

GENERIC · POWERTRAIN

P0487

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0487

Exhaust Gas Recirculation Throttle Position Control Circuit

P0487 indicates that the engine computer has detected a fault in the electrical circuit controlling the Exhaust Gas Recirculation (EGR) throttle position actuator, which is a valve that modulates exhaust flow into the intake. The computer monitors the control circuit for expected voltage or current changes and sets this code when the signal does not match commanded values, often due to an open, short, or excessive resistance in the wiring or actuator.

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.
- Rough or unstable idle quality, especially when the engine is cold.
- Slight hesitation or stumble during light acceleration.
- Reduced fuel economy over time due to improper EGR flow.
- In some cases, a noticeable decrease in engine power or sluggishness.
- Intermittent engine surging or bucking at steady cruising speeds.

Common causes, most likely first

- 1 Failed EGR throttle position actuator or solenoid, such as a burned-out coil or stuck armature.
- 2 Corroded, loose, or damaged electrical connector at the EGR throttle actuator.
- 3 Open or shorted wiring in the control circuit between the actuator and the engine computer.
- 4 Carbon buildup or mechanical binding inside the EGR throttle body, preventing the actuator from moving freely.
- 5 Faulty engine computer driver for the EGR throttle control circuit, though this is less common.
- 6 Blown fuse or poor ground connection serving the EGR throttle control circuit.



How to diagnose and fix it

- 1 Perform a visual inspection of the EGR throttle actuator connector and wiring for corrosion, chafing, or loose pins.
- 2 Use a scan tool to command the EGR throttle actuator and observe whether the position changes or the circuit responds.
- 3 Measure resistance across the actuator terminals and compare to the manufacturer's specification to check for an open or shorted coil.
- 4 Back-probe the control circuit at the actuator and at the computer to check for voltage drops or continuity faults while wiggling the harness.
- 5 Clean the EGR throttle body and valve passages to remove carbon deposits that could cause binding.
- 6 If electrical tests pass, substitute a known-good actuator and recheck for the code.
- 7 After repairs, clear the code and perform a drive cycle to verify the circuit operates correctly and the code does not return.

What the EGR throttle code hides

- A sticking EGR throttle plate due to carbon buildup can mimic an electrical failure and set P0487 even when the actuator and wiring are healthy.
- The code can be set by a momentary glitch in the control circuit, so always check for intermittent connector problems before replacing parts.
- Some vehicles use a shared power or ground circuit for multiple actuators, so a fault elsewhere on that circuit can trigger P0487.
- A scan tool that can graph actuator command versus actual position is far more useful than a simple code reader for this fault.
- Replacing the EGR valve without checking the control circuit often leads to a repeat code because the real fault is in the harness or connector.

Can I keep driving with P0487?

The vehicle is generally safe to drive with P0487 because the fault affects emissions and driveability rather than immediate safety, but avoid prolonged idling and heavy acceleration until repaired. Have the circuit diagnosed soon to prevent worsening fuel economy or potential damage to the EGR system.

Tools that help

- OBD-II scan tool with bidirectional control and graphing capability
- Digital multimeter
- Test light
- Wire piercing probes or back-probe kit
- Hand tools for connector and component removal



Reading P0487

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

Often seen with

P0401 EGR Flow Insufficient Detected · **P0403** EGR Circuit Malfunction · **P0488** Exhaust Gas Recirculation Throttle Position Control Range/Pe · **P0489** Exhaust Gas Recirculation Control Circuit Low · **P0490** Exhaust Gas Recirculation Control Circuit High

See it working

Watch the animated explainer [How an Elevator Works: Traction Lift in X-Ray](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0487/>

