

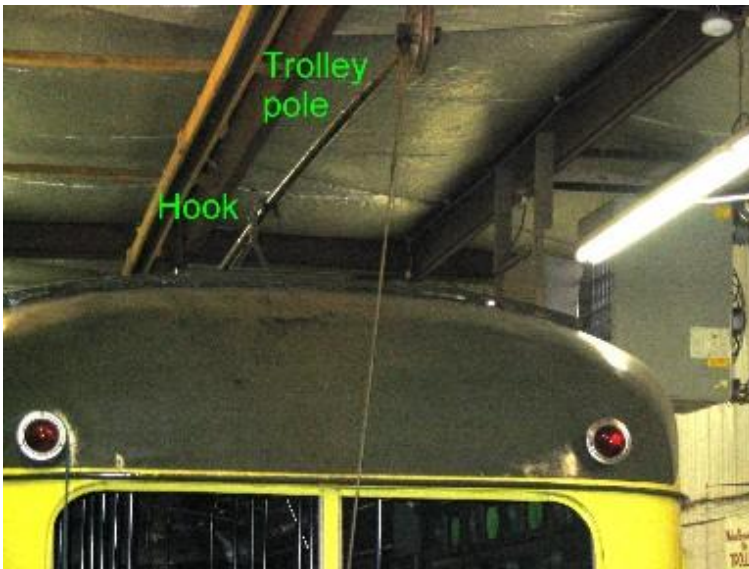
TCRT PCC NO. 322 LOCATION EXERCISE



Locate each item given and explain where you found it. If you have any questions, be sure to ask the trainer about them. Identify the purpose and manipulation of each item

You may follow any sequence that is convenient for you, but be sure to locate every item indicated herein.

A - Trolley pole hook-down warning



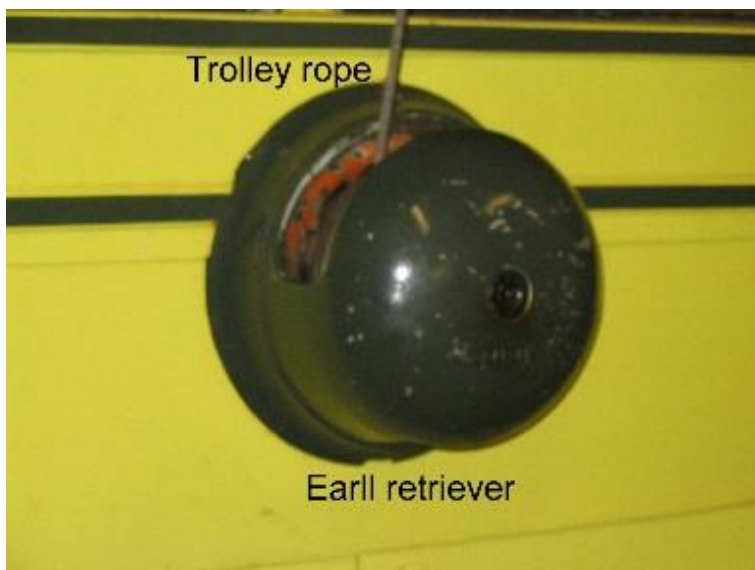
Unlike the standard cars, the PCC trolley pole **must** be hooked down when not operating. This is necessary to avoid electrical injury, due to stored electrical power, to persons working on the car. **Do NOT park the PCC in the barn or when disabled with the pole NOT hooked down!**

B - Battery charger plug



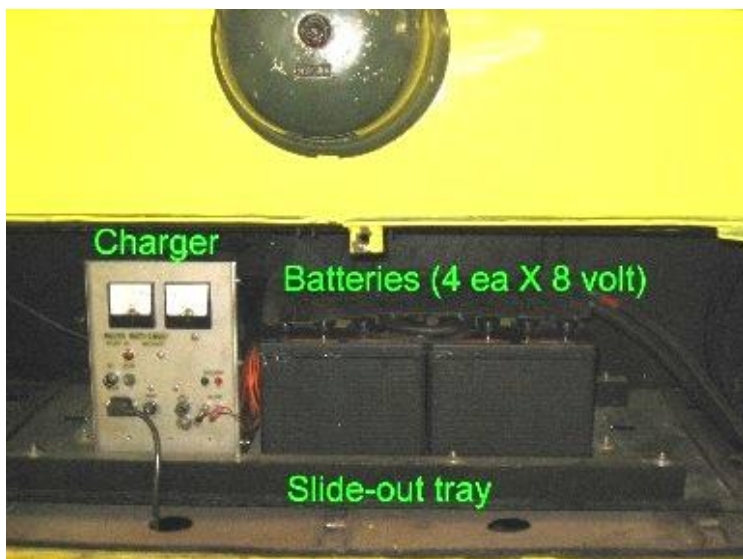
This connection is used to keep the batteries charged when the car is not in use. It **must** be plugged in at all times the car is in the barn. *This plug must be disconnected before the car is moved.* It is located under the rear anticlimber and to the pole (left) side of the car center.

