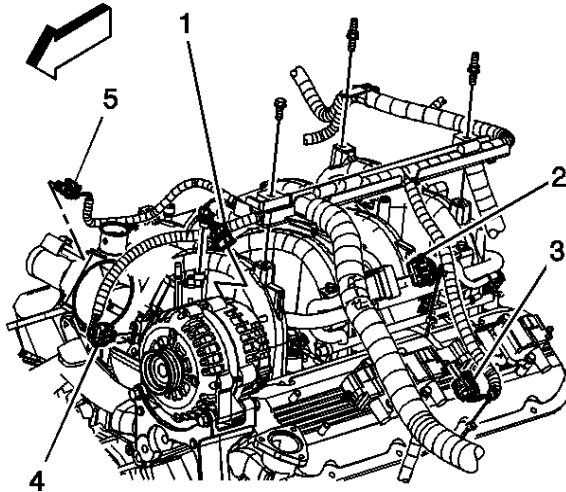


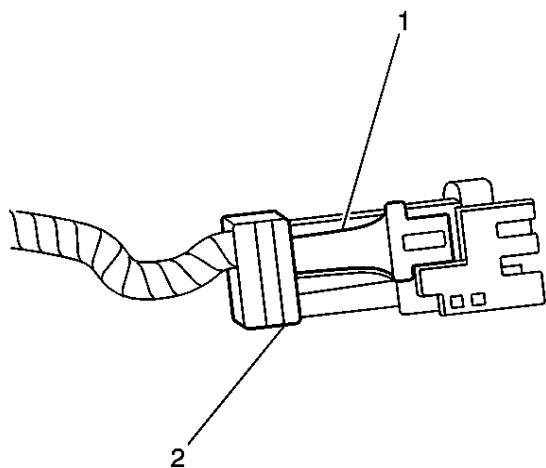
Fuel Injection Fuel Rail Assembly Replacement

[Removal Procedure](#)

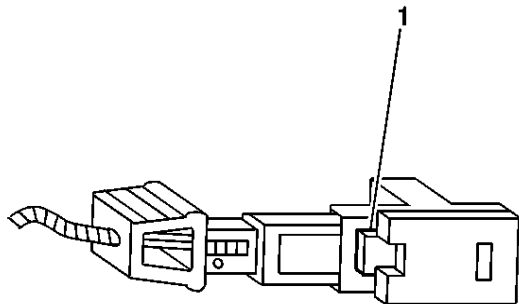
Important: An eight digit identification number is located on the fuel rail. Refer to this number if servicing, or part replacement is required.



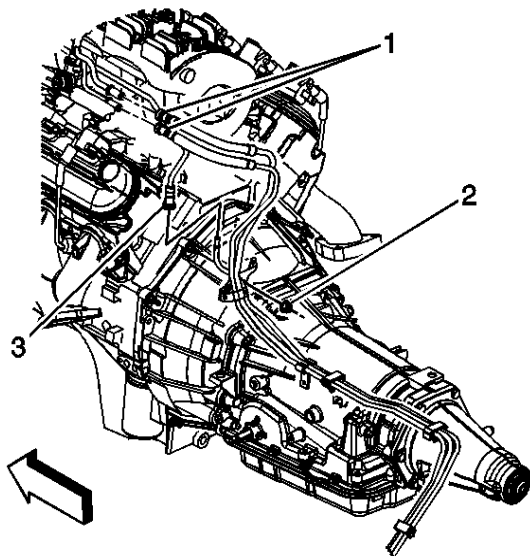
1. Relieve the fuel system pressure. Refer to [Fuel Pressure Relief](#) .
2. Remove the engine sight shield. Refer to [Upper Intake Manifold Sight Shield Replacement](#) in Engine Mechanical – 8.1L.
3. Disconnect the generator electrical connector (1).
4. Disconnect the evaporative emission (EVAP) canister purge valve electrical connector.
5. Disconnect the electronic throttle control (ETC) electrical connector (5).
6. Remove the engine harness bolt and studs.
7. Reposition the engine harness to the drivers side of the engine compartment.



8. Identify the fuel injector connectors to their corresponding injectors in order to ensure correct sequential injector firing order after reassembly.
9. Pull the top portion (2) of the connector up. Do not pull the top portion of the connector past the top of the white portion (1).

