



P04AB

EVAP System Purge Control Valve B Circuit/Open

P04AB means the engine computer has detected an open circuit or abnormal electrical condition on the control circuit for the EVAP (Evaporative Emission) system purge control valve B. The computer commands the valve to open and close during its self-test, but the voltage or current feedback on that circuit does not match what it expects, so it logs the fault and turns on the check engine light.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Intermediate	Auxiliary emission controls

Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- A faint fuel or gasoline odor around the vehicle, especially after refueling
- Rough idle or a slight stumble when the purge valve is commanded open
- Slightly higher fuel consumption if the valve stays stuck open or closed
- Failed emissions inspection due to the stored code and incomplete EVAP monitor
- In rare cases, a hard start or stalling after refueling if the valve is stuck open

Common causes, most likely first

- 1 Broken, chafed, or corroded wiring in the purge valve B control circuit
- 2 Failed purge control valve B solenoid (open winding or internal short)
- 3 Loose or corroded electrical connector at the purge valve
- 4 Blown fuse or faulty relay supplying power to the purge valve circuit
- 5 Damaged or disconnected vacuum hose at the purge valve causing a mechanical fault that mimics an electrical open
- 6 Corrosion or water intrusion in the wiring harness near the valve
- 7 Engine computer driver circuit failure for the purge valve (rare)



How to diagnose and fix it

- 1 Check the purge valve B electrical connector for looseness, corrosion, or pushed-out pins and clean or reseal it as needed
- 2 Inspect the wiring harness between the valve and the computer for chafing, breaks, or rodent damage and repair any damaged sections
- 3 Test the purge valve solenoid resistance with a multimeter and compare it to the manufacturer's specification to confirm the valve is not open-circuited
- 4 Verify power and ground at the valve connector with the key on and during a commanded purge test using a scan tool
- 5 Check the fuse and relay that feed the purge valve circuit and replace any failed component
- 6 Command the purge valve open and closed with a scan tool while watching for a change in fuel tank pressure or purge flow to confirm the valve actually moves
- 7 If the circuit and valve test good, check for a faulty engine computer driver before replacing the computer

What a purge valve open circuit really means

- An open circuit code does not always mean the valve itself has failed; a corroded connector or a broken ground wire can set the same code and cost far less to fix.
- Many technicians replace the purge valve first and then find the real problem is a chafed wire hidden inside the harness loom near the intake manifold.
- A stuck-open purge valve can cause a rough idle and fuel smell, but P04AB specifically points to an electrical open, so a mechanically stuck valve may set a different code.
- The EVAP monitor only runs under specific conditions such as a cold start and a fuel level between certain limits, so the code may take days to return after a repair.
- After fixing the circuit, the check engine light will not clear itself immediately; the computer needs one or more complete drive cycles with the EVAP monitor enabled to confirm the repair.

Can I keep driving with P04AB?

The vehicle is generally safe to drive with P04AB because the purge valve only affects evaporative emissions and not engine performance, but avoid topping off the fuel tank and get the circuit inspected soon. If you notice a strong fuel smell or rough running, have it checked promptly rather than continuing to drive.

Tools that help

- OBD-II scan tool with bidirectional purge valve control
- Digital multimeter
- Wire repair kit with crimpers and heat shrink
- Electrical contact cleaner
- Hand tools for removing trim and accessing the valve



Reading P04AB

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

Often seen with

P0443 EVAP Purge Control Valve Circuit Malfunction · **P0444** EVAP Purge Control Valve Circuit Open · **P0445** EVAP Purge Control Valve Circuit Shorted · **P0455** EVAP System Leak Detected (Large) · **P0498** Evaporative Emission System Vent Valve Control Circuit Low

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/p04ab/>

