

GENERIC · POWERTRAIN

P02F4

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P02F4

Cylinder 7 Injector Circuit Range/Performance

P02F4 indicates that the powertrain control module has detected an abnormal condition in the electrical circuit for cylinder 7's fuel injector, where the circuit's resistance or response falls outside the expected range. The computer monitors injector current and voltage during operation and flags this code when the signal does not match the commanded pulse width, pointing to a problem with the injector itself or its wiring.

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 that may be felt as a shake or stumble
- Reduced engine power or hesitation during acceleration
- Poor fuel economy due to improper fuel delivery
- Possible fuel smell from the exhaust if the injector is stuck open
- In severe cases, a flashing check engine light indicating a misfire that could damage the catalytic converter

Common causes, most likely first

- 1 Faulty fuel injector on cylinder 7 (coil winding open or shorted, or mechanically clogged)
- 2 Damaged or corroded electrical connector at the injector
- 3 Chafed, broken, or shorted wire in the injector harness
- 4 Poor connection or corrosion at the powertrain control module connector
- 5 Internal driver failure in the powertrain control module (rare)
- 6 Low fuel pressure or contaminated fuel causing the injector to perform out of range



How to diagnose and fix it

- 1 Perform a visual inspection of the cylinder 7 injector connector and wiring for damage, corrosion, or loose pins
- 2 Use a scan tool to check for other stored codes and freeze-frame data to confirm the fault conditions
- 3 Measure the resistance of the cylinder 7 injector with a multimeter and compare to the manufacturer's specification
- 4 Check for voltage and ground signals at the injector connector with a noid light or oscilloscope while cranking the engine
- 5 Inspect the injector harness for continuity and shorts to ground or power using a wiring diagram
- 6 If electrical tests pass, remove and flow-test the injector or swap it with a known-good injector from another cylinder to see if the code moves
- 7 Replace the faulty injector or repair the wiring as needed, then clear codes and verify the repair with a test drive

Don't overlook these injector circuit traps

- A clogged or dirty injector can set P02F4 without any electrical fault, so flow testing is just as important as resistance checks.
- The injector driver inside the PCM can fail intermittently, causing the code to set only when the engine is hot or after prolonged driving.
- Corrosion inside the injector connector is a common cause that visual inspection alone may miss; gently wiggle the harness while watching live data.
- Swapping the cylinder 7 injector with another cylinder is a quick way to confirm whether the fault follows the injector or stays with the circuit.
- This code can be set by a low fuel pressure condition that affects all injectors, so check fuel trim and pressure before condemning the injector.

Can I keep driving with P02F4?

You can usually drive with P02F4 set, but avoid heavy acceleration or towing until it is repaired, as a persistent misfire can overheat and damage the catalytic converter. If the check engine light flashes, stop driving and have the vehicle towed to prevent costly damage.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Noid light or oscilloscope
- Fuel pressure gauge
- Basic hand tools (socket set, screwdrivers, pliers)



Reading P02F4

- 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).
- F4** The exact fault within that area.

Often seen with

P0207 Injector Circuit/Open - Cylinder 7 · **P0261** Cylinder 1 Injector Circuit Low · **P0264** Cylinder 2 Injector Circuit Low · **P0307** Cylinder 7 Misfire Detected · **P2146** Fuel Injector Group 'A' Supply Voltage Circuit/Open

See it working

Watch the animated explainer [How a Radiator Fan Relay Circuit Works](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p02f4/>

