between cars before placing skids between cars and platform.

224. Sawdust or sand should be used as protection against slipping when platforms, steps, transfer plates, bridges or gang planks are wet, frosted or greasy.

225. Have freight, express, baggage, mail and material securely stacked and loaded to prevent shifting or falling from trucks and platforms.

226. Do not stow freight in doorways of cars in such manner that will obstruct the opening of doors, or cause injury from falling freight.

227. Trucks must not be moved on or off elevator before elevator has completely stopped level with floor.

228. Mail, baggage or express must not be loaded or unloaded while train or cars are in motion unless otherwise provided by special instructions.

229. Face what you are climbing. Use both hands, and make certain of secure hand-hold and firm footing when climbing on scaffold, trestle, ladder or other object. Carrying tools, equipment or other materials preventing secure hold, or interfering with safe movement while climbing must be avoided. If

your shoes are muddy or otherwise slippery, clean them before you climb.

230. When work is performed on overhead structures, the danger zone must be roped off, or other measures taken, where practicable, to prevent objects' falling on persons obliged to walk underneath.

231. Employes must not unnecessarily walk or stand under work in progress overhead where tools, materials or other objects are likely to fall. When necessary to take such a position, notify man above of your presence.

232. Objects must not be dropped from an elevation without knowing it is safe to do so. Hand line must be used when it is unsafe to drop anything.

233. Employes working overhead must be careful to prevent tools or materials from falling.

234. When work is completed, tools and material must not be left overhead. Temporary scaffolds must be removed as soon as they are no longer needed.

235. Employes must not run up or down stairs, through halls or passageways, or around corners.

236. When ascending or descending stairways, keep hands out of clothing pockets, know that footing is secure, and use a hand rail where one is provided.

237. Runways, horses, ladders and scaffolds must be tested, and properly placed before being used.

238. Place portable straight ladders so that the distance from the base of the ladder to the object against which it is to be leaned is at least one quarter of the ladder's length, if possible. When impossible to so place the ladder, it must be lashed or otherwise secured.

239. All portable straight ladders should be equipped with safety shoes or spikes.

240. Do not reach unduly far to the side while on a ladder; move it to where you need it.

241. Do not start to ascend or descend a portable ladder while another person is on it.

242. Moving a ladder while someone is on it is prohibited.

243. Jumping from a ladder, or sliding part way down is prohibited.

244. Ladders must not be placed on blocks or other insecure foundations.

245. Never use a step ladder with legs closed as a straight ladder.

246. Before using a step ladder, open it to its maximum spread and set spreaders.

247. When climbing an extension ladder, inspect hooks before climbing above them.

248. When a ladder is placed at a location where it is likely to be struck by persons or vehicles, assign an employe to guard it, or provide other protection. When a ladder is placed within the arc of a swinging door, lock or otherwise secure the door.

249. Rope, wire, chain, tackle or other objects must be kept clear of passing trains when work is in progress on a bridge, ladder, scaffold, or other elevated structures or objects.

250. Cross-grained or other unsuitable material must not be used for scaffolds. Rope and tackle scaffolds which have been stored or shipped must be thoroughly tested for deterioration or damage each time, before being used.

251. Scaffolds must be built to sustain four times the anticipated load.

252. Using scaffolds or platforms made of loose plank not equipped with end stops, to keep them from sliding or coming off the supporting trestle, horse, brace, or bracket, is prohibited.

253. If practicable, permanent and temporary scaffolds must be equipped with guard rails or guard ropes.

254. Safety belts or guard ropes, except when scaffolds or other protection is provided, must be used when working:

- a. Outside of windows
- b. on steep-pitched roofs
- c. On steep hillsides, cliffs or embankments.

HANDLING MATERIAL

255. Employes must see that material stored along tracks, and at stations is neatly piled, and the right of way and station grounds are kept in a tidy condition. Material must be stored a sufficient distance from all tracks to insure safety.

