

GENERIC · POWERTRAIN

P01B6

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P01B6

Alternative Fuel Rail Temperature Sensor Circuit Low

P01B6 indicates that the powertrain control module has detected a low voltage signal from the alternative fuel rail temperature sensor circuit, which is used to monitor the temperature of the fuel in the high-pressure rail of a flex-fuel or alternative fuel vehicle. The sensor's output is below the expected range for the current operating conditions, which can affect fuel delivery calculations and emissions control.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Fuel and air metering

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Rough idle or hesitation during acceleration if the PCM cannot properly adjust fuel mixture
- Reduced fuel economy as the PCM may default to a rich or inefficient fuel strategy
- Difficulty starting, especially in cold weather, due to incorrect temperature readings
- In rare cases, the engine may enter limp mode to protect the fuel system

Common causes, most likely first

- 1 Faulty alternative fuel rail temperature sensor
- 2 Damaged or corroded wiring or connector at the sensor
- 3 Open circuit or short to ground in the sensor signal circuit
- 4 Poor electrical connection at the PCM
- 5 Failed PCM (rare but possible)
- 6 Contamination or fuel degradation affecting sensor performance

How to diagnose and fix it

- 1 Use a scan tool to verify the code and check live data for the fuel rail temperature sensor reading
- 2 Inspect the sensor and its connector for physical damage, corrosion, or loose pins
- 3 Measure the sensor's resistance and compare it to the manufacturer's specification
- 4 Check the signal circuit for continuity and shorts to ground using a multimeter
- 5 If the sensor is faulty, replace it and clear the code
- 6 Repair any wiring issues found and ensure all connections are clean and tight
- 7 After repairs, road-test the vehicle to confirm the code does not return and the sensor reading is normal



Diagnosing P01B6: Beyond the Sensor

- A low voltage code often results from a poor ground connection rather than a failed sensor, so always check ground points before replacing parts.
- The alternative fuel rail temperature sensor is sometimes integrated into a fuel rail assembly, making replacement more costly than a standalone sensor.
- In flex-fuel vehicles, the sensor's signal is critical for ethanol content estimation, so a low signal can cause drivability issues even if the sensor appears to function intermittently.
- Technicians sometimes overlook the possibility of a short to ground in the wiring harness where it rubs against metal components, so a thorough visual inspection is essential.
- This code can be set by a low battery voltage or charging system issue, so verify battery health before diving into sensor diagnostics.

Can I keep driving with P01B6?

It is generally safe to continue driving with this code, but avoid aggressive acceleration or heavy loads until the issue is resolved, as the engine may run less efficiently and emissions could increase.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wiring diagram for the specific vehicle
- Basic hand tools for sensor removal

Reading P01B6

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.
B6	The exact fault within that area.

Often seen with

P0171 System Too Lean (Bank 1) · **P0180** Fuel Temperature Sensor A Circuit Malfunction · **P0181** Fuel Temperature Sensor A Circuit Range/Performance · **P01B5** Alternative Fuel Rail Temperature Sensor Performance · **P01B7** Alternative Fuel Rail Temperature Sensor Circuit High



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/p01b6/>

