

GENERIC · POWERTRAIN

P0453

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0453

Evaporative Emission System Pressure Sensor/Switch High

P0453 means the evaporative emission (EVAP) system pressure sensor is reporting a voltage higher than the manufacturer's expected range, which the powertrain control module (PCM) interprets as excessive pressure or a circuit fault. The computer has detected an abnormally high signal on the sensor circuit, often when the fuel tank pressure should be near atmospheric.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Auxiliary emission controls

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- A slight fuel odor around the vehicle, especially after refueling
- Difficulty refueling, with the pump nozzle clicking off repeatedly
- Rough idle or hesitation in some cases due to EVAP purge interference
- In rare instances, a fuel tank that seems to pressurize or release pressure audibly when the cap is removed

Common causes, most likely first

- 1 Faulty EVAP pressure sensor (fuel tank pressure sensor) sending a high voltage signal
- 2 Open or high-resistance ground circuit in the sensor wiring
- 3 Shorted signal circuit to voltage, or a short between sensor wires
- 4 Damaged or corroded connector pins at the sensor or PCM
- 5 Failed PCM driver or internal fault (less common)
- 6 A stuck-closed EVAP vent valve or blocked vent hose causing actual overpressure
- 7 A restricted or pinched EVAP hose between the tank and sensor



How to diagnose and fix it

- 1 Connect a scan tool and read live data for the EVAP pressure sensor to confirm the high voltage reading and check for other codes
- 2 Visually inspect the sensor, connector, and wiring for damage, corrosion, or loose pins
- 3 Measure reference voltage and ground at the sensor connector with a digital multimeter (DMM) to verify the circuit integrity
- 4 Check for continuity and resistance on the signal circuit between the sensor and PCM, looking for opens or shorts
- 5 Test the sensor with a known pressure source or compare its reading to a mechanical gauge to confirm failure
- 6 Inspect the EVAP vent valve and hoses for blockage or sticking that could cause real overpressure
- 7 Replace the faulty sensor or repair wiring as needed, then clear codes and verify the repair with a test drive

What the pressure sensor is really telling you

- A high voltage reading does not always mean the sensor is bad; a poor ground connection can cause the same signal shift and is often overlooked.
- Some vehicles use the fuel tank pressure sensor for other functions like fuel level or leak detection, so a failure can affect more than just emissions.
- A stuck-closed vent valve can create actual pressure in the tank, fooling the sensor into reporting high, so always check the vent system before condemning the sensor.
- After replacing the sensor, a pinched or misrouted hose can cause the code to return immediately, so careful routing during installation is critical.
- On certain models, the EVAP pressure sensor is integrated into the fuel pump module, making replacement more involved and expensive than a stand-alone sensor.

Can I keep driving with P0453?

You can generally continue driving with P0453, but avoid topping off the fuel tank and park away from open flames until it is repaired, as a pressurized EVAP system can release fuel vapor.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter (DMM)
- Hand vacuum pump with pressure gauge
- Basic socket and wrench set
- Wire probe set and electrical contact cleaner



Reading P0453

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 4** Auxiliary emission controls.
- 53** The exact fault within that area.

Often seen with

P0442 EVAP System Leak Detected (Small) · **P0451** Evaporative Emission System Pressure Sensor/Switch Range/Per · **P0452** Evaporative Emission System Pressure Sensor/Switch Low · **P0455** EVAP System Leak Detected (Large) · **P0456** Evaporative Emission System Leak Detected (very small leak)

See it working

Watch the animated explainer [How a Supercharger Works: Roots Blower in X-Ray](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0453/>

