

GENERIC · POWERTRAIN

P047D

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P047D

Exhaust Pressure Sensor B Circuit High

P047D means the powertrain control module (PCM) has detected a high-voltage condition on the signal circuit for Exhaust Pressure Sensor B, which is typically a differential pressure sensor used to monitor the diesel particulate filter (DPF). The sensor's output voltage is above the normal range for the current operating conditions, indicating a short to voltage, an open ground, or a sensor that has failed internally.

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 (malfunction indicator lamp) with no other noticeable symptoms
- Reduced engine power or limp mode, especially on diesel vehicles with an active DPF regeneration strategy
- Frequent or failed DPF regeneration cycles, leading to soot accumulation and eventual derate
- Poor fuel economy or increased exhaust smoke due to incorrect pressure readings affecting fuel delivery
- A stored code for DPF efficiency or regeneration performance, such as P2002 or P2463, appearing alongside P047D

Common causes, most likely first

- 1 Exhaust pressure sensor B has failed internally and is outputting a voltage higher than the actual pressure warrants
- 2 Short to voltage on the sensor signal circuit, often from chafed wiring near the exhaust or turbocharger
- 3 Open or high-resistance ground circuit for the sensor, causing the signal voltage to float high
- 4 Corroded or damaged connector pins at the sensor or PCM, introducing resistance that skews the signal
- 5 A faulty PCM driver or internal pull-up resistor on the sensor signal circuit, though this is less common
- 6 Exhaust system blockage or a kinked pressure hose that causes the sensor to read a false high pressure, though this usually sets a low or performance code rather than a high circuit code



How to diagnose and fix it

- 1 Connect a scan tool and verify P047D is current, then check freeze-frame data for sensor B voltage and compare it to key-on, engine-off and idle readings to confirm the high signal
- 2 Visually inspect the sensor B connector, wiring harness, and pressure hoses for chafing, corrosion, or disconnection, especially near hot exhaust components
- 3 Measure reference voltage and ground at the sensor connector with a digital multimeter; a good ground should read less than 0.1 volt drop and the reference should be near 5 volts
- 4 Back-probe the signal wire at the sensor and at the PCM to check for a short to voltage or an open circuit, wiggle-testing the harness while watching the meter
- 5 If wiring and grounds check out, substitute a known-good sensor B and clear the code to see if it returns, confirming whether the sensor itself is at fault
- 6 Check for technical service bulletins (TSBs) or software updates for the PCM that address false P047D setting, as some manufacturers have released calibration fixes
- 7 After repair, clear codes and perform a DPF regeneration or drive cycle to verify the repair and ensure no related codes return

What a high exhaust pressure code really means

- A high circuit code does not always mean the sensor is bad; a poor ground at the sensor can cause the signal voltage to float high, mimicking a failed sensor and leading to unnecessary replacement.
- On many diesel vehicles, Exhaust Pressure Sensor B is the DPF differential pressure sensor, and a high signal can be set by a restricted pressure hose or a clogged DPF port rather than an electrical fault, so always inspect the pressure paths.
- Intermittent P047D codes often trace to wiring chafing against the firewall or exhaust heat shields, which only shorts when the engine moves under load, so a wiggle test while monitoring live data is essential.
- Some PCMs set P047D during a forced DPF regeneration if the sensor signal exceeds a threshold momentarily, and the code may be a symptom of an overactive regeneration rather than a hard sensor failure.
- Replacing the sensor without checking the ground circuit is a common misdiagnosis; a voltage drop test on the ground side takes minutes and can save the cost of a part that was never faulty.

Can I keep driving with P047D?

You can usually drive the vehicle short distances to a repair shop, but avoid heavy loads and long trips because a false high exhaust pressure reading can disrupt DPF regeneration and lead to a derate or filter damage. If the engine enters limp mode or you notice excessive smoke, stop driving and seek professional diagnosis.



Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Digital multimeter with back-probe pins
- Wiring diagram for the exhaust pressure sensor circuit
- Hand tools for connector and sensor removal
- Vacuum/pressure gauge or smoke machine for checking pressure hoses

Reading P047D

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

Often seen with

P0471 Exhaust Pressure Sensor Range/Performance · **P0472** Exhaust Pressure Sensor Low · **P047C** Exhaust Pressure Sensor B Circuit Low · **P2002** Particulate Trap Efficiency Below Threshold (Bank 1) · **P2463** Diesel Particulate Filter Restriction - Soot Accumulation

See it working

Watch the animated explainer [How ABS Works: Anti-Lock Brakes in X-Ray](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p047d/>

