



## **GM Throttle body Injection Harness installation instructions**

*Thank you for your purchase from Larry's Electric. To help aid in a successful installation, I have included these instructions. Please take the time to familiarize your self with all the components and instructions before installing. If these instructions are not followed very carefully it may result in severe damage or harm to your self and the vehicle. In addition to these instructions you must have at least a general idea of how fuel injection works and be familiar with all of its components.*

### **Things that you need to start.**

- A TBI unit, complete with idle air motor and throttle position sensor, and intake manifold.
- GM #1227747 ECM with the correct memcal and prom chip from either a V6, V8, depending on your engine size.
- Acdelco MAP Sensor # 213-1545
- O2 sensor (oxygen sensor) mounted in the exhaust with in 18 inches of the exhaust port. Heated O2 sensors may also be used (especially with headers) and need to be mounted as close as possible to the exhaust port.
- Acdelco Knock sensor #213-92
- 3/8 or larger fuel supply line from the tank (Fuel injection line 90psi min only), and a 5/16 or larger return line to the tank. The return line must end at least ½ in from the bottom of the fuel tank to prevent vapor and static electricity build up.
- Electric fuel pump capable of delivering 20 PSI under all driving conditions and a fuel filter designed for that amount of pressure.
- Injectors for your size engine. Take note from what engine your throttle body came from.
- Distributor from any TBI or TPI engine (Small cap) Remote coil mount

In addition to standard mechanics tools you need a 12 volt test light or meter and a digital non-loading meter.

### **INSTALLATION:**

To begin, locate and drill a 2 inch hole through the fire wall for the main loom to the ECM. Just behind the distributor is an ideal location.

Working from inside the vehicle, start feeding the harness through the fire wall into the engine compartment. Feed the harness until the rubber grommet can be inserted into the fire wall.

Route the injector wires along the passenger side intake manifold. The pink/blue wires connect to the injector on cylinders 1,3,5,7 (drivers side). The pink/green wires connect to the injector on cylinders 2,4,6,8 (passenger side).

Connect the distributor plug (white, purple, tan, and red wires).

Connect the coolant temp sensor plug at the front of the manifold (yellow and black wires).

Connect the black/white wire to a clean solid bolt on the manifold (Ground).

Connect the throttle position sensor (black, blue, and grey wires) to the throttle positions sensor on the right side of the throttle body. Connect the idle air motor (green/white, green/black, blue/white, blue/black wires) to the bottom of the throttle body near throttle position sensor.

Remove block drain plug on lower right side (passenger) of engine and install gm knock sensor # 213-92. **YOU MUST USE THIS PART NUMBER KNOCK SENSOR.** Most knock sensors look the same but are different electrically.

Install the Oxygen sensor and connect (purple wire)

Connect the MAP sensor located on passenger side of valve cover (green connector, green, black and grey wires).

Mount ECM, fuse block and fuel pump relay under dash in a cool dry place.

Connect ESC box to connector located near ECM ( blue/yellow, pink, black, yellow/black) **\*\*\*NOTE\*\*\***. The factory one is located near the throttle body on the passenger side of the intake manifold.

Connect the large gang-plugs to the ECM, making sure you do not force them into place and that they are correctly positioned.

Connect the 14 gauge orange wire to a **12 volt battery source (always hot)**

Connect the 14 gauge pink wire to an ignition switched on **(hot in start and run).** A separate 12 V Ignition coil supply is needed, and may be connected to the same source. Connect this pink wire to the + terminal of the remote coil or to the **BAT** side of an HEI coil.

Connect 14 gauge grey wire (fuel pump inscribed on it) to the fuel pump at the + terminal of the pump.

Connect “Check Engine Light” (light brown wire) to negative terminal of light fixture and a 12 volt Key on power source to the positive side of light. Use **Low Wattage** (1/4 or less) bulb.

Connect the loose purple wire, at the ECM end of the harness, to the “s” terminal of the starter circuit (in other words the wire that engages the starter solenoid)

Mount the ALDL connector out of sight, but easily accessible location for scanner connection later. (12 way black connector with an orange, black/white, and white wires)

Set the Throttle position sensor to 0.55 volts at idle using a digital, non-loading meter.

**\*\*\*NOTE\*\*\*** Only adjust if necessary, some TPS sensors are not adjustable.

Bleed the fuel lines by cycling the ignition on, wait for the pump to run and shut off, then turn the key off, and repeat several times.

**\*\*\*NOTE\*\*\***

If your injectors have set along time the gas in them will gum them up and they will not work. To make sure that they are in working order before plugging in the injectors take two pieces of scrap wire and put 12 volts to one side of the injector terminal and ground to the other. The injector should make a click sound. If not remove them and have them cleaned or replace them.

Start and run engine.

Set static timing at factory specs for your engine, but remember to disconnect the tan/black wire at the distributor to disable electronic timing adjustments while setting the static timing. Reconnect the tan/black wire when finished.

If you have any questions/problems or require technical assistance, please call Larry’s Electric @ 618-282-2852 Monday – Friday 8 – 4 pm CST.

*If for any reason that you are not satisfied with this product with in 10 days of purchase please call us and we will refund or exchange it, as long as the product is not altered in any way shape or form and is returned it its original box with all pieces. Shipping is a non refundable service, we are not responsible for shipping cost or transit times.*

*This product is not intended for sale or use on any emissions controlled vehicle which will ever be operated on a public thoroughfare.*

*For off road use only*

*™ Larry’s Electric, and Larryselectricsite.com*

*©2007-2010*

*REVISION 2 12-28-10*

Please see [http://www.larryselectricsite.com/storefront/Product\\_Policy.php](http://www.larryselectricsite.com/storefront/Product_Policy.php) For warranty and return information.