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BD-BUILT

Duramax LB7 Stock/Stock Plus Fuel Injector

1715502	2001-2004 GMC Pickup	Standard
1725502	2001-2004 GMC Pickup	Premium
1714502	2001-2004 GMC Pickup Stock Plus	Standard
1724502	2001-2004 GMC Pickup Stock Plus	Premium

Premium line injectors are built with new Bosch solenoids, nozzles and control valves

PLEASE READ ALL INSTRUCTIONS BEFORE INSTALLATION

Suggested Items

1050141

2001-2004 Duramax LB7, Injector Install Kit

The kit above contains new high-pressure fuel lines, along with necessary gaskets and seals to complete installation of replacement injectors. It is strongly recommended to replace the high pressure fuel lines to ensure optimal performance and longevity of your motor.

Special Tools Required for Installation

GM TOOL J-45910
Injector Cup Removal/Install Tool



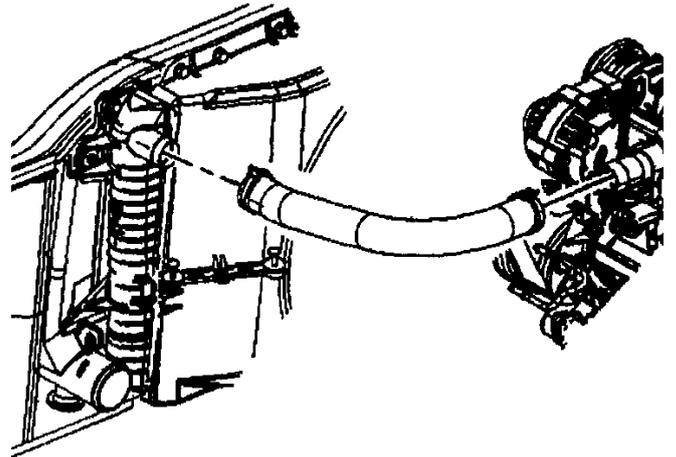
GM TOOL J-6778/6779
Injector Puller Tool



Installation

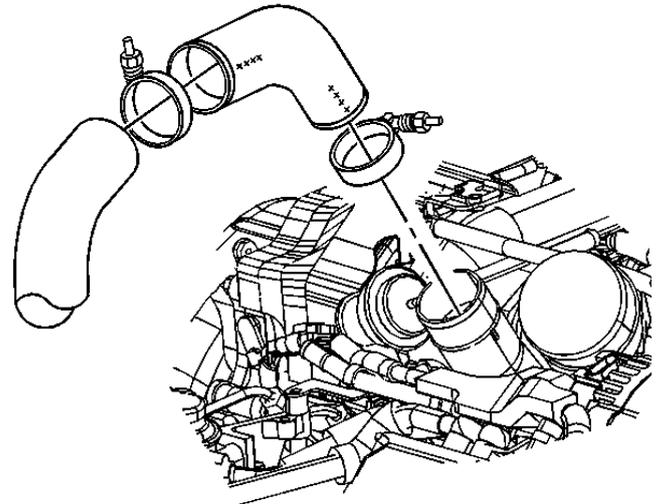
Disconnect both vehicle batteries before installation for safety.

Drain coolant and remove upper radiator hose.

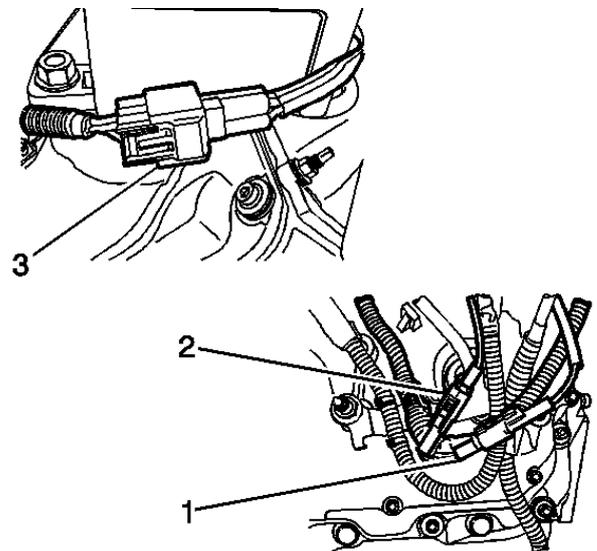


Remove air inlet and outlet hose, and battery junction box positive cable.

NOTE: Cover turbocharger to keep foreign materials out.

