

# P000F: FUEL SYSTEM OVER PRESSURE RELIEF VALVE ACTIVATED

## OVERVIEW

<b>Severity</b>	:	High
<b>DIY Difficulty Level</b>	:	Advanced
<b>Repair Cost</b>	:	\$100-\$300
<b>Can I Still Drive?</b>	:	Yes (Short-term only)

## What Does The P000F Code Mean?

When your OBD-II equipped vehicle exhibits a stored code P000F, it means that the powertrain control module (PCM) has detected excessive fuel pressure and the over pressure relief valve has been activated.

If there are fuel volume regulator codes or fuel pressure regulator codes present, you should diagnose and repair those before attempting to diagnose the P000F. Fuel system over pressure relief valve activation is most likely a reaction to a malfunction in the fuel pressure regulation system.

Today's clean burning diesel vehicles require extreme levels of fuel pressure to function properly. In my personal experience, I have never encountered a fuel system over pressure relief valve on anything except a diesel vehicle application.

The over pressure relief valve is typically located in the main fuel supply line or on the fuel rail. It is an electronically controlled valve that uses a solenoid as an actuator. The valve will have an inlet line, and outlet line, and a return hose which allows excessive fuel to be returned to the tank (without spillage) whenever the valve is activated.

The PCM receives an input signal from the fuel pressure sensor whenever the vehicle is in the key on engine running (KOER) position. If this input signal reflects that fuel pressure exceeds a

programmed limit, the PCM will energize the fuel system over pressure relief valve, the valve will open, excessive pressure will be relieved, and a small amount of fuel will be diverted back to the fuel tank.

Once the PCM has detected an over pressure condition and the relief valve has been activated, a code P000F will be stored and a malfunction indicator lamp (MIL) may be illuminated. MIL illumination may require multiple ignition cycles with a failure.

## What Are The Symptoms Of The P000F Code?

Symptoms of a P000F engine code may include:

- Delayed start or no start condition
- A general lack of engine performance
- Diminished fuel efficiency
- Other fuel system codes or misfire codes

## What Are The Potential Causes Of The P000F Code?

Causes for this code may include:

- Bad fuel pressure sensor
- Defective fuel pressure regulator
- Faulty fuel volume regulator
- Restricted fuel filter
- PCM failure or PCM programming error

## How Can You Fix The P000F Code?

After gaining access to a diagnostic scanner, I would begin by retrieving all stored codes and freeze frame data from the vehicle. Write this information down because it may be helpful later. Now, I would clear the codes and test-drive the vehicle (if possible) to see if it is reset.

If the code is reset, you will need a reliable vehicle information source, a fuel pressure gauge with adapters, and a digital volt/ohmmeter (DVOM).

Visually inspect all system components, electrical wiring, and fuel lines. Make sure that no fuel lines are kinked or crushed and perform repairs as necessary.

Check technical service bulletins (TSB) that may align with the P000F, the symptoms presented, and the vehicle in question. The right TSB could save you hours of diagnostic time.

Next, I would do a manual fuel pressure test. Be very careful when testing high pressure fuel systems. Pressure can exceed 30,000 psi.

## **Fuel pressure is within specifications:**

Use the DVOM to probe for reference voltage and a ground at the fuel pressure sensor connector. A reliable vehicle information source will yield testing specifications and procedures, as well as wiring diagrams and connector face views. If no reference signal is found, probe the corresponding circuit at the PCM connector. If no reference voltage is found there, suspect a bad PCM or a PCM programming error. If reference voltage is discovered at the PCM connector, suspect a broken or shorted circuit between the PCM and the sensor. If the reference voltage and ground are there, use the DVOM to test the fuel pressure sensor. Again, a good vehicle information source (like AllData DIY) will give you manufacturer's specifications and procedures for testing the sensor.

## **Fuel pressure is NOT within specifications:**

Suspect that the fuel pressure regulator or the fuel volume regulator are defective. Use the DVOM to test individual components and make repairs as required.

Diagnose and repair other fuel system codes before attempting to diagnose a P000F.

## **Severity Description**

Precise fuel system pressure is critical for optimum engine performance and efficiency. A stored code P000F should be treated as severe.

## **Reference Sources**

[P000F: Fuel System Over Pressure Relief Valve Activated, OBD-Codes.](#)