P2287: INJECTOR CONTROL PRESSURE SENSOR CIRCUIT INTERMITTENT

OVERVIEW

Severity	:	High
DIY Difficulty Level	:	Intermediate
Repair Cost	:	**$250-$350**
Can I Still Drive?	:	**Yes**

What Does The P2287 Code Mean?

OBD-II trouble code P2287 and related ICP codes P2283, P2284, P2285, and P2286 are associated with the injector control pressure (ICP) sensor circuit. This circuit is normally monitored by the Power Control Module (PCM) on most vehicles.

The purpose of the injector control pressure sensor circuit is to provide a feedback signal to indicate fuel rail pressure so that the PCM can correct injector timing and the injection control pressure for proper fuel delivery at all speeds and varying load conditions.

This process incorporates several components to accomplish, based on the vehicle and the fuel supply system configuration. Many modern diesel engines utilize an injector driver module (in conjunction with the PCM) to facilitate fuel and oil delivery to the injectors for each individual cylinder of the engine.

When the PCM detects an intermittent voltage or resistance problem/malfunction within the injector control pressure sensor circuit, code P2287 will be set and the check engine light will be illuminated. Anecdotally this ICP sensor code seems to be more commonly found on Ford F-250, F-350, 6.0L Powerstroke equipped trucks. The sensor may be located behind and down below the turbo facing the drivers side.

What Are The Symptoms Of The P2287 Code?

Symptoms of a P2287 trouble code may include:

- Engine may not start
- Low fuel Pressure
- Low oil pressure
- Check engine light illuminated

What Are The Potential Causes Of The P2287 Code?

Causes for this P2287 code may include:

- Defective injector control pressure sensor
- Oil pump malfunction
- Defective fuel pump
- Low oil or fuel level
- Faulty or damaged wiring
- Loose or defective control module ground strap
- Corroded, damaged or loose connector
- Defective fuse or fuse-able link (if applicable)
- Defective PCM

How Can You Fix The P2287 Code?

The first step in the troubleshooting process for any malfunction is to research the Technical Service Bulletins (TSB's) for the specific vehicle by year, model and power plant. In some circumstances, this can save a lot of time in the long run by pointing you in the right direction.

The second step is to check the oil and fuel levels to ensure they are adequate. Then locate all components associated to the injector control pressure sensor circuit and look for obvious physical damage. Perform a thorough visual inspection to check the associated wiring for obvious defects such as scraping, rubbing, bare wires, or burn spots.

Next is to check the connectors and connections for security, corrosion and damaged pins. This process must include all wiring connectors and connections to the injector control pressure sensor, the PCM and the fuel pump. Consult the specific tech data for the vehicle to see if a fuse or fuse-able link is incorporated into the circuit.

Advanced Steps

The advanced steps become very vehicle specific and require the appropriate advanced equipment to perform accurately. These procedures require a digital multi meter and the specific technical

references for the vehicle. In this situation, a fuel and oil pressure gauges may be the ideal tools to assist the troubleshooting process.

Voltage Checks

A reference voltage of approximately five volts is normally provided to the injector control pressure sensor from the PCM in most circumstances. The reference voltage and the acceptable ranges may vary based on the specific vehicle and the circuit configuration. Specific technical data will include troubleshooting charts and the appropriate sequence to follow assisting you with an accurate diagnosis.

If this process identifies the absence of a power source or ground, continuity testing may be required to check the integrity of the wiring, connectors and other components. Continuity tests should always be performed with the power removed from the circuit and the normal readings for wiring and connections should be 0 ohms of resistance.

Resistance or no continuity is an indication of faulty wiring that is open or shorted and must be repaired or replaced. A continuity test from the PCM control to the frame will confirm the serviceability level of ground straps and ground wires. The presence of resistance is an indication of a loose connection or possible corrosion.

Severity Description

The severity of this code is normally moderate, but P2287 can be severe and cause internal engine damage if not corrected in a timely manner.

Reference Sources

P2287 Injector Control Pressure Sensor Circuit Intermittent, OBD-Codes.