§ 229.47 Emergency brake valve.

(a) Except for locomotives with cabs designed for occupancy by only one person, each road locomotive shall be equipped with a brake pipe valve that is accessible to a member of the crew, other than the engineer, from that crew member’s position in the cab. On car body type locomotives, a brake pipe valve shall be attached to the wall adjacent to each end exit door. The words “Emergency Brake Valve” shall be legibly stenciled or marked near each valve or shall be shown on an adjacent badge plate.


§ 229.49 Main reservoir system.

(a)(1) The main reservoir system of each locomotive shall be equipped with at least one safety valve that shall prevent an accumulation of pressure of more than 15 pounds per square inch above the maximum working air pressure fixed by the chief mechanical officer of the carrier operating the locomotive.

(2) Except for non-equipped MU locomotives built prior to January 1, 1981, each locomotive that has a pneumatically actuated system of power controls shall be equipped with a separate reservoir of air under pressure to be used for operating those power controls. The reservoir shall be provided with means to automatically prevent the loss of pressure in the event of a failure of main air pressure, have storage capacity for not less than three complete operating cycles of control equipment and be located where it is not exposed to damage.

(b) A governor shall be provided that stops and starts or unloads and loads the air compressor within 5 pounds per square inch above or below the maximum working air pressure fixed by the carrier.

(c) Each compressor governor used in connection with the automatic air brake system shall be adjusted so that the compressor will start when the main reservoir pressure is not less than 15 pounds per square inch above the maximum brake pipe pressure fixed by the carrier and will not stop the compressor until the reservoir pressure has increased at least 10 pounds.

§ 229.51 Aluminum main reservoirs.

(a) Aluminum main reservoirs used on locomotives shall be designed and fabricated as follows:

(1) The heads and shell shall be made of Aluminum Association Alloy No. 5083–0, produced in accordance with American Society of Mechanical Engineers (ASME) Specification SB–209, as
§ 229.61 Draft system.

(a) A coupler may not have any of the following conditions:

(1) A distance between the guard arm and the knuckle nose of more than 5 5/16 inches on D&E couplers.

(2) A crack or break in the side wall or pin bearing bosses outside of the shaded areas shown in Figure 1 or in the pulling face of the knuckle.

§ 229.59 Leakage.

(a) Leakage from the main air reservoir and related piping may not exceed an average of 3 pounds per square inch per minute for 3 minutes after the pressure has been reduced to 60 percent of the maximum pressure.

(b) Brake pipe leakage may not exceed 5 pounds per square inch per minute.

(c) With a full service application at maximum brake pipe pressure and with communication to the brake cylinders closed, the brakes shall remain applied at least 5 minutes.

(d) Leakage from control air reservoir, related piping, and pneumatically operated controls may not exceed an average of 3 pounds per square inch per minute for 3 minutes.

§ 229.57 Foundation brake gear.

A lever, rod, brake beam, hanger, or pin may not be worn through more than 30 percent of its cross-sectional area, cracked, broken, or missing. All pins shall be secured in place with cotters, split keys, or nuts. Brake shoes shall be fastened with a brake shoe key and aligned in relation to the wheel to prevent localized thermal stress in the edge of the rim or the flange.

§ 229.55 Piston travel.

(a) Brake cylinder piston travel shall be sufficient to provide brake shoe clearance when the brakes are released.

(b) When the brakes are applied on a standing locomotive, the brake cylinder piston travel may not exceed 1 1/2 inches less than the total possible piston travel. The total possible piston travel for each locomotive shall be entered on Form FRA F 6180–49A.

(c) The minimum brake cylinder pressure shall be 30 pounds per square inch.