

GENERIC · POWERTRAIN

P02F2

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P02F2

Cylinder 5 Injector Circuit Range/Performance

P02F2 indicates that the powertrain control module (PCM) has detected an abnormal condition in the electrical circuit for cylinder 5's fuel injector, where the circuit's resistance or performance falls outside the expected range. The PCM monitors injector current and response time; this code sets when the signal does not match the commanded pulse width or when the circuit's electrical signature is out of specification.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Fuel and air metering (injector circuits)

Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- Rough idle or misfire sensation, especially noticeable at idle or low speeds
- Engine hesitation or stumble during acceleration
- Decreased fuel economy due to improper fuel delivery
- Possible shaking or vibration from the engine bay
- In some cases, a faint fuel odor or rich-running condition

Common causes, most likely first

- 1 Faulty fuel injector for cylinder 5 (internally shorted or open coil)
- 2 Damaged or corroded electrical connector at the injector
- 3 Chafed, broken, or shorted wiring in the injector harness
- 4 PCM driver circuit failure for that injector
- 5 High resistance in the injector ground circuit
- 6 Contamination or clogging affecting injector performance (less likely to set a circuit code alone)



How to diagnose and fix it

- 1 Perform a visual inspection of the cylinder 5 injector connector and wiring for damage or corrosion
- 2 Measure the injector coil resistance with a multimeter and compare to specifications
- 3 Check for voltage and ground signals at the injector connector with the key on and during cranking
- 4 Inspect the harness for continuity and shorts between the injector and PCM
- 5 Swap the cylinder 5 injector with a known-good injector from another cylinder to see if the code moves
- 6 If the code persists after swapping, test the PCM driver circuit or consult a professional with advanced diagnostic equipment
- 7 Replace the faulty injector or repair the wiring as needed, then clear codes and verify the repair

What the code does not always mean

- A P02F2 can be set by a poor electrical connection rather than a failed injector, so always check connector pins and terminal tension before condemning the injector.
- The code may appear intermittently due to vibration or temperature changes, making it essential to wiggle-test the harness while monitoring live data.
- Some vehicles use injectors with low resistance; comparing to a known-good cylinder is more reliable than relying solely on published specifications.
- A clogged or dirty injector can cause performance issues but rarely sets a circuit range/performance code unless the electrical characteristics are affected.
- Misdiagnosis often occurs when the PCM driver is faulty but the injector is replaced; proper circuit testing prevents unnecessary parts replacement.

Can I keep driving with P02F2?

You can usually drive the vehicle with this code, but avoid aggressive acceleration or heavy loads because a misfiring cylinder can damage the catalytic converter over time. Have the fault diagnosed promptly to prevent worsening performance and potential emissions damage.

Tools that help

- OBD-II scanner with live data capability
- Digital multimeter
- Test light
- Wire probe set
- Factory service information for resistance specifications



Reading P02F2

- 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).
- F2** The exact fault within that area.

Often seen with

P0205 Injector Circuit/Open - Cylinder 5 · **P02F1** Cylinder 4 Injector Circuit Range/Performance · **P02F3** Cylinder 6 Injector Circuit Range/Performance · **P0305** Cylinder 5 Misfire Detected · **P2149** Fuel Injector Group 'B' Supply Voltage Circuit/Open

See it working

Watch the animated explainer [Helicopter Simulator: Take Off, Hover and Land](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p02f2/>

