



LGB Streetcars



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Overview

The LGB Streetcar is one of the more interesting (e.g. challenging) installations. These recommendations and components represent our best efforts at balancing the amount of work you have to put in for the sound you get out. We know that many of you will have your own ideas and we are sure there are simpler ways to do the installation.

You will need to remove a lot of screws and parts and unplug some wiring. Zip-Lok® bags will save you a lot of time during reassembly if you bag the various parts and their screws as you take them off. The installation involves a nearly complete disassembly of the Streetcar.

LGB did not provide any speaker opening in this model so you will have to drill holes in the bottom to let the sound out. You will also have to drill holes to mount two switches, the computer access jack (if installed), a hole in the floor to feed wires through and holes for the reed switches (if installed).

The sound board and battery are mounted inside the Streetcar on the floor of the aisle. A piece of sheet plastic fitted between the seats and painted green or black will make the installation virtually invisible from the outside.

You will not need to do any soldering. We supply connectors to pick up power. You will need to remove some plastic in the speaker chamber.

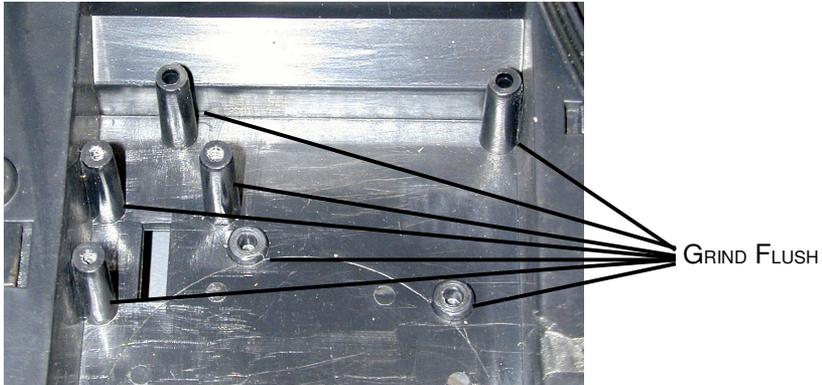
We think the effort will be well worth it.

Disassembly

1. Remove the 8 roof vents and the 8 screws underneath. Set the outer roof aside.
2. Remove 8 medium & 4 long screws in the inner roof, disconnect wiring and remove the inner roof.
3. Turn the Streetcar over; remove 4 screws on the underside cab floor (2 short, 2 small diameter). Pry off the cover. Repeat at other end.
4. Remove 12 short screws that hold the chassis to the body and pry the chassis out of the body.
5. Separate the cabs (doors – right & left – will fall out).
6. Unplug the LGB motor/light switch and remove the three screws that hold it in place. Remove and set aside. We provide a replacement motor switch.
7. Unplug the LGB control board, remove three screws (1 medium, 2 short) and set the control board aside. This will be re-installed later.

Modifications

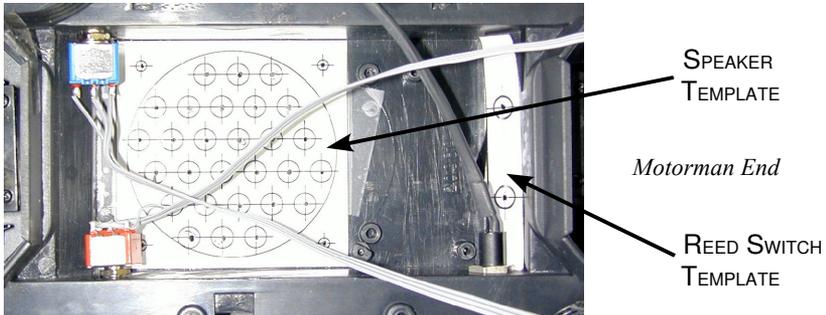
Grind flush with the floor: the 3 switch mounting posts, two nubs on the floor, and two posts (currently unused) at the end of the compartment.



