

GENERIC · POWERTRAIN

P2453

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2453

Diesel Particulate Filter Pressure Sensor Circuit Range/Performance

P2453 means the engine computer has detected a range or performance problem with the diesel particulate filter (DPF) pressure sensor circuit, so the signal it receives does not match what the sensor should report under the current operating conditions. The computer compares the sensor's voltage or pressure reading against expected values and flags the circuit when the reading falls outside the allowable range or behaves erratically.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

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 engine control module
- A message on the dash indicating a diesel particulate filter or emissions system fault
- Frequent or forced DPF regeneration cycles that may not complete
- Poor fuel economy or increased exhaust smoke in some cases
- A stored pending code or freeze-frame data showing abnormal pressure readings

Common causes, most likely first

- 1 Faulty DPF pressure sensor sending an out-of-range or erratic signal
- 2 Damaged, cracked, or disconnected pressure sensor hose or tube
- 3 Clogged or restricted pressure sensor port or filter in the DPF assembly
- 4 Corroded or damaged electrical connector or wiring to the pressure sensor
- 5 Exhaust leaks upstream of the DPF affecting pressure readings
- 6 A genuinely restricted DPF causing pressure to exceed the sensor's expected range
- 7 Engine control module software issue or faulty sensor reference voltage



How to diagnose and fix it

- 1 Inspect the pressure sensor hoses and tubes for cracks, disconnection, or blockage and repair as needed
- 2 Check the electrical connector and wiring at the DPF pressure sensor for corrosion, damage, or loose pins
- 3 Use a scan tool to read live DPF pressure data and compare it to expected values at key-on, engine-off and during running
- 4 Perform a visual inspection of the DPF assembly for cracks, leaks, or damage that could affect pressure readings
- 5 Test the pressure sensor with a known pressure source or verify its output voltage against manufacturer specifications
- 6 Check for exhaust restrictions or excessive soot loading that could cause out-of-range pressure readings
- 7 Replace the DPF pressure sensor if testing confirms it is faulty, then clear codes and verify the repair with a test drive

Before you replace the DPF pressure sensor

- A clogged or disconnected pressure hose is far more common than a failed sensor, so always inspect the tubing before condemning the sensor.
- The code can be set by a genuinely restricted DPF, so replacing the sensor without checking exhaust backpressure may not solve the problem.
- Some vehicles require a relearn or adaptation reset after sensor replacement, and skipping this step can cause the code to return.
- Intermittent wiring faults often appear only when the engine is hot or vibrating, so wiggle-test the harness while watching live data.
- A weak battery or charging system issue can cause erratic sensor reference voltage and set this code without any sensor fault.

Can I keep driving with P2453?

You can usually drive the vehicle short distances to a repair shop, but avoid heavy loads, sustained high speeds, or long trips until the fault is repaired. Continued driving with a restricted DPF or faulty sensor can lead to more extensive emissions system damage and reduced fuel economy.

Tools that help

- OBD-II scan tool with live data and DPF pressure reading capability
- Digital multimeter for testing sensor voltage and wiring continuity
- Hand vacuum/pressure pump with gauge for testing the pressure sensor
- Basic hand tools for hose and connector inspection
- Flashlight and mirror for visual inspection of the DPF area



Reading P2453

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

Often seen with

P2002 Particulate Trap Efficiency Below Threshold (Bank 1) · **P2452** Diesel Particulate Filter Pressure Sensor Circuit · **P2454** Diesel Particulate Filter Pressure Sensor Circuit Low · **P2455** Diesel Particulate Filter Pressure Sensor Circuit High · **P2463** Diesel Particulate Filter Restriction - Soot Accumulation

See it working

Watch the animated explainer [How a CVT Works: Belt and Pulley Transmission](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2453/>

