

GENERIC · POWERTRAIN

P01B7

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P01B7

Alternative Fuel Rail Temperature Sensor Circuit High

P01B7 indicates that the powertrain control module has detected an abnormally high voltage signal from the alternative fuel rail temperature sensor circuit, which typically means the sensor is reading colder than actual or the circuit is open. The computer expects the sensor voltage to stay within a calibrated range, and a sustained high value sets this code.

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

Symptoms you may notice

- Illumination of the malfunction indicator lamp, often with no other noticeable symptoms
- Rough running or hesitation when the engine is cold, especially on alternative fuel such as compressed natural gas or propane
- Poor fuel economy or altered fuel trim as the module substitutes a default temperature value
- Hard starting or extended crank time in cold ambient conditions
- In rare cases, a no-start condition if the module cannot establish a plausible fuel rail temperature
- Possible reduced power or limp-home mode if the fault affects fuel delivery calculations

Common causes, most likely first

- 1 Open circuit in the signal wire between the sensor and the powertrain control module
- 2 Failed alternative fuel rail temperature sensor, typically an open thermistor element
- 3 Corroded, loose, or disconnected electrical connector at the sensor or module
- 4 High resistance in the ground circuit for the sensor
- 5 Damaged wiring harness caused by chafing, heat, or rodent damage
- 6 Internal fault in the powertrain control module, though this is uncommon
- 7 Aftermarket or incorrect sensor installed that does not match the module calibration



How to diagnose and fix it

- 1 Connect a scan tool and record the freeze-frame data and sensor voltage to confirm the high reading
- 2 Visually inspect the sensor connector and wiring for corrosion, looseness, or obvious damage
- 3 Measure the sensor resistance with a multimeter and compare it to the manufacturer's temperature-resistance chart
- 4 Back-probe the signal circuit at the module and check for an open or high-resistance condition
- 5 Check the ground circuit for excessive resistance using a voltage drop test
- 6 Repair or replace the faulty wiring, connector, or sensor as indicated by the tests
- 7 Clear the diagnostic trouble codes and verify the repair by running the appropriate monitor to confirm the sensor voltage returns to normal

What a high reading really tells you

- A high voltage on a temperature sensor circuit almost always means an open circuit or a sensor with excessive resistance, not a sensor that is reading too hot.
Technicians often replace the sensor first, but a corroded connector or chafed wire is just as common and costs far less to fix.
- The alternative fuel rail temperature sensor is sometimes shared with the fuel composition sensor on flex-fuel vehicles, so a fault in that shared circuit can set this code.
- If the vehicle runs fine and the only symptom is the warning light, the module may be using a default temperature strategy that masks the fault until cold-start conditions expose it.
A poor ground connection at the engine block can raise the voltage seen on the signal wire and mimic a failed sensor, so always verify ground integrity before condemning parts.

Can I keep driving with P01B7?

You can usually drive the vehicle short distances to a repair shop, but avoid heavy load, towing, or cold-start conditions because the module may be using an inaccurate fuel rail temperature and could deliver incorrect fuel mixture. If the engine runs rough or stalls, stop driving and have the fault diagnosed promptly.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Back-probe kit or piercing probes
- Wiring diagram for the specific vehicle
- Temperature-resistance chart for the sensor
- Basic hand tools for connector and sensor access



Reading P01B7

- 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.
- B7** 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 · **P01B5** Alternative Fuel Rail Temperature Sensor Performance · **P01B6** Alternative Fuel Rail Temperature Sensor Circuit Low · **P01B8** Alternative Fuel Rail Temperature Sensor Circuit Intermitten

See it working

Watch the animated explainer [How an Elevator Works: Traction Lift in X-Ray](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p01b7/>

