P018B: FUEL PRESSURE SENSOR B CIRCUIT RANGE/PERFORMANCE

OVERVIEW

Severity	:	High
DIY Difficulty Level	:	Intermediate
Repair Cost	:	**$250-$300**
Can I Still Drive?	:	**Yes** (Short-term only)

What Does The P018B Code Mean?

This diagnostic trouble code (DTC) is a generic powertrain code, which means that it applies to OBD-II equipped vehicles that have a fuel pressure sensor (Chevrolet, Ford, GMC, Chrysler, Toyota, etc.). Although generic, the exact repair steps may vary depending on make/model. Anecdotally this code seems a lot more common on GM vehicles (GMC, Chevrolet, etc.) and may be accompanied with a P018C code and/or other codes at the same time.

Most modern vehicles are equipped with a fuel pressure sensor (FPS). The FPS is one of the main inputs to the powertrain control module (PCM) for fuel pump and/or fuel injector control.

The fuel pressure sensor is a type of sensor called a transducer. This type of sensor varies its internal resistance in relation to pressure. The FPS is typically mounted to either the fuel rail or fuel line. Generally, there are three wires going to the FPS: reference, signal and ground. The sensor receives a reference voltage from the PCM (typically 5-volts) and sends back a return signal voltage that corresponds to fuel pressure.

In the case of this code, the “B” indicates the problem is with a portion of the system circuit, instead of a particular symptom or component.

Code P018B is set when the PCM detects a performance problem with the fuel pressure sensor. Related codes include P018A, P018C, P018D, and P018E.

What Are The Symptoms Of The P018B Code?

Symptoms of a P018B trouble code may include:

- Illuminated check engine light
- An engine that is hard to start or does not start
- Poor engine performance

What Are The Potential Causes Of The P018B Code?

Possible causes for this code may include:

- Faulty fuel pressure sensor
- Fuel delivery problems
- Wiring problems
- Faulty PCM

How Can You Fix The P018B Code?

Begin by checking the fuel pressure sensor and corresponding wiring. Look for loose connections, damaged wiring, etc. If damage is found, repair as necessary, clear the code and see if it returns. Next, check for technical service bulletins (TSBs) regarding the issue. If nothing is found, you will need to move forward to step by step diagnosis of the system.

The following is a generalized procedure, as testing for this code varies between vehicles. To accurately test the system, you'll want to refer to the manufacture's diagnostic flow chart.

Check the wiring

Before proceeding, you'll want to consult the factory wiring diagrams to determine which wires are which. Autozone offers free online repair manuals for many vehicles and ALLDATA offers single vehicle subscriptions.

Check the reference voltage portion of the circuit

With the vehicle ignition on, use a digital multimeter set to DC volts to check for reference voltage (usually 5 volts) from the PCM. To do this, connect the negative meter lead to ground and the positive meter lead to the sensor B+ terminal on harness side of the connector. If no reference signal is present, connect the meter set to ohms (with the ignition off) between the reference voltage pin on the fuel pressure sensor and the reference voltage pin on the PCM. If the meter reads out of limits (OL) there is an open circuit between the PCM and sensor that will need to be located and repaired. If the meter reads a numeric value, there is continuity.

If everything is good up to this point, you'll want to check that there is power coming out of the PCM. To do this, turn the ignition on and set the meter to DC volts. Connect the positive meter lead to the reference voltage terminal on the PCM and the negative lead to ground. If there is not a reference voltage from the PCM, the PCM is probably faulty. However, PCMs rarely go bad, so it's a good idea to double check your work up to this point.

Check the ground portion of the circuit

With the vehicle ignition off, use a digital multimeter set to ohms to check for continuity to ground. Connect the meter between the fuel pressure sensor connector ground terminal and chassis ground. If the meter reads a numeric value, there is continuity. If the meter reads out of limits (OL) there is an open circuit between the PCM and sensor that will need to be located and repaired.

Check the return signal portion of the circuit

Turn the vehicle ignition off and turn your multimeter to the ohms setting. Connect one meter lead to the return signal terminal on the PCM and the other to the return terminal on the sensor connector. If the meter displays out of limits (OL), there is an open circuit between the PCM and sensor that must be repaired. If the meter reads a numeric value, there is continuity.

Check the fuel pressure sensor reading against actual fuel pressure

The testing done up to this point indicates that the fuel pressure sensor circuit is OK. Next, you'll want to check the sensor itself against actual fuel pressure. To do this, start by attaching a mechanical fuel pressure gauge to the fuel rail. Next, connect a scan tool to the vehicle and select the FPS data parameter for viewing. Start the engine while simultaneously viewing both the actual fuel pressure and the FPS sensor data on the scan tool. If the readings aren't within a couple of psi of one another, the sensor is faulty and should be replaced. If both readings are below the manufacture's fuel pressure specifications, the FPS is not blame. Instead, there is likely a fuel delivery problem, such as a failed fuel pump, that will require diagnosis and repair.

Severity Description

The severity of these codes is moderate to severe. In some cases, these codes can result in a vehicle that won't start. It's a good idea to address this code as soon as possible.

Reference Sources

P018B: Fuel Pressure Sensor B Circuit Range Performance, OBD-Codes.