

SPECIFICATIONS FOR RAPID TRANSIT CARS

SECTION 9

TRUCKS

9.01 General

(a) Each car shall be equipped with two four-wheel cast steel trucks in accordance with General Steel Casting Corporation drawing No. 5537B, with two motors mounted on each truck.

9.02 Weights and Dimensions

(a) Trucks shall be designed to carry a center plate load as required by maximum passenger load with an ample factor of safety, and to resist all tresses which may develop in service when operated with maximum center plate load, and at maximum speed on level tangent track.

(b) Truck dimensions shall be as follows:

Wheelbase	6' 6"
Guage (Track)	4' 8½"
Journal Bearings	5" x 9"

(c) The completely assembled trucks with motors, brakes and other equipment must not exceed the clearance limits required between truck and car body, or between truck and track, third rail or right-of-way equipment.

(d) The minimum clearance above top of rail for all parts of the truck and equipment, with the exception of wheels, contact shoes and train stop trips, under maximum load and wear conditions, shall be not less than 2½".

9.03 Center Plate

(a) Truck center plates shall fit properly and be securely fastened. The male center plate shall extend into the female center plate not less than $1\frac{1}{2}$ inches.

(b) Truck center plates shall have not less than an ultimate shear value of 125,000 pounds.

(c) The truck shall be locked to the car body so that the entire truck will lift with the car body without disengaging the center plates. Strength of locking means shall be not less than the equivalent of an ultimate shear value of 250,000 pounds.

(d) The truck center plate shall be arranged for a minimum vertical adjustment to compensate for wheel wear in adjustment of coupler heights.

9.04 Bolster

(a) The car body shall be carried on a bolster. Free lateral motion shall be provided by approved means, but motion must be limited to prevent car striking station platforms.

(b) Bolster wear plates shall be spring steel.

9.05 Springs

(a) Springs shall all be helical type of size and material to suit loads and stresses.

(b) When carbody is placed on the trucks, a straight edge resting on door thresholds shall be parallel to level of the track within $\frac{1}{4}$ " measured at the sides of the car.

9.06 Damping Means

(a) The truck shall be designed and constructed throughout in a manner to provide the maximum suppression of shocks, noise and vibration and to prevent their transmission to the car body.

(b) Approved means shall be provided to dampen vertical spring deflections, and to control lateral motion.

9.07 Journal Bearings

(a) Journal bearings shall be 5" x 9" anti-friction type with cast steel pedestal type boxes with hardened steel wear plates.

9.08 Wheels

(a) Wheels shall be 28" diameter rolled steel in accordance with AAR specifications, with AAR alternate cylindrical tread and flange.

(b) Axle turning and wheel fit limits shall be in accordance with AAR recommendations.

(c) Circumference of wheels on the same axle shall not vary more than 1/16 inch.

(d) Inside gauge of flanges, measured on base line, shall not be less than 53 inches nor more than 53½ inches.

(e) The distance back to back of flanges of wheels mounted on the same axle shall not vary more than ¼".

(f) Total lateral motion between wheels and journal boxes shall not exceed ¼".

9.09 Axles

(a) Axles shall be in accordance with AAR specifications.

(b) Wheels and gears shall be mounted on axles at AAR approved tonnage, and pressure graphs of such mountings shall be

furnished to the Railroad.

(c) Axles shall be permanently marked on ends with manufacturer's heat number and Railroad serial number.

9.10

Motors and Transmission

(a) Motors shall be entirely spring borne, and shall be mounted longitudinally in the trucks and rigidly secured to transoms.

(b) Adequate provision shall be made for proper support on the truck of all flexible leads to motors.

(c) The drive shall be of the right angle hypoid type with single reduction, and ratio as specified by motor manufacturer. Bearings used in transmission shall be sealed anti-friction type.

9.11

Brakes

(a) Brakes shall be inside hung single shoe type. Four brake cylinders and automatic slack adjusters shall be mounted on each truck.

(b) Brake shoes shall be of the "Cobra" type, or approved equal.

(c) Provision shall be made for attachment of hand brake.

9.12

Power Rail Contact Shoes and Fuses

(a) Power rail contact shoes and fuses shall be provided on each truck in accordance with Sections 12.04 and 12.05 of these Specifications.

9.13

Automatic Train Stop Trip Cocks

(a) Automatic train stop trip cocks shall be provided on one side of each truck in accordance with Section 11.06 of these Specifications.