

GENERIC · POWERTRAIN

P049A

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P049A

EGR B Flow

P049A indicates that the powertrain control module (PCM) has detected insufficient exhaust gas recirculation (EGR) flow specifically from the EGR bank B circuit, which typically corresponds to the secondary EGR valve or passage on engines with dual EGR systems. The PCM commands the EGR valve to open and then monitors the resulting change in intake manifold pressure or mass airflow; when the expected change does not occur, it sets this code.

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
- Slight rough idle or idle surge when the EGR valve is commanded open
- Reduced fuel economy during light-throttle cruising
- Intermittent engine ping or spark knock under load due to higher combustion temperatures
- Failed emissions test because oxides of nitrogen (NOx) levels exceed the limit
- In rare cases, a stumble or hesitation on acceleration if the EGR system is stuck partially open

Common causes, most likely first

- 1 Carbon buildup clogging the EGR bank B valve passages or the intake manifold port
- 2 A faulty EGR bank B valve that does not open fully or is stuck closed
- 3 A leaking or disconnected EGR bank B vacuum hose or tube
- 4 A failed EGR bank B position sensor or solenoid that prevents proper valve movement
- 5 Wiring damage such as an open circuit, chafed wire, or corroded connector at the EGR bank B valve
- 6 A restricted EGR bank B tube or cooler that limits exhaust flow
- 7 A PCM software issue or faulty PCM driver for the EGR bank B circuit, though this is less common



How to diagnose and fix it

- 1 Inspect all vacuum hoses and electrical connectors at the EGR bank B valve for cracks, looseness, or corrosion
- 2 Use a scan tool to command the EGR bank B valve open and closed while watching the EGR position sensor and manifold pressure readings
- 3 Remove the EGR bank B valve and visually check for carbon deposits or a stuck pintle; clean or replace as needed
- 4 Check the EGR bank B tube and cooler for blockage by disconnecting and inspecting for soot accumulation
- 5 Perform a voltage drop test on the EGR bank B valve power and ground circuits to rule out wiring resistance
- 6 Verify that the EGR bank B position sensor signal changes smoothly through the full range with a multimeter or scan tool
- 7 If all mechanical and electrical checks pass, reflash or replace the PCM only after confirming with a factory diagnostic procedure

What most technicians overlook on P049A

- A clogged EGR passage inside the intake manifold often mimics a failed EGR valve, so cleaning the manifold port is frequently necessary even after valve replacement.
- On engines with two EGR valves, bank B may be the rear or secondary valve, and its failure can be caused by a shared vacuum supply problem that also affects bank A without setting a separate code.
- The PCM may set P049A only after two consecutive drive cycles with a specific coolant temperature and engine load window, so a single clear-and-drive may not reproduce the fault.
- A weak or failing manifold absolute pressure (MAP) sensor can skew the EGR flow calculation and trigger P049A even when the EGR system is mechanically sound.
- Some vehicles use a differential pressure sensor across the EGR orifice; a dirty sensor port can cause a false low-flow reading that leads to unnecessary valve replacement.

Can I keep driving with P049A?

You can usually continue driving with P049A, but avoid heavy acceleration and long idling because increased combustion temperatures may damage the catalytic converter over time. Have the fault diagnosed soon to prevent worsening emissions and potential engine knock.

Tools that help

- OBD-II scan tool with bidirectional control and live data
- Hand vacuum pump with gauge
- Digital multimeter
- Basic hand tools and socket set
- Carburetor or EGR cleaner and soft brushes



Reading P049A

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

Often seen with

P0401 EGR Flow Insufficient Detected · **P0402** EGR Flow Excessive Detected · **P049B** EGR B Flow Insufficient Detected · **P049C** EGR B Flow Excessive Detected · **P049D** EGR A Control Position Exceeded Learning Limit

See it working

Watch the animated explainer [How a Six-Speed Manual Gearbox Works](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p049a/>

