

SUBARU · POWERTRAIN

**P1401**

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1401 · Subaru

## Fuel Tank Pressure Control System Performance

P1401 on a Subaru means the engine control module (ECM) has detected a performance problem with the fuel tank pressure control system, which is the evaporative emission (EVAP) system's ability to hold and release fuel vapor pressure as designed. The ECM typically runs a self-test that pressurizes or monitors the tank and expects a certain pressure change within a set time, and this code sets when that change does not occur or the system cannot maintain the expected pressure.

SYSTEM

Powertrain

CODE TYPE

Subaru specific

SEVERITY

Low

FIX DIFFICULTY

Intermediate

AREA

Auxiliary emission controls

### Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- A slight fuel odor around the rear of the vehicle after refueling
- Difficulty or hesitation when refueling, such as the pump clicking off early
- Rough idle or slight hesitation that may come and go
- In rare cases, a hiss or whoosh when removing the fuel cap

### Common causes, most likely first

- 1 Faulty fuel tank pressure sensor giving an inaccurate reading
- 2 Sticking or failed fuel tank pressure control solenoid valve
- 3 Leaking or disconnected EVAP hose between the tank and the purge or vent valve
- 4 Loose, damaged, or missing fuel filler cap
- 5 Cracked or damaged fuel tank or filler neck
- 6 Failed canister purge valve or charcoal canister that cannot hold pressure
- 7 Wiring or connector issue at the fuel tank pressure sensor or control solenoid



## How to diagnose and fix it

- 1 Inspect the fuel filler cap for a tight seal and correct installation, and replace it if the gasket is cracked or missing
- 2 Visually check all EVAP hoses and connections at the tank, canister, and purge valve for cracks, looseness, or disconnection
- 3 Use a scan tool to command the fuel tank pressure control solenoid and observe the fuel tank pressure sensor reading for proper response
- 4 Perform a smoke test on the EVAP system to locate any leaks that are not visible
- 5 Test the fuel tank pressure sensor with a multimeter or scan tool to confirm it reports pressure changes accurately
- 6 Check the control solenoid and purge valve for mechanical function and electrical resistance, replacing if out of specification
- 7 Inspect the wiring and connectors at the fuel tank pressure sensor and control solenoid for corrosion or damage, and repair as needed

## What the P1401 test actually checks

- The ECM often runs the fuel tank pressure control test only under specific conditions such as a cold start or after a certain fuel level, so the code may not set every drive cycle.
- A fuel tank pressure sensor that reads slightly off can cause this code without any visible leak, making sensor testing more important than a quick visual inspection.
- Subaru EVAP systems can be sensitive to aftermarket fuel caps that do not seal correctly, so always use a genuine or OEM-equivalent cap.
- The code can be set by a sticking fuel tank pressure control solenoid that fails to vent or seal when commanded, even though the solenoid coil tests good with a multimeter.
- A smoke test is the most reliable way to find small leaks that do not produce a visible fuel smell or drip.

## Can I keep driving with P1401?

You can usually continue driving with P1401 because it is an emissions-related fault and does not affect engine safety, but avoid topping off the fuel tank and have the system checked soon to prevent a small leak from worsening.

## Tools that help

- OBD-II scan tool with bidirectional control
- Smoke machine for EVAP leak testing
- Digital multimeter
- Hand tools for hose and component removal



## Reading P1401

- P** Powertrain: engine, transmission and emissions.
- 1** Manufacturer-specific code (Subaru): its meaning depends on the make.
- 4** Auxiliary emission controls.
- 01** The exact fault within that area.

## Often seen with

**P0440** Evaporative Emission Control System Malfunction · **P0442** EVAP System Leak Detected (Small) · **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 Knock Sensor Works: Spark Timing and Octane](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/subaru-p1401/>

