



## 1993 GM LT1 fuel 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.

- GM LT1 series engine and transmission, with all the correct sensors.
- GM PCM for the correct year engine/transmission you are working with.
- Your Prom/memcal reprogrammed or "Flashed" with at least the vats removed.
- 2 O2 sensors (oxygen sensor) mounted in the exhaust with in 18 inches of the exhaust port
- Electric fuel pump capable of delivering 60 PSI under all driving conditions and a fuel filter designed for that amount of pressure.
- 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.
- Injectors for your size engine. If you don't have them already
- Retain the Distributor harness that attaches to the distributor.

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

### INSTALLATION:

**!!!IMPORTANT!!!**

**Do not force any connector into place. Take your time.**

To begin, decide on a mounting place for your pcm. If mounting ECM inside start by working from inside the vehicle, drill a 2 inch hole and feed the harness through the fire wall into the engine compartment.

Route both banks of the injector wires along the correct side of the intake manifold. The blue/pink and pink injectors are for the left side 1,3,5,7 in no special order and right side 2,4,6,8 are green/pink.

Connect the coolant temp sensor plug on the front of the engine on the water pump.(yellow and black wires, black connector).

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

Connect the large pink wire with "902" printed on it to the vehicles ignition coil feed, or ignition hot in the run and crank modes of the ignition switch. **\*\*Be sure to connect this properly as the engine will not run with out it, it is a very common mistake.\*\***

The coil connector for 93 model is a two piece connector, grey and black. The small 4 pin connector along with the coil wires goes to the coil driver located next to the coil. The loose white wire goes to a tach if you have one, and the pink is an ignition hot that you connected earlier. There is also a loose black/white wire that will need to be grounded, normally there is a stud that holds down the coil that you can use as a grounding point.

Connect the throttle position sensor (black, blue, and grey wires) to the throttle position sensor on the 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.

Install the Oxygen sensors and connect the o2 sensor labeled wires to the correct side (purple, wire **(right side)** and purple/white wire **(left side)**)

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

Connect the Distributor plug to the Distributor pig tail.

Connect the Intake air temp sensor (Grey connector, tan and black wires)

Connect the knock sensor wires to the knock sensors located in the lower end of the block. Blue/yellow wires. (93 models use two knock sensors and the ECM cant tell which side is which so you can hook the wires up either way.)

Connect the transmission wires to there correct location and the speed sensor located in the tail housing of the tranny

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

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 pink wire to an ignition switched on **(hot in start and run)**.

Connect the 14 gauge orange wire to a battery hot source.

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

Connect “Check Engine Light” (loose brown wire at ECM) 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 light blue/black, at the ECM end of the harness, to a normally closed brake switch (in other words a switch that has key on 12 volts on it all the time except when the brake pedal is pressed.)

Connect the loose green/white wire at ECM to your speedometer (optional check with your speedo manufacturer.)

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

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.

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 within 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 in 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.*

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