

GENERIC · POWERTRAIN

**P249E**

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

## P249E

# Closed Loop Reductant Injection Control At Limit Flow Too High

P249E indicates that the engine control module (ECM) has commanded the reductant injection system into closed-loop control, but the actual flow rate has exceeded the maximum limit the ECM can compensate for. The computer is trying to reduce diesel exhaust fluid (DEF) flow to match its target, but the flow remains too high even at the minimum command, so it sets this code.

SYSTEM

**Powertrain**

CODE TYPE

**Generic (all makes)**

SEVERITY

**Medium**

FIX DIFFICULTY

**Professional**

AREA

**Auxiliary emission controls**

## Symptoms you may notice

- Malfunction indicator lamp (MIL) illuminated, often with no other noticeable symptoms
- Reductant low or system fault message displayed on the dashboard
- Possible reduced engine power or limp mode if the fault persists
- Exhaust aftertreatment system warning, such as a DEF quality or SCR efficiency message
- Slightly increased DEF consumption noticed between fill-ups
- In rare cases, a sulfur or ammonia odor from the exhaust

## Common causes, most likely first

- 1 Stuck-open or leaking reductant injector, allowing continuous DEF flow
- 2 Faulty reductant pressure sensor reporting higher-than-actual pressure
- 3 Restricted or kinked reductant return line, causing pressure to build
- 4 Malfunctioning reductant pump or control module unable to regulate flow
- 5 Corroded, chafed, or shorted wiring in the reductant injector circuit
- 6 Internal leakage in the reductant dosing module or valve body
- 7 ECM software calibration issue or internal driver fault (less common)



## How to diagnose and fix it

- 1 Scan all modules for stored and pending codes, and record freeze-frame data for P249E
- 2 Inspect the reductant injector and its wiring for visible leaks, corrosion, or damage
- 3 Check reductant pressure sensor readings against a mechanical gauge to verify accuracy
- 4 Perform an actuator test on the reductant injector and pump to observe flow behavior
- 5 Inspect the reductant return line for restrictions, kinks, or blockages
- 6 Replace the faulty reductant injector or pressure sensor as indicated by tests
- 7 Clear codes and perform a relearn or adaptation drive cycle, then verify the repair

## What Most Techs Miss on P249E

- A pressure sensor that reads high can mimic a stuck-open injector, so always verify sensor output with a mechanical gauge before replacing the injector.
- The code can set from a restricted return line rather than an injector fault, especially if the vehicle has been run with contaminated or crystallized DEF.
- In cold climates, frozen or slushy DEF can cause temporary high-flow readings that set P249E without any hard part failure.
- Some vehicles require a reductant system adaptation reset after injector replacement; skipping this step can cause the code to return immediately.
- P249E is often accompanied by SCR efficiency codes, but the root cause may be in the dosing control rather than the catalyst itself.

## Can I keep driving with P249E?

You can usually drive the vehicle short distances to a repair shop, but avoid heavy loads and long trips because continued high DEF flow can damage the SCR catalyst and lead to derate. If the engine enters limp mode, stop driving and seek service.

## Tools that help

- OBD-II scan tool with bidirectional control and live data
- Digital multimeter
- Reductant pressure test gauge
- Hand tools for injector and line access
- Diagnostic smoke machine or leak detection kit



### Reading P249E

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

### Often seen with

**P207F** Reductant Quality Performance · **P20B9** Reductant Heater A Control Circuit/Open · **P20BD** Reductant Heater B Control Circuit/Open · **P249D** Closed Loop Reductant Injection Control At Limit Flow Too Lo · **P249F** Excessive Time To Enter Closed Loop Particulate Filter Regen

### See it working

Watch the animated explainer [Car Won't Start? Step-by-Step No-Start Diagnosis](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p249e/>

