

Fuel Pump Replacement (LT4)

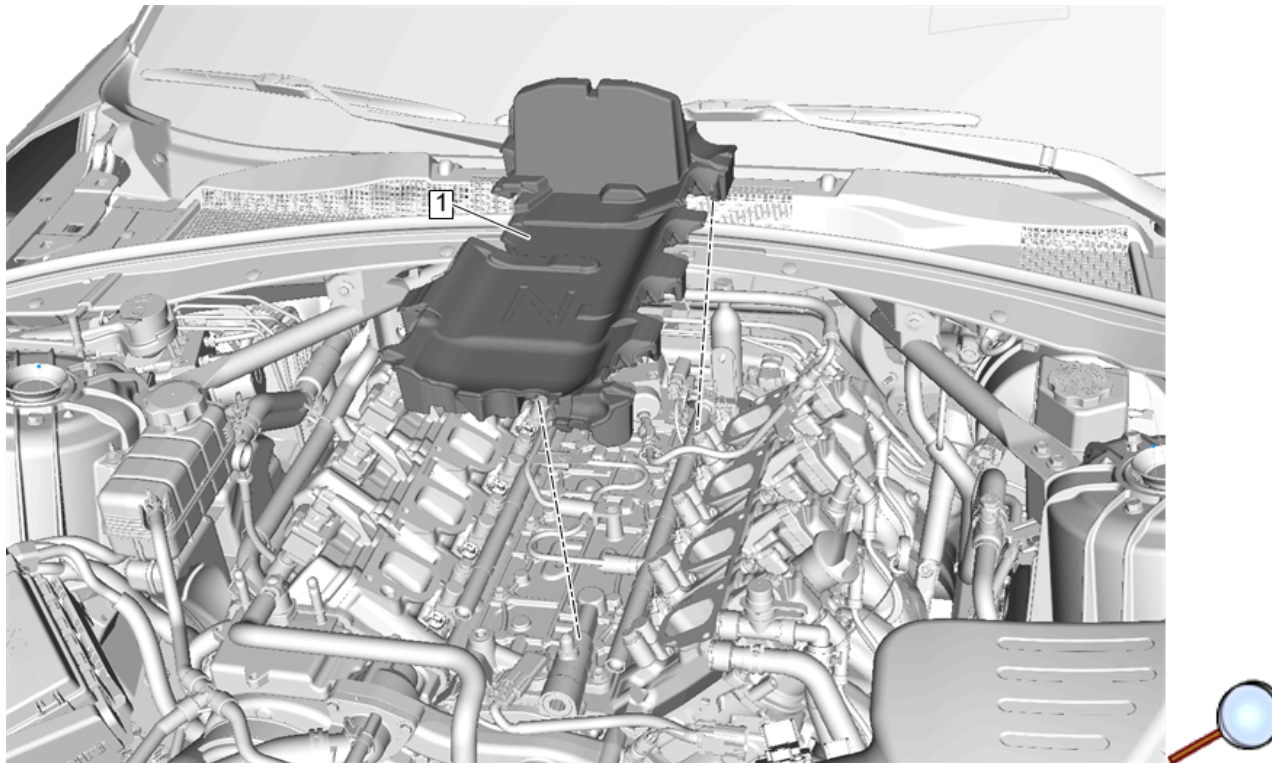
Special Tools

EN-51092 Fuel Pump Installation Gauge

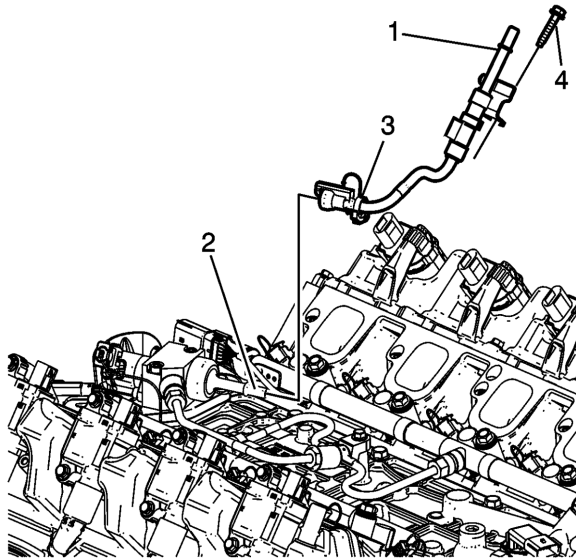
Equivalent regional tools: [Special Tools](#)

