

GENERIC · POWERTRAIN

P0148

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0148

Fuel Delivery Error

P0148 is a generic powertrain code that indicates the engine control module (ECM) has detected a fuel delivery error, meaning the actual fuel quantity delivered to the engine does not match the commanded amount within an acceptable tolerance. The ECM monitors fuel pressure, injector pulse width, and other inputs to calculate this discrepancy, often using a fuel rail pressure sensor or wideband oxygen sensor feedback.

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

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Rough idle or engine stumble, especially when cold
- Hesitation or lack of power during acceleration
- Decreased fuel economy
- Difficulty starting or extended cranking
- Possible misfire or engine surge under load

Common causes, most likely first

- 1 Faulty fuel pressure sensor or fuel rail pressure sensor sending inaccurate data
- 2 Clogged or restricted fuel filter
- 3 Weak or failing fuel pump, leading to low fuel pressure
- 4 Leaking or stuck fuel injector
- 5 Air leaks in the intake system after the mass airflow sensor
- 6 Wiring or connector issues at the fuel pressure sensor or injectors
- 7 Faulty fuel pressure regulator (on return-style systems)



How to diagnose and fix it

- 1 Scan all modules for stored and pending codes, and record freeze-frame data to understand when the fault occurs
- 2 Check fuel pressure with a mechanical gauge and compare to manufacturer specifications
- 3 Inspect fuel pressure sensor wiring and connectors for corrosion or damage
- 4 Test the fuel pressure sensor signal with a multimeter or scan tool to verify it tracks pressure changes
- 5 Perform a fuel injector balance test or inspect injectors for leaks or clogs
- 6 Check for intake air leaks using a smoke machine or propane enrichment
- 7 If all else checks out, reprogram or replace the ECM as a last resort

Fuel delivery error misdiagnosis traps

- A P0148 can be set by a faulty fuel pressure sensor even when actual fuel pressure is correct, so always verify pressure mechanically before replacing the pump.
- Some vehicles use a fuel pressure sensor that is integrated into the fuel pump module, and a failing sensor can mimic a weak pump.
- Intermittent wiring faults at the fuel pressure sensor connector often cause this code without any driveability symptoms.
- A clogged fuel filter may not set a lean code first; P0148 can be the earliest sign of restricted flow.
- On direct-injection engines, a failing high-pressure fuel pump can set P0148 without triggering misfire codes initially.

Can I keep driving with P0148?

You can usually drive with P0148, but avoid hard acceleration and towing until diagnosed, as fuel delivery errors can worsen and lead to lean conditions or stalling. If the engine runs rough or loses power, limit driving to reach a repair shop safely.

Tools that help

- OBD-II scan tool with live data capability
- Fuel pressure test kit
- Digital multimeter
- Smoke machine for intake leak detection
- Fuel injector balance tester



Reading P0148

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

Often seen with

P0087 Fuel Rail/System Pressure - Too Low · **P0088** Fuel Rail/System Pressure - Too High · **P0171** System Too Lean (Bank 1) · **P0172** System Too Rich (Bank 1) · **P0300** Random/Multiple Cylinder Misfire Detected

See it working

Watch the animated explainer [Car Relay Test Bench: Test 4-Pin and 5-Pin Relays](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0148/>