256. Keep hands and feet in a position where material or equipment being handled cannot fall on or against them.

257. Keep hands and feet clear of rollers or dollies under load; push from the rear when practicable.

258. Do not carry loads so high that they obstruct vision.

259. Use a sledge or other suitable object to adjust or shift rollers under moving objects. Never use hands or feet.

260. When handling heavy material, employes should work in unison, using methods and signals

agreed upon in advance, and exercising special care to avoid injury.

261. When handling wire, copper or steel cable, etc., use care to prevent uncontrolled ends from striking and cutting the body or face.

262. Special care must be taken to prevent injury when piling, poles or other long material is unloaded from cars. Before fastenings are cut or loosened, necessary precautions must be taken to prevent lading from becoming dislodged.

263. Before removing material or supplies from, or placing them in keg, barrel or box, see that protruding nails, staples, and loose ends of metal bands or wire have been removed.

264. Lifting beyond normal physical capabilities is prohibited. Avoid jerking or lifting from twisted positions, and obtain help to lift or handle heavy or cumbersome objects. When lifting:

- a. Have secure footing
- b. Bend the knees and keep the back erect
- c. Take a firm grip on the object, and slowly straighten the legs.

265. When two or more employes handle heavy or bulky material or objects:

- a. Designate one employe to give commands for all movements.
- b. The employe designated to give commands must fully inform those assisting just what is to be done, and what the words of command will be.
- c. When practicable, avoid walking backwards.

266. Use tie tongs wherever possible for the handling of ties. On ties with rounded sides, apply

the tong points below the center of the rounded portion.

267. Keep the tongs sharpened to prevent slipping.

268. When tie tongs are not available, and ties must be handled by hand, rub sand or dirt into your gloves or mittens occasionally to prevent slipping.

269. Do not use picks or shovels to handle ties, either when placing or when removing them.

270. When loading rail on cars by hand, keep in a position where rail will not strike any part of your body if it gets out of control.

271. Skid rails should be of approximately the same length, so that the rail being loaded can be shoved over the ends of both skids at the same time.

272. Do not insert picks in bolt holes to turn or drag rails.

273. Use tongs to carry rails, frogs, switch points or guard rails, when practicable.

274. Roll heavy objects, such as mounted or unmounted wheels, drums, etc., from the rear, and never from the front except when rolling them up an incline by use of a rope.

275. Watch for splinters and sharp edges on iron, pipe, wire, nails, etc., and keep your hands away from them. When handling material with sharp edges, protect your hands with gloves. Also be on the lookout for splinters or nails which may injure your feet or legs.

276. Before standing on a baggage truck, secure it against movement.

277. Park express and baggage trucks not being loaded or unloaded parallel with the track, and at a sufficient distance to clear man on side of car; fasten the handles in an upright position, and secure the trucks against movement by chaining or staking.

WELDING AND CUTTING EQUIPMENT

(In addition to the rules below, instructions of department officers and manufacturers of equipment must be observed)

278. Wear clothing and shoes that will give full body protection when performing gas or electric cutting or welding operations. Wearing torn, oily or greasy clothing when cutting by gas or electricity, or when performing welding operations is prohibited.

279. Employes must not look at welding operations without using a proper shield over eyes. Wear helmet, or goggles, or use hand to shield equipped with prescribed protective glass while using electric or oxy-acetylene welding or cutting tools. Never use a cracked filter glass or helmet.

280. Use proper screens when electric or oxy-acetylene welding or cutting except when the work is being done at locations where the safety of employes and property is not endangered.

281. A fire extinguisher should be on hand at all welding jobs in, around or on buildings, or structures, or where flammable materials are present.

282. Electric welding machines must be properly grounded when connected to power switch.

Safety switch must always be in "OFF" position before inserting or removing the welding plug from receptacle.

Whenever a welder leaves his work, he must shut down his machine; and, also, see that electric holder and lead are properly placed to prevent short circuiting.

