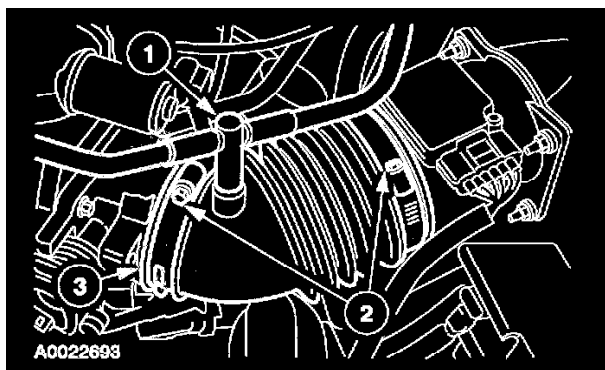


Intake Manifold: Service and Repair

UPPER INTAKE MANIFOLD

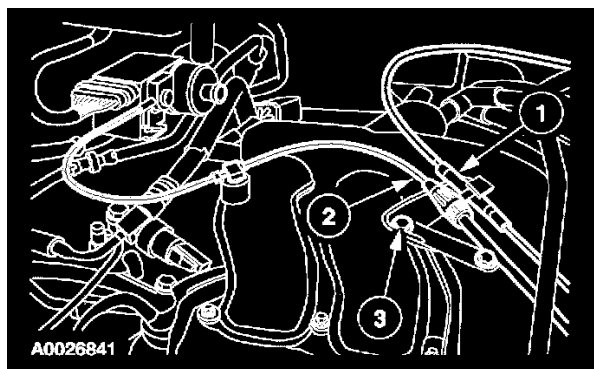
Removal



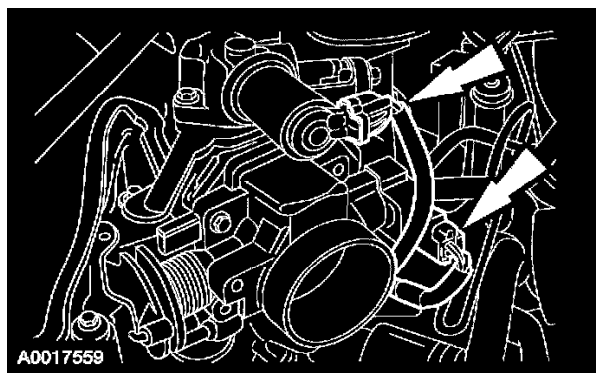
1. Remove the air cleaner outlet tube.
 1. Remove the vacuum hose.
 2. Loosen the clamps.
 3. Remove the air cleaner outlet tube.



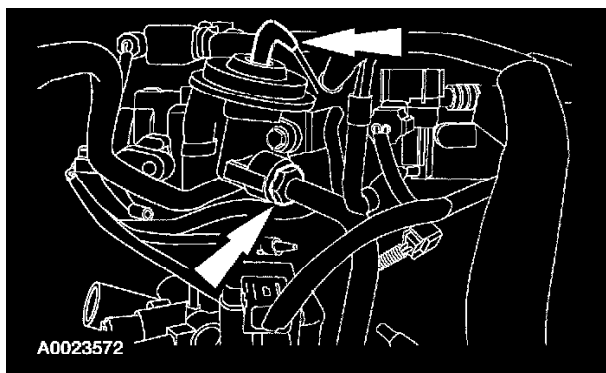
2. Remove the three nuts and the engine appearance cover.



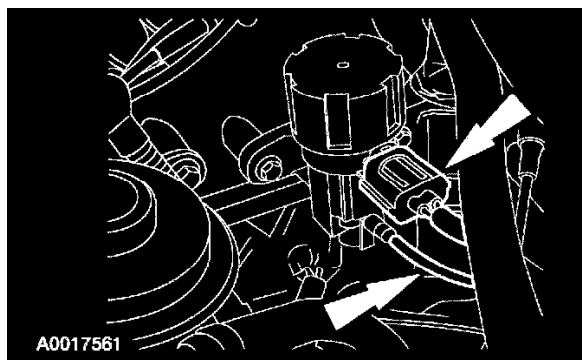
3. Disconnect the cables.
 1. Disconnect the throttle cable.
 2. If equipped, disconnect the cruise control cable.
 3. Remove the throttle cable bracket bolts.



