

GENERIC · POWERTRAIN

P047F

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P047F

Exhaust Pressure Control Valve A Stuck Open

P047F means the engine computer commanded the exhaust pressure control valve to move, but the valve position sensor reported it remained stuck open beyond a calibrated threshold. The powertrain control module (PCM) detected this by comparing commanded valve position against actual measured position over a set monitoring period.

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

Symptoms you may notice

- Illumination of the check engine light, often with no other symptoms besides the warning light
- Reduced engine power or limp mode when the PCM limits torque to protect the exhaust system
- Excessive exhaust noise or a constant roar from the tailpipe because the valve stays open
- Poor low-speed torque and sluggish acceleration since exhaust backpressure is not being managed
- A slight fuel economy decrease or altered turbo boost response on turbocharged engines
- Possible black soot accumulation around the valve or tailpipe from altered exhaust flow

Common causes, most likely first

- 1 Carbon buildup or soot deposits on the valve flap or bore preventing it from closing
- 2 Failed or disconnected valve actuator motor or vacuum diaphragm
- 3 Faulty valve position sensor or damaged sensor wiring/connector
- 4 Corroded or shorted electrical harness at the valve connector
- 5 Mechanical binding of the valve shaft or linkage due to corrosion or debris
- 6 PCM software calibration issue or internal driver fault (less common)
- 7 Exhaust system blockage or damage causing abnormal backpressure that holds the valve open



How to diagnose and fix it

- 1 Connect a scan tool and verify the P047F code is current, then command the exhaust pressure control valve through its full range while watching actual position data
- 2 Inspect the valve connector and harness for corrosion, chafing, or loose pins, and check supply voltage and ground at the valve
- 3 Remove the valve and inspect the flap and bore for carbon or soot buildup; clean thoroughly and re-test operation
- 4 Test the actuator motor or vacuum diaphragm with a bidirectional scan tool or vacuum pump to confirm it moves the valve
- 5 Check the valve position sensor signal with a multimeter or oscilloscope for smooth sweep and correct reference voltage
- 6 If the valve is mechanically seized or the actuator/sensor has failed, replace the exhaust pressure control valve assembly
- 7 Clear the code and perform a road test with the scan tool monitoring valve position to confirm the repair and that the monitor runs to completion

What carbon does to the exhaust pressure valve

- Carbon and soot buildup is the most common cause of a stuck-open exhaust pressure control valve, especially on vehicles used for short trips where the valve rarely cycles fully.
- A stuck-open valve often produces no driveability complaint at all, so technicians who replace parts based only on the code without commanding the valve can misdiagnose the fault.
- The valve position sensor can fail independently of the actuator, and a sensor that reads incorrectly will set P047F even when the valve itself moves freely.
- Exhaust backpressure that is too low from a leak or missing component can make the valve appear stuck open to the PCM, so inspect the exhaust system before condemning the valve.
- After cleaning or replacement, the PCM may need to relearn the valve end stops; skipping this step can cause the code to return immediately.

Can I keep driving with P047F?

You can usually drive the vehicle to a repair shop, but avoid heavy acceleration or towing because a stuck-open valve can reduce low-speed torque and may trigger limp mode. If the check engine light flashes or the vehicle enters reduced power mode, stop driving and have it towed.



Tools that help

- OBD-II scan tool with bidirectional control and live data
- Digital multimeter
- Vacuum pump (for vacuum-actuated valves)
- Socket and wrench set
- Carbon cleaner and shop rags
- Oscilloscope (optional for sensor signal testing)

Reading P047F

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
4	Auxiliary emission controls.
7F	The exact fault within that area.

Often seen with

P0475 Exhaust Pressure Control Valve · **P0476** Exhaust Pressure Control Valve Range/Performance · **P0477** Exhaust Pressure Control Valve Low · **P047E** Exhaust Pressure Sensor B Circuit Intermittent/Erratic · **P0480** Cooling Fan 1 Control Circuit Malfunction

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/p047f/>

