

GENERIC · POWERTRAIN

# P0471

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

## P0471

### Exhaust Pressure Sensor Range/Performance

P0471 means the powertrain control module (PCM) has detected that the exhaust pressure sensor signal is outside the expected range or is not responding correctly during key-on or running conditions. The PCM compares the sensor voltage against a modeled exhaust pressure value and sets the code when the two disagree beyond a calibrated threshold.

| 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 noticeable symptoms.
- Reduced engine power or limp mode in some vehicles, especially those with diesel particulate filters.
- Poor fuel economy or increased regeneration frequency on diesel engines.
- Black smoke or excessive exhaust odor from the tailpipe.
- Rough running or hesitation under acceleration.
- A stored freeze-frame showing the fault occurred during a specific engine load and speed.

### Common causes, most likely first

- 1 Faulty exhaust pressure sensor (internal failure or contamination).
- 2 Clogged or restricted exhaust pressure sensor tube or port (soot buildup common on diesel engines).
- 3 Damaged, chafed, or corroded wiring or connector at the sensor.
- 4 Exhaust leaks upstream of the sensor causing false pressure readings.
- 5 Restricted exhaust system (plugged diesel particulate filter or catalytic converter) causing pressure to exceed expected range.
- 6 PCM software issue or faulty PCM (rare).



## How to diagnose and fix it

- 1 Inspect the exhaust pressure sensor and its wiring for physical damage, corrosion, or loose connections.
- 2 Check the sensor tube and port for blockage or soot buildup; clean or replace as needed.
- 3 Perform a visual inspection of the exhaust system for leaks or restrictions upstream of the sensor.
- 4 Use a scan tool to compare the exhaust pressure sensor reading with a known good gauge or with the PCM's modeled value at key-on and during running.
- 5 Backprobe the sensor connector to verify reference voltage, ground, and signal voltage; repair wiring faults as necessary.
- 6 If the sensor signal is erratic or out of range, replace the exhaust pressure sensor and clear the code.
- 7 Verify repair by performing a road test and confirming the code does not return; check for pending codes.

## Before replacing the exhaust pressure sensor

- A clogged sensor tube or port is a very common cause of P0471 on diesel engines, and cleaning it often resolves the code without replacing the sensor.  
Exhaust leaks upstream of the sensor can cause lower-than-expected pressure readings, leading to a false P0471.
- On some vehicles, a restricted diesel particulate filter (DPF) can cause exhaust pressure to exceed the sensor's expected range, setting P0471 even though the sensor is good.
- The PCM may set P0471 based on a rationality check at key-on, so a sensor that reads correctly during running can still trigger the code if it fails the key-on test.  
Always check for technical service bulletins (TSBs) for your specific vehicle, as some manufacturers have updated software or sensor designs to address this code.

## Can I keep driving with P0471?

You can usually drive with P0471, but avoid heavy acceleration or towing until it is diagnosed, because a restricted exhaust or faulty sensor can lead to reduced power and increased emissions. If the engine enters limp mode or you notice excessive smoke, have it checked promptly.

## Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Hand tools for sensor removal
- Exhaust backpressure gauge
- Wire brush or cleaning tools for sensor port



### Reading P0471

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

### Often seen with

**P0470** Exhaust Pressure Sensor · **P0472** Exhaust Pressure Sensor Low · **P0473** Exhaust Pressure Sensor High · **P2002** Particulate Trap Efficiency Below Threshold (Bank 1) · **P2463** Diesel Particulate Filter Restriction - Soot Accumulation

### See it working

Watch the animated explainer [Inline-Four Engine X-Ray: Firing Order 1-3-4-2](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0471/>

