

GM · POWERTRAIN

P1403

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1403 · GM

## Exhaust Gas Recirculation System Valve 1

P1403 on GM vehicles indicates that the powertrain control module has detected a fault within the exhaust gas recirculation (EGR) system, specifically involving EGR valve 1, which is the primary valve on most applications. The computer monitors the EGR valve's electrical circuit and its effect on intake airflow, and it sets this code when the expected response is not achieved during a commanded test.

| SYSTEM     | CODE TYPE   | SEVERITY | FIX DIFFICULTY | AREA                        |
|------------|-------------|----------|----------------|-----------------------------|
| Powertrain | GM specific | Medium   | Intermediate   | Auxiliary emission controls |

### Symptoms you may notice

- Illuminated check engine light, often with no other symptoms besides the warning light
- Slight rough idle or idle surge when the engine is cold or under light load
- Reduced fuel economy during steady-speed driving
- A faint hesitation or stumble on light acceleration
- Increased oxides of nitrogen emissions that may be noticed during an emissions inspection
- In some cases, a noticeable ping or spark knock under load if the EGR valve sticks closed

### Common causes, most likely first

- 1 Carbon buildup on the EGR valve pintle or seat causing it to stick partially open or closed
- 2 Failed EGR valve stepper motor or internal position sensor
- 3 Damaged or corroded wiring and connector terminals at the EGR valve
- 4 Clogged EGR passageways in the intake manifold or valve base
- 5 Faulty manifold absolute pressure (MAP) sensor or mass airflow (MAF) sensor giving inaccurate load information
- 6 Vacuum supply leak or faulty vacuum solenoid on vacuum-operated EGR systems
- 7 Engine control module software calibration issue or, rarely, a failed driver circuit inside the PCM



## How to diagnose and fix it

- 1 Connect a scan tool and record freeze-frame data and any stored or pending codes before clearing anything
- 2 Visually inspect the EGR valve, its connector, and the vacuum lines for cracks, corrosion, or carbon tracking
- 3 Command the EGR valve open and closed with the scan tool while watching MAP or MAF response to confirm the valve is moving and the passages are clear
- 4 Measure resistance and voltage on the EGR valve control circuit and compare to the manufacturer's specification
- 5 Remove the EGR valve and inspect the pintle and seat for carbon deposits; clean or replace the valve as needed
- 6 Check for intake manifold passage blockage and clear it if restricted
- 7 Verify the repair by clearing codes, running the EGR monitor to completion, and confirming the code does not return

## What a P1403 EGR code really tells you

- A P1403 does not automatically mean the EGR valve itself has failed; a skewed MAP sensor or a dirty MAF sensor can cause the PCM to misjudge EGR flow and set this code.
- Carbon buildup inside the intake passage is a frequent culprit on higher-mileage GM engines, and replacing the valve without cleaning the passage will usually cause the code to return.
- On some GM platforms, a weak or failing battery or a poor ground connection can cause intermittent EGR codes that disappear after the charging system is repaired.
- Technicians often overlook a sticking EGR valve that is mechanically free but electrically out of range; a scan tool bidirectional control test is the quickest way to separate a mechanical fault from an electrical one.
- The EGR system interacts closely with the evaporative emissions and misfire monitors, so a P1403 can appear alongside other codes that point to a shared vacuum or wiring problem rather than a standalone EGR failure.

## Can I keep driving with P1403?

You can usually continue driving with a P1403, but avoid heavy acceleration and long uphill pulls because a stuck EGR valve can cause spark knock and higher combustion temperatures. Have the fault diagnosed soon, especially if you notice rough running or a noticeable loss of power.

## Tools that help

- OBD-II scan tool with bidirectional control and live data
- Digital multimeter
- Hand vacuum pump
- Basic hand tools and Torx or hex bit set
- Carburetor or intake cleaner and soft brushes



## Reading P1403

- P** Powertrain: engine, transmission and emissions.
- 1** Manufacturer-specific code (GM): its meaning depends on the make.
- 4** Auxiliary emission controls.
- 03** The exact fault within that area.

## Often seen with

**P1404** EGR Flow Adaptation Not Carried Out · **P1404** EGR Control · **P1404** Exhaust Gas Recirculation System Valve 2 · **P1404** IAT B Circuit Malfunction · **P1404** Exhaust Gas Recirculation System Valve 2 · **P1404** Heated Catalyst Current Too High During Heating Bank 2 · **P0171** System Too Lean (Bank 1) · **P0401** EGR Flow Insufficient Detected · **P0404** EGR Circuit Range/Performance · **P0405** EGR Sensor A Circuit Low

## See it working

Watch the animated explainer [Four-Stroke Engine Cutaway: Intake to Exhaust](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/gm-p1403/>