283. Do not run over hose lines or electric cables with trucks; do not drop anything on hose that might cause leakage.

284. Hose assigned for use on acetylene welding or cutting equipment must not be used for any other purpose.

285. Before cutting through a sheet, plate or other part, be certain that no person is on the other side.

286. Welding or cutting outfits must not be left under suspended load.

287. Employes must not attempt to repair gas cylinders or valves. When defects are detected, report must be made to supervisor.

288. Cutting, welding or heating must not be performed on a container, drum or similar object until it has been properly vented to permit escape of gas or air.

289. Torch must not be operated on or near a receptacle where gas may be generated from oil, grease or gasoline, or where fumes from torch may accumulate.

290. Leaking hose or connections must not be used on gas cylinders.

291. Hose must be disconnected from tanks before repairs are made to hose.

292. Except for momentary suspensions of work, valves at tanks must be closed when torch is not in use.

293. Oxygen must not be used as a substitute for compressed air, or as a source of pressure.

Never use oxygen directly from a high-pressure cylinder; but always attach a pressure-reducing regulator.

Never attempt to transfer oxygen or acetylene from one cylinder to another.

Never use pipe fitting compounds, white lead, oil or grease for making connections.

294. Cylinders must not be roughly handled.

Cylinders containing oxygen should be placed well away from cylinders containing combustible gases, and oil, paint, stoves, radiators, furnaces, etc.

Never allow cylinders to come in contact with an electric arc, live wires or ground connection from electrical equipment.

295. Cylinders must not be lifted or transported by hoisting equipment except when a proper cradle is used. They must never be handled by magnet.

296. Leaking cylinders must not be used. When cylinders are found leaking, remove them immediately to open air, and keep them clear of anything that will cause gas to ignite.

297. Acetylene cylinder valve key must remain on valve post while cylinders are in use.

Never open an acetylene cylinder valve more than one and one-half (1½) turns.

Use proper wrenches for coupling any part of oxy-acetylene apparatus. Never use pipe wrenches.

When apparatus is applied to a cylinder or a piped oxy-acetylene installation, open each valve or torch for a few seconds to clear the hose of any mixture of gases. This will prevent backfire (Backfire—when the flame goes out with a loud pop).

298. All Torch Operators will light their own torch, using only friction lighters.

Change or adjustment of pressure must not be made with torch valve closed.

Do not use acetylene from a piped shop installation after acetylene generators are shut down.

Never, under any circumstances, inject acetylene or a mixture of acetylene and oxygen into a stove, confined space or hole for the purpose of lighting flame from previously heated metal or coals.

Never use free acetylene gas at more than 15 lbs. pressure, nor, under any conditions, compress free acetylene to more than this pressure.

Suitable clearance must be maintained around all oxy-acetylene station outlets and oxy-acetylene cylinders, so that operator can shut valves in case of emergency.

299. All acetylene cylinders should be kept in an upright position, when stored and when in use.

300. In oxy-acetylene cutting of twisted rail or other steel parts resulting from a derailment or wreck, special precautions must be taken to keep personnel from being struck by severed parts. Care must be used to avoid starting fires to contents of derailed cars.

301. In using oxy-acetylene blowpipes on bridges or other structures, care should be taken to avoid setting fire to brush, grass, or weeds under or about the structure. Brush should be cleaned out, or cautiously burned prior to the start of work.

302. Before leaving an area where work has been done, special attention should be given to ascertaining that all fire hazards have been eliminated.

WORK EQUIPMENT AND MACHINERY

303. The operation of motorized shop and station equipment, or machinery by others than those qualified and authorized is prohibited.

304. Unauthorized persons must not be permitted to ride on motorized shop and station equipment, or machinery.

305. Fork lift equipment is not, under any condition, to be used in place of ladders or scaffolding. Standing, riding or lifting of personnel on forks, pallets or skid boxes is prohibited.

306. Make daily inspection of trucks and tractors to see that they are in good working order.

307. Speeding and reckless driving are prohibited. Care must be used when rounding corners, and passing doorways and congested places.

308. Face in the direction of movement when operating tractors or trucks.

309. Leaving trucks and tractors where they foul tracks is prohibited.

310. Gasoline driven vehicles must not be fueled while engine is running.

311. When operating self-propelled tractor or truck, sound alarm when necessary to pass persons working or walking, and when approaching doorways, passageways or corners.

