

GENERIC · POWERTRAIN

P2024

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2024

Evaporative Emissions (EVAP) Fuel Vapor Temperature Sensor Circuit

P2024 indicates that the powertrain control module (PCM) has detected an out-of-range signal from the fuel vapor temperature sensor, which is part of the evaporative emissions (EVAP) system. The sensor monitors the temperature of fuel vapors in the EVAP system to help the PCM manage purge operations and detect leaks; when the voltage or resistance falls outside the expected range, the PCM sets this code.

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

Symptoms you may notice

- Malfunction Indicator Lamp (MIL) illuminated on the dashboard, often with no other symptoms
- A slight fuel odor may be present if the EVAP system is not sealing properly
- Rough idle or hesitation in rare cases if the fault affects purge control
- Failed emissions inspection due to the check engine light being on
- No noticeable performance issues in most cases, as the fault primarily affects emissions

Common causes, most likely first

- Faulty fuel vapor temperature sensor
- Damaged or corroded wiring or connector at the sensor
- Open or short circuit in the sensor signal circuit
- Failed PCM (rare but possible)
- Evaporative emissions system leak or blockage affecting sensor readings
- Extreme temperatures or environmental factors causing temporary false readings



How to diagnose and fix it

- 1 Use an OBD-II scanner to verify the code and check for related freeze-frame data
- 2 Visually inspect the sensor and its wiring for damage, corrosion, or loose connections
- 3 Test the sensor's resistance and voltage according to the manufacturer's specifications
- 4 Check the signal circuit for continuity and shorts to ground or power
- 5 Replace the fuel vapor temperature sensor if testing indicates it is faulty
- 6 Clear the code and perform a drive cycle to confirm the repair
- 7 If the code persists, diagnose the PCM and EVAP system for other faults

Common Misdiagnosis Traps for P2024

- A faulty fuel vapor temperature sensor often does not affect drivability, so technicians may overlook it when other codes are present.
- Wiring harness damage near the EVAP canister or fuel tank is a frequent cause that is mistaken for a failed sensor.
- The code can be set by a temporary extreme temperature condition, so clearing it and test-driving may resolve it without parts replacement.
- Some vehicles use the same sensor for multiple EVAP functions, so a failure may also trigger codes like P0453 or P0452.
- Always check for technical service bulletins (TSBs) for the specific vehicle, as some models have known issues with sensor connectors.

Can I keep driving with P2024?

The vehicle is generally safe to drive with P2024, as it primarily affects emissions and not engine performance. However, avoid long trips or harsh conditions until the fault is repaired, and address it promptly to prevent potential EVAP system complications.

Tools that help

- OBD-II scanner
- Digital multimeter
- Vehicle service manual or wiring diagrams
- Basic hand tools (socket set, screwdrivers)
- Wire repair kit (if harness damage is found)



Reading P2024

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

Often seen with

P0440 Evaporative Emission Control System Malfunction · **P0442** EVAP System Leak Detected (Small) · **P0452** Evaporative Emission System Pressure Sensor/Switch Low · **P0453** Evaporative Emission System Pressure Sensor/Switch High · **P0455** EVAP System Leak Detected (Large)

See it working

Watch the animated explainer [How Airbags Work: A 50 km/h Crash in Slow Motion](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2024/>