Motorman End

Drilling

1. Tape down the speaker template and the reed switch template. Drill small pilot holes through the templates.



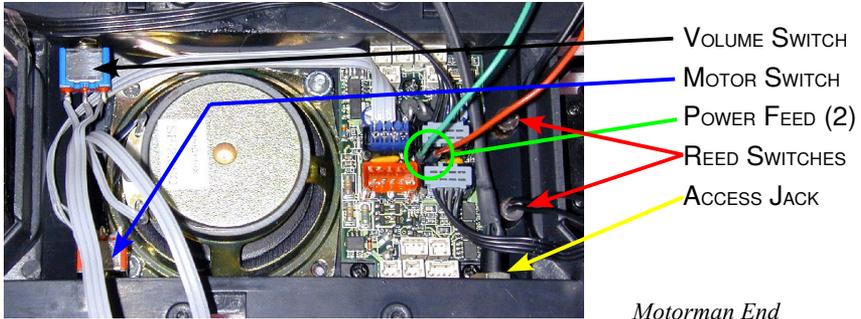
2. Drill two $\frac{1}{4}$ " holes for the switches and one $\frac{9}{64}$ " hole for the access jack. Position the hole so you are between the plumbing and the tank for the motor switch (the tank slides out). Make sure you have clearance inside for the switches and outside for the nuts.

3. Drill a $\frac{3}{8}$ " hole at the end of the aisle farthest from the motorman for the wiring to come through the floor to the sound system.

Positioning Components

Mount the speaker to the floor using silicon adhesive and/or mounting screws. Install the switches and the jack. Plug the power feed wires onto the posts that are hidden between the motor block plugs.

If you wish to utilize track magnets to trigger sounds, the reed switches should be glued to the underside of the trolley so they ride about 1/4" above the rails and are aligned 1/2" off center.



Gather together the wires and feed them through the hole in the floor. Reattach the chassis to the body. Wire the sound board terminals as shown on the chart below.

2K2 Terminal	Purpose	PB9 Terminal
1	Red Power Wire	1
2	Green Power Wire	2
4,5,6	Volume Switch	3,4,5
7,8	Speaker Wires	n/a (socket)
9	Access Jack: RED	n/a (socket)
10	Access Jack: YELLOW	n/a (socket)
16	Access Jack: BLACK	n/a (socket)
13	One wire from right hand reed switch	8
14	One wire from left hand reed switch	9
16	remaining wire from reed switches	11

If you trim the end of one of the seats slightly you will be able to slide the battery down into the aisle.(Pick one of the middle seats, and take off about 1/16" of material).

Plug in the battery and nestle everything down into the aisle. You can put a piece of plastic painted green or black over the sound system to conceal it.

Reassemble the cabs and the roofs.

Testing

Put the Streetcar on a track. Set the motor/light switch to the center position (motor and lights off). Apply power to the track. The sound system should come on when you get to about a quarter throttle. When the battery is charged the sound system will come on almost immediately. Run the track voltage up and down and you should hear many different sounds.

At this point you may want to let the Streetcar sit and charge the battery so you can hear the idle sounds (if you are using MTS or DCC, there's no need to charge up the battery).

You can run the volume up or down as needed without effecting battery charging. Charging will start at about 6 track volts and is optimum at 8 volts. Full throttle will actually take longer to charge the battery.

If you decide to run the Streetcar without charging the battery, set the motor/lights switch to the motors and lights position. It will take a few laps before the battery will give you sound when your track voltage falls below 5 volts.

Normal Sound Sequence

Idle

The crickets are chirping while the Streetcar sits idle waiting for passengers to pay their fare and take a seat in New Orleans; in Chicago you will hear traffic and pedestrian ambiance associated with an urban intersection. The air system could use some maintenance so the compressor runs quite a bit.

Streetcar moves

The brakes release, the bell plays and we're off jostling down the track. When you get to about half throttle, the crossing horn will sound.

Coming to a stop

The brakes are applied gently as we slow for the next stop. We halt and the door opens.

Direction Change

If it's the end of the line the Streetcar poles need to be switched before we start in the other direction.

Initial Terminal & Function Assignments

The Desire (New Orleans) and City (Chicago) Streetcar is configured as follows from the factory. You can change assignments using the computer interface or you can order a different assignment.

Terminals

2K2		PB9	
Terminal	Effect	Terminal	Effect
10	Trolley Pole	7	Brake Release
11	Fare Bell	8	Bong
12	Bong	9	Horn
13	Bell	10	Doors
14	Horn		
15	Doors		

DCC

Address 3

Function	Sound or Effect
F1	Bell
F2	Brake Screech
F3	Horn
F4	Doors
F5	Compressor
F6	Fare Bell
F7	Trolley Pole
F8	<none>

Speaker / Reed Switch Templates