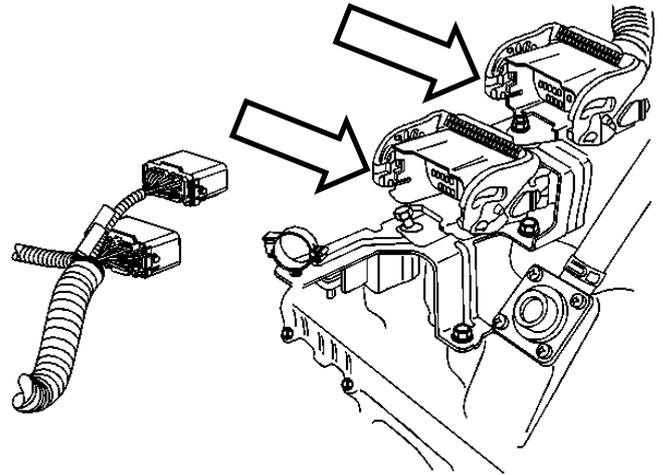


Disconnect the 3 glow plug relay connectors from the driver side valve cover.



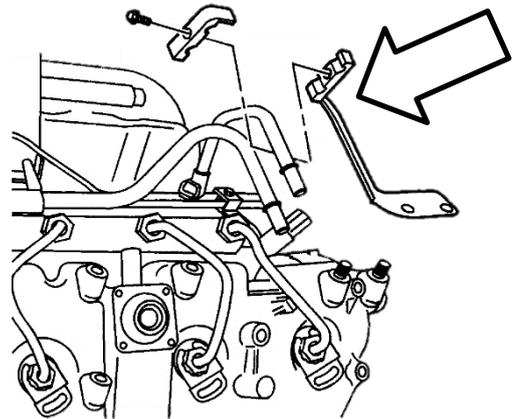
Remove the glow plug bracket, and disconnect both 40 and 24 pin engine connectors from the driver side valve cover.

Remove the engine connector bracket and set aside.

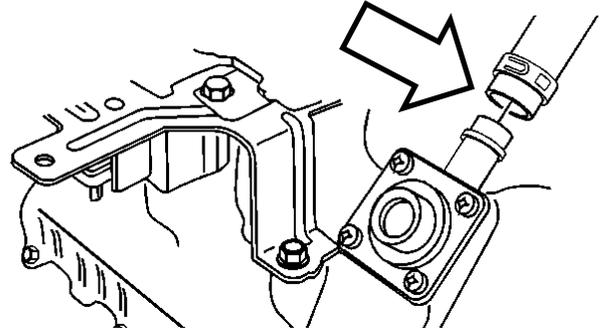


Disconnect fuel supply line and return lines.

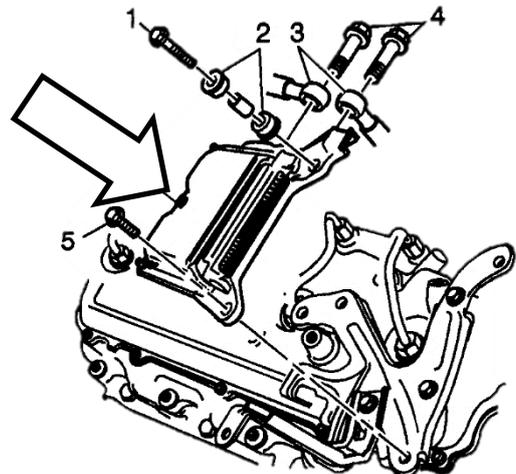
Remove L-bracket holding fuel tubes.



Remove the PCV hose and clamp from the driver and passenger side valve cover.

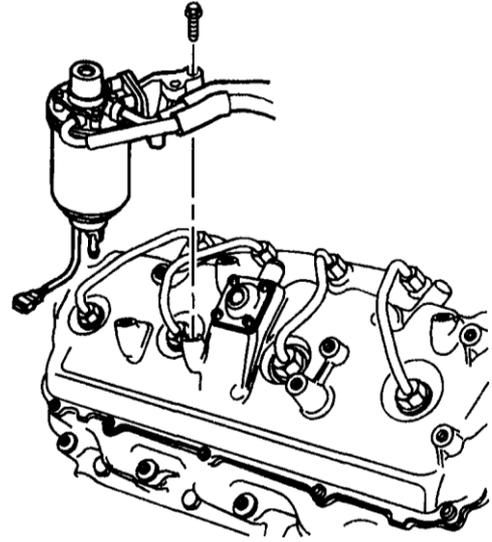


Remove the fuel injection control module (FCIM) from the passenger side valve cover.