312. Riding on truck tongues, on coupling devices, or between coupled tractors and trucks, or between coupled trucks, or at other places where footing is insecure is prohibited.

313. Leaving trucks, tractors or other gasoline driven vehicles unattended with motors running is prohibited.

314. Care must be used in coupling and uncoupling trucks, tractors or trailers.

315. Tool trays or decks of work equipment must be kept free of accumulations of dirt grease, scrap or unnecessary items.

316. To start free-running motor not equipped with starter:

- a. Make sure clutch is disengaged.
- b. Turn ignition off, open choke, and spin motor several times.
- c. Retard spark fully, and turn on ignition.
- d. Properly engage crank, keeping fingers and thumb on same side of handle, and body as far away from handle as possible. If necessary to spin motor with ignition on, start with upward motion of crank.

317. When cranking engines equipped with rope starters, the rope should be wrapped on the starting sheave so that it comes off the bottom of the sheave, whenever possible (engine location and position will govern). The hands holding the end of the rope should never be in line with the upper part of the body and starting sheave. The rope must be pulled so as to direct it away from the body. Other employes must not stand to the rear, or near the man doing the cranking.

318. Operating internal combustion motors inside buildings (except diesel engines) is prohibited, unless the exhaust is expelled to outside atmosphere, or sufficient ventilation is provided.

319. Bumping doors to warehouses or buildings open or shut with trucks or tractors is prohibited.

320. Pushing empty, or loaded four-wheel trucks and trailers out of the way by foot, or by any self-

propelled truck or tractor to which they are not coupled is prohibited. Pull them clear by hand.

321. Before work is begun, all machines, including cables and working parts, must be inspected to know they are in safe condition.

322. When a new cable is applied to a machine, the machine should be operated without heavy load for a short time, to permit the cable to adjust itself and secure its final "set," before operating the machine at full speed or full load.

323. Avoid subjecting the cable to fire or molten metal where welding is being done, as the excessive heat will ruin the cable.

324. Before starting any machine or piece of work equipment, the operator must warn other employes, and know that they are in a safe position.

325. Normally, a machine equipped with a safety guard or guards must not be operated with such guard or guards absent, out of position, or defective. The sole exception is when a machine or an appliance is being tested, and, in order to make the test, removal of the safety guard, or guards is necessary.

326. Guards must not be removed from machinery for the sake of convenience; when removed for inspection or repair, they must be replaced before machines are again operated.

327. Employes must not take hold of sheave or cable while hoisting equipment is being operated.

328. Hand signals to the operator of any hoisting machine must not be given by any employe other than the one designated to give such signals. Unless so designated, no employe will give hand signals except emergency signals to prevent accident.

329. Employes are prohibited from riding on

any sling load being handled by a crane or hoist, and cranemen and operators are prohibited from moving a load under such circumstances.

330. Repairs and adjustments to machinery shall be made only by persons who are qualified and authorized to do so, and shall not be made while engine is running, or while machinery is in motion except that repairs and adjustments which can be made only with engine running, or while machinery is in motion are permissible. Employes making these repairs and adjustments shall exercise care, and use good judgment to avoid personal injury and damage to property.

331. Before repairing, dismantling or assembling motor driven machines, open the power switch, and place securely on it a sign reading "DANGER—DO NOT OPERATE."

332. Operating a machine, electric switch, valve or other apparatus which bears a "DANGER—DO NOT OPERATE" sign is prohibited. Such a sign must not be removed by any employe other than the one who placed it.

333. Shut down the drive motor before changing tools on shearing, punching, forging, bending, forming and other pedal-controlled machines.

334. Placing the hands on moving belts is prohibited.

335. Use a brush to clean away chips; never use the hands.

336. Using compressed air to clean away chips, or to blow dirt from person or clothing is prohibited.

337. Never point an air gun toward anyone.

338. Grinding on other than the grinding face of an abrasive wheel is prohibited except in cases where wheels are designed for side-face grinding.

