

SPECIFICATIONS FOR RAPID TRANSIT CARS

SECTION 8

DRAWBAR AND COUPLING EQUIPMENT

8.01 Coupling Drawbar

(a) The coupling equipment shall be Ohio Brass Company's, Westinghouse Air Brake Company's, Type H-2-C or approved equal, automatic, tightlock type.

(b) Automatic car, air and electric couplers shall be provided at both ends of all cars, both single car and two-car units.

(c) The draft gear shall be rubber cushioned of approved type. It shall be capable, within reasonable margins of safety, of withstanding loads resulting from the type of service for which the cars are designed, and in an emergency by the operation of a maximum of twenty cars. The draft gear deflection shall not exceed 1-1/8" under a 120,000 lb. load.

(d) The draft gear shall be furnished with an emergency release feature which permits, in case of a collision, the anti-climbers of the cars to come together instead of having the impact transmitted through the coupler and anchorage to the car frame.

(e) The body and tail piece of draft gear shall be of annealed cast steel and shall withstand loads and stresses as specified in this section of the specifications.

(f) The coupler carrier and its connections to the car structure shall be designed to resist a vertical downward thrust from the coupler shank of 75,000 lbs. for any horizontal position of the coupler, without exceeding the yield point of the materials used.

(g) The coupler shall be supported at its outside end in a spring drawbar carrier that shall slide on a radial steel bar of ample length to provide for the lateral swing of the coupler on the cars when operated on 90-ft. radius curves. The spring carrier shall be provided with renewable, hardened, high carbon steel wearing shoes where it slides on the radial bar. It shall provide for a vertical movement of the coupler of 5", measured at the face of the coupler. The coupler supporting member shall provide for positive vertical adjustment of the couplers to compensate for wheel wear. Provision shall be made to prevent radial bar mounting bolts from dropping and limiting movement of the drawbar in the event of breakage of a mounting bolt..

(h) The coupler shall have a vertical gathering range at the face of the coupler to permit automatic coupling if the coupling on one car is at standard height, and the coupler on the opposing car is $2\frac{1}{2}$ " above or below standard height. The coupler shall have a horizontal gathering range at the face of the coupler to permit automatic coupling if the center line of one coupler is $3\frac{1}{2}$ " to the left or right of the centerline of the opposing coupler.

(i) Anchorage of the drawbar to the car shall be of the ball and socket or other approved type. If the socket

type is used, sockets attached to the draft gear stem of the coupler shall be provided with shims between their clamping faces so that adjustment can be made to compensate for wear. Anchorage housings shall be of annealed cast steel or forging.

8.02 Unlocking Cylinders

(a) Unlocking of couplers shall be accomplished pneumatically by means of a pneumatic cylinder. Control of the unlocking cylinder shall be as specified in Section 8.06 of these specifications.

8.03 Manual Unlocking

(a) Provision shall be made for manual unlocking in case of emergency.

(b) Manual unlocking of couplers shall be accomplished by means of handles located under motorman's cabs and at diagonally opposite side at non-operating ends on two-car units.

8.04 Electric Coupler

(a) The electric coupler shall provide for the number of contacts necessary to carry the required number of train line wires.

(b) Contacts shall be of the spring-loaded type, and shall be silver-faced and provide a wiping contact upon closing.

(c) The electric coupler shall be provided with a mechanically-operated cover to protect contacts in the uncoupled position.

(d) Design of electric coupler shall insure positive contact, and shall withstand coupling impacts to which the coupler will be subjected in service.

8.05 Drawbar Drum Switch

(a) A drawbar drum switch, if required, shall be of approved design and shall be pneumatically operated.

(b) Drawbar drum switch or electric portion of coupler shall provide for the required number of train line wires, and contacts shall be of adequate capacity. Contacts shall also be provided to control marker, tail light and instrument light circuits as specified in Section 5.04 (d) and 5.06 (b), and door signal light circuit as specified in Section 6.06 (c) of these specifications.

(c) Provision shall be made for opening and closing the two air brake train lines automatically when cars are coupled and uncoupled.

8.06 Uncoupling Valves

(a) Uncoupling valves shall be provided in each motorman's cab, and on the underside of car body under the cabs. Valves shall control operation of coupler unlocking cylinder and drawbar drum switch cylinders, if provided. Uncoupling valves shall be equipped with detachable handles.