C - Earll retriever and trolley rope



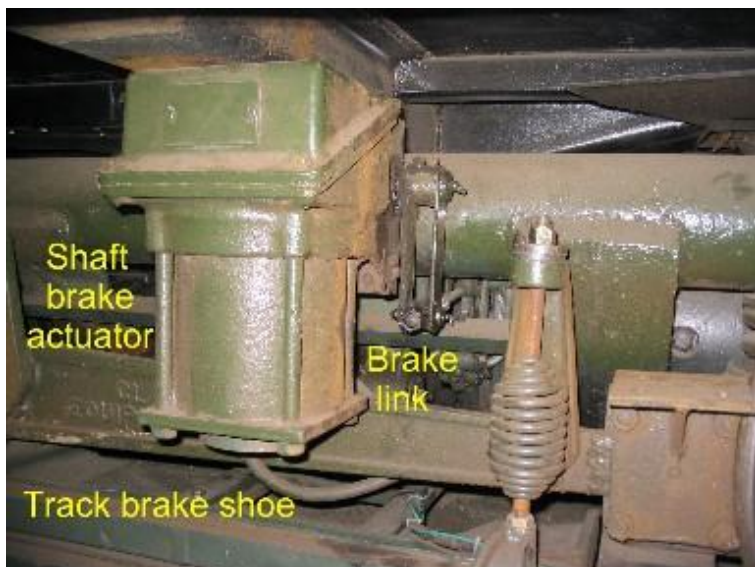
The Earll retriever acts as a reel for the trolley rope, keeping it taut when operating. If the pole dewires and tries to fly up, the retriever yanks it back down to limit the damage to the pole and wire. Many PCCs used a “catcher” which also acts as a reel but simply limits how far up the pole will jump if it dewires. Originally, this car had a catcher mounted above the rear windows. The catcher looked similar but had a shallower dome. The Earll retriever was one of the changes made by Shaker Heights Rapid Transit.

D - Batteries



Batteries are mounted in the compartment below the retriever. These run the headlight, brake lights, and door step lights. They also power most of the controls the operator uses. The battery system, unlike most autos and buses, is nominally 32 volts DC. The batteries are kept charged by the motor-generator set under the floor on the left (pole or blind) side of the car while the car is in operation.

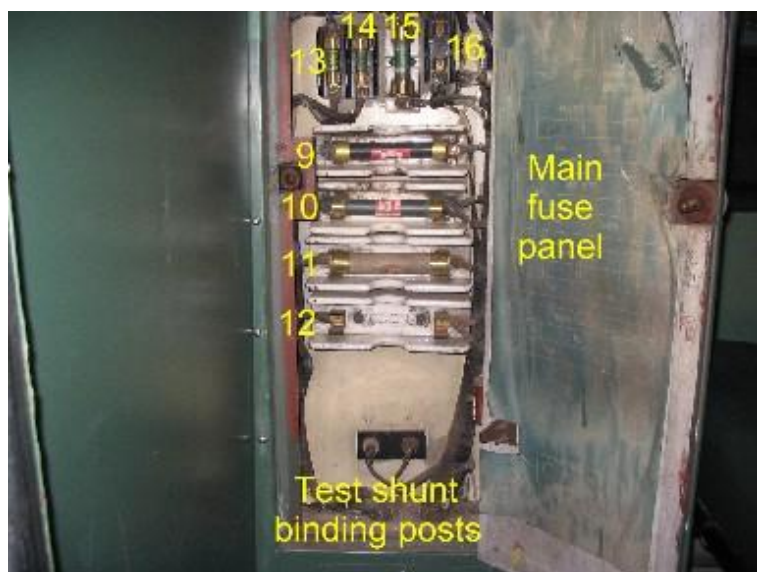
E - Shaft brake actuators



Mounted on each side of each truck is a shaft brake actuator. The link to the right of each actuator has an adjustment for the brake operation. If the brake fails to release, the adjustment must be turned 24 turns clockwise to disable and release the brake.

The top of the track brake shoe can be seen beneath the actuator. It is supported from the truck on springs, one of which is visible in the foreground of the picture.

