

GENERIC · POWERTRAIN

P044F

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P044F

AIR System Switching Valve A Circuit High

P044F indicates that the powertrain control module has detected a high voltage condition on the electrical circuit for the secondary air injection system's switching valve A. The computer expects the valve control circuit to operate within a specific voltage range, and a reading above that threshold signals an open circuit, short to voltage, or a faulty valve.

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 hesitation or stumble during the first few seconds after a cold start
- Increased tailpipe emissions during warm-up, which may be noticed during an emissions inspection
- In rare cases, a rough idle or stalling immediately after starting when the system is commanded on
- Audible clicking or lack of expected clicking from the switching valve area during the self-test

Common causes, most likely first

- 1 Failed secondary air injection switching valve A (open internal coil or stuck armature)
- 2 Damaged or disconnected electrical connector at the switching valve
- 3 Open or shorted wire in the valve control circuit, often due to chafing or corrosion
- 4 Corroded or loose ground connection for the switching valve circuit
- 5 Faulty powertrain control module driver for the switching valve circuit (rare)
- 6 Aftermarket or incorrect valve installed that does not meet the original electrical specifications



How to diagnose and fix it

- 1 Inspect the electrical connector at the switching valve for corrosion, loose pins, or damage, and repair as needed
- 2 Check the valve's resistance with a multimeter and compare to the manufacturer's specification to confirm the valve is within range
- 3 Test the control circuit for an open or short to voltage using a wiring diagram and a multimeter, repairing any damaged wiring
- 4 Verify the ground circuit for the switching valve is clean and tight, and repair any excessive resistance
- 5 Command the switching valve on and off with a scan tool to confirm it clicks and that the circuit responds correctly
- 6 If the circuit and valve test good, check for a faulty powertrain control module driver before condemning the module
- 7 Clear the code and perform a drive cycle to verify the repair and ensure the code does not return

Why a high voltage code is not always the valve

- A high voltage code often points to an open circuit rather than a shorted valve, so a disconnected connector or broken wire is a more common cause than a failed valve.
- The switching valve may only be commanded during a cold start, so the code may not set again until the vehicle sits overnight and the engine coolant is below a certain threshold.
- Corrosion inside the valve connector can create enough resistance to set a high voltage code without any visible damage from the outside.
- Some vehicles use a relay to power the switching valve, and a failing relay can produce the same high voltage code as a faulty valve.
- A scan tool that can command the secondary air injection system on and off is essential for confirming the repair, because clearing the code alone does not prove the circuit is fixed.

Can I keep driving with P044F?

The vehicle is safe to drive with this code because the secondary air injection system only operates during cold starts to reduce emissions, and the engine will run normally once warmed up. Avoid extended idling from a cold start and schedule a diagnosis soon to prevent increased emissions and potential emissions test failure.

Tools that help

- OBD-II scan tool with bidirectional control capability
- Digital multimeter
- Wiring diagram for the specific vehicle
- Basic hand tools for connector and component access
- Vacuum pump or smoke machine for checking related air lines if equipped



Reading P044F

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

Often seen with

P0440 Evaporative Emission Control System Malfunction · **P0441** EVAP System Incorrect Purge Flow · **P0442** EVAP System Leak Detected (Small) · **P0443** EVAP Purge Control Valve Circuit Malfunction · **P0444** EVAP Purge Control Valve Circuit Open

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/p044f/>