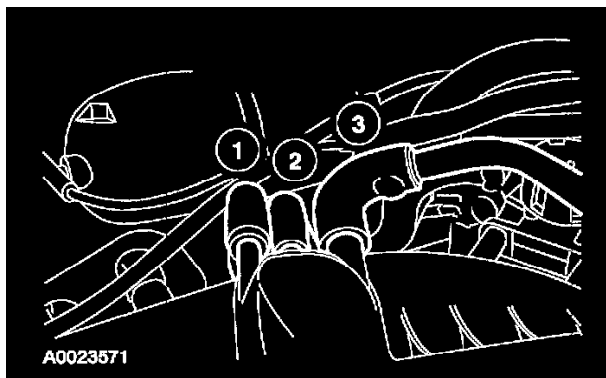
4. Disconnect the throttle position (TP) sensor and idle air control (IAC) electrical connectors.



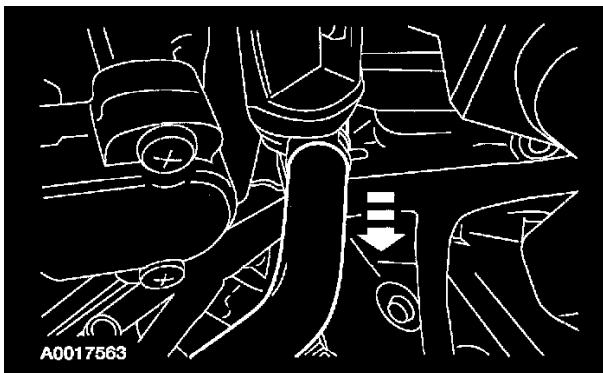
5. Disconnect the exhaust gas recirculation (EGR) valve vacuum hose and EGR tube nut.



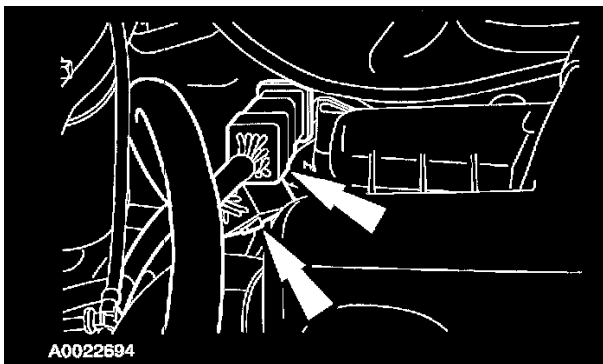
6. Disconnect the EGR vacuum regulator valve electrical connector and vacuum hose.



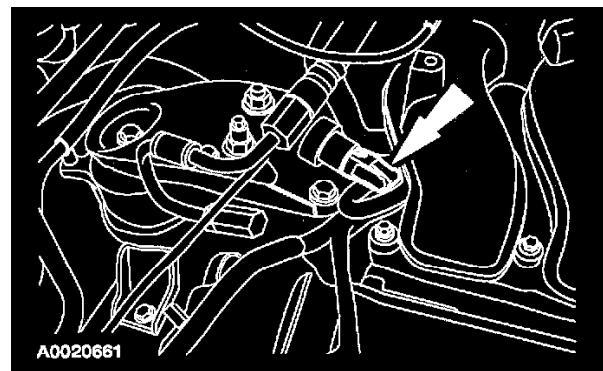
7. Disconnect the three vacuum hoses on the back of the intake manifold.
 1. Connect the chassis vacuum hose.
 2. Connect the engine vacuum hose.
 3. Connect the positive crankcase ventilation (PCV) hose.