F - Fuses and switches



Master power fuses for this car are just behind the center doors in a wall cabinet. The fuses are:

- 9 - MG motor 600 volts
- 10 - Aux heat 600 volts
- 11 - Main 600 volt feed
- 12 - Track switch control 600V (not used)
- 13 & 14 - Track brake 32 volts
- 15 - MG 32 volt output
- 16 - Spare (not used)

Accessory fuses are in a panel at the front to the operator's right. The binding posts at the bottom are for hooking up a test meter to a built in shunt. PCCs do not have a canopy switch. **CAUTION: DO NOT touch any fuses without the pole hooked down.**

G - Center door engine, auxiliary control switches, "Open Doors" signal button

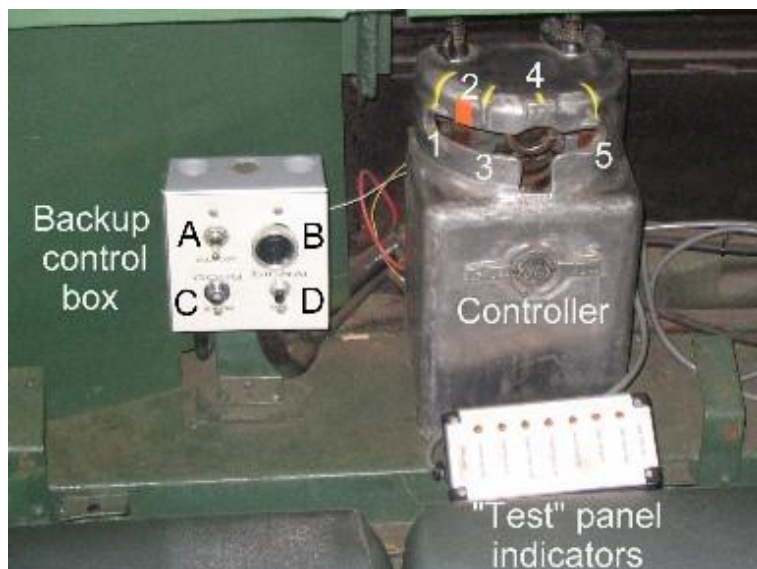


The door engine for the center doors is located in a cabinet just above the doors. The "Open Doors" request button is on the bottom of the box near its right end. Inside the box are switches for the following purposes:

- 1 - auxiliary heaters
- 2 - Emergency door bypass.

An emergency release switch for the doors is located on the front panel of the box. As built, this car had a conductor's booth across the aisle from the center door, later removed. The wire on the right goes down to the "Open Doors" signal button.

H - Backup controls and intercom



The backup controls are mounted behind the center cushion of the rear seat backrest. On the control box (added by MSM):

- A - Backup ditch lights
- B - Intercom sounder
- C - rear gong
- D - Intercom button

On this controller, the PCC reverser key is the handle.

- 1 - Motor power on
- 2 - Free coast (added)
- 3 - Coast with dynamic brakes
- 4 - Power off with shaft brakes (park)
- 5 - Emergency stop with all brakes.

Indicators on the "test" panel show the operating conditions of the car when powered up.

I - Front controls to motorman's left



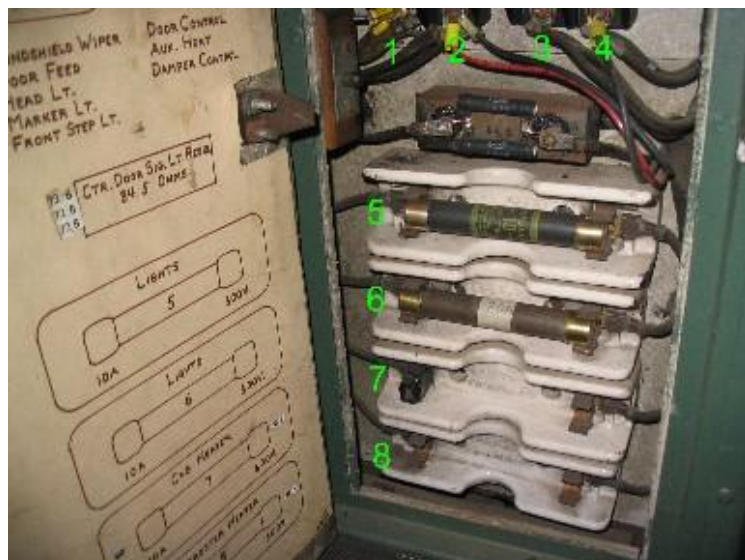
These are at the front of the car, to the left (pole side) of the motorman's seat. There is a separate control for each wiper. The intercom box is an addition made by the Museum. To the left of the intercom is a holder for transfers.

