

GENERIC · POWERTRAIN

P2025

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2025

Evaporative Emissions (EVAP) Fuel Vapor Temperature Sensor Performance

P2025 indicates that the powertrain control module (PCM) has detected an implausible signal or performance issue from the evaporative emissions (EVAP) fuel vapor temperature sensor. This sensor monitors the temperature of fuel vapors in the EVAP system, and the PCM expects its readings to change in a predictable way during certain conditions, such as after a cold start or during a leak test. When the sensor's output does not match the expected profile, the PCM stores this code and illuminates the check engine light.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Low

FIX DIFFICULTY

Intermediate

AREA

Fuel and air metering and auxiliary emission controls

Symptoms you may notice

- Check engine light illuminated, often with no other noticeable symptoms
- A slight fuel odor may be present if the sensor failure affects EVAP system operation
- In rare cases, the vehicle may fail an emissions inspection due to the stored code
- No drivability issues are typically observed because the sensor is not used for engine management
- The remote start feature may be disabled on some vehicles as a precaution

Common causes, most likely first

- 1 Faulty fuel vapor temperature sensor
- 2 Damaged or corroded wiring or connector at the sensor
- 3 Open or short circuit in the sensor signal circuit
- 4 Failed PCM (rare, but possible after other causes are ruled out)
- 5 EVAP system contamination or blockage affecting sensor readings
- 6 Extreme ambient temperature conditions causing out-of-range readings (false positive)



How to diagnose and fix it

- 1 Use an OBD-II scanner to verify the code and check for related EVAP codes
- 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 wiring harness for continuity and shorts between the sensor and PCM
- 5 Test the sensor's signal voltage with a multimeter while monitoring live data
- 6 Replace the fuel vapor temperature sensor if it fails electrical tests
- 7 Clear the code and perform a drive cycle to confirm the repair

What the fuel vapor sensor really does

- The fuel vapor temperature sensor is often confused with the fuel tank pressure sensor, but they serve different roles in the EVAP system and set different codes.
- A P2025 can be set by a weak battery or poor ground connection, causing voltage irregularities that mimic a sensor failure.
- Some vehicles use the fuel vapor temperature sensor to enable or disable EVAP leak tests, so a failure can prevent other EVAP monitors from running.
- Replacing the sensor without checking the wiring is a common misdiagnosis, as harness damage is a frequent root cause.
- The sensor's readings are compared to intake air and ambient temperature; extreme cold or heat can trigger a false code if the PCM's logic is sensitive.

Can I keep driving with P2025?

The vehicle is safe to drive under normal conditions because this fault does not affect engine performance or safety systems. However, avoid ignoring the check engine light, as it may prevent the EVAP system from self-testing and could lead to a failed emissions test.

Tools that help

- OBD-II scanner with live data capability
- Digital multimeter
- Manufacturer's service information for sensor specifications
- Basic hand tools (socket set, screwdrivers)
- Wire repair kit (if harness damage is found)



Reading P2025

- P** Powertrain: engine, transmission and emissions.
- 2** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 0** Fuel and air metering and auxiliary emission controls.
- 25** The exact fault within that area.

Often seen with

P0451 Evaporative Emission System Pressure Sensor/Switch Range/Per · **P0452** Evaporative Emission System Pressure Sensor/Switch Low · **P0453** Evaporative Emission System Pressure Sensor/Switch High · **P0455** EVAP System Leak Detected (Large) · **P0456** Evaporative Emission System Leak Detected (very small leak)

See it working

Watch the animated explainer [How a Manual Transmission Works: Four-Speed Cutaway](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2025/>