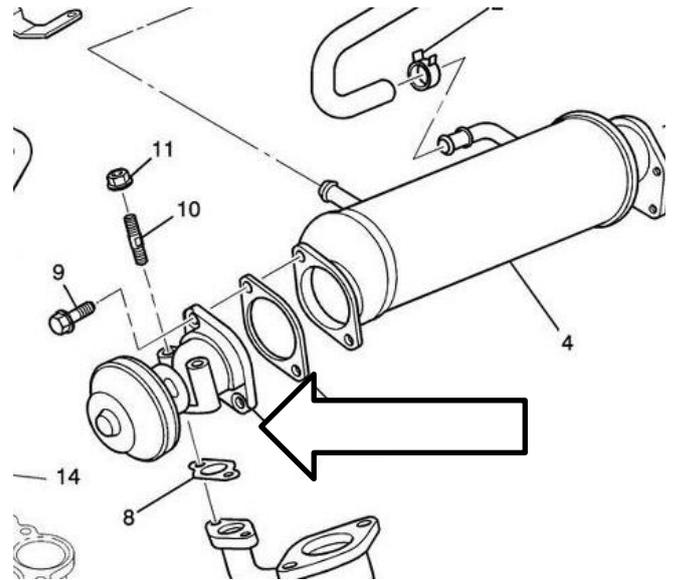
Disconnect and remove the fuel filter and housing.

NOTE: Drain fuel from the fuel filter prior to removal

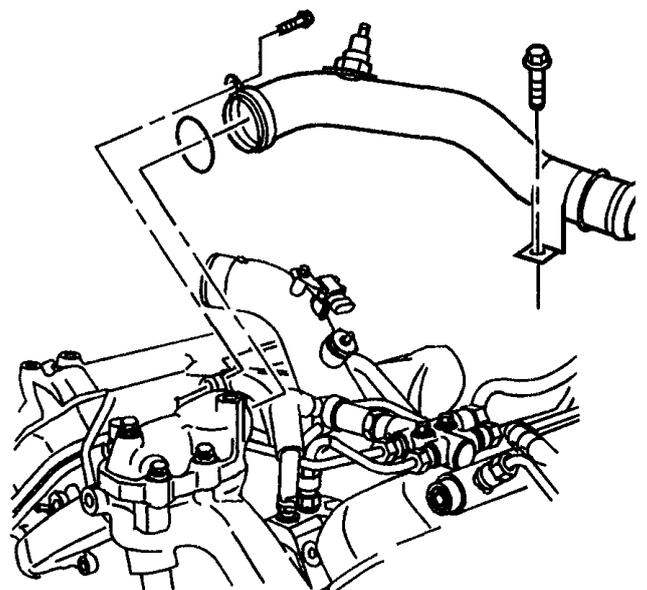


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Remove EGR valve from passenger side.



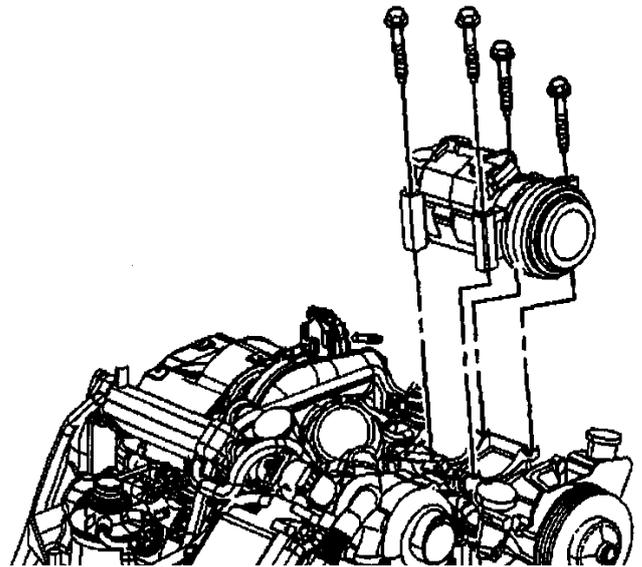
Remove water pipe outlet from the thermostat housing



Loosen and remove serpentine belt.

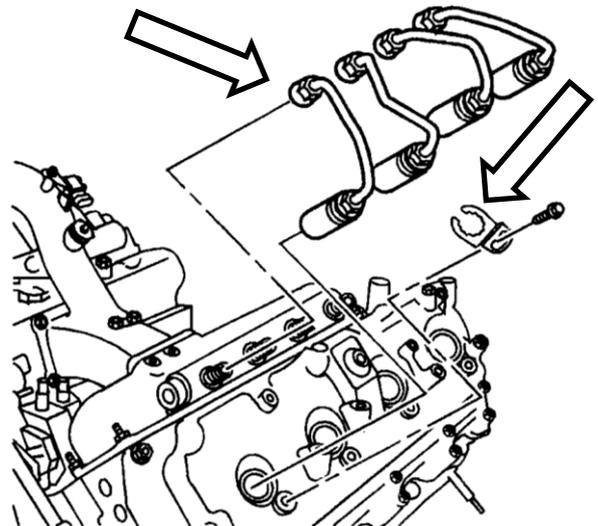
Remove the 4 bolts holding A/C compressor.

