

GENERIC · POWERTRAIN

P0466

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0466

EVAP Purge Flow Sensor Circuit Range/Performance

P0466 indicates that the powertrain control module has detected an out-of-range or erratic signal from the evaporative emission purge flow sensor, which monitors the actual flow of fuel vapor from the charcoal canister to the intake manifold. The computer compares the sensor's reported flow against expected values for the commanded purge duty cycle and sets this code when the signal falls outside the acceptable performance window.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Low

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 or when parked
- Rough idle or stumbling that may worsen when the purge valve is commanded open
- Intermittent hesitation during light acceleration or cruise
- Failed emissions inspection due to the check engine light or a stored EVAP monitor incomplete
- In rare cases, a noticeable drop in fuel economy if the purge system remains stuck open

Common causes, most likely first

- 1 Faulty evaporative emission purge flow sensor sending an erratic or out-of-range signal
- 2 Damaged, disconnected, or corroded wiring and connectors at the purge flow sensor or purge valve
- 3 Sticking or clogged purge valve that prevents the commanded flow from matching the sensor reading
- 4 Blocked or kinked evaporative emission hose between the canister, purge valve, and intake
- 5 Leaking or cracked evaporative emission line causing unmetered flow that the sensor cannot reconcile
- 6 Failed charcoal canister with saturated media restricting flow and skewing the sensor signal
- 7 Powertrain control module software issue or internal driver fault affecting the purge circuit



How to diagnose and fix it

- 1 Connect a scan tool and record all stored and pending codes, then command the purge valve on and off while watching purge flow sensor data to confirm the fault is active.
- 2 Visually inspect the purge flow sensor, purge valve, and all evaporative emission hoses for cracks, disconnection, or obvious damage.
- 3 Check the sensor and valve connectors for corrosion, pushed-back pins, or loose terminals, and verify reference voltage and ground at the sensor with a multimeter.
- 4 Measure the resistance of the purge valve and compare it to the manufacturer's specification, and test the valve for mechanical sticking by applying vacuum and power.
- 5 Perform a smoke test on the evaporative emission system to locate any leaks that could cause unmetered flow and confuse the sensor reading.
- 6 If wiring and valve test good, substitute a known-good purge flow sensor and recheck live data to see if the signal normalizes.
- 7 Clear the codes and run the EVAP monitor to completion to verify the repair before returning the vehicle.

What the purge flow sensor really monitors

- Many technicians replace the purge valve first, but a skewed purge flow sensor can report normal flow when the valve is stuck closed, leading to a repeat repair.
- A saturated charcoal canister from overfilling the fuel tank can restrict flow and set P0466 without any sensor or valve electrical fault.
- The purge flow sensor is often integrated into the purge valve assembly on some vehicles, so a valve replacement may be the only way to renew the sensor.
- P0466 can be set by a momentary glitch during extremely low temperatures when fuel vapor flow is minimal, and it may not return after clearing.
- A leaking evap hose downstream of the purge valve can cause the sensor to read higher-than-commanded flow, mimicking a sensor failure.

Can I keep driving with P0466?

The vehicle remains safe to drive under normal conditions because this fault affects only the evaporative emission control system and does not impair engine performance or safety. Avoid topping off the fuel tank and schedule diagnosis soon to prevent a more expensive canister or valve failure.

Tools that help

- OBD-II scan tool with live data and bidirectional control
- Digital multimeter
- Hand vacuum pump
- Smoke machine for evaporative emission leak testing
- Basic hand tools and socket set



Reading P0466

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

Often seen with

P0440 Evaporative Emission Control System Malfunction · **P0442** EVAP System Leak Detected (Small) · **P0443** EVAP Purge Control Valve Circuit Malfunction · **P0453** Evaporative Emission System Pressure Sensor/Switch High · **P0455** EVAP System Leak Detected (Large)

See it working

Watch the animated explainer [Four-Stroke Engine Notebook: The Otto Cycle Explained](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0466/>

