

SPECIFICATIONS FOR RAPID TRANSIT CARS

SECTION 5

LIGHTING

5.01 Interior Lighting

(a) Incandescent lighting fixtures shall be mounted in two rows, one on each side of the car, and arranged for operation from the 600 volt supply.

(b) Lighting fixtures shall be Electric Service Manufacturing Company's Type TFB, or approved equal, complete with glassware and short-circuiting sockets, operating in series of from 20 to 22 lamps.

(c) One of the series light fixtures shall be located in the motorman's cab. A two-position switch shall be provided in the cab, and circuits shall be so arranged that when the switch is operated, the light in the cab will be disconnected, and two lights in the end destination sign will be connected.

(d) Four emergency lighting fixtures shall be provided in each car, in approved locations. Emergency lighting fixtures shall be Electric Service Manufacturing Company's Type KAL, or approved equal. Emergency lamps shall be operated from the 32-volt battery circuit.

5.02 Control of Interior Lights

(a) Each car shall be equipped with a light relay which controls both the 600-volt series lights and the 32-volt battery emergency lights. In addition, the emergency lights shall be controlled by a light-out relay of approved

type, which is normally energized by the series lighting circuit, so that emergency lights will be automatically lighted when 600 volt circuit is deenergized. A control switch of approved type, with momentary contact, shall be provided and located in each motorman's cab. The control switch shall energize the light relays through a train line. Grounding of the switch shall deenergize the relays.

5.03 Headlights

(a) Headlights of the twin-beam sealed reflector type shall be provided on both ends of single-car units, and on operating ends of two-car units.

(b) Headlights shall afford sufficient illumination to enable a person in the operating compartment who possesses the usual visual capacity required of motormen to see in a clear atmosphere a dark object as large as a man of average size standing erect at least 800 feet ahead and in front of such headlight. Means shall be provided to adjust beam both vertically and horizontally, and headlight shall be designed to permit re-lamping without affecting beam adjustment. Headlights shall be located in a safe and accessible place.

(c) Headlights shall operate from the 32-volt battery circuit and shall be provided with a dimming switch which may be conveniently operated by the motorman, whereby the light may be diminished in yards and at stations or when meeting trains.

5.04 Markers and Tail Lights

(a) Markers and tail lights shall be provided on both ends of single-car units, and on operating ends of two-car

units.

(b) Two marker lights shall be located, one on each side, at the top of the car end. Markers shall be of the semaphore type, and shall be arranged to display red, yellow, green or white aspects. Controls shall be so arranged that aspects can be changed from the motorman's cab, and that any combination of colors can be established.

(c) Two tail lights, each consisting of a red and a white lens, shall be located, one on each side, at the bottom of the car end.

(d) Markers and tail lights shall be energized from the 32-volt battery circuit. Marker light circuits shall be controlled over the draw bar drum switch or coupler electric portion so that they will be lighted only at ends of trains. Tail light circuits shall be controlled over the draw bar drum or coupler electric portion and master controller reverser drum so that they will be lighted only at ends of trains. When controller reverser drum is in the "OFF" position, red lights will be lighted, and when controller reverser drum is in either "FORWARD" or "REVERSE" position, white lights will be lighted.

5.05 Destination Sign Lights

(a) End destination signs shall be illuminated by two lamps in each sign, operated on the 600-volt series body light circuit. Lamps in end destination signs shall be controlled in connection with motormen's cab light as specified in Section 6.01 (c) of these specifications.

5.06 Instrument Lights

(a) Motormen's cabs shall be provided with lights which will provide sufficient illumination for the gauges to enable the motorman to make accurate readings from his usual operating position. These lights shall be so located and constructed that light will shine only on those parts requiring illumination; and shall not interfere with motorman's vision of track and signals.

(b) Motorman's cabs shall be provided with a light conveniently located to enable motormen to easily and accurately read train orders, and so constructed that it may be readily darkened or extinguished.

(c) Instrument lights and train-order lights shall be operated from the 32-volt battery circuit, and circuits shall be controlled over the draw bar drum switch or coupler electric portion in the "UNCOUPLED" position, and the master controller reverser drum in either the "FORWARD" or "REVERSE" position.