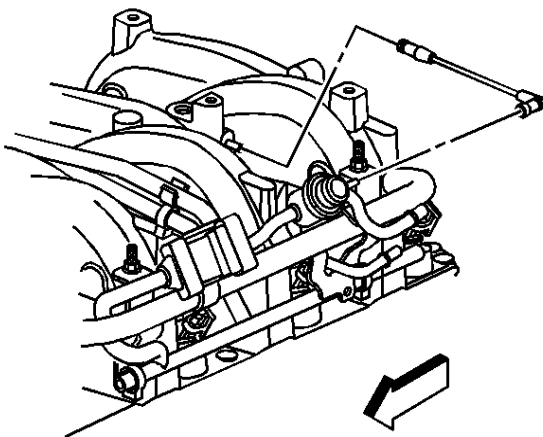


10. Push the tab (1) on the lower side of the connector in order to release the connector from the injector.
11. Repeat step 12 and step 13 for each injector connector.

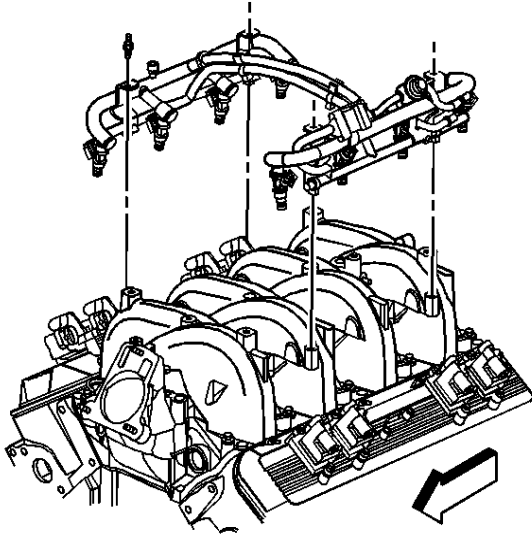
**Notice:**

- Remove the fuel rail assembly carefully in order to prevent damage to the injector electrical connector terminals and the injector spray tips. Support the fuel rail after the fuel rail is removed in order to avoid damaging the fuel rail components.
- Cap the fittings and plug the holes when servicing the fuel system in order to prevent dirt and other contaminants from entering open pipes and passages.

12. Disconnect the fuel feed and return pipes (1) from the fuel rail. Refer to [Metal Collar Quick Connect Fitting Service](#) .



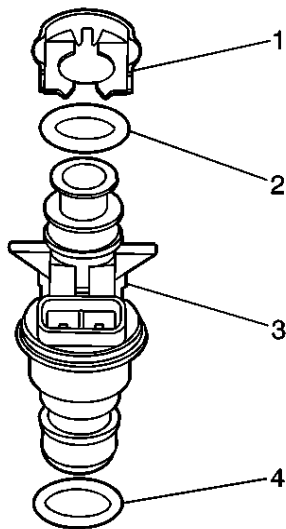
13. Remove the fuel pressure regulator vacuum line.



14. Remove the fuel rail studs.

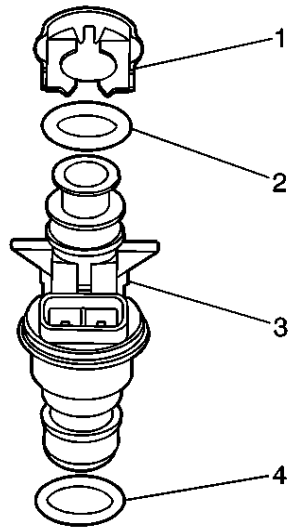
Important: Before removal, clean the fuel rail with a spray type engine cleaner such as, GM X-30A or equivalent, if necessary. Follow the package instructions. Do not soak the fuel rails in liquid cleaning solvent.

15. Remove the fuel rail.

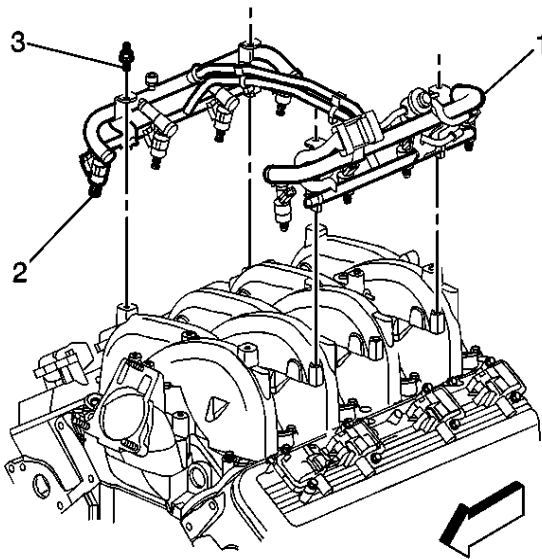


16. Remove and discard the fuel injector lower O-ring seals (4) from the spray tip end of each injector (3).

Installation Procedure



1. Lubricate NEW lower injector O-ring seals (4) with clean engine oil.
2. Install the NEW O-ring seals (4) onto the spray tip end of each injector (3).



