



Installing the LED light kit in FE Power Clear Valve Covers

The lighting kit for the FE Power clear valve covers includes an LED string for each valve cover, plus a toggle switch, a fuse block with 2A fuse, and wiring and connectors. The LED strings already have the electrical connection and plugs installed, so all that is required is to install the LED strings in the valve covers, and then do the basic wiring hookup. Each LED string consumes about $\frac{1}{4}$ of an amp at 12V, so power consumption is quite low. This makes it practical to leave the lighting kit on for a few hours at a time with the car parked, if desired.

The lighting kit can be retrofit to any FE Power clear valve covers; all the valve covers we have produced have provisions to house the LED string.

Start by removing the screws from the middle section of the aluminum rail with the single hole, and also one of the end rails. You will want to determine whether you want the lighting connector to come out the front or the back of the valve cover, and also note which valve cover you are working on, to make sure the connector is in the right spot. In the photo below we are working on the passenger side valve cover, and will have the connector exit at the rear:





The photo above shows the two aluminum rails removed. Turn the end rail upside down and you will see a slot in the end rail. Remove any burrs of aluminum in this area that may be left over from the machining operations. Position the LED light string so that the wires are in the slot, with most of the black tape out of the slot (there are solder joints under the black tape). The LEDs should be facing in towards the valve cover:





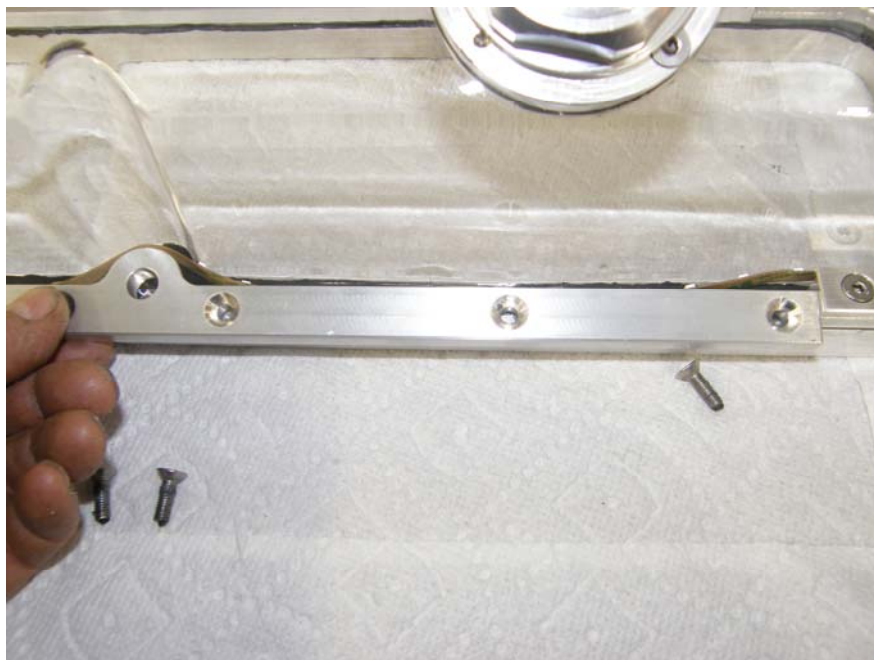
Next, flip the end aluminum rail back into position while holding the LED strip in place. Start the four screws in the end rail, but don't tighten them yet.



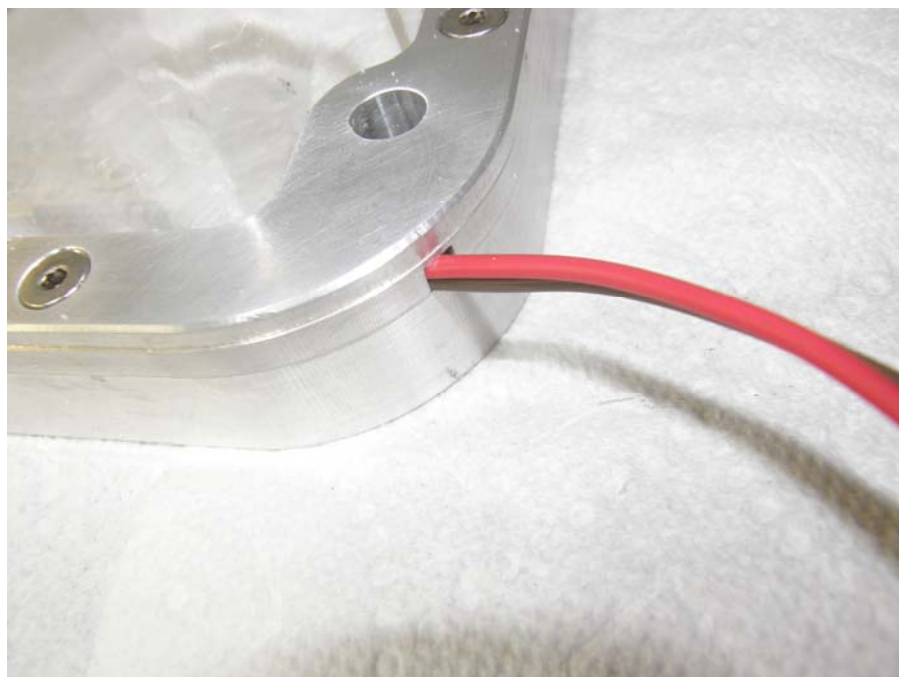
Take the tail end of the LED string and slide it into the gap between the clear valve cover and the other end rail, to hold it in position:



Now slide the other aluminum rail into position. The LED string will conform to the curvature in the rail. Be careful not to pinch the LED string, or let it slide underneath the rail. When the rail is properly positioned, start the screws that hold it in place.



