



P01AF

Alternative Fuel Tank A Level Sensor Circuit

P01AF indicates that the powertrain control module (PCM) has detected an abnormal voltage signal from the fuel level sensor in the alternative fuel tank, which is typically a compressed natural gas (CNG) or liquefied petroleum gas (LPG) tank. The PCM expects the sensor to report a voltage within a calibrated range that corresponds to the tank's fill level, and this code sets when the signal is out of range, erratic, or implausible for the current operating conditions.

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

Symptoms you may notice

- Illumination of the malfunction indicator lamp (MIL) on the dashboard, often with no other noticeable symptoms.
- Inaccurate or fluctuating fuel level gauge readings for the alternative fuel tank.
- The vehicle may switch back to gasoline sooner than expected or refuse to run on alternative fuel.
- A warning message or indicator on the dash stating that the alternative fuel system is unavailable.
- In rare cases, the engine may stumble or stall when running on alternative fuel if the PCM misjudges the tank level.

Common causes, most likely first

- 1 Faulty fuel level sensor in the alternative fuel tank, such as a worn resistive element or stuck float.
- 2 Damaged or corroded wiring harness or connector at the tank sensor, often due to exposure to the elements.
- 3 Poor ground connection for the sensor circuit, leading to a floating or biased voltage signal.
- 4 Failed fuel tank pressure sensor or combined level/pressure sensor module, if the design integrates both functions.
- 5 PCM software calibration issue or internal fault in the level sensor input circuit, though this is less common.
- 6 Mechanical binding of the float arm inside the tank, preventing free movement and causing an erratic signal.



How to diagnose and fix it

- 1 Connect a scan tool and record the freeze-frame data for P01AF, then clear the code and verify whether it returns immediately or after a driving cycle.
- 2 Visually inspect the sensor wiring and connector at the alternative fuel tank for chafing, corrosion, or loose pins, and repair as needed.
- 3 Measure the sensor's resistance or voltage output with a multimeter while gently moving the float (if accessible) to confirm a smooth, linear change.
- 4 Check the sensor's ground circuit for excessive resistance by performing a voltage drop test between the sensor ground and battery negative.
- 5 If the sensor signal is erratic or out of specification, replace the fuel level sensor according to the manufacturer's service procedure.
- 6 After repair, clear the codes and perform a road test that includes switching between fuel types to confirm the fix and ensure the monitor runs.
- 7 If the code persists after sensor replacement, diagnose the PCM input circuit and consider a software update or PCM replacement as a last resort.

Alternative fuel level sensor quirks to know

- Many alternative fuel level sensors are integrated into the tank's internal valve assembly, so a failed sensor often requires replacing the entire assembly rather than just the sensor.
- The PCM may set P01AF not only for an open or short circuit but also for a signal that is stuck within range but implausible, such as a level that never changes over a long drive.
- A weak or failing alternative fuel tank pressure sensor can cause the PCM to misinterpret level sensor data, leading to a P01AF code even when the level sensor itself is good.
- Aftermarket alarm or remote start installations that tap into the fuel gauge wiring can introduce resistance or noise that triggers this code, so check for non-factory wiring first.
- On some vehicles, the alternative fuel level sensor shares a reference voltage with other sensors; a short in a different sensor on that circuit can pull down the reference and set P01AF.

Can I keep driving with P01AF?

The vehicle remains safe to drive because the fault affects only the alternative fuel level indication and does not impair engine operation on gasoline. Avoid relying on the alternative fuel gauge for refueling decisions until the fault is repaired, and switch to gasoline manually if the vehicle begins to run poorly on alternative fuel.



Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wiring diagram for the alternative fuel system
- Basic hand tools for trim and connector access
- Fuel pressure gauge (for alternative fuel systems, if applicable)

Reading P01AF

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.
AF	The exact fault within that area.

Often seen with

P01A6 Alternative Fuel Rail Pressure Sensor Circuit High · **P01A7** Alternative Fuel Rail Pressure Sensor Circuit Intermittent/E · **P01A8** Alternative Fuel Rail/System Pressure - Too Low · **P01A9** Alternative Fuel Rail/System Pressure - Too High · **P01B0** Alternative Fuel Tank A Level Sensor Range/Performance

See it working

Watch the animated explainer [How the EVAP System Works: Fuel Vapour and Leak Test](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p01af/>

