

GENERIC · POWERTRAIN

P249F

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P249F

Excessive Time To Enter Closed Loop Particulate Filter Regeneration Control

P249F indicates that the engine control module (ECM) commanded a diesel particulate filter (DPF) regeneration but the system failed to enter closed-loop control within the expected time window. The ECM monitors exhaust temperature and pressure sensors and expects closed-loop feedback to begin shortly after regeneration starts; when that feedback does not arrive, it logs this code.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Professional

AREA

Auxiliary emission controls

Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- Reduced engine power or limp mode in some vehicles
- Frequent or failed active regeneration attempts
- Increased exhaust smoke or odor during regeneration
- Poor fuel economy due to repeated unsuccessful regeneration cycles
- Possible message on the dashboard indicating DPF service required

Common causes, most likely first

- 1 Faulty exhaust gas temperature sensor or its wiring
- 2 Clogged or degraded diesel particulate filter restricting flow
- 3 Failed differential pressure sensor for the DPF
- 4 Leaking or disconnected exhaust pressure hose
- 5 Stuck-open or faulty exhaust gas recirculation (EGR) valve affecting regeneration conditions
- 6 Low fuel level or fuel quality issues preventing regeneration
- 7 Software calibration issue in the ECM requiring update



How to diagnose and fix it

- 1 Scan all modules for stored and pending codes, and record freeze-frame data
- 2 Inspect exhaust system for leaks, loose clamps, or damaged sensors
- 3 Test exhaust gas temperature sensors for resistance and signal integrity
- 4 Check differential pressure sensor readings and compare to specifications
- 5 Verify fuel level and quality; ensure the vehicle has enough fuel for regeneration
- 6 Perform a forced regeneration using a scan tool and monitor closed-loop entry
- 7 If regeneration fails, diagnose DPF restriction and consider cleaning or replacement

What most technicians overlook with P249F

- A marginal exhaust gas temperature sensor can report plausible values when cold but fail to respond quickly enough during regeneration, causing the ECM to time out before closed-loop control begins.
- The code does not always mean the DPF is physically clogged; a simple exhaust leak upstream of the DPF can prevent the required temperature from being reached.
- Low fuel level is a common cause because many vehicles inhibit regeneration when the tank is below a quarter full, yet the ECM may still set P249F if a regeneration was attempted.
- Aftermarket or modified exhaust components can alter backpressure and temperature characteristics, leading to this code even when all sensors are functioning correctly.
- A failing differential pressure sensor may not set its own code but can provide erratic readings that prevent the ECM from entering closed-loop regeneration control.

Can I keep driving with P249F?

You can usually continue driving short distances at moderate speeds, but avoid long trips or heavy loads until the fault is repaired. Repeated failed regenerations can lead to a clogged DPF and more expensive repairs, so schedule service soon.

Tools that help

- OBD-II scan tool with diesel regeneration capabilities
- Digital multimeter for sensor testing
- Infrared thermometer for exhaust temperature checks
- Hand tools for inspecting exhaust components
- Diagnostic software for live data monitoring



Reading P249F

- P** Powertrain: engine, transmission and emissions.
- 2** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 4** Auxiliary emission controls.
- 9F** The exact fault within that area.

Often seen with

P2002 Particulate Trap Efficiency Below Threshold (Bank 1) · **P242F** Particulate Filter Restriction Ash Accumulation Bank 1 · **P2453** Diesel Particulate Filter Pressure Sensor Circuit Range/Perf · **P2458** DPF Regeneration Duration · **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/p249f/>