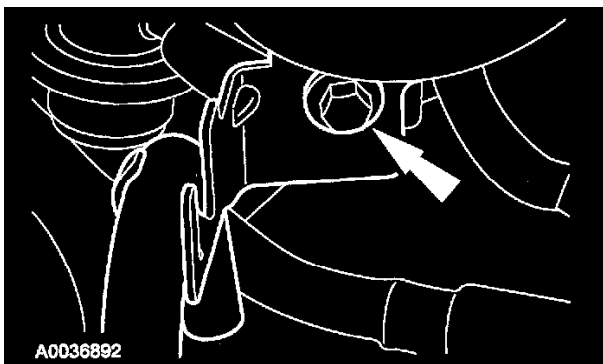
8. Disconnect the vapor management valve (VMV) vacuum hose.



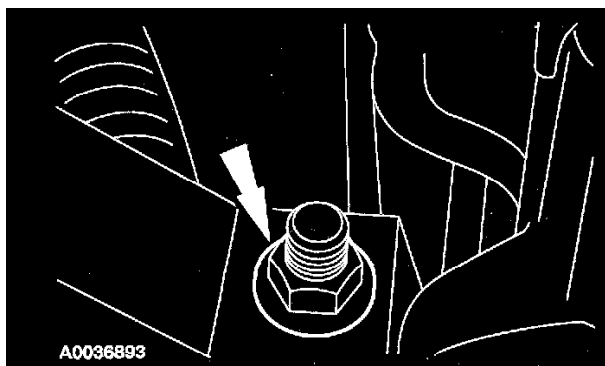
9. Disconnect the two electrical connectors attached to the left side of the upper intake manifold.



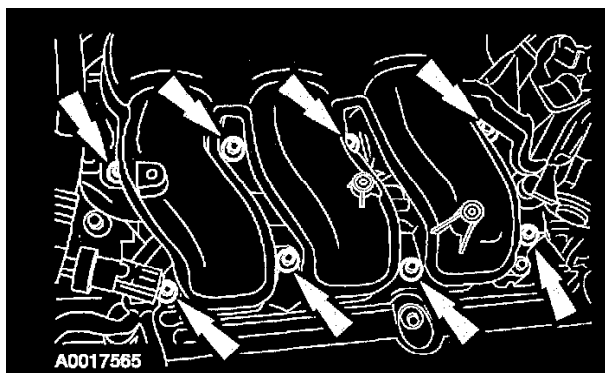
10. Disconnect the power steering pressure (PSP) sensor electrical connector.



11. Position the transaxle vent hose and bracket aside.
 - Remove the bolt.



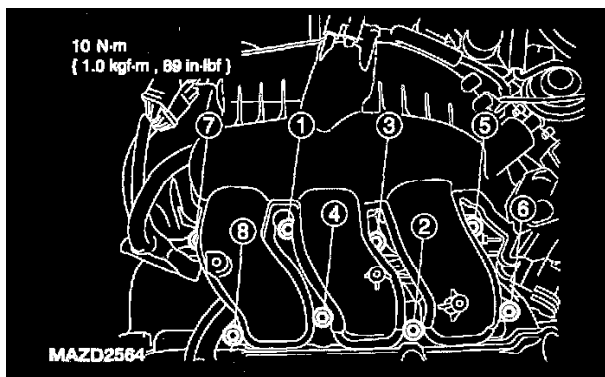
12. Remove the nut from the wire harness.