NOTE: Flip unit aside and out of the way. This is done as it is unnecessary to disconnect the compressor and drain the refrigerant.



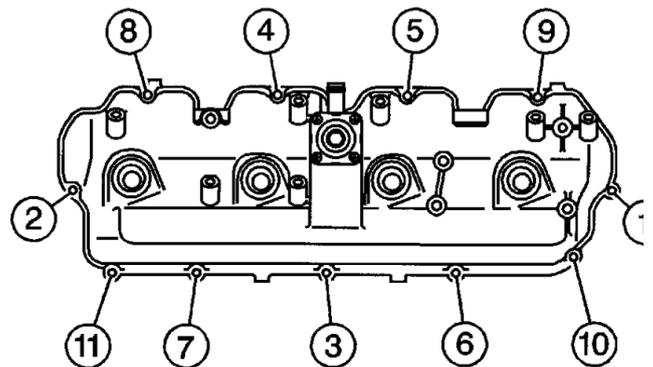
Remove the anti-rotation locks, and high-pressure injection lines.

NOTE: Loosen fittings on the injector side of the line first.



Remove 11 bolts retaining upper valve rocker arm cover. The valve rocker arm cover uses sealer. Avoid damage to sealing surfaces. Using a gasket scraper or other suitable tool at prying locations, loosen upper valve rocker arm cover.

Remove rocker arm cover.

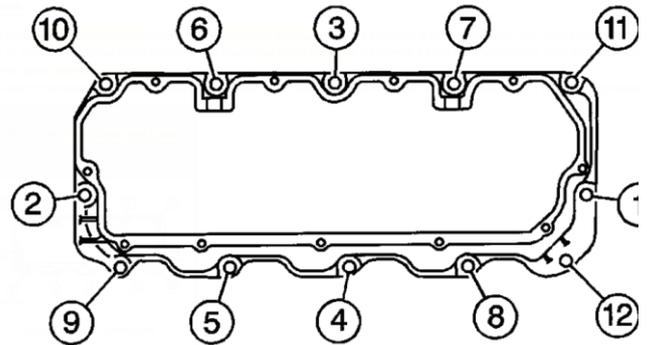


Clean upper valve rocker arm cover in suitable cleaning solvent. Inspect for cracking and other damage on upper valve rocker arm cover. Replace upper valve rocker arm cover if any damage.

Disconnect injector wiring harness connectors. Do not drop injector harness bolts in cylinder head oil return ports. Remove injector harness bracket bolts for both injector harnesses. Remove encapsulated injector wire terminal nuts on each injector. Remove both injector harnesses.

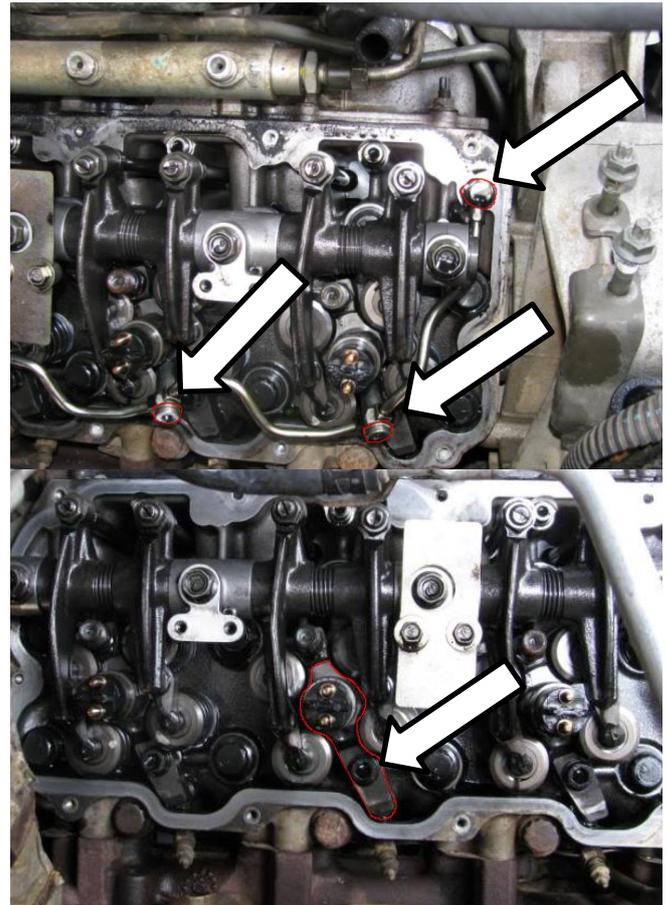


Remove 12 lower valve rocker arm cover bolts. Remove lower valve rocker arm cover. Remove gasket from lower valve rocker arm cover. Remove bolt grommets from lower valve rocker arm cover.



