



THE NEW COLUMBUS TROLLEY COACH

by

B R I L L

The 40 forty-four-passenger Brill Trolley Coaches being placed in service by the Columbus & Southern Ohio Electric Company incorporate the first commercial application of regenerative and dynamic braking in American trolley coaches. This equipment provides several new advantages of great value to the trolley coach operator:

1. Brake lining life will be increased at least four to six times.
2. Brake drums, with reasonable care, should last the life of the coach.
3. Power consumption will be reduced about 15% as compared with the present standard single series motor equipment for vehicles of equal size operating in the same service, because of regeneration and less rheostatic losses.
4. Safety is promoted, for two reasons, - danger of skidding is minimized and the strain of driving is substantially less because of the speed control feature.

While these advantages originate in the new motor and control, the vehicle itself is designed specifically to accommodate this equipment to best advantage. This requirement and its large size make the Columbus coach a completely new design, which will be known in its standard form as the Brill Model T-44-S Trolley Coach.

However, this development is not new in the sense of being untried, for the equipment was test-proven in 54,000 miles of actual service on Brill vehicles in Columbus during the past two years. One



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of these test units was the original single-motor 40-passenger trolley coach, the last previous development of major importance and one of the many trolley coach improvements initiated by Brill.

The officials of the Columbus & Southern Ohio Electric Company are to be congratulated on their courage and vision in sponsoring the development of this new equipment, for it will be of great benefit to future purchasers of this type of vehicle.

9-22-38



OUTLINE SPECIFICATIONS
of the Columbus Trolley Coach

STRUCTURE	Corten steel and aluminum for strength and light weight
ROOF	Curved metal letter boards and end panels for improved appearance - canvas-covered wood center section to prevent current leakage.
FLOOR	Wood covered with brown Armoflor with Melflex rubber aisle strip and Melflex step treads.
WIRING	All rubber insulated and applied in Duratube. Each coach inspected and approved by the National Board of Fire Underwriters.
DOORS	Both doors are air operated. Center doors are treadle operated and equipped with double sensitive edge with reversing feature, signal bell and signal light; also interlocked with control circuit.
WINDOWS	Satin-finish aluminum double sash with the bottom section stationary and serving as a window guard. The top sash raises. Windshield of laminated safety plate glass; rear windows and the two windows at operator's left of shatterproof sheet glass.
SAFETY PARTITION	Immediately behind operator's seat is a metal frame safety partition that is glazed with shatterproof sheet glass. It permits passengers' vision but discourages conversation with the operator.
CURTAINS	Curtains are provided at all side windows.
INTERIOR FINISH	Ceiling is Masonite-Presdwood with offset center section. Advertising card racks, frieze panels, post and corner panel facings are aluminum. Paneling below windows is Masonite-Presdwood. Side walls, ends, and letter panels are insulated.
HEATING	There are 12 cross-seat heating units, thermostatically controlled, and four panel heaters in piers used in conjunction with the ventilating system.



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- VENTILATION** Forced-draft ventilation provided by traction motor fan draws air through louvres in the pier posts, which serve as ducts. The panel heaters in the piers preheat the air in cold weather before it passes to the interior.
- Vitiated air is exhausted through grilled openings in the offset ceiling into full-length ceiling ducts, from which it is drawn into an air chamber under the rear seat, providing a source of clean air for ventilation of the motor.
- SEATS** Deep-cushioned, comfortable, leather-upholstered Brill tubular seats - Model 402-B-5 - accommodate 44 seated passengers.
- BRILLITE ILLUMINATION** Brillite fixtures provide at least 15 foot candlepower of direct, focused light on the reading plane and, at the same time, soft glareless light is diffused throughout the interior. The system is on 600-volt current with five-in-series circuits, using 56-watt bulbs.
- PASSENGER ACCOMMODATION** This large-capacity coach for trunk-line operation provides generous space for all passenger movement and for seated passengers. A wide front doorway with spacious platform and an area approximately 80" x 42" makes possible the free movement of entering passengers. A 26-1/2" aisle at hip height with convenient stanchions and seat rail hand holds enable passengers to proceed quickly to the rear of the coach. With seats spaced on 29" centers and a usable cushion width of 17" for each passenger, comfort and efficient use of space are nicely balanced, - an achievement made possible by joint design of the vehicle and the seats.
- MOTOR** The single 140 h.p. 600-volt motor has regenerative and dynamic braking features built into it. It is mounted at the rear of the coach, driving forward through a propeller shaft to a double reduction rear axle.
- CONTROL** Control is foot-operated and automatic. Downward movement of the power pedal provides acceleration in the usual manner. Backing off from this pedal introduces the regenerative feature, which reduces the speed of the coach, similar to the braking effect of engine compression when releasing the accelerator pedal on a motor bus.



