

GENERIC · POWERTRAIN

P009F

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P009F

Fuel Pressure Relief Control Stuck On

P009F indicates that the powertrain control module has detected the fuel pressure relief control valve is stuck in the open or energized position, causing fuel pressure to bleed off when it should be held. The computer commands the relief valve to close and regulate pressure, but the pressure sensor signal does not change as expected, so the fault is stored.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Professional

AREA

Fuel and air metering and auxiliary emission controls

Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- Extended cranking or a no-start condition, especially after the vehicle sits
- Rough idle or stumbling immediately after startup
- Reduced engine power or limp mode under load
- Poor fuel economy or a rich-running smell from the exhaust
- Intermittent hard starting that worsens in hot weather

Common causes, most likely first

- 1 Fuel pressure relief valve mechanically stuck open due to debris or wear
- 2 Failed relief valve solenoid or its internal seal
- 3 Open or shorted wiring to the relief valve control circuit
- 4 Corroded or loose electrical connector at the relief valve
- 5 Restricted fuel return line causing backpressure that holds the valve off its seat
- 6 Faulty fuel pressure sensor providing an inaccurate signal to the control module
- 7 Low fuel level or a weak low-pressure fuel pump that cannot build sufficient prime pressure



How to diagnose and fix it

- 1 Scan all modules for stored and pending codes, and record freeze-frame data for P009F
- 2 Check fuel level and inspect the low-pressure fuel system for adequate prime pressure
- 3 Visually inspect the relief valve connector, pins, and wiring for corrosion or damage
- 4 Measure resistance and voltage on the relief valve control circuit against manufacturer specifications
- 5 Command the relief valve on and off with a scan tool while monitoring fuel pressure to confirm the fault
- 6 Remove and inspect the relief valve for sticking, debris, or a damaged seal, replacing it if faulty
- 7 Verify the repair by clearing codes and running a complete drive cycle to confirm P009F does not return

Relief valve faults that mimic other codes

- A stuck-open relief valve often sets P009F together with lean or rich mixture codes because the pressure loss changes injector delivery without any visible leak.
- Technicians sometimes replace the high-pressure fuel pump when the real problem is a relief valve that bleeds pressure off, so always command the valve and watch pressure before condemning the pump.
- A weak low-pressure fuel pump can cause the relief valve to stick open intermittently, and the code may only appear after the vehicle sits overnight or during hot restart.
- The relief valve may test fine electrically but still stick mechanically due to varnish or debris, so a resistance check alone does not rule it out.
- On some systems the relief valve is integrated into the high-pressure pump assembly, making replacement more involved than the code description suggests.

Can I keep driving with P009F?

You can usually drive a short distance to a repair shop if the engine starts and runs, but avoid hard acceleration, towing, or long trips because pressure loss can cause stalling or limp mode. If the engine cranks but will not start, do not keep cranking; have the vehicle towed.

Tools that help

- OBD-II scan tool with bidirectional control and live fuel pressure data
- Fuel pressure gauge set for high and low pressure systems
- Digital multimeter for circuit resistance and voltage checks
- Factory service information for relief valve testing and torque specifications
- Basic hand tools including socket set and trim removal tools



Reading P009F

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 0** Fuel and air metering and auxiliary emission controls.
- 9F** The exact fault within that area.

Often seen with

P0087 Fuel Rail/System Pressure - Too Low · **P0088** Fuel Rail/System Pressure - Too High · **P0090** Fuel Pressure Regulator 1 Control Circuit · **P0091** Fuel Pressure Regulator 1 Control Circuit Low · **P0092** Fuel Pressure Regulator 1 Control Circuit High

See it working

Watch the animated explainer [How Variable Valve Timing Works: Cam Phaser and VVT Solenoid](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p009f/>