339. All set screws in revolving spindles or shafts must be flush, countersunk, or protected by collars.

340. Before lifting an unusually heavy load, the brakes must be tested as soon as the load has been raised a few inches.

341. Making lifts without hooks or other devices firmly in place is prohibited.

342. Booms, cranes, derricks or hoists must be securely fastened before moving them in a train.

343. No one is permitted to ride or walk beneath the boom or its load while a crane is in operation except as may be necessary for ground men to hook and guide the load.

344. Sling chains must not be overloaded, or used with the ends fastened together by bolts.

345. Using slings with the load unequally distributed, or making lifts with a kinked, twisted or knotted chain is prohibited.

346. Place the block or hook directly over the load, if possible, so the lift will be vertical, to prevent the load from dragging or swinging. When necessary to lift at an angle, all persons should be in a safe position, and the hoist should be made slowly until the load is vertical.

347. Electric overhead cranes must not be used to move cars along tracks, unless scotch blocks are used, and placed directly under the cranes.

348. Ascertain that the chains, cables, ropes and supports to be used for hoisting purposes are of the proper size and condition for the material and loads to be handled.

349. Leaving a crane, derrick or hoist with its load suspended, passing or standing under or in the path of a load suspended from a crane, derrick or hoist, hanging or riding on the hook or load being

handled by a crane, derrick or hoist, or standing under the boom or near a cable, rope or chain when a pull or lift is being made by a crane, derrick or hoist are prohibited.

350. Riding on a crane or the idler car of a locomotive crane except in performance of duty, and unless the operator has been notified, is prohibited.

351. Employes must not ride on cranes, ditchers or other machines, or on cars on which machines are mounted except while operating such machines, or in the line of duty.

352. Before repairing electrically operated cranes, transfer tables, turntables or other machinery, the main switch of the circuit supplying power for the machine must be opened, and a sign must be placed securely on the switch reading "MEN WORKING ON LINE," both by the same employe. This switch must not be closed, and this sign must not be removed by any employe other than the one who opened the switch and placed the sign.

353. Lifting mounted wheels with a magnet is prohibited.

ELECTRICAL EQUIPMENT AND POWER PLANTS

354. All persons not authorized by employe in charge are forbidden to make repairs to any electrical apparatus. Tampering with electric wires or apparatus is forbidden.

355. Defective electric extension cords should not be used.

356. Electric safety switches must be located so they are readily accessible.

357. Material or equipment must not be per-

mitted to block access to electric safety switches, meters, controls or panels.

358. Person in charge of derricks must take special care to safeguard workmen and himself from overhead wires.

359. Unless special precautions have been taken, employes working in the vicinity of live wires must remain at a safe distance, depending on voltage and local conditions.

360. Do not work around wires or instruments during electrical storms unless absolutely necessary.

361. All wires which are being strung or removed near live wires should be treated as "live" and must be regarded as being of the same voltage as the neighboring live wires.

362. Using metal or other objects as a jumper in place of a fuse is prohibited.

Working on any electric power lines energized voltage of 440 or more, is prohibited, except in extreme emergency cases, and then only with proper protection.

Working on any electric power lines energized with voltages of 440 or more without the use of rubber gloves is prohibited.

Poles and guy wires should be thoroughly inspected before climbing poles.

Working on poles without the use of safety belt is prohibited.

Handling broken power wires without proper protection is prohibited.

363. When working around motors, generators, power and light circuits, handle all tools with care. Make certain that no part of the body becomes grounded. Stand on rubber mats whenever practicable.

364. Slinging of solder from terminal lugs and soldering irons is prohibited.

365. Metal cased flashlights should never be used around electrical equipment. Hard rubber or other non-metallic cased flashlights should be used.

367. All employes, except those authorized to do so, must refrain from touching anything inside high voltage cabinets of diesel units.

369. Standby power for trains is fully protected by circuit breaker, which must be in off position before cable is installed in or removed from car receptacles.