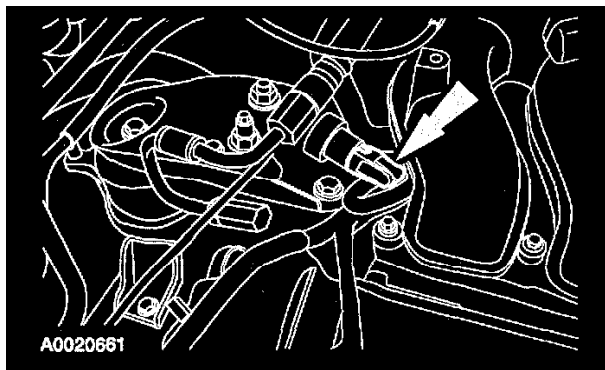
13. Remove the eight bolts and the upper intake manifold.
 - Remove and inspect the gaskets. Discard if damaged.
 - Clean all sealing surfaces.

Installation

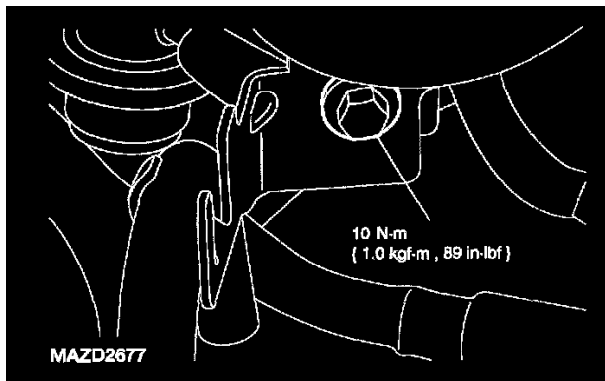
1. Position the gaskets in the upper intake manifold.



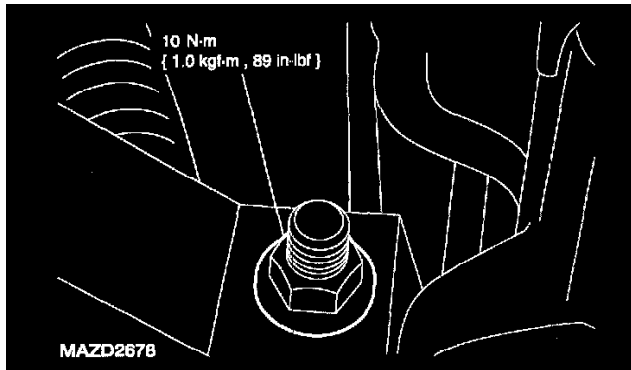
2. Position the upper intake manifold and tighten the bolts in the sequence shown.



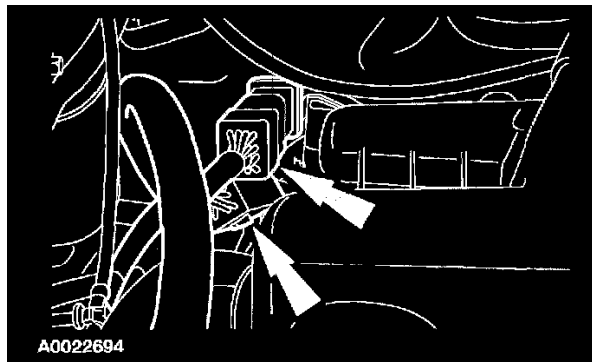
3. Connect the PSP electrical connector.



4. Install the transaxle vent tube and bracket.



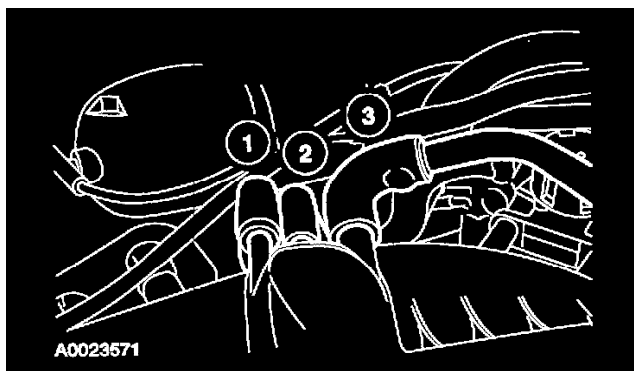
5. Position the wire harness and install the nut.



