

This is how I changed my 3 rail Lionel Trolley into a DC only operation so it would work on the Automated Reversing Module from ["modeltrainsounds.com"](http://modeltrainsounds.com).



Remove the shell from the base.

Use a continuity meter to verify the wires and where they go.

Locate the 2 leads from the pickup roller and the truck wheels.

Locate the 2 leads going to the motor.

Locate the 2 leads to the incandescent light in the center of the trolley.



Mark all the wires with a piece of tape in two places leaving as much space open possible.

Cut the 6 wires in the centers between the tape.

If you have taken the board out such as shown it is time to replace the disconnected board back in the trolley. You can leave the head lights connected to the board as they are LED and use DC and will need some other work to make them work that I am not covering in this article.



Attach the 3 black wires together and solder them. This is the negative lead from the track and to the motor and light bulb.

Attach the 2 red wires and the one white wire together and solder them. This is the positive leads.

Place a piece of heat shrink or a small wire nut over the connection.

Using a DC power supply that you know which is in fact the Positive lead and attach to the center pickup on your trolley or any other converted engine.

Then attach the negative lead to the wheel.

Turn the power on and determine which way the vehicle moves. This is the forward motion required for the automatic reviser control. Mark the bottom of the car in some manner showing it is the forward direction.

Put the shell back on and you are ready to operate the Trolley or Engine.

Note #1 if you want the forward to be different (such as using an engine) then simply reverse the two leads going to the motor.

Note #2 Lionel, MTH or Bachman have standardized there wiring between different vehicles using DC motors.

Note #3 They also use Red, Black, Blue, Green, and Yellow colored wires in pairs.

Add new head lights on the trolley



The trolley comes with 2 yellow head lights that turn on as the trolley is going forward and off when the other direction.

The original head lights are wired through the original control board.

I decided not to try to find the right resistor to put on the bulbs. They normally take a 470 ohm resistor but with some of the lower voltages closer to 6 volts the lights do not work.

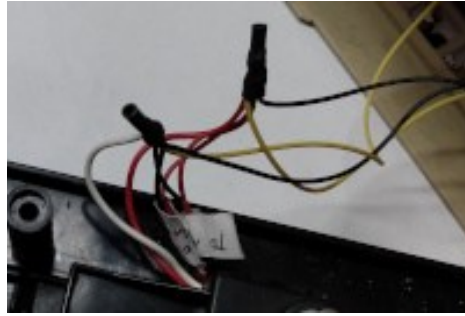
I found that there are these LED 12 Volt colored lights that can be purchased from a whole variety of sites that are already wired with a resistor and a Diode that will allow them to be used from 6 Volts through a little over 12 Volts and are polarized.



This is what I did after purchasing them on line or at an electronic parts supply house.

I removed the original bulbs from the car and discarded them.

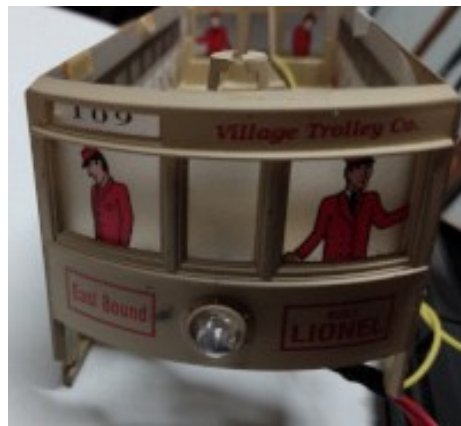
If you look at the photo above I attached one black wire and one yellow wire from each bulb together.



I then attached each of the paired leads to the wires coming from the track to the motor.

Test for the polarity by touching the positive contact from a transformer to the center pick up and the negative to the wheels.

The light at lights up should be placed in the forward holder on the shell. And the other light on the back end.



***** NOTE *****

This will work on any engine that is operating on a DC motor.

Older wound motors will not work