MECHANICAL REFRIGERATION ON AIR CONDITIONING UNITS AND REFRIGERATOR CAR HEATERS

370. The refrigerant generally used in mechanical refrigerating systems on air conditioned passenger equipment has a low boiling point. If it comes in contact with the skin or eyes, it will cause a burn. It is practically odorless, and the sense of smell does not warn of the presence of leaks in the refrigerating system. Leaks are detected by the use of a special blow torch. Provide ample ventilation for any confined space where the refrigerant is handled, stored or in use.

371. When handling or working around the refrigerant, use every precaution to keep it from coming in contact with the skin or eyes.

372. Except for the leak detector torch, keep open lights, fires, lanterns or heated surfaces away from all places where the refrigerant is handled, stored or in use.

373. Follow manufacturer's instructions cover-

ing the operation of leak detector torch. Remove torch suction hose from leak as soon as leak is located. Unnecessarily allowing the refrigerant to be sucked into torch is prohibited.

374. If possible, refrain from breathing fumes from leak detector torch when flame indicates presence of refrigerant leak. Have ample ventilation when using leak detector torch, but keep torch away from draft so that flame will completely surround the burner.

375. Lighted charcoal heaters give off carbon monoxide gas which is deadly poison, the first noticeable effect of which is light headedness and dizziness, following shortly afterwards by unconsciousness and death. Employes taking care of these heaters must work in pairs, a man going down in the bunker must have rope fastened around him and the other man, who will remain on top of car, must have hold of the other end of rope.

376. Alcohol (methanol) is a flammable liquid and as such introduces a potential fire and personal injury hazard where it is stored, handled or used.

377. Alcohol or alcohol FUMES are highly flammable and may be ignited by open flames or sparks. Carbon monoxide and dry chemical may be used to extinguish alcohol fire. Water is effective if used in large volume.

378. Before removing alcohol from tanks of automatic heaters or when filling or refueling, BE ABSOLUTELY SURE pilot light and main burner are extinguished.

379. Before refueling, flame extinguisher should be used to extinguish flame over entire surface of work. BE SURE PILOT AND WICK ARE NOT

BURNING BEFORE RETURNING OPERATION IS STARTED.

380. Keep any type of open flame away when alcohol is being transferred from one container to another.

381. Handle alcohol only in safety containers or tightly sealed cans. Alcohol is toxic. Avoid swallowing, inhalation of vapor fumes or prolonged contact with the skin.

382. Should alcohol accidentally be spilled on a workman's clothing he must be immediately assigned work away from point where heaters are being lighted and away from any open flame.

383. Spilled alcohol (not burning) should be weakened by flushing with at least twice as much water. If water is not available to flush alcohol spilled in bunkers of car and it is necessary to light heater, then transfer heater to other bunker, if necessary, rather than take a chance of setting fire.

384. When working with alcohol in a CLOSED ROOM, BE SURE ROOM IS WELL VENTILATED. Avoid prolonged breathing of vapor or repeated contact with skin.

385. Extreme caution should be taken to avoid getting alcohol in eyes. If alcohol comes in contact with eyes, bathe immediately with water for at least 15 minutes, then go to a doctor.

386. Alcohol heaters must not be lighted before installed in cars. Before lighting heaters, be sure cap on reservoir of alcohol tank is firmly fastened and no surplus alcohol is remaining on top of tank
6387. Before removal of alcohol heater from car, the pilot and main wick must be extinguished.

388. Alcohol heaters must be kept in an upright position at all times.

389. Care should be taken in replenishing fuel so as not to spill any on hot wicks, as alcohol quickly turns to gas when hot and can cause fire or possibly an explosion.

390. Use battery type light for inspection of heaters or to check thermostat. DO NOT use matches under any circumstances.

391. All persons making inspection of cars equipped with heaters are warned against remaining in cars with doors and hatches closed. Doors and hatches must be left open for a few minutes before entering. Employes should work in pairs whenever possible.

