

GENERIC · POWERTRAIN

P04AF

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P04AF

EVAP System Purge Control Valve B Stuck Closed

P04AF indicates that the powertrain control module has commanded the EVAP system purge control valve B to open, but the circuit or valve response indicates it remains stuck closed. The computer detects this by monitoring the purge valve circuit for expected electrical current or by observing that fuel tank pressure does not change when purge flow is commanded.

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 faint fuel odor may be present around the vehicle if tank pressure cannot be relieved.
- Slightly rough idle or hesitation in some vehicles when purge flow is expected during idle.
- Failed emissions inspection due to the commanded purge monitor not completing.
- In rare cases, a hard start or stall after refueling if tank pressure builds excessively.

Common causes, most likely first

- 1 Faulty purge control valve B that is mechanically stuck closed or has an open internal coil.
- 2 Damaged or disconnected electrical connector at the purge valve.
- 3 Open or shorted wire in the purge valve control circuit.
- 4 Failed powertrain control module driver for the purge valve circuit, though this is uncommon.
- 5 Blocked or kinked EVAP hose between the purge valve and the intake manifold.
- 6 Carbon canister internally restricted, preventing flow even when the valve opens.
- 7 Corroded terminals or water intrusion in the purge valve connector causing high resistance.



How to diagnose and fix it

- 1 Verify the fault is current by clearing the code and performing a road test with the appropriate EVAP monitor run conditions.
- 2 Inspect the purge valve B electrical connector and harness for corrosion, looseness, or damage, and repair as needed.
- 3 Measure the resistance of the purge valve B coil with a multimeter and compare to the manufacturer's specification.
- 4 Command the purge valve open with a scan tool and listen for an audible click; no click indicates a faulty valve or circuit.
- 5 Check for battery voltage and ground at the purge valve connector with the key on and the valve commanded on.
- 6 Inspect the EVAP hoses between the purge valve, canister, and intake for blockage, kinks, or disconnection.
- 7 If electrical and hose checks pass, replace the purge control valve B and re-run the EVAP monitor to confirm the repair.

Purge valve B diagnostics that techs often miss

- A stuck-closed purge valve can set P04AF even when the valve coil tests good, because the mechanical pintle may be gummed up by fuel vapors and carbon deposits.
- Some vehicles use a purge valve with an integrated position sensor; a faulty sensor can mimic a stuck-closed valve and set this code without any mechanical fault.
- The EVAP system may not run its self-test if the fuel level is above 85 percent or below 15 percent, so the code may not reset immediately after a repair until the tank level is in range.
- A restricted carbon canister can cause the purge valve to appear stuck closed because the valve opens but no flow occurs, leading to misdiagnosis of the valve itself.
- P04AF is often stored alongside other EVAP codes such as P0440 or P0455, and diagnosing only the purge valve without checking the entire system can lead to a comeback.

Can I keep driving with P04AF?

The vehicle is generally safe to drive with P04AF because the fault mainly affects emissions and does not impair engine performance in most cases. Avoid topping off the fuel tank past the automatic shutoff and schedule diagnosis soon to prevent potential fuel tank pressure issues.

Tools that help

- OBD-II scan tool with bidirectional control and EVAP monitor capability
- Digital multimeter
- Hand vacuum pump
- Basic socket and wrench set
- Flashlight and inspection mirror



Reading P04AF

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

Often seen with

P0440 Evaporative Emission Control System Malfunction · **P0442** EVAP System Leak Detected (Small) · **P0455** EVAP System Leak Detected (Large) · **P0456** Evaporative Emission System Leak Detected (very small leak) · **P0496** Evaporative Emission System High Purge Flow

See it working

Watch the animated explainer [Four-Stroke Engine Cutaway: Intake to Exhaust](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p04af/>