Removal Procedure

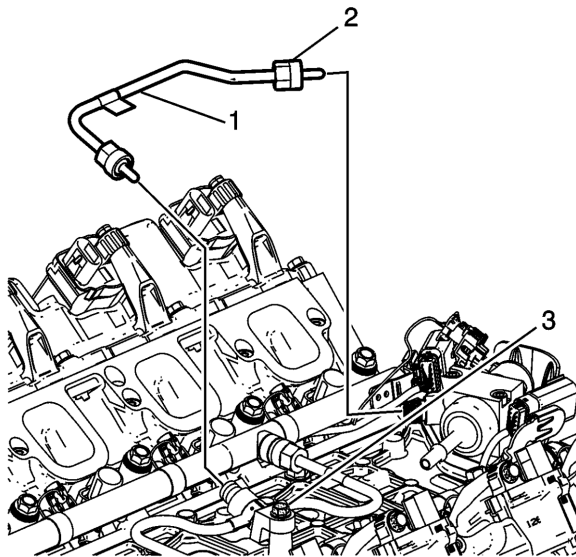
1. Relieve the fuel system pressure. [Fuel Pressure Relief](#)



2. Remove the fuel pump insulator (1). [Fuel Pump Insulator Replacement](#)



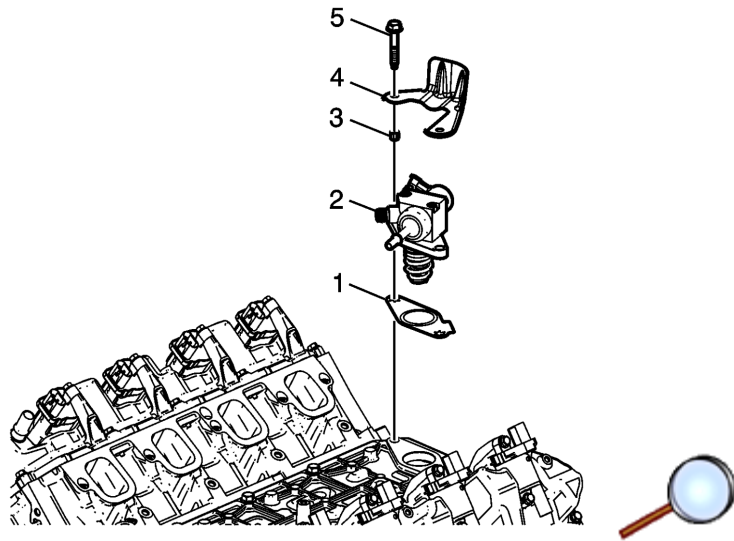
3. Remove the fuel feed pipe fastener (4) and disconnect the fuel feed pipe (1) from the fuel pump (2). [Metal Collar Quick Connect Fitting Service](#)



Note: Do NOT reuse the fuel feed intermediate pipe. If the fuel feed intermediate pipe fittings are loosened or the pipes are removed, the pipes MUST be replaced.

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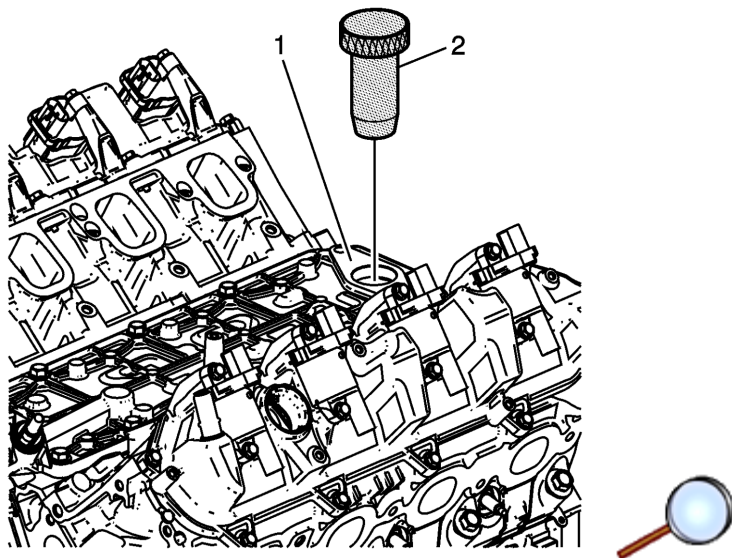
4. Remove and DISCARD the fuel feed intermediate pipe (1). [Fuel Feed Intermediate Pipe Replacement - Position 1](#)
5. Disconnect and reposition the fuel pump and fuel injector wiring harness as necessary.



