



# INSTALLATION INSTRUCTIONS

## FUEL RAIL FOR GM LS7 ENGINE

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Document# 19-0170

**WARNING: DO NOT EXPOSE WORK AREA TO ANY SPARKS OR FIRE. DO NOT SMOKE WHILE OPERATING ON THE FUEL SYSTEM. CLEAN UP ALL FUEL SPILLS IMMEDIATELY. WORK IN A WELL VENTILATED AREA.**

1. Disconnect the battery negative terminal, as shown. Allow the engine to cool before working with the fuel system. Have a rag handy and purge fuel pressure from the system using the Schrader valve on the front of the OEM fuel rail.

Disconnect the 8 fuel injectors. Note that the wiring harness is specific to the firing order. If the wiring harnesses are removed, they must be reinstalled on the correct engine bank and to each specific injector.

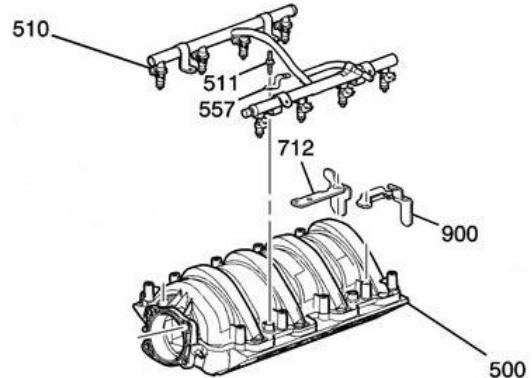
Disconnect any wiring, vacuum lines, and throttle body components interfering with the installation process.



2. Using an SAE disconnect tool, remove the fuel feed hose. Catch all spilled fuel. Use a 10mm socket to remove the four M6 mounting bolts (511). These bolts will be reused.

Gently lift the fuel rails up being careful to not lose anything in the engine bay. The injectors will remain attached to the fuel rails. Remove from the vehicle and place onto a bench. Pull out and save all 8 injector retaining clips (510) as they will be reused. Cautiously pull and twist to remove the injectors. Note: the rail will contain residual fuel. Drain excess fuel into a safe container for disposal.

Clean out any dirt or debris found in the intake manifold injector seat bores.



3. Apply a medium strength thread locker to the eight provided M6 bolts. Using a 4mm Allen hex wrench, install the mounting feet as shown.

Make sure the mounting feet are perpendicular to the rails.



4. For a plug and play system that reuses the OEM fuel feed line, the following parts will need to be purchased separately: 20-0232-PK, 14-0148-06, 20-0029

Install the 8AN straight fitting in the front LH port and the 8AN 90 degree swivel fitting in the front RH port. Install the 8AN ORB to SAE quick connect fitting in the LH center port. Install the 8AN ORB plugs in the unused ports.

NOTES:

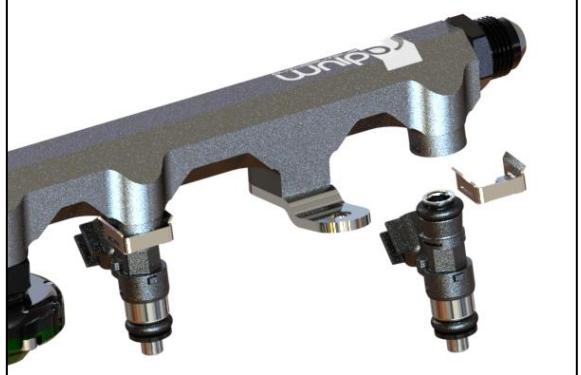
1. Aforementioned fittings represented in gold color.
2. Lubricate all O-rings prior to installing.
3. Skip a few steps to finalize this plumbing install.



5. Before installing the fuel injectors, be sure the inlet cone filters are free from debris. Also, inspect the injector O-rings for any damage and replace if necessary.

For ease of installation, apply a light coat of oil to the injector O-rings, intake manifold injector seats, and fuel rail injector bores.

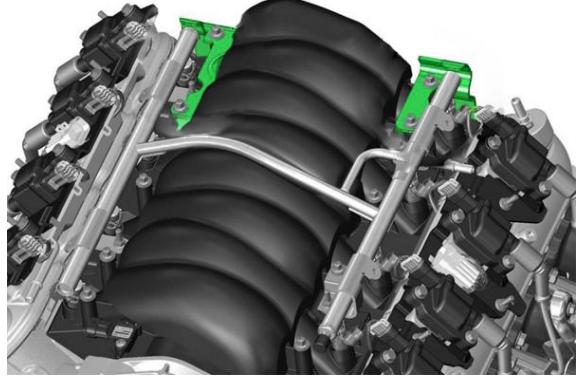
Fully insert the injectors into the fuel rail bores. Reinstall the OEM injector clips, as shown.



6. Line-up and place each fuel rail assembly onto the intake manifold. Once everything is positioned correctly, push the rail towards the intake manifold to fully seat the injectors. Confirm all injector O-rings have been installed properly.

Note: There are OEM brackets at the rear of the rails (shown in green). Depending on which port fittings are used, there may be interference. Modifications to these brackets may be required.

Tighten the 4 OEM mounting bolts.



7. *Continued from a previous step...*

Apply PTFE paste to the gauge threads. Hand tighten the gauge to the 8AN inline adapter, then add 1.5 to 3 turns. Install the 8AN inline adapter to the front RH swivel fitting. Secure the 90 degree hose end to the 8AN straight fitting on the front LH fitting and the 45 degree hose end to the 8AN inline adapter, as shown.

Lubricate and push the OEM feed hose onto the LH center port SAE quick connect fitting until a click is felt. Gently pull to test the connection.



8. Reinstall all components previously removed.

Cycle the ignition switch a few times (without starting engine). This purges the system of air and allows the fuel pump to prime the system.

**CHECK FOR LEAKS!** If no leaks are found, start the engine and check again while the engine is running. NOTE: OEM fuel pressure is 4 bar (GM states "55-60psi").

**Installation complete.**