J - Operating controls



The gang switches operate the battery and MG power, doors, lights, gong, and horn. Control of the car's motion is done by footpedals. The left pedal must be held partway down at all times the car is operating. The brake pedal regulates how forcefully the brakes are applied, and which brakes, and is interlocked with the deadman pedal to set the parking brake. All-electric PCCs like No. 322 do not require hand brakes because the shaft brakes are spring-applied; but air-electric PCCs do, in case the air pressure goes away.

K - Accessory fuse panel



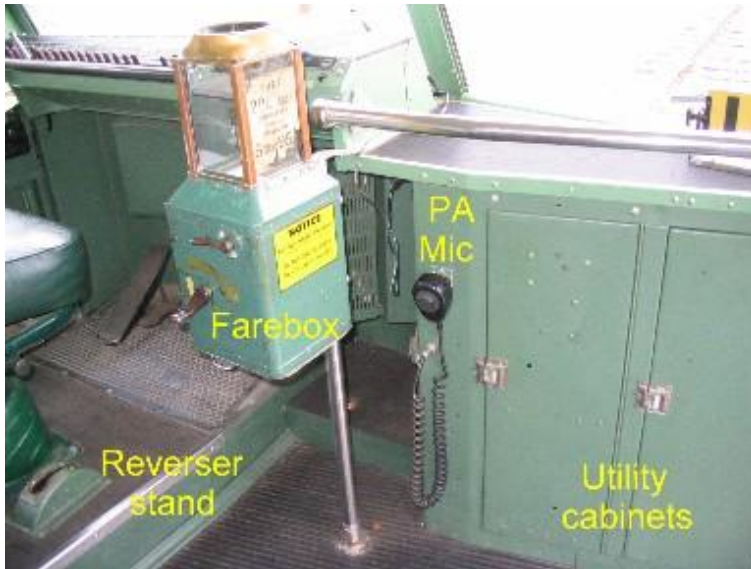
The accessory fuses are in this panel to the right of the operator's knee. These fuses are plainly documented on the chart inside the access door. *Do not touch any fuses without the trolley pole hooked down!*

Fuses:

- 1-4 - are 32 volt circuits
- 5-8 - are **600 volts DC** circuits.

The heater circuits for the cab and the defrosters are not connected at this time.

L - Reverser, farebox, cabinets



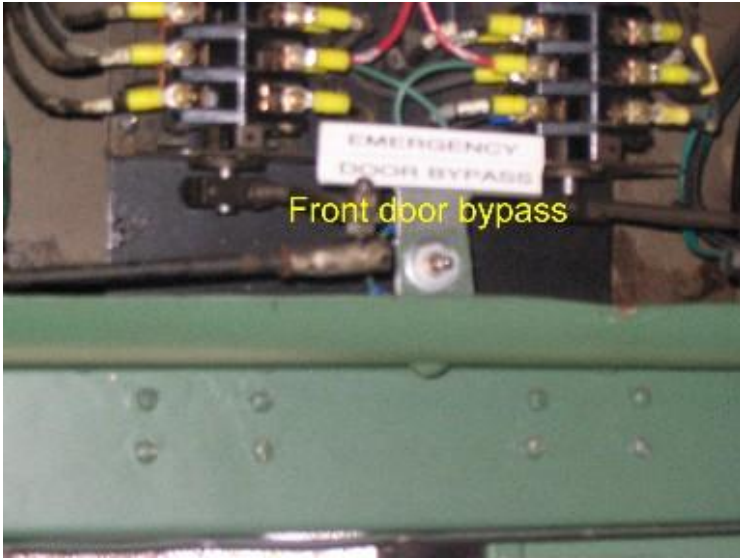
The reverser stand holds the “key” when the car is being run from the front. This car has a PA system and the microphone hangs on the cabinet. The doors open into storage cabinets; the left door contains the PA system and at one time held a transit radio receiver. The right door is for general storage. The farebox is used to register how many tokens have been brought onto the car. The lever just below the glass drops the tokens into the counter, and turning the crank counts them. Readings are taken at the start and end of each shift.

M - Reverser key and access tool



The PCC reverser key, used as the reversing control at the front and to operate the backup controller, also has a square-drive tip on the bottom end (right end in photo) that is used to access the electrical cabinets (and to wind off a shaft brake if necessary). It also unlocks the climbers to the roof, and provides access to the battery compartment and MG set. The wrench-style keys cannot be used on the PCC.

N - Controls over front door



In the cabinet over the front doors are the door motors (2) and linkages, and a front-door emergency bypass switch.