Caution: Alternately loosen the fuel pump bolts one turn at a time until the pump is fully disengaged from fuel pump lifter follower. Trying to remove the pump bolts without even side-to-side loosening may result in pump plunger damage

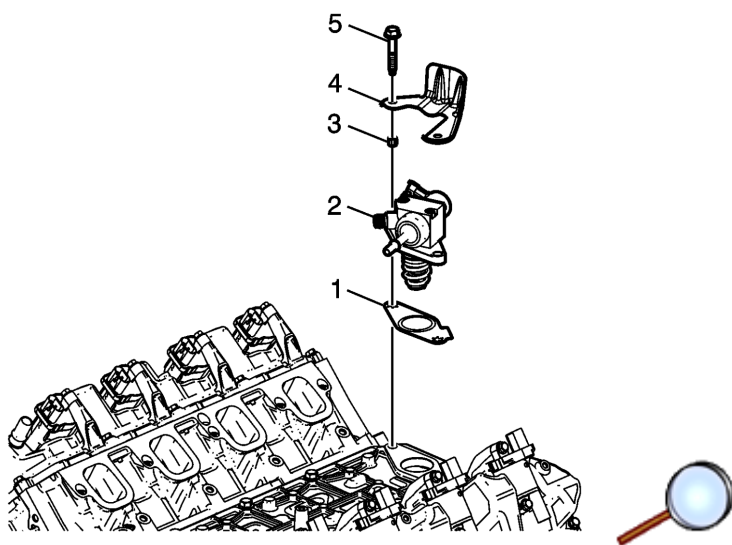
6. Fuel Pump Bolt(5)»Remove[2x]
7. Fuel Pump Cover(4)»Remove
8. Retainer(3)»Remove[2x]
9. Remove the fuel pump (2) and fuel pump gasket (1) from the engine.
10. DISCARD the fuel pump gasket.

Installation Procedure



Note: The camshaft must be in the base circle position before the fuel pump is installed.

1. Use the EN-51092 alignment gauge (2) to ensure that the camshaft lobe is in the base circle position. At base circle position, the tool will be flush with the top surface of the lifter oil manifold assembly (1).



Note: Ensure that the high pressure fuel pump roller lifter is oriented properly, the camshaft is at base circle and the number 1 piston is at top dead center (TDC) on the exhaust stroke.

2. Install a NEW high pressure fuel pump gasket (1).

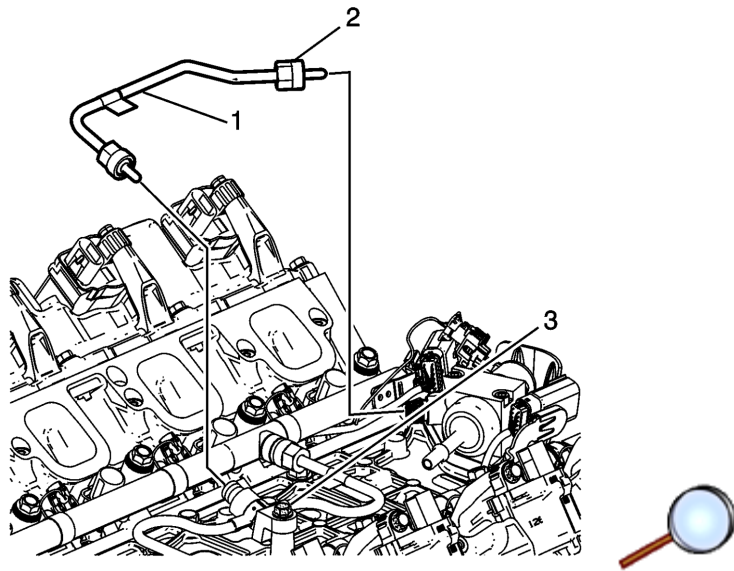
Note: Ensure the plastic fastener retainers (3) are installed in the high pressure fuel pump mounting holes before installing.

3. Install the high pressure fuel pump (2) and high pressure fuel pump cover (4).

Caution: Refer to [Fastener Caution](#).

Caution: Alternately hand-tighten the fuel pump bolts one turn at a time until the pump is fully seated. Trying to draw down the pump without even side-to-side tightening may result in pump plunger damage.

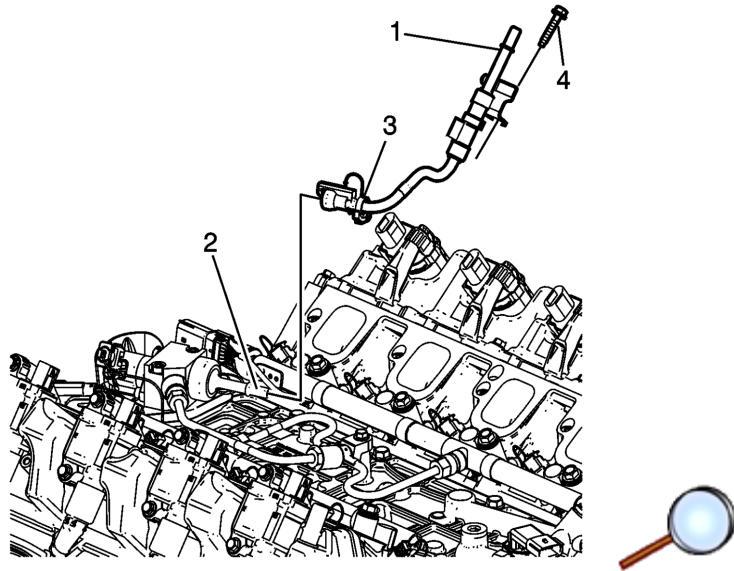
4. Fuel Pump Bolt(5)»Install and tighten [2x]**25N•m (18 lb ft)**
5. Position the fuel pump and fuel injector wiring harness and connect as necessary.



