

GENERIC · POWERTRAIN

P0470

OBD-II TROUBLE CODE

P0470

Exhaust Pressure Sensor

P0470 indicates that the powertrain control module has detected a fault in the exhaust pressure sensor circuit, which monitors the pressure of exhaust gases before the diesel particulate filter. The computer compares the sensor signal against expected values and flags the code when the voltage or pressure reading falls outside the normal operating range for a calibrated 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 noticeable symptoms
- Reduced engine power or limp mode triggered by the powertrain control module to protect the exhaust system
- Frequent active regeneration cycles or a regeneration that fails to complete
- Black smoke or excessive soot from the tailpipe due to incorrect fuel mixture or regeneration timing
- Poor fuel economy as the engine management strategy compensates for faulty pressure data
- A stored freeze-frame showing abnormal exhaust pressure at the time the code set

Common causes, most likely first

- 1 Failed exhaust pressure sensor due to heat, soot, or moisture contamination
- 2 Clogged or restricted pressure sensor port or tube, often blocked by soot or carbon deposits
- 3 Damaged, chafed, or corroded wiring in the sensor circuit, including the reference voltage or ground
- 4 Loose or corroded electrical connector at the sensor or at the powertrain control module
- 5 Exhaust leaks upstream of the sensor causing pressure readings to drop below expected values
- 6 A restricted diesel particulate filter or exhaust system creating excessive backpressure that exceeds sensor range
- 7 Internal fault in the powertrain control module, though this is rare and should be diagnosed last



How to diagnose and fix it

- 1 Connect a scan tool and record the freeze-frame data and live exhaust pressure readings to confirm the fault is active
- 2 Visually inspect the sensor, its connector, and the pressure tube for soot blockage, cracks, or loose fittings
- 3 Check the sensor reference voltage and ground at the connector with a multimeter to rule out wiring faults
- 4 Remove and clean the pressure sensor port and tube, then clear the code and verify if it returns
- 5 Compare the exhaust pressure sensor reading with a known-good mechanical gauge to validate sensor accuracy
- 6 Replace the exhaust pressure sensor if cleaning and wiring checks do not resolve the issue, then perform a regeneration
- 7 If the code persists, check for exhaust restrictions and inspect the powertrain control module circuits before condemning the module

Soot Blockage Mimics a Dead Sensor

- A soot-blocked pressure port is the most common cause of P0470 on high-mileage diesel engines, and replacing the sensor without cleaning the port will not fix the code.
- The exhaust pressure sensor on many vehicles shares a reference voltage with other sensors, so a short in a neighbouring circuit can set P0470 along with unrelated codes.
- A restricted diesel particulate filter can drive exhaust pressure above the sensor's designed range, setting P0470 even when the sensor itself is functioning correctly.
- Technicians sometimes overlook exhaust leaks between the engine and the sensor, which lower pressure readings and trigger the code without any sensor fault.
- After any repair, a forced regeneration or a drive cycle that meets the enable criteria is required before the monitor will run and clear the code.

Can I keep driving with P0470?

You can usually drive the vehicle short distances to a repair shop, but avoid heavy loads and sustained high-speed driving because incorrect exhaust pressure data can disrupt regeneration and lead to filter damage. If the engine enters limp mode or you notice excessive smoke, stop driving and arrange a diagnostic scan promptly.

Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Digital multimeter for circuit voltage and resistance checks
- Hand tools for removing sensor and pressure tube fittings
- Carburetor or brake cleaner and compressed air for clearing soot from the pressure port
- Mechanical exhaust pressure gauge for validating sensor readings



Reading P0470

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

Often seen with

P0471 Exhaust Pressure Sensor Range/Performance · **P0472** Exhaust Pressure Sensor Low · **P0473** Exhaust Pressure Sensor High · **P2002** Particulate Trap Efficiency Below Threshold (Bank 1) · **P2453** Diesel Particulate Filter Pressure Sensor Circuit Range/Perf

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/p0470/>