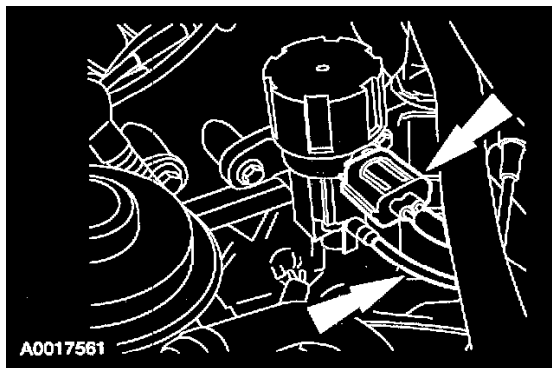
6. Install the two electrical connectors on the left side of the intake manifold.



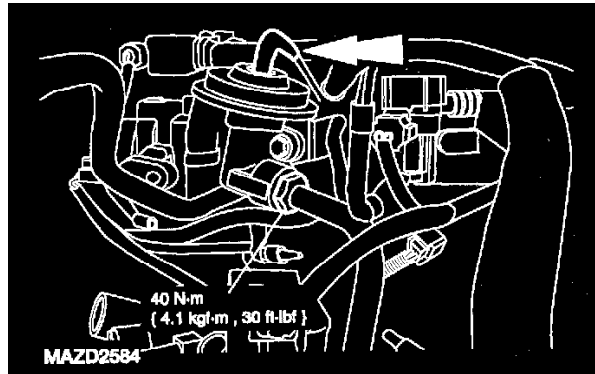
7. Install the vapor management valve (VMV) vacuum hose.



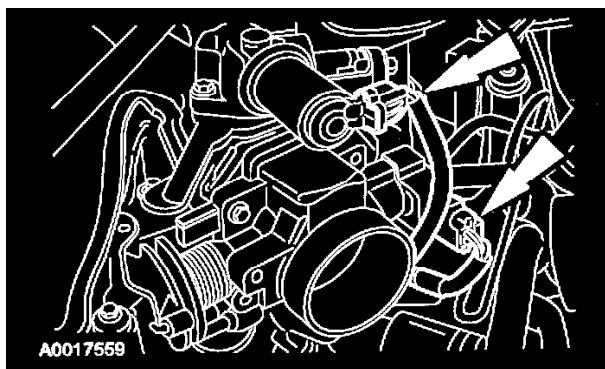
8. Connect the three vacuum hoses on the back of the upper intake manifold.
1. Connect the chassis vacuum hose.
 2. Connect the engine vacuum hose.
 3. Connect the PCV hose.



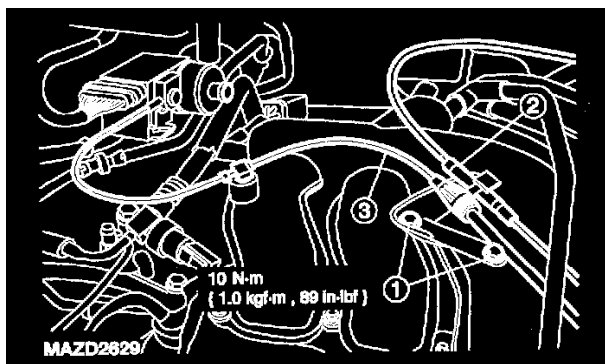
9. Connect the E.G.R. Vacuum regulator electrical connector.