Clean lower valve rocker arm cover. Remove any sludge or other deposits. Clean lower valve rocker arm cover sealing surfaces. Inspect lower valve rocker arm cover for cracks or any damage. Inspect lower valve rocker arm cover sealing surfaces for damage. Replace lower valve rocker arm cover if any damage is found.

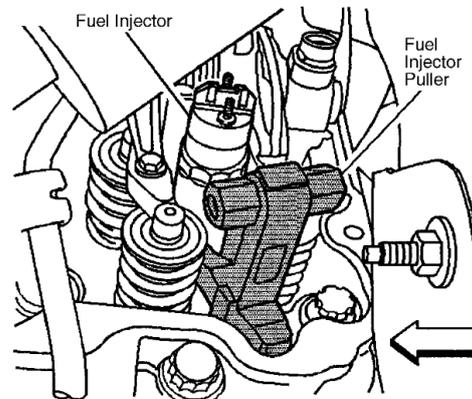
Remove the return line from injectors. Remove the retaining **bolt** from the injector bracket. Install the Fuel Injector Puller (J 44639) on the injector retainer bracket. Confirm which side of the banjo washers have the largest hole. Install a wrench on the J 44639 and pry away from the fuel injector. Remove the faulty injector(s).



Remove the injector sleeves with GM Tool J-45910. If the injector sleeve was pulled from the cylinder head when removing the injectors.

Clean the fuel injector sleeve bore with GM (12378556), or equivalent (Brake cleaner).

Lubricate and install new O-rings onto the fuel injector sleeve (cups).



Install the fuel injector sleeve onto the Fuel Injector Sleeve Remover/Installer (J 45910). Apply GM Adhesive (U S 12345493; 10953488 Canada) or equivalent to the fuel injector sleeve lower sealing area.

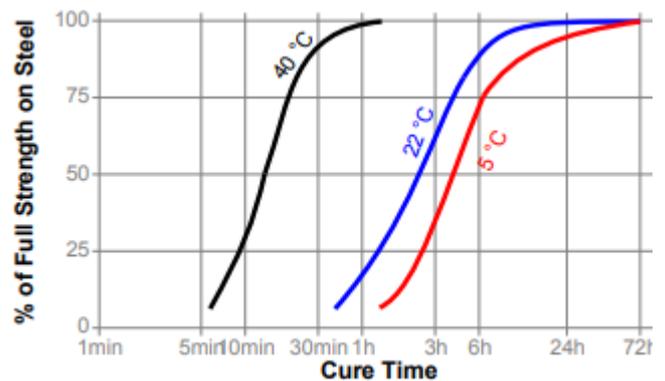
NOTE: The sealant is **NOT** normal Loctite Red. It is a specially formulated high temperature high strength thread locker, do **NOT** use regular Loctite Red or equivalent, catastrophic engine damage will occur. This part is included with: **1050141** – LB7 Injector Install Kit.

OE Equivalent (**ONLY** the following):
Permatex 27200 (OEM)
3M TL72
Loctite Red 272
Turbo Lock Red 13 (**NOT** 13-OR)

NOTE: Due to the rare applications of this part: during sourcing, stores have recommended products that are “suitable replacements”. This is not the case, products such as the 3M TL71 or Loctite Red 271/266/262/242 are not suitable in this application. Approx. 6-8ml will be needed.



The thread locker may take up to 72 hours to reach full strength, depending on temperature. Installation should continue before the thread locker fully cures. However do not attempt to drive the truck right away.



Install the fuel injector sleeve with J 45910 into the cylinder head. Lightly tap on the J 45910 with a hammer to install and seat the fuel injector sleeve. Remove the J 45910 from the fuel injector sleeve.



Install new seals and lubricate.

Install the new injector(s). Install the retaining bolt on the injector bracket.

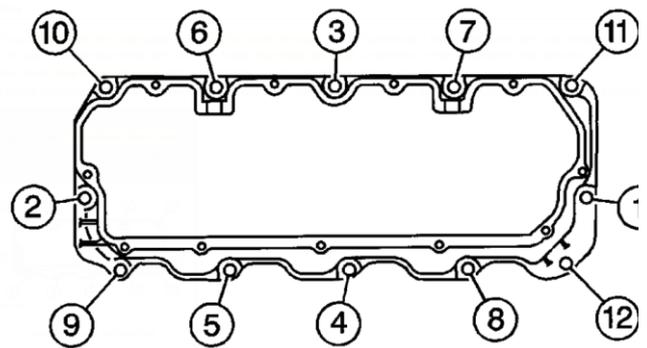
Install fuel injector return line with new banjo seals.

Connect injector wiring harness.

