

GENERIC · POWERTRAIN

P0189

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0189

Fuel Temperature Sensor B Circuit Intermittent

P0189 indicates that the powertrain control module detected an intermittent fault in the electrical circuit for fuel temperature sensor B, which is often the sensor located in the fuel tank or fuel rail. The circuit's signal momentarily drops out or jumps erratically, but the fault is not present continuously, so the computer flags it as intermittent rather than a hard failure.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Low

FIX DIFFICULTY

Intermediate

AREA

Fuel and air metering

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms.
- Intermittent rough idle or hesitation when the engine is cold or during sudden acceleration.
- Occasional hard starting or extended cranking, especially in cold weather.
- A slight decrease in fuel economy that may come and go.
- In rare cases, the engine may stumble or stall briefly when the fault occurs.

Common causes, most likely first

- 1 A loose, corroded, or damaged electrical connector at the fuel temperature sensor.
- 2 Chafed, cracked, or broken wires in the sensor circuit, often near the fuel tank or along the harness.
- 3 A failing fuel temperature sensor that intermittently opens or shorts internally.
- 4 Poor terminal tension at the sensor or powertrain control module connector, causing an intermittent connection.
- 5 Moisture or fuel contamination inside the connector or sensor, leading to erratic signals.
- 6 A faulty powertrain control module, though this is rare and should be considered only after all other causes are ruled out.



How to diagnose and fix it

- 1 Inspect the fuel temperature sensor connector for looseness, corrosion, or fuel residue, and clean or repair as needed.
- 2 Wiggle-test the sensor harness while watching live data to see if the signal drops out, which pinpoints an intermittent wire.
- 3 Check the sensor's resistance with a multimeter when cold and hot, comparing to specifications, and replace the sensor if it is out of range or erratic.
- 4 Perform a voltage drop test on the sensor circuit to detect high resistance in the wiring or connectors.
- 5 Repair any damaged wires or terminals, then clear the code and verify that it does not return after a test drive that includes varying temperatures.
- 6 If the code persists after all circuit and sensor checks, consult the factory service information for specific pinpoint tests before replacing the powertrain control module.

Intermittent codes need wiggle tests

- An intermittent circuit fault often leaves no stored freeze-frame data, so a wiggle test of the harness while watching live fuel temperature data is more reliable than static resistance checks.
- The fuel temperature sensor is sometimes integrated into the fuel tank pressure sensor or fuel pump module, so a fault may require replacing the entire assembly rather than a separate sensor.
- A poor ground connection for the sensor circuit can mimic a faulty sensor, so always verify ground integrity before condemning the sensor.
- This code can be set by a momentary voltage spike or drop caused by another component on the same circuit, so check for aftermarket accessories tapped into the wiring.
- Do not replace the powertrain control module based solely on P0189; the fault is almost always in the sensor, connector, or wiring.

Can I keep driving with P0189?

The vehicle is generally safe to drive with P0189 because the fault is intermittent and does not cause a immediate safety risk, but avoid towing heavy loads or aggressive driving until the issue is repaired. If the engine begins to stumble or stall frequently, have it diagnosed promptly.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wiring diagram for the fuel temperature sensor circuit
- Terminal pick and electrical contact cleaner
- Heat gun or thermometer for temperature testing



Reading P0189

- 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.
- 89** The exact fault within that area.

Often seen with

P0185 Fuel Temperature Sensor B Circuit · **P0186** Fuel Temperature Sensor B Circuit Range/Performance · **P0187** Fuel Temperature Sensor B Circuit Low · **P0188** Fuel Temperature Sensor B Circuit High · **P0190** Fuel Rail Pressure Sensor Circuit Malfunction

See it working

Watch the animated explainer [How a Car Clutch Works: Diaphragm Clutch Cutaway](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0189/>