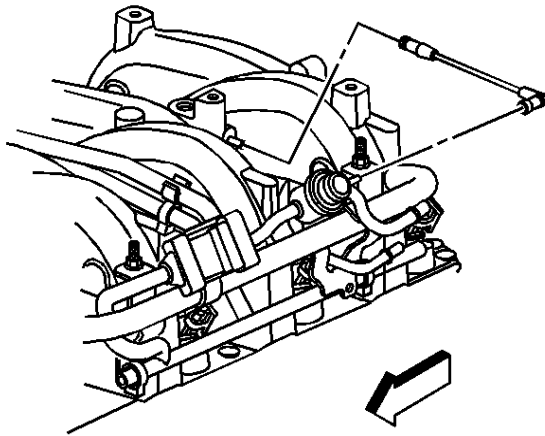
3. Install the fuel rail.

Notice: Refer to the [Fastener Notice](#) in Cautions and Notices.

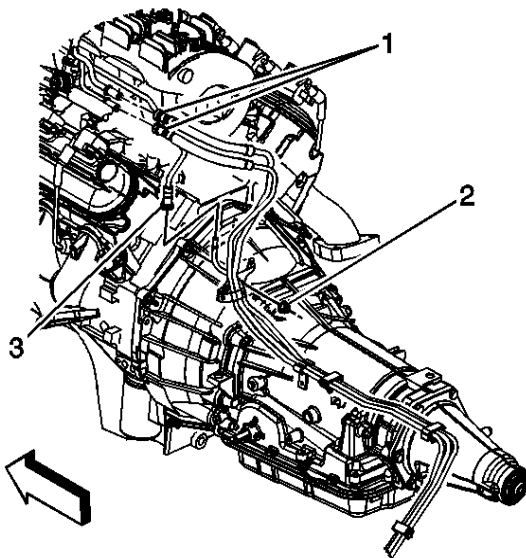
4. Install the fuel rail studs.

Tighten

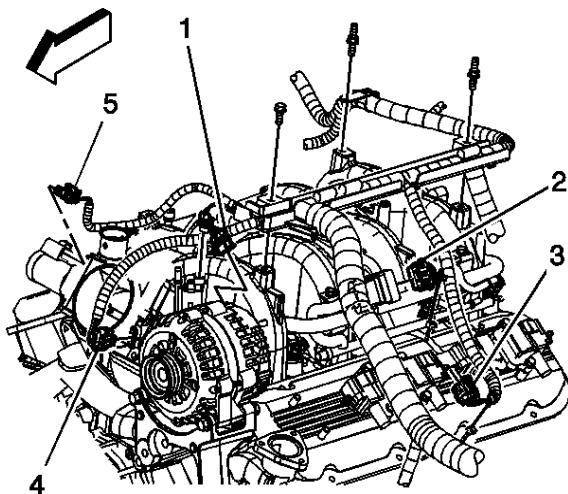
Tighten the studs to 12 N·m (106 lb in).



5. Install the fuel pressure regulator vacuum line.



6. Connect the fuel feed and return pipes (1) to the fuel rail. Refer to [Metal Collar Quick Connect Fitting Service](#).
7. Connect the fuel injector electrical connectors.
 - Install each connector onto the proper injector in order to ensure correct sequential injector firing order.
 - Rotate the injectors as required in order to avoid stretching the wire harness.



8. Reposition the engine harness.
9. Install the engine harness bolt and studs.

Tighten

Tighten the bolt/studs to 10 N·m (89 lb in).

10. Connect the ETC electrical connector (5).
11. Connect the EVAP canister purge valve electrical connector.
12. Connect the generator electrical connector (1).
13. Install the engine sight shield. Refer to [Upper Intake Manifold Sight Shield Replacement](#) in Engine Mechanical – 8.1L.
14. Install the fuel fill cap.
15. Connect the negative battery cable. Refer to [Battery Negative Cable Disconnection and Connection](#) in Engine Electrical.
16. Use the following procedure to inspect for leaks:
 - 16.1 Turn the ignition ON, with the engine OFF, for 2 seconds.
 - 16.2 Turn the ignition OFF for 10 seconds.
 - 16.3 Turn the ignition ON, with the engine OFF.
 - 16.4 Inspect for fuel leaks.