Tighten the following to specifications:
 Fuel injector bracket bolt to: **36 ft-lbs.**
 Fuel injector return line bolts: **106 in-lbs.**



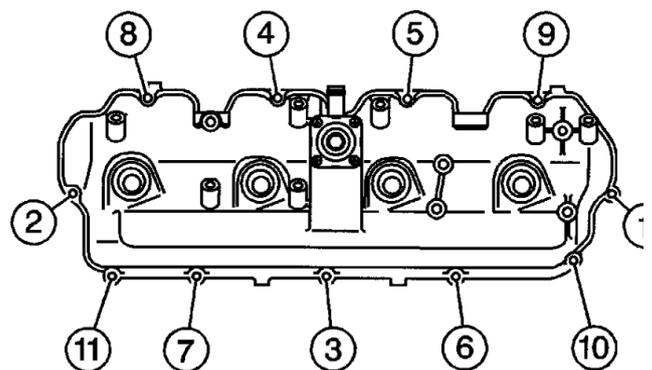
Install 12 bolts for lower valve rocker arm cover. The lower valve rocker arm cover is tightened 2 times in numerical order. Bolts No. 1 and 2 are used to position cover. Tighten lower valve rocker arm cover bolts to **89 in. lbs. (10 N.m)** in proper sequence. Retighten lower valve rocker arm cover bolts to **89 in. lbs. (10 N.m)** in proper sequence.



Install injector wiring harness.

Install upper valve rocker arm cover, and tighten in sequence according to picture to the right. Use RTV Silicon to seal the upper valve cover.

Bolts 1 and 2 are used to position the cover, tighten to **71 in. lbs.**



Install the correct fuel line to the cylinder and lock with the anti-rotation screws.

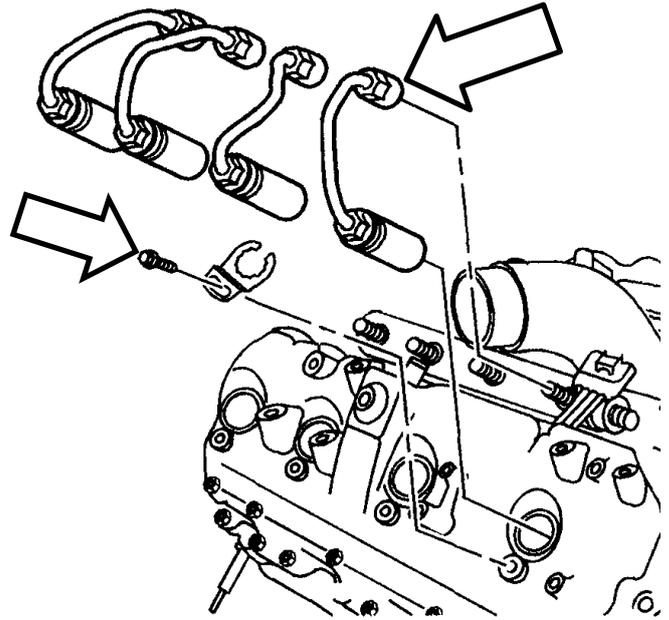
Torque Specs:

Injector Lines: **30 ft. lbs (41 N.m)**

Anti-rotation lock screws:
35 in. lbs (4 N.m)

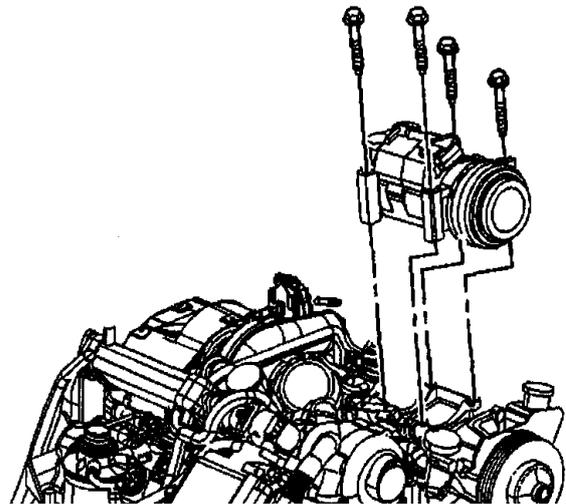
IMPORTANT - Clean area around injector lines prior to install to prevent dirt from falling into the engine, if necessary, use compressed air.

WARNING - Improper torque methods will result in fuel leaks and possible engine damage.

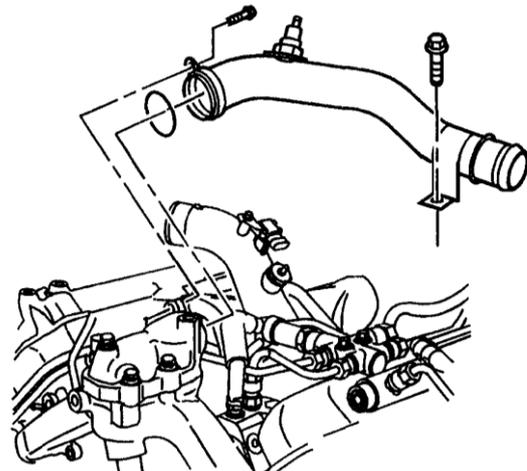


Install the AC compressor and tighten the 4 bolts to **37 ft. lbs. (50N.m)**

Install the serpentine belt.

