

GENERIC · POWERTRAIN

P2609

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2609

Intake Air Heater System Performance

P2609 indicates that the engine control module has detected a performance fault in the intake air heater system, which is used on diesel engines to warm incoming air for easier cold starting and reduced white smoke. The computer monitors the heater circuit and expects a certain current draw or temperature rise when the heater is commanded on, and it sets this code when the actual response does not match the expected behavior within a calibrated time.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Computer and output circuits

Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- Hard starting or rough idle when the engine is cold, especially in low ambient temperatures
- Excessive white smoke from the exhaust after a cold start
- Reduced engine performance or hesitation during warm-up
- Possible glow plug or intake air heater related drivability issues in cold weather

Common causes, most likely first

- 1 Faulty intake air heater element (open or shorted circuit)
- 2 Damaged or corroded wiring and connectors between the heater and control module
- 3 Failed intake air heater relay or control module
- 4 Blown fuse or fusible link supplying the heater circuit
- 5 Poor ground connection for the heater circuit
- 6 Engine control module software issue or internal fault (less common)

How to diagnose and fix it

- 1 Verify the code with a scan tool and check for any related pending or history codes
- 2 Inspect the intake air heater fuse and relay, replacing them if faulty
- 3 Visually inspect the heater element and its wiring for damage, corrosion, or loose connections
- 4 Measure resistance of the heater element and compare to specification
- 5 Check for power and ground at the heater connector when the heater is commanded on
- 6 Test the control signal from the engine control module to the heater relay or module
- 7 If all electrical checks pass, follow the manufacturer's diagnostic flow for the intake air heater system, which may include module reprogramming or replacement



Intake air heater faults often misdiagnosed

- A failed intake air heater often does not cause a noticeable drivability problem in mild weather, so the code may be the only clue.
- Corroded connectors at the heater element are a frequent cause that can mimic a failed heater element.
- The intake air heater system is separate from the glow plug system, but both can set similar cold-start symptoms and codes.
- Some vehicles use the intake air heater for emissions control during warm-up, so a fault may not affect starting but can increase emissions.
- Always check for technical service bulletins (TSBs) for the specific vehicle, as some models have known issues with the heater control module.

Can I keep driving with P2609?

You can generally drive the vehicle with this code, but cold starting may be difficult and excessive white smoke may occur. Avoid heavy load or high-speed driving until the fault is repaired, and address the issue promptly to prevent potential damage to the heater circuit or related components.

Tools that help

- OBD-II scan tool
- Digital multimeter
- Test light
- Wiring diagram for the specific vehicle
- Basic hand tools (sockets, wrenches, screwdrivers)

Reading P2609

- P** Powertrain: engine, transmission and emissions.
- 2** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 6** Computer and output circuits.
- 09** The exact fault within that area.

Often seen with

P0380 Glow Plug/Heater Circuit A Malfunction · **P0544** Exhaust Gas Temperature Sensor Circuit (Bank 1 Sensor 1) · **P0670** Glow Plug Module Control Circuit · **P2608** Intake Air Heater 'B' Circuit High · **P2610** ECM/PCM Internal Engine Off Timer Performance



See it working

Watch the animated explainer [Readiness Monitors and the OBD-II Drive Cycle](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2609/>

