

GENERIC · POWERTRAIN

P2170

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2170

Exhaust Pressure Regulator Vent Solenoid Control Circuit Low

P2170 indicates that the powertrain control module (PCM) has detected a low-voltage condition on the control circuit for the exhaust pressure regulator vent solenoid. This solenoid is responsible for venting exhaust pressure in systems such as the variable nozzle turbo or exhaust brake, and a low circuit voltage means the PCM cannot reliably command the solenoid to open or close.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Fuel and air metering

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms.
- Reduced engine performance or power, especially under load or during regeneration.
- Poor fuel economy or increased exhaust backpressure.
- In some cases, the engine may enter limp mode or exhibit rough running.
- Audible clicking or buzzing from the solenoid area if the circuit is intermittently shorted.

Common causes, most likely first

- 1 Faulty exhaust pressure regulator vent solenoid (open or shorted internally).
- 2 Damaged or corroded wiring harness or connector at the solenoid.
- 3 Short to ground in the control circuit between the PCM and solenoid.
- 4 Failed PCM driver for the solenoid control circuit.
- 5 Blown fuse or poor ground connection affecting the solenoid circuit.

How to diagnose and fix it

- 1 Verify the code with a scan tool and check for any related codes in other systems.
- 2 Inspect the solenoid connector and wiring for damage, corrosion, or loose pins.
- 3 Measure resistance across the solenoid terminals and compare to manufacturer specifications.
- 4 Check for a short to ground in the control wire from the PCM to the solenoid.
- 5 Test the PCM output signal with a multimeter or oscilloscope if the wiring and solenoid test good.
- 6 Replace the solenoid if it fails electrical tests, then clear codes and verify the repair.
- 7 If the circuit tests normal, diagnose the PCM or seek professional assistance for module testing.



What the vent solenoid code really means

- A low circuit code often results from a short to ground rather than an open circuit, so pay close attention to wire chafing against metal components.
- The exhaust pressure regulator vent solenoid is sometimes integrated into a larger assembly, making it easy to overlook a faulty solenoid when diagnosing backpressure issues.
- This code can be set by a momentary voltage spike or glitch, so always check for intermittent connections before replacing parts.
- On vehicles with variable geometry turbochargers, a failing vent solenoid can mimic turbo failure symptoms, leading to unnecessary turbo replacement.
- The PCM may set P2170 even if the solenoid mechanically functions, because the electrical feedback circuit is what triggers the code.

Can I keep driving with P2170?

You can generally continue driving with this code, but avoid heavy acceleration or towing until it is repaired, as the engine may enter limp mode or suffer reduced performance. Prolonged driving with a faulty vent solenoid can lead to increased exhaust backpressure and potential damage to other exhaust components.

Tools that help

- OBD-II scan tool
- Digital multimeter
- Wire probe set
- Service manual with wiring diagrams
- Basic hand tools for connector and component access

Reading P2170

P	Powertrain: engine, transmission and emissions.
2	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
1	Fuel and air metering.
70	The exact fault within that area.

Often seen with

P0470 Exhaust Pressure Sensor · **P0471** Exhaust Pressure Sensor Range/Performance · **P2171** Exhaust Pressure Regulator Vent Solenoid Control Circuit Hig · **P2172** Throttle Actuator Control System - Sudden High Airflow Detec · **P2173** Throttle Actuator Control System - High Airflow Detected



See it working

Watch the animated explainer [How Coil-on-Plug Ignition Works: Coil and Spark Plug](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2170/>