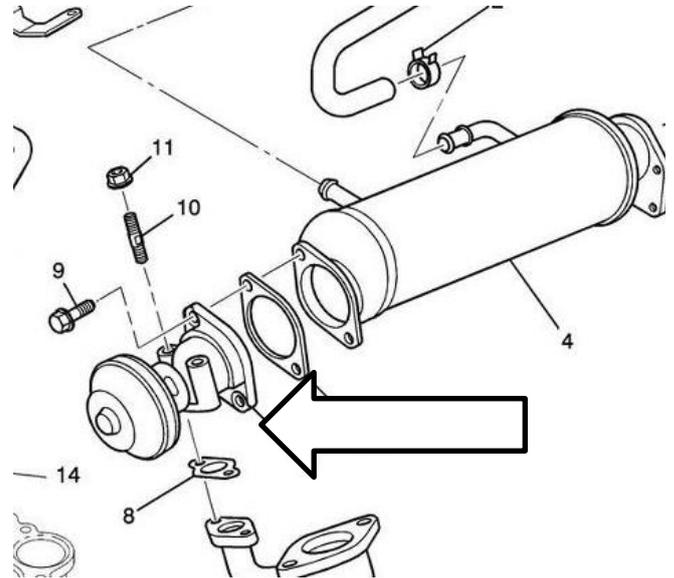


Install the water pipe outlet to the thermostat housing with new O-ring.

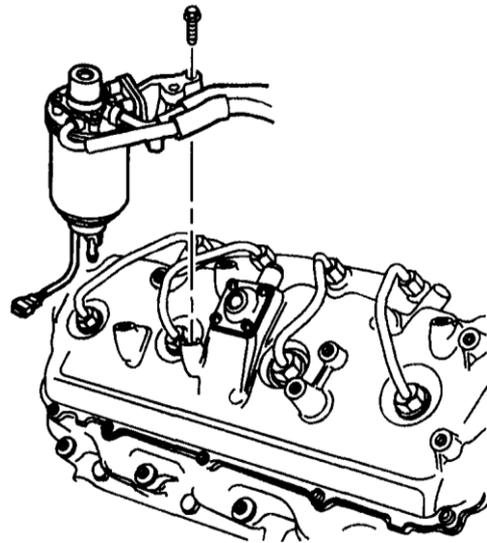


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Install EGR valve if present. Tighten bolts to **15 ft. lbs. (20 N.m)**



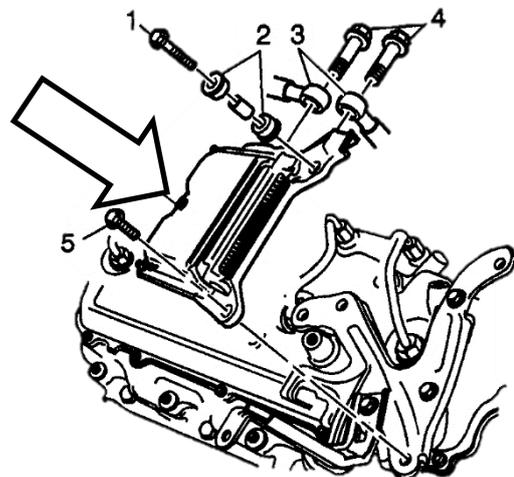
Install NEW fuel filter, and reinstall the fuel filter housing. Tighten bolt to **15 ft. lbs. (20 N.m)**



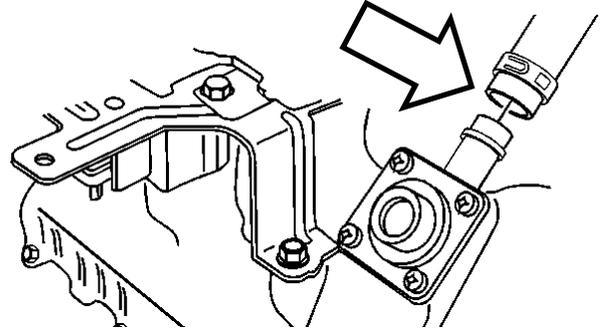
Install the FCIM to the passenger side cover with new seals. Tighten the bolts to:

Fuel injection Control Module:
18 ft. lbs. (25 N.m)

