



GM Vortec 4.3 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 Vortec series engine and transmission, with all the correct sensors.
- GM PCM for the correct year engine/transmission you are working with.
- Your PCM reprogrammed or "Flashed" with at least the correct tire size, gear ratio, emissions removed and vats removed. Other changes are up to you.
- 2 Heated O2 sensors (oxygen sensor) mounted in the exhaust with in 18 inches of the exhaust port. **Part number AC Delco 213-802 or equivalent**
- 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.
- **AC DELCO Knock sensor 213-924 (for engines made before 2001)**

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. It is normally mounted in the engine bay but can be mounted inside, but this requires cutting a 2 inch or larger hole in the fire wall.

If you decide to install the PCM inside the vehicle start by working from inside the vehicle, start feeding the harness through the fire wall into the engine compartment.

Engine/trans connections

- Plug the large black connector for the injectors in to the top of the intake just behind the throttle body.
- Connect the coolant temp sensor plug on the driver side (left) head. (Yellow and black wires, black connector).
- Connect large black wire (loose at engine) to a clean solid bolt on the manifold (Ground).
- Connect the throttle position sensor (black, blue, and grey wires) to the throttle position sensor on the side of the throttle body. Also connect the idle air motor (green/white, green/black, blue/white, blue/black wires) at this time too, located just beside the throttle position sensor.
- Connect the MAP sensor located on the top of the intake next to the injector plug (grey connector, green, black and grey wires).
- Connect the Intake air temp sensor (Grey connector, tan and black wires) and the mass air sensor wires (black connector, yellow, pink, black/white). Located in air intake duct
- Connect the crank shaft position sensor located on lower front cover. (black connector blue/wht, lt green, and yel/blk wires)
- Connect the coil wiring (3 pin plug with 2 white/blk wires and a pink, connector is orange or brown in color) to the coil. The small 4 pin connector (white, white/black, black/white, and pink wires) goes to the coil driver located next to the coil.
- Connect the Distributor plug to the Distributor. (Red, Pink/black, and Brown/white wires)
- Connect the knock sensor to the knock sensor located at the top rear next to the distributor. Blue/yellow and grey wire. *(For engines manufactured before 2001 you will need to purchase a different knock sensor. AC Delco 213-924. Install the new knock sensor into one of the unused bolt holes in either head.) A picture of the new knock sensor is supplied at the end of the instructions.*
- Install the Oxygen sensors and connect wires to the correct side (purple, tan, black/white, pink wires (**right side**) and purple/white, tan/white, black/white, pink wires (**left side**)). Use AC Delco #213-802 Sensors or equivalent. **Be sure to connect the correct sides.**

- Connect the transmission wires to their correct location and the speed sensor located in the tail housing of the transmission. Transmission connector is a large grey connector and the speed sensor is a small black connector with green/black and ppl/white wires.
- The large orange wire located at the main breakout of the harness is to be connected to the battery terminal on your starter. A fusible link is suggested (provides battery power to the harness)
- Mount PCM, 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 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 PCM) 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/wht, at the PCM 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 the PCM end of harness to your speedometer (optional check with your speedometer manufacturer.)
- Connect the loose white/black wire to your tachometer if using one.
- Mount the ALDL connector out of sight, but easily accessible location for scanner connection later. (16 way black connector with an ppl, black/white, and orange 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 may not work. You may want to have your injectors tested/cleaned at this time or replaced.

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 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

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Please see http://www.larryselectricsite.com/storefront/Product_Policy.php For warranty and return information.

AC Delco 213-924 Knock sensor