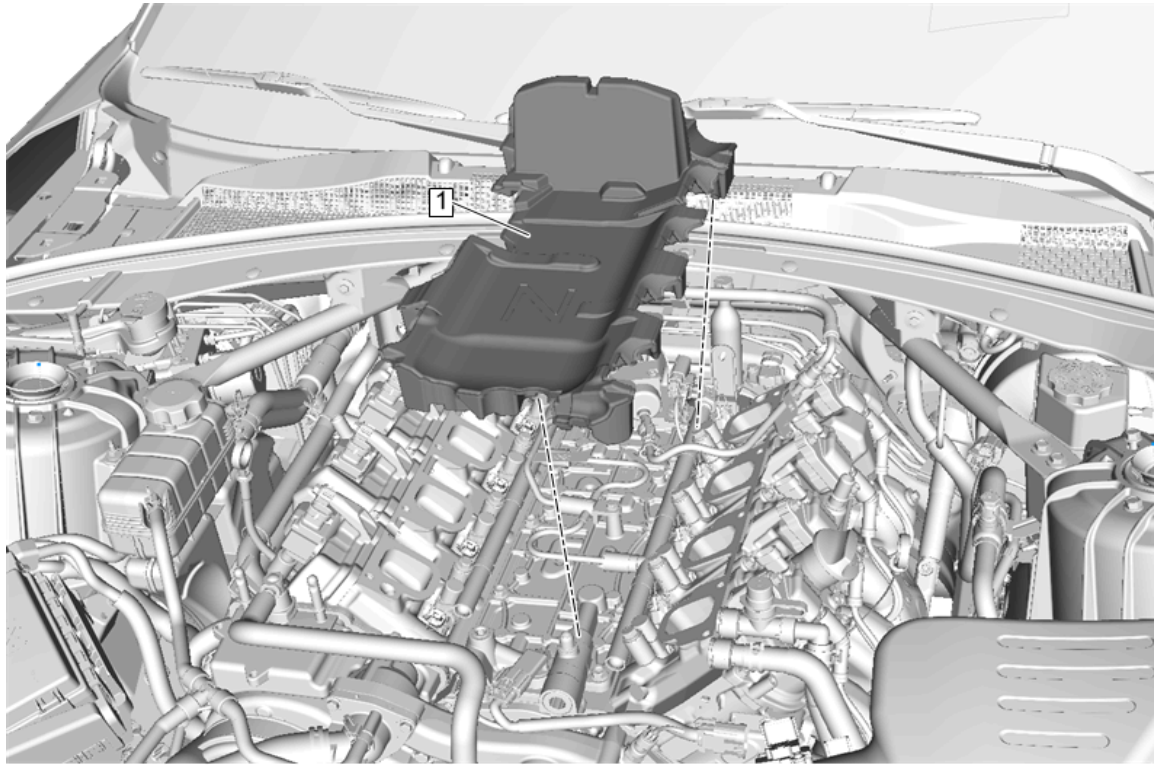
Note:

- Do NOT reuse the fuel feed intermediate pipe. If the fuel feed intermediate pipe fittings are loosened or the pipes are removed, the pipes MUST be replaced.
- The tightening order and torque are CRITICAL to proper fuel system fit and function. Be sure to follow installation and tightening steps EXACTLY.

6. Install a NEW fuel feed intermediate pipe (1). [Fuel Feed Intermediate Pipe Replacement - Position 1](#)



7. Connect the fuel feed pipe (1) to the fuel pump (2). Press the fuel feed pipe until an audible click is heard and then install the redundant clip (3). [Metal Collar Quick Connect Fitting Service](#)
8. Install the fuel feed pipe fastener (4) and tighten to **10N•m (89 lb in)**.



9. Install the fuel pump insulator (1). [Fuel Pump Insulator Replacement](#)
10. Perform the fuel rail pressure relief valve learned values reset. [Fuel Rail Pressure Relief Valve Learned Values Reset](#)