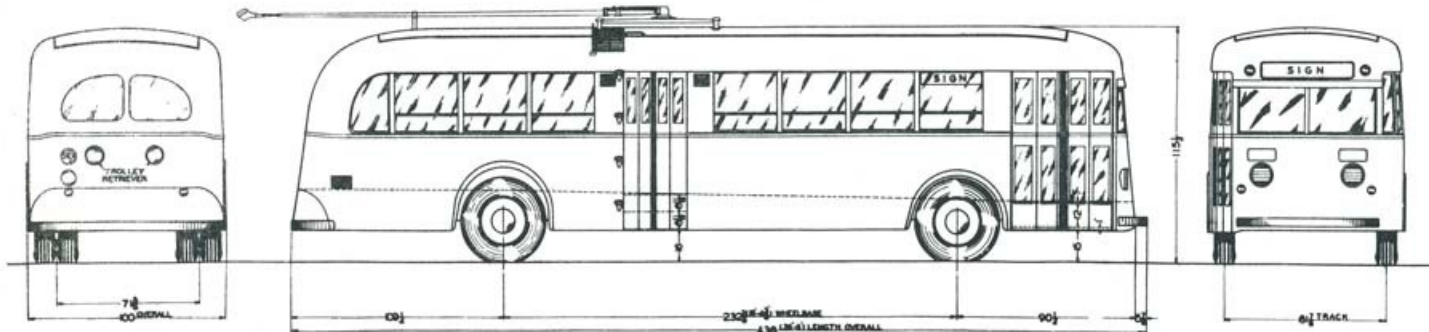
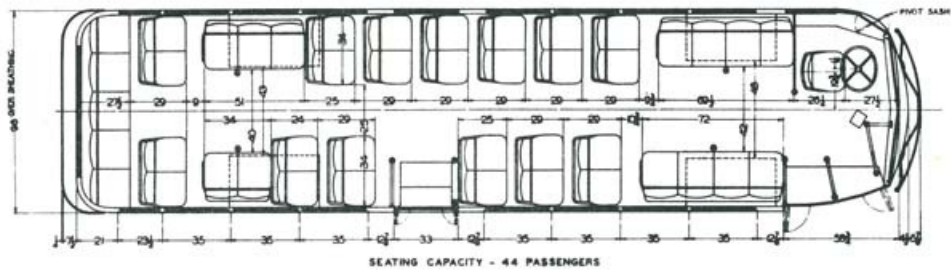
BRAKES

If it is desired to greatly retard the vehicle speed or make a full stop, the operator uses the brake pedal, which when depressed introduces the dynamic feature, and further depression supplements the dynamic with air brakes until the coach is at rest.

WEIGHT AND DIMENSIONS

Weight of coach complete, ready for operation	19,500 lbs.
Seating capacity	44
Length over bumpers	36' 6"
Height from ground to roof - light	9' 7-1/2"
Height from floor to ceiling	6' 4-7/8"
Height from ground to step, front - light	15-3/4"
Height from ground to step, center - light	16"
Height from step to floor, front	12"
Height of step risers, center (two treads each) ...	8-11/16"
Width over side sheathing	98"
Aisle width at hip height	26-1/2"
Seat length	34"
Seat spacing	29"
Turning radius of outer front tire	39' 6"
Wheelbase	232-3/8"
Cruising distance off center of wires (18' 0" Ht.).	14' 0"

NOTE: All height dimensions are without load.



NOTE-ALL HEIGHT DIMENSIONS ARE WITHOUT LOAD.

THE J. H. BELL CO.	44-PASSENGER	11-L-4879
NEW YORK, N. Y.	TRACKS FOR TOLLEY	



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