10. Install the EGR valve vacuum hose and EGR tube nut.

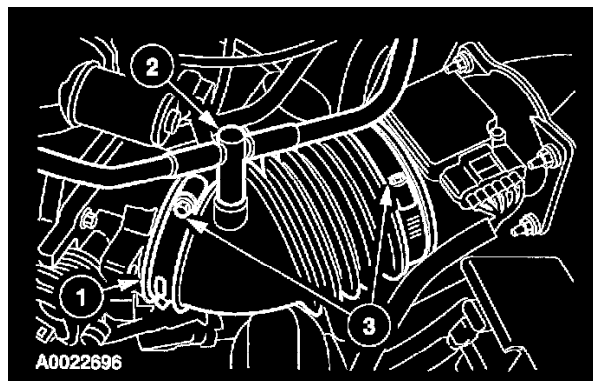


11. Connect the TP sensor and IAC electrical connectors.



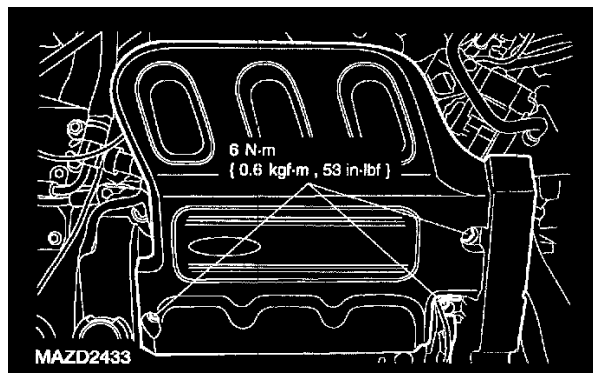
12. Connect the throttle cables.

1. Install the throttle cable bracket bolts.
2. Connect the throttle cable.
3. If equipped, connect the cruise control cable.



13. Install the air cleaner outlet tube.

1. Position the air cleaner outlet tube.
2. Install the hoses.
3. Install the clamps.

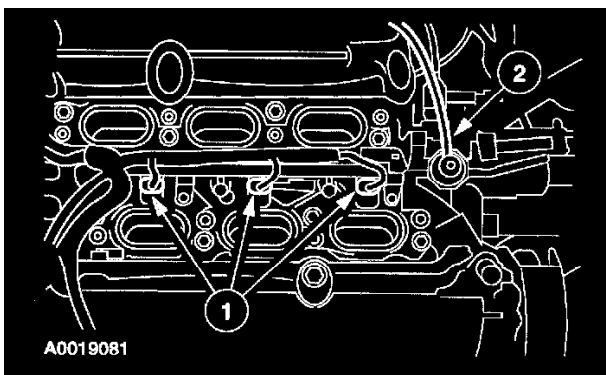


14. Install the splash shield.

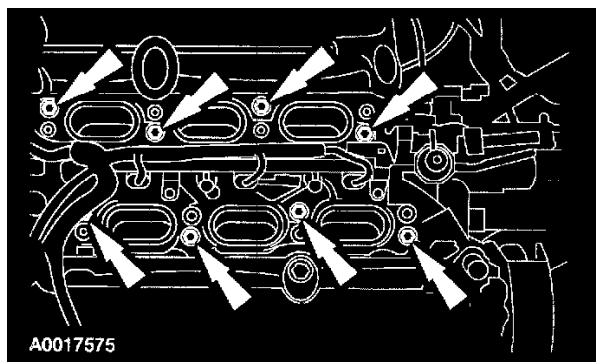
LOWER INTAKE MANIFOLD

Removal

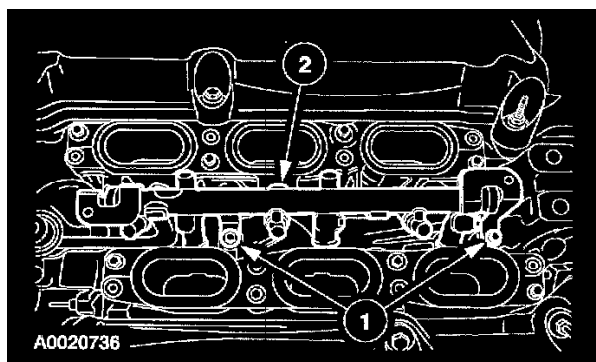
1. Disconnect the fuel line spring lock coupling. Refer to SPRING LOCK COUPLINGS.
2. Remove the upper intake manifold. Refer to UPPER INTAKE MANIFOLD.