TOOLS

392. Use of mushroom head, or otherwise defective tools, is prohibited.

393. Employes must know by personal inspection that tools, machinery and electrical appurtenances are in proper condition before being used. Tools found defective must be reported to foreman in charge or turned in at tool room. Included are those with handles cracked or split and bound by wire, tape or string.

394. Tools, tackle, straps, safety belt, ropes and other equipment must be inspected before being used and at end of day's work. Defective appliances must not be used. They must be repaired or marked "DEFECTIVE" and kept separate from serviceable tools or equipment.

395. Leaving tools, material or other objects standing as a hazard unsecured on end or leaning against engine, car, wall, ladder, or other struc-

ture where there is danger of their falling or being knocked down, is prohibited.

396. Tools, equipment or other material must not be left on platforms or walkways to constitute a tripping, slipping or falling hazard or in a position to be struck by passing trains.

397. Sitting on, standing on, or straddling a bar or lever while it is in use is prohibited.

398. Standing on same side as striker while holding bar, cutter or punch, is prohibited.

399. When using wrench, take following precautions:

a. Select proper size and type of wrench. Properly fit adjustable wrench to object on which it is to be used.

b. Place wrench so the turn will be toward open end of jaws.

c. Using any object as a shim between jaws of wrench and nut, bolt head or other object to make wrench fit, is prohibited.

d. Confine stroke of wrench to space available to prevent fingers, hands or any part of body striking against objects or being pinched.

e. Brace body securely to avoid overbalancing in case wrench slips or wrench, bolt, nut or other object fails.

f. Before attempting to apply full force, make sure wrench has proper grip; then gradually increase force until nut, bolt, pipe or other object turns.

g. Do not use pipe or other device as an extension of the wrench handle.

400. All tools and supplies must be properly stored, each in the place provided.

401. Shovels, forks, rakes or other pointed or edged tools must be placed with points or edges turned down when not in use.

402. When cutting off heads of bolts, nuts or rivets, use broom, bagging or similar material as a shield to prevent injury from flying objects.

403. Before jacking up end of car of engine, crane, etc., the wheels at the opposite end must be securely blocked to prevent them from moving during the jacking operation.

404. Jacks, except in track work, must not be used metal to metal, but wood or a piece of dry waste must be used between head of jack and the metal. Good blocking must also be used under the jack to avoid tipping or slipping. Operator must satisfy himself that jack lever is a good fit in the socket.

405. Under no circumstances may jacks be left under a car without added support of trestles, horses or blocking, when truck or trucks are removed.

406. Before performing any work on car, truck or foundation brakes, air brakes must be cut out and bled.

407. When lever jacks are not in actual use, the lever or handle must be removed from jack.

408. When using track wrenches, do not straddle the rail. Before starting pressure be sure that the wrench has a full bearing on the nut, and that you have solid footing.

6409. Spike maul should not be used to strike cutting tools. Sledge hammer should be used for this purpose.

410. Soft hammer must be used when striking reamers, taps, drills, cutters or other hardened steel tools.

411. Pneumatic tool must not be connected or disconnected until valve to supply line has been closed and pressure drained from hose.

412. If the tool becomes detached from the air hose under pressure, do not try to grasp hose. Turn off the air at base control valve.

413. When laying a pneumatic tool down, always place it in such a position that it can do no harm if the trigger is accidentally tripped.

414. Employes should stand to one side of power rip saw to avoid being struck in the event of kick-back of lumber.

415. When ripping be sure anti-kick back dogs are working.

416. Never leave a saw until it has stopped revolving.

417. Keep loose or scrap material away from blades; remove all such material from saw table immediately after cutting is completed.

418. Use push stick of sufficient length to feed short pieces of wood or the end of long pieces through and clear of machine rip saws.

FLAMMABLES, EXPLOSIVES AND MOLTEN METALS

419. Explosives and flammables must be handled in accordance with Interstate Commerce Commission rules, and with federal and local laws.

420. Fire extinguishers must be full and available for use at all times. Avoid over-exposure to

extinguisher fumes. Employes should be familiar with and know the location of fire extinguishers.

