

Ford 7.3L Power Stroke Injection Control Pressure (ICP) Diagnostic Trouble Code (DTC) Tips



When Ford 7.3L Power Stroke Injection Control Pressure (ICP) diagnostic trouble codes (DTC) are present one usually checks the high-pressure oil supply system and related electrical circuits. Overlooking a fuel supply system check may lead to replacement of good components and extended troubleshooting time.

Fuel supply problems often cause a vehicle owner complaint that includes stalling, cutting out, surging or low power. A check engine light may illuminate. A DTC scan will most often show DTC P1211 ICP pressure above or below desired and P1280 ICP circuit out of range. Other ICP DTCs may also be set.

Common Initial Troubleshooting Checks

- Check for oil intrusion into the three pin ICP sensor harness. If oil is present replace the sensor and the harness pigtail. If “ok” do a wiggle test on the harness. Unplug the sensor if the engine operation is largely improved suspect the sensor or wiring harness.
- Check the injector pressure regulator (IPR) harness and IPR o-rings.
- Air test the high-pressure oil system for leaks.

Lack of fuel supply pressure to the injectors can cause engine performance issues that show up as ICP diagnostic codes. Monitor the fuel supply pressure at the passenger side cylinder head and / or install a vacuum gauge at the fuel pump inlet. Take the vehicle out for a road test and monitor the fuel pressure, inlet vacuum, ICP sensor voltage and the IPR duty cycle %. A fuel supply pressure dropping below 40 PSI indicates there is a weak supply pump, restricted filter or restricted fuel supply. If the inlet vacuum is above 6” Hg an inlet restriction is indicated. If fuel pressure is maintained and the inlet vacuum is “ok” during the operating condition, if the ICP sensor voltage decreases and the IPR duty cycle % increases, suspect a possible intermittent malfunction of the IPR solenoid, IPR wiring harness or high pressure oil pump.

Inlet Restriction

These 7.3L Power Stroke vehicles have now been in service for quite some time. Contamination in the tank and delaminating tank liners are commonly clogging the two plastic screens inside the fuel tank sender pickup restricting the fuel supply to the supply pump requiring replacement of the sending unit. Depending on how bad the restriction is and how long the vehicle has been operated with that condition the fuel supply pump may also need replacement.

An Employee Owned Company

12693 Old Virginia Road
Reno, NV 89521
800.648.4720

DIPACODTECH.com