

GENERIC · POWERTRAIN

P0230

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0230

Fuel Pump Primary Circuit Malfunction

P0230 is a generic powertrain code that indicates the engine control module (ECM) has detected an abnormal condition in the primary electrical circuit that powers the fuel pump. The ECM monitors the voltage or current on the control side of the fuel pump relay and sets this code when the signal falls outside the expected range, often due to an open circuit, short to ground, or excessive current draw.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Intermediate	Fuel and air metering (injector circuits)

Symptoms you may notice

- The check engine light illuminates, often with no other noticeable symptoms.
- The engine may crank but fail to start because the fuel pump does not receive power.
- Intermittent stalling or a sudden loss of engine power while driving.
- The fuel pump may not prime when the ignition is turned on, resulting in a longer crank time.
- A blown fuel pump fuse or a clicking relay that does not close properly.

Common causes, most likely first

- A faulty fuel pump relay that fails to close or has burned contacts.
- A blown fuse in the fuel pump primary circuit.
- Damaged wiring or a poor connection in the circuit between the ECM, relay, and fuel pump.
- Corroded or loose ground connection for the fuel pump circuit.
- A short to ground or an open circuit in the control wire from the ECM to the relay.
- A failing fuel pump that draws excessive current, though this often sets a different code.
- A rare internal fault in the ECM driver for the fuel pump relay.



How to diagnose and fix it

- 1 Check the fuel pump fuse and replace it if blown, then verify the new fuse does not blow immediately.
- 2 Inspect the fuel pump relay by swapping it with an identical relay from a non-critical circuit and retesting.
- 3 Perform a voltage drop test on the power and ground circuits at the fuel pump relay and pump connector.
- 4 Disconnect the fuel pump connector and measure resistance to ground on the control wire to check for a short.
- 5 Use a scan tool to command the fuel pump on and off while monitoring the circuit with a multimeter or test light.
- 6 If the circuit tests good, check the fuel pump current draw with an ammeter to rule out a failing pump.
- 7 If all external circuits and components are verified, diagnose the ECM driver circuit as the last step.

What the fuel pump primary circuit really monitors

- P0230 specifically refers to the primary circuit, which is the control side that the ECM uses to energize the fuel pump relay, not the high-current output to the pump itself.
Many technicians replace the fuel pump when the real problem is a \$5 relay or a corroded ground, so always test the relay and wiring before condemning the pump.
- A fuel pump that is beginning to seize can draw excessive current and intermittently set P0230 without completely failing, so current draw testing is more reliable than a simple voltage check.
- Some vehicles use a fuel pump control module (FPCM) that can set P0230 when its internal driver fails, even though the relay and pump are fine.
Intermittent P0230 codes are often caused by a chafed wire harness near the fuel tank or under the rear seat where the harness flexes.

Can I keep driving with P0230?

If the engine starts and runs normally, you can drive cautiously to a repair shop, but avoid hard acceleration or long trips because the fuel pump could stop without warning. If the engine cranks but does not start or stalls repeatedly, do not drive and have the vehicle towed to prevent a dangerous breakdown.

Tools that help

- OBD-II scan tool with bidirectional control
- Digital multimeter
- Test light
- Fuel pressure gauge
- Relay puller or small screwdriver
- Wiring diagram for the specific vehicle



Reading P0230

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

Often seen with

P0087 Fuel Rail/System Pressure - Too Low · **P0089** Fuel Pressure Regulator 1 Performance · **P0190** Fuel Rail Pressure Sensor Circuit Malfunction · **P0231** Fuel Pump Secondary Circuit Low · **P0232** Fuel Pump Secondary Circuit High

See it working

Watch the animated explainer [How an Automatic Transmission Works, Gear by Gear](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0230/>

