

GENERIC · POWERTRAIN

P02FB

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P02FB

Cold Start Fuel Injection Control Circuit/Open

P02FB indicates that the engine control module (ECM) has detected an open circuit or abnormal voltage in the cold start fuel injection control circuit, which is responsible for delivering extra fuel during cold engine starts to ensure smooth running and reduce emissions. The ECM monitors the circuit's electrical integrity and sets this code when the signal falls outside the expected range, often due to a wiring fault, a failed injector, or a problem with the control module itself.

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

Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- Extended cranking time or difficulty starting the engine when cold
- Rough idle or stumbling immediately after a cold start
- Hesitation or poor throttle response during the first few minutes of driving
- Increased exhaust emissions or a strong fuel odor from the tailpipe during warm-up
- In rare cases, the engine may stall shortly after a cold start

Common causes, most likely first

- 1 Open or damaged wiring in the cold start injector circuit, such as a broken wire or corroded connector
- 2 Faulty cold start fuel injector with an open internal coil
- 3 Poor electrical connection at the cold start injector or at the ECM harness
- 4 Failed engine coolant temperature sensor sending incorrect cold-start signals to the ECM
- 5 Defective cold start injector timer switch or relay (where equipped)
- 6 Internal fault in the ECM driver circuit for the cold start injector
- 7 Contamination or clogging in the cold start injector passages, causing electrical feedback anomalies



How to diagnose and fix it

- 1 Perform a visual inspection of the cold start injector harness and connectors for damage, corrosion, or loose pins
- 2 Use a digital multimeter to check the resistance of the cold start injector and compare it to the manufacturer's specification
- 3 Check for battery voltage and ground signals at the cold start injector connector during cranking when the engine is cold
- 4 Test the engine coolant temperature sensor and its wiring to ensure the ECM receives an accurate cold-start signal
- 5 Inspect and test the cold start injector timer switch or relay if the vehicle is equipped with one
- 6 Perform a voltage drop test on the ground and power circuits to identify excessive resistance
- 7 If all external circuits and components test good, consult factory diagnostics for the ECM and consider replacement only after confirming a faulty driver

Cold Start Circuit Faults Often Misdiagnosed

- A common oversight is assuming the cold start injector itself is defective when the real problem is a corroded connector pin or chafed wire hidden under the intake manifold.
- The code can be set by a failing engine coolant temperature sensor that misreports engine temperature, causing the ECM to command an incorrect cold-start fuel strategy without any injector circuit fault.
- On some vehicles, the cold start injector is only powered during cranking, so a simple key-on voltage test will not reveal an open circuit; you must test during active cranking.
- A weak battery or poor engine ground can cause voltage drops that mimic an open circuit in the cold start injector circuit, leading to unnecessary parts replacement.
- After repairs, the ECM may require a relearn procedure or several cold-start cycles before the code clears and monitors run successfully.

Can I keep driving with P02FB?

You can generally drive the vehicle with this code, but cold starting may be difficult and the engine may run rough until warm; avoid heavy acceleration or high loads until the engine reaches operating temperature, and have the fault diagnosed soon to prevent catalytic converter damage from unburned fuel.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Test light
- Factory service information for circuit specifications
- Basic hand tools for connector and component access



Reading P02FB

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).
FB	The exact fault within that area.

Often seen with

P02FC Cold Start Fuel Injection Control Circuit Low · **P02FD** Cold Start Fuel Injection Control Circuit High · **P02FE** Cold Start Fuel Injection Control Circuit Range/Performance · **P02FF** Propulsion System Inactive Timer Performance · **P0300** Random/Multiple Cylinder Misfire Detected

See it working

Watch the animated explainer [How Coil-on-Plug Ignition Works: Coil and Spark Plug](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p02fb/>

