

GENERIC · POWERTRAIN

P01B8

OBD-II TROUBLE CODE

P01B8

Alternative Fuel Rail Temperature Sensor Circuit Intermittent/Erratic

P01B8 indicates that the powertrain control module (PCM) has detected an intermittent or erratic signal from the alternative fuel rail temperature sensor circuit. The PCM expects a stable voltage or resistance value that corresponds to the fuel rail temperature, but the signal is jumping, dropping out, or otherwise behaving unpredictably.

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 running or hesitation when the engine is cold or during the first few minutes of operation.
- Poor fuel economy or increased fuel consumption, especially on alternative fuel vehicles.
- Intermittent stalling or a stumble on acceleration if the erratic signal causes the PCM to miscalculate fuel delivery.
- Hard starting or extended cranking when the engine is cold, particularly in low ambient temperatures.
- In rare cases, a no-start condition if the sensor signal is lost completely and the PCM cannot determine a safe fueling strategy.

Common causes, most likely first

- 1 A faulty alternative fuel rail temperature sensor that internally shorts or opens intermittently due to heat cycling or vibration.
- 2 Damaged or chafed wiring in the sensor circuit, often where the harness routes near hot components or sharp edges.
- 3 Corroded, loose, or backed-out terminals at the sensor connector or at the PCM connector.
- 4 Water intrusion into the sensor connector or harness, causing intermittent shorts or signal drift.
- 5 A poor ground connection for the sensor circuit, leading to erratic reference voltage.
- 6 In rare cases, a failing PCM driver circuit for the sensor, though this is less common than sensor or wiring faults.



How to diagnose and fix it

- 1 Inspect the sensor connector and wiring for corrosion, chafing, or loose pins, and repair any damage found.
- 2 Measure the sensor resistance with a multimeter and compare it to the manufacturer's specification for the current temperature; replace the sensor if it is out of range or unstable when wiggled.
- 3 Backprobe the sensor signal wire at the PCM and monitor the voltage while wiggling the harness and tapping the sensor to check for intermittent drops or spikes.
- 4 Check the sensor ground circuit for excessive resistance and repair any poor ground connections.
- 5 Clear the diagnostic trouble code (DTC) and perform a road test that includes cold starts and varying engine loads to verify the repair.
- 6 If the signal remains erratic after sensor and wiring repairs, test the PCM connector pins and, if necessary, substitute a known-good PCM to rule out an internal driver fault.

When the sensor is not the real culprit

- A common misdiagnosis is replacing the alternative fuel rail temperature sensor when the actual problem is a chafed wire hidden inside the harness loom near the exhaust manifold.
- Intermittent codes like P01B8 often set only under specific conditions such as cold ambient temperatures or after a heat soak, so a simple key-on test may not reveal the fault.
- The PCM may use the alternative fuel rail temperature signal to adjust fuel pressure or injection timing, so an erratic signal can cause driveability issues that mimic other fuel system faults.
- Water intrusion into the sensor connector is frequently overlooked, especially on vehicles that operate in wet or humid environments, and can cause intermittent shorts that come and go.
- A poor ground for the sensor circuit can produce erratic readings that look like a sensor failure, so always verify ground integrity before condemning the sensor.

Can I keep driving with P01B8?

The vehicle is generally safe to drive with this code because the fault is intermittent, but avoid heavy loads or long trips until it is repaired. If the engine begins to run rough, stall, or lose power, stop driving and have the vehicle inspected promptly.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Backprobe pins or breakout box
- Wiring diagram for the alternative fuel rail temperature sensor circuit
- Heat gun and freeze spray for temperature cycling tests



Reading P01B8

- 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.
- B8** The exact fault within that area.

Often seen with

P0182 Fuel Temperature Sensor A Circuit Low Input · **P0183** Fuel Temperature Sensor A Circuit High Input · **P01B6** Alternative Fuel Rail Temperature Sensor Circuit Low · **P01B7** Alternative Fuel Rail Temperature Sensor Circuit High · **P01B9** Engine Oil Temperature Sensor B Circuit

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/p01b8/>