Tighten down all the screws. Check that the end rail is not pinching the wires; the exit of the wires from the end rail should look like this:



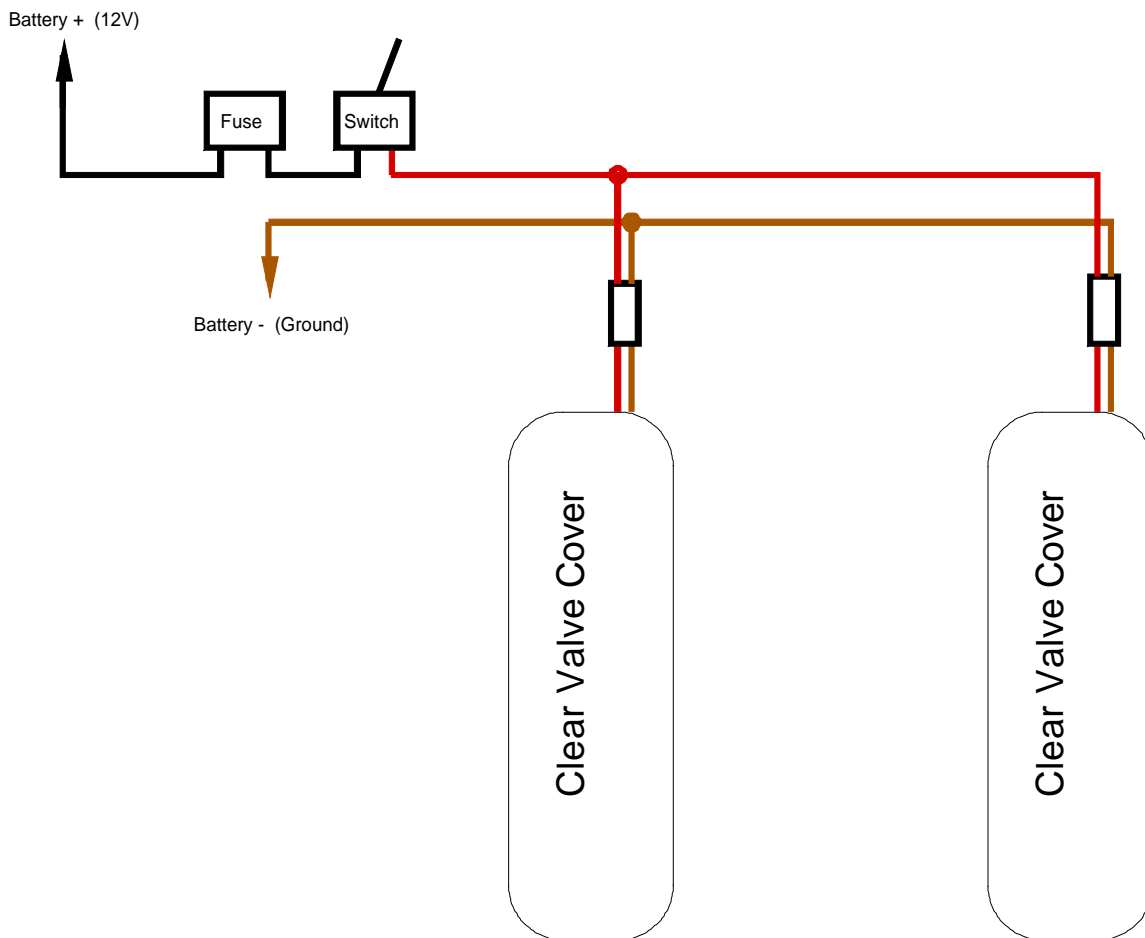
After the screws are all tight, check for shorts. Both wires should be electrically isolated from the aluminum frame. You can use an ohm meter to confirm that there is no connection between either of the wires and the frame:



When finished, test to make sure that the LEDs light up. ***The red wire goes to battery +, 12 volts, and the brown wire goes to battery -, or ground. Hooking the wires up backwards will damage the LED string, so make certain that you connect the wires correctly.*** Once you have confirmed that the LEDs light up, repeat this process with the other valve cover.



Use the wiring diagram below to connect the LED strings to battery power. The kit contains about 6 feet of red and brown wire. You can use the crimp terminals included in the kit to make the connections. Make sure to use a good crimping tool, and heat shrink the plastic on the ends of the crimp terminals to seal the ends of the wires. The fuse holder uses a 2 amp fuse; the fuse will blow if there is a short in the system. You can hook the wires to your vehicle's fuse box, or directly to the battery if you prefer. The fuse side of the switch should always go to +12V.



If you have questions on this installation, please don't hesitate to contact us. Thanks for your interest in this product.

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