

**GM 6.6L Duramax  
LLY / LBZ / LMM  
High-Pressure Pump  
Installation Tips**



*An Employee Owned Company*

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Perform a fuel system inspection prior to installation of a replacement high-pressure (HP) pump. If rust, contamination or metal particles are found the fuel system must be cleaned including the tank, filter housing, supply lines, and the high-pressure system. **Failure to completely clean the entire fuel system can result in immediate or repeated short-term HP pump and injector failures.**

**INSTALLATION TIPS**

1. Use caution when working on the fuel system to prevent injury. The high-pressure side of the fuel system is pressurized up to 26,100 PSI. Make sure the engine is off, the high-pressure has bled down, and the engine has cooled off prior to working on the fuel system.
2. DTech high-pressure pumps have tolerances measured in microns. It is important to work in a clean manner to prevent contamination of the fuel system to prevent premature failures. Clean the engine area around the fuel system prior to removing any fuel system components. Before assembly inspect each component for dirt, grease, or other contaminants and clean as necessary.
3. The Powertrain Control Module (PCM) should be updated to the latest calibration as part of the diagnostic and repair process.
4. Install a new fuel filter and do not fill it with fuel prior to installation.
5. For model year 2006 of the LLY engine and all model years of LBZ and LMM engines, the two-piece camshaft gear spring tension must be released prior to removing the HP pump. Remove the cam gear access hole cover located in the front cover. Rotate the crankshaft until the cam gear tension relief hole aligns with the access hole in the front cover. Apply pressure with a suitable tool to the right side of the engine while removing the HP pump.
6. Clean the fuel HP pump adapter mating surfaces. Install the adapter o-ring.
7. Lubricate the HP pump mounting o-ring and the adapter housing's pilot bore with clean engine oil.
8. Install the fuel injection pump adapter to the pump and tighten the bolts to 15 ft-lb (21 N-m).
9. Clean the pump drive gear and drive shaft at the machined tapers with brake cleaner or another evaporative style cleaner. The tapers must be absolutely dry and free of debris to ensure proper gear-to-shaft retention.
10. Install the pump drive gear onto the pump drive shaft. Install the nut and torque to 52 ft-lb (70 N-m).
11. Clean the engine block pilot bore then lubricate the bore and the adapter o-ring with engine oil.
12. For model year 2006 of the LLY engine and all model years of LBZ and LMM engines, release the camshaft gear spring tension by applying pressure with a suitable tool to the right side of the engine.
13. Install the HP pump / adapter assembly to the engine block.
14. Install pump bolts and torque to 15 ft-lb (21 N-m).
15. Connect the supply and return hoses and respective hose clamps to the HP pump.

*(Continued on reverse side.)*

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## PRODUCT INFORMATION

*(Continued from front side.)*

16. Connect the Fuel Rail Pressure Regulator (FRPR) electrical connector at the HP pump.
17. Install the center intake manifold and inlet pipe.
18. Install high-pressure fuel line from the HP pump to the driver's side fuel rail. Tighten the line nuts to 30 ft-lb (41 N-m).
19. Attach the fuel balance pipe to the left and right fuel rails and torque to 30 ft-lb (41 N-m).
20. Align the fuel balance pipe clamp bolts. Torque bolts to 89 in-lb (10 N-m).
21. Install all other engine parts and accessory components.
22. Fill the cooling system.
23. Prime the fuel system. Open the vent valve by turning the screw counterclockwise several times. Actuate the priming pump until fuel begins to flow from the vent valve. Once fuel is present, the filter is full of fuel.
24. Close the vent valve by turning the screw clockwise. Then actuate the hand primer until the plunger becomes firm.
25. Start the engine and let it idle for a few minutes to clear the remaining air from the system. If it stalls actuate the hand primer until the plunger is firm and restart.
26. Check the fuel system for fuel or engine oil leaks.

**Note:** Installation of a high-pressure pump can cause an off idle knock on acceleration. If this occurs remove the pump and reposition the HP pump drive shaft by 30° in relation to the pump drive gear. If necessary reposition the drive shaft in 30° increments until the issue is resolved.

**DIESEL FUEL PUMPS, INJECTORS AND ACCESSORIES**

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