

P018F: FUEL SYSTEM OVER PRESSURE RELIEF VALVE FREQUENT ACTIVATION

OVERVIEW

Severity	:	High
DIY Difficulty Level	:	Intermediate
Repair Cost	:	\$250-\$300
Can I Still Drive?	:	

What Does The P018F Code Mean?

If your vehicle has stored a code P018F, it means that the powertrain control module (PCM) has detected a problem with the fuel pressure relief valve.

In this case, it means that the PCM has noticed an over active fuel pressure release valve. This valve is designed to relieve fuel pressure in the event that it reaches an excessive amount.

In most cases, the fuel pressure relief valve is actuated using a solenoid that is controlled by the PCM. The valve is typically located on the fuel injection rail or the fuel supply line. The PCM monitors an input signal from the fuel pressure sensor to determine if fuel pressure relief valve operation is required.

When fuel pressure is relieved, excess fuel is rerouted back to the fuel storage tank via a specially designed return hose. When fuel pressure exceeds a programmed limit, the PCM applies voltage and/or ground to the valve for a length of time substantial enough to initiate operation and allow fuel pressure to subside to an acceptable degree.

If the PCM detects an unusual number of requested fuel pressure relief valve activations, over a set period of time, a code P018F will be stored and a malfunction indicator lamp (MIL) may be illuminated. Some applications may require multiple ignition cycles (with a failure) in order for MIL illumination to occur.

What Are The Symptoms Of The P018F Code?

Symptoms of a P018F trouble code may include:

- Rich exhaust conditions
- Rough idle; especially upon cold start
- Diminished fuel efficiency
- Engine misfire codes due to fouled spark plugs

What Are The Potential Causes Of The P018F Code?

Causes for this P018F transmission code may include:

- Bad fuel pressure sensor
- Defective fuel pressure regulator
- Insufficient vacuum to the fuel pressure regulator
- Open or shorted fuel pressure sensor or electronic fuel pressure regulator circuits
- Faulty PCM or a PCM programming error

How Can You Fix The P018F Code?

Prior to diagnosing a code P018F, you will need access to a diagnostic scanner, a digital volt/ohmmeter (DVOM), a manual fuel pressure gauge (with appropriate fittings and attachments), and a reliable vehicle information source.

After a careful visual inspection of system wiring and connectors, check all system vacuum supply lines and hoses for signs of cracking or collapse. Repair or replace wiring and vacuum hoses as required.

Locate the vehicle diagnostic port and connect the scanner to retrieve all stored codes and freeze frame data. You may help your upcoming diagnosis by writing this information down and putting it aside for later. This is especially true in the event that this is an intermittent code. Now, clear the codes and test drive the vehicle to see if it is immediately reset.

Should the code be immediately reset:

Step 1

Check fuel pressure to determine if it is excessive. If there is no evidence that it is, suspect a defective fuel pressure sensor (or faulty PCM) and move on to Step 3. If fuel pressure is excessive, continue to Step 2.

Step 2

Use the DVOM and the vehicle information source to test the electronic fuel pressure regulator (if applicable). If the electronic fuel pressure regulator does not comply with manufacturer's specifications, replace it and test drive the vehicle to make sure that the malfunction is rectified.

If the vehicle is equipped with a mechanical (vacuum operated) fuel pressure regulator, make sure that it has a constant supply of vacuum (engine running) and that it is not leaking fuel internally. If fuel pressure is excessive and the regulator has sufficient vacuum, suspect a defective vacuum regulator. If the regulator is leaking fuel internally, consider it defective and replace it. Test drive the vehicle until the PCM enters readiness mode or the code P018F is reset.

Step 3

Use the DVOM and specs derived from your vehicle information source to test the fuel pressure regulator according to manufacturer's recommendations. Replace the regulator if it fails to comply. If the sensor and regulator are within specifications, move to Step 4.

Step 4

Disconnect all related controllers from the related circuits and use the DVOM to check resistance and continuity on individual circuits. Repair or replace circuits which fail to meet manufacturer's recommendations. If all components and circuits are in good working order, suspect that the PCM is defective or that there is a programming error.

- Use caution when testing high pressure fuel systems
- A defective fuel pressure relief valve will not cause a code P018F to be stored

Severity Description

Because excessive fuel pressure is a contributing factor in a code P018F being stored, and because excessive fuel pressure may result in serious mechanical damage, this code must be considered severe.

Reference Sources

[P018F: Fuel System Over Pressure Relief Valve Frequent Activation](#), OBD-Codes.