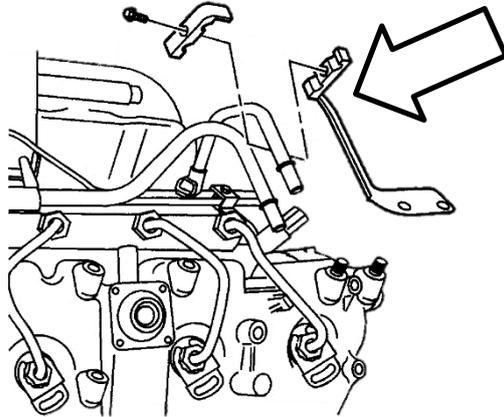
Fuel injection Control Module fuel line bolts:
26 ft. lbs. (35 N.m)



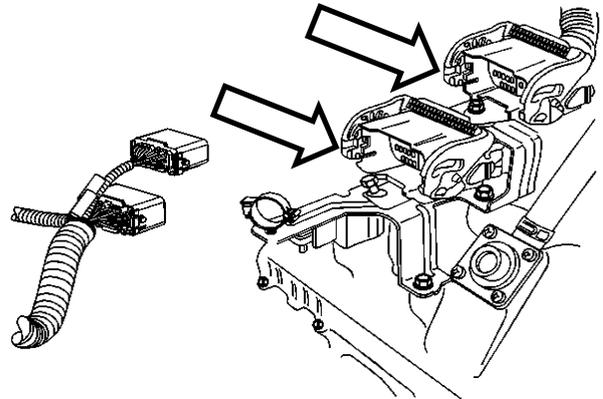
Reinstall the PCV hose.



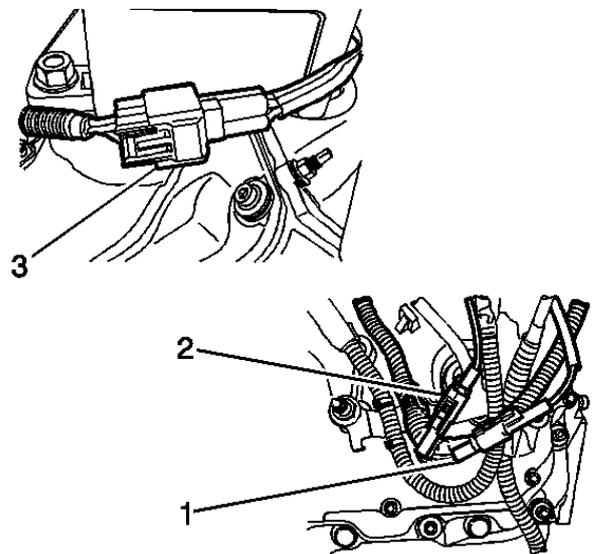
Reconnect fuel supply, return lines, and the L bracket. Tighten to **106 in. lbs. (12 N.m)**

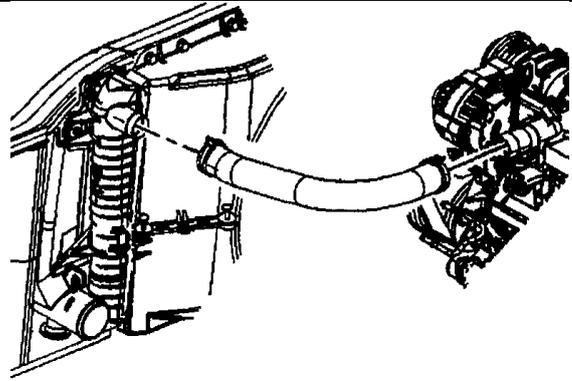


Reconnect the glow plug bracket, and connect the 24-pin and the 40-pin connectors.



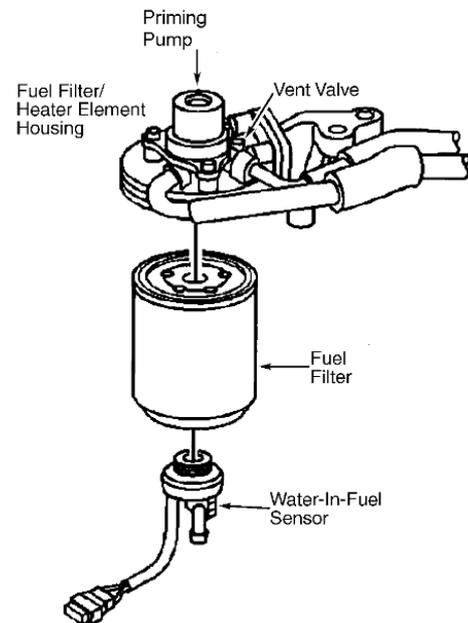
Reconnect the 3 glow plug relay on the driver side valve cover.





Connect the upper radiator hose, and fill coolant.

IMPORTANT – Pump primer on filter housing 30 times or until stiff and open bleed screw to let air out.



Once all components have been reinstalled, be sure to check all connection points are tight and inspect for leaks.