421. Water must not be used to extinguish electrical fires. Use sand, carbon dioxide, or extinguishers containing carbon tetrachloride.

422. Smoking, or the use of open flame except when necessary, in connection with maintenance or repairs, is prohibited—

a. In storehouses, material storage yards and sheds.

b. In freight houses, sheds, warehouses and on freight platforms.

c. In lumber sheds and yards.

d. In oil houses, around fueling stations, near oil storage tanks, and other places used for storage and handling of flammables or explosives.

e. In basements, attics, file storage rooms or record rooms.

f. On cars being loaded or unloaded.

g. In engine rooms of diesels.

423. Greasy waste, clothing, paper and rubbish must not be allowed to accumulate. Drawers, lockers and cupboards must be kept tidy and free of flammable material, especially matches, which are liable to ignite.

424. Flammable liquids must not be

a. Used to start or intensify a fire.

b. Thrown into refuse cans.

c. Stored in open containers.

d. Used to clean hands, gloves or clothing.

e. Stored or transported in other than approved containers.

425. All cans, drums or other approved receptacles used for gasoline, naphtha, benzine, or benzol, must be painted yellow.

426. Employes emptying acid carboys or other acid containers, should immediately flush them out with water, and drain.

427. When bottles or cans that contain coffee or other liquids are placed near stoves or steam-pipes, the covers must be loosened to guard against bursting of container.

428. Matches or smoking material must not be discarded on wooden floors or in rubbish, waste receptacles or other unauthorized places.

429. Steel wool or steel brush must not be used to clean around machines, tanks or other places where flammable fumes may be present.

430. Persons before entering a room or area in which flammable vapors or dust may be present, must firmly touch a grounded metal object in order to drain off any static charge in the body.

431. Dynamite shall only be handled under the direct supervision of a foreman or supervisory officer of higher rank who shall be thoroughly familiar with all Federal, State and local Laws and Regulations.

Where required, certificates shall be procured as some states provide heavy penalties for persons having dynamite in their possession unless provided with the proper certificate.

If artificial light is needed use only an electric flashlight or electric lantern. Do not use oil burning or chemical lamps, lanterns, candles or matches.

Do not smoke or carry matches while transporting or handling dynamite.

Keep constant watch for broken, defective or leaky packages of dynamite, caps or detonators.

Do not handle caps or detonators with or near the dynamite.

Caps or detonators must never be carried in pockets or left around where children or others can meddle with them.

Boxes containing either dynamite, caps or detonators shall always be handled carefully to preclude the possibility of dropping or subjecting them to a shock or jar.

Under no circumstances shall dynamite, caps or detonators be moved within fifty feet of a fire or within range of flying sparks, even though packed in a strong tight box.

433. Gasoline should not be used to clean diesel engines or electrical equipment. The gasoline may be trapped in the engine and dilute the lubricating oil, and also volatile gasoline fumes may cause serious explosion within crankcase when engine is started.

434. Kerosene or gasoline furnaces or other equipment employing an open flame must be shielded from contact with combustible material and from interference by unauthorized persons.

435. Fusees and torpedoes must be kept separate in assigned places. They must not be stored with other materials, tools or supplies.

436. Fusees or torpedoes must not be tampered with in any manner. Torpedoes will explode if dropped or struck, or any attempt is made to open them.

437. Care must be exercised to prevent fires when fuses are discarded.

438. Vent holes in battery plugs must be kept open so that gas pressure will not be built up within the battery cells when charging.

439. When being transferred or shipped, storage batteries must have jumpers removed between trays, and no metal must come in contact with cell terminals.

440. Blow torch, furnace or lantern filling plug or cap must not be removed while such objects are lighted. Replace filling cap or plug immediately after filling.

441. Molten metal must not be left unattended.

442. Employes must not spit in or use any liquid in pot to test the temperature of material being heated.

443. Heat ladle or dipper before placing it in molten metal.

HEAD PROTECTION

444. Safety or hard hats should be worn by all employes working under conditions where there is danger of falling objects.

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