3. Disconnect the fuel rail.
 1. Disconnect the six fuel injector electrical connectors (1).
 2. Disconnect the fuel pressure damper vacuum line (2).



4. Remove the bolts and the lower intake manifold.



5. Remove the fuel rail.
 1. Remove the bolts (1).
 2. Carefully separate the lower intake manifold from the fuel rail (2).
6. Remove the six fuel injectors from the lower intake manifold.
7. Remove and discard the gaskets if damaged.

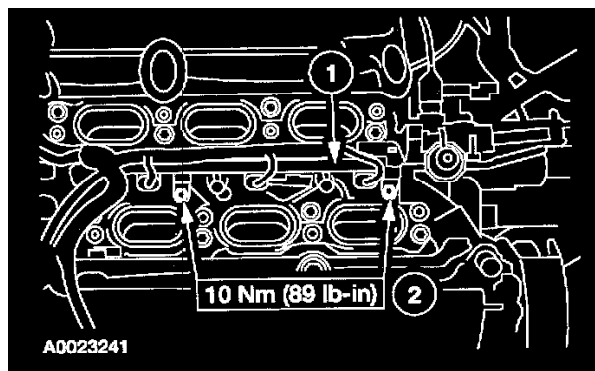
Installation

1. Install the gaskets in the lower intake manifold.

CAUTION: Never use silicone grease. It will clog the fuel injectors.

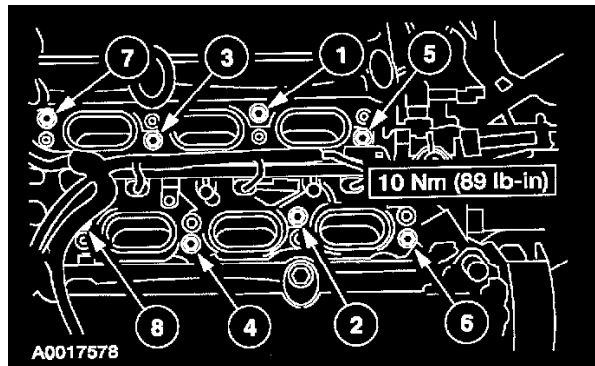
NOTE: Inspect the fuel injector O-ring seals and install O-ring seals if necessary.

2. Lubricate the O-ring seals lightly with SAE 5W-20 Motor Oil and install the fuel injectors into the lower intake manifold.

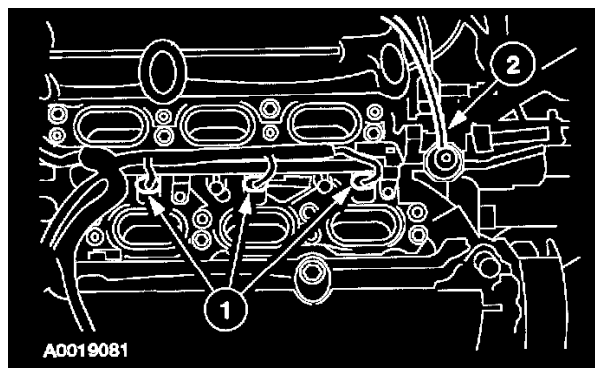


3. Install the fuel rail.

1. Position the fuel rail (1).
2. Install the four bolts (2).



4. Install the lower intake manifold assembly and tighten the bolts in the sequence shown.



5. Connect the fuel rail.

1. Connect the six fuel injectors (1).
2. Connect the fuel pressure damper vacuum line (2).

6. Install the upper intake manifold. Refer to UPPER INTAKE MANIFOLD.

7. Connect the fuel line spring lock coupling. Refer to SPRING LOCK COUPLINGS.