

GENERIC · POWERTRAIN

P242C

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P242C

Exhaust Gas Temperature Sensor Circuit Low Bank 1 Sensor 3

P242C means the engine control module has detected an abnormally low voltage signal from the exhaust gas temperature sensor located after the diesel particulate filter on bank 1, sensor 3. The computer expects a voltage within a specific range that corresponds to the exhaust temperature, and a low reading indicates the circuit is shorted to ground or the sensor has failed.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Intermediate	Auxiliary emission controls

Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- Reduced engine power or limp mode if the ECM derates the engine to protect the aftertreatment system
- Increased diesel particulate filter regeneration frequency or inability to complete a regeneration
- Poor fuel economy as the ECM adjusts fueling based on faulty temperature data
- Possible black smoke or excessive exhaust odor if regeneration is inhibited
- In some cases, the vehicle may enter a forced idle or shutdown strategy

Common causes, most likely first

- 1 Failed exhaust gas temperature sensor (internal short to ground)
- 2 Damaged or chafed sensor wiring shorting to ground
- 3 Corroded or loose electrical connector at the sensor
- 4 Open or shorted sensor return circuit
- 5 Faulty engine control module (rare but possible)
- 6 Exhaust system modifications or leaks affecting sensor readings

How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data to confirm the fault is current and not intermittent
- 2 Visually inspect the sensor, connector, and wiring for damage, corrosion, or chafing
- 3 Measure sensor resistance and compare to manufacturer specifications
- 4 Backprobe the sensor signal circuit to check for a short to ground with the key on
- 5 Check the sensor reference voltage and ground circuit integrity
- 6 Replace the exhaust gas temperature sensor if resistance is out of specification
- 7 Clear codes and perform a road test to verify the repair and ensure no pending codes return



What most technicians overlook on P242C

- A low voltage code often results from a short to ground in the wiring harness rather than a failed sensor, so always inspect the harness routing near hot or moving components.
- The ECM may set P242C as a companion code when a DPF regeneration is interrupted, and the sensor itself may be fine once the regeneration completes.
- Some aftermarket exhaust systems or sensor spacers can cause incorrect temperature readings that trigger this code even with a good sensor.
- A faulty sensor can cause the ECM to command excessive regeneration, leading to DPF damage if left unresolved.
- Always check for related codes such as P242A or P242B to determine if the fault is specific to sensor 3 or affects multiple sensors.

Can I keep driving with P242C?

You can usually drive the vehicle short distances to a repair shop, but avoid heavy loads or long trips because the ECM may inhibit DPF regeneration and cause further damage. If the engine enters limp mode, seek service immediately.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Backprobe pins
- Wiring diagram for the specific vehicle
- Heat gun and infrared thermometer (for sensor testing)

Reading P242C

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

Often seen with

P2002 Particulate Trap Efficiency Below Threshold (Bank 1) · **P242A** Exhaust Gas Temperature Sensor Circuit Bank 1 Sensor 3 · **P242B** Exhaust Gas Temperature Sensor Circuit Range or Performance · **P242D** Exhaust Gas Temperature Sensor Circuit High Bank 1 Sensor 3 · **P2463** Diesel Particulate Filter Restriction - Soot Accumulation



See it working

Watch the animated explainer [How Airbags Work: A 50 km/h Crash in Slow Motion](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p242c/>

