

GM 6.6L Duramax LB7 High-Pressure Pump Installation Tips



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 23,200 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. Clean the fuel HP pump adapter mating surfaces. Install the adapter o-ring.
6. Lubricate the HP pump mounting o-ring and the adapter housing's pilot bore with clean engine oil.
7. Install the fuel injection pump adapter to the pump and tighten the bolts to 15 ft-lb (21 N-m).
8. 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.
9. Install the pump drive gear onto the pump drive shaft. Install the nut and torque to 52 ft-lb (70 N-m).
10. Clean the engine block pilot bore then lubricate the bore and the adapter o-ring with engine oil.
11. Install the HP pump / adapter assembly to the engine block.
12. Install pump bolts and torque to 15 ft-lb (21 N-m).
13. Connect the fuel return line banjo bolt at the junction block. Tighten the bolt to 11 ft-lb (15 N-m).
14. Connect the supply and return hoses and respective hose clamps to the HP pump.
15. Install high-pressure line to from the HP pump to the junction block. Tighten the line nuts to 32 ft-lb (44 N-m).
16. Connect the Fuel Rail Pressure Regulator (FRPR) electrical connector at the HP pump.
17. Install the fuel pressure sensor electrical connector at the junction block.
18. Install all other engine parts and accessory components.
19. Fill the cooling system.

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DIPACO PRODUCT INFORMATION

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20. 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.
21. Close the vent valve by turning the screw clockwise. Then actuate the hand primer until the plunger becomes firm.
22. 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.
23. 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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