

GENERIC · POWERTRAIN

P2143

OBD-II TROUBLE CODE

## P2143

# Exhaust Gas Recirculation Vent Control Circuit/Open

P2143 indicates that the engine control module has detected an open circuit or excessive resistance in the electrical path for the exhaust gas recirculation vent control solenoid. This vent solenoid is responsible for managing the pressure differential across the EGR valve, and when its circuit is open, the computer cannot properly command the valve to open or close, which can affect emissions and engine efficiency.

| SYSTEM     | CODE TYPE           | SEVERITY | FIX DIFFICULTY | AREA                  |
|------------|---------------------|----------|----------------|-----------------------|
| Powertrain | Generic (all makes) | Medium   | Intermediate   | Fuel and air metering |

## Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms.
- Rough or unstable idle, especially when the engine is cold.
- Slight hesitation or stumble during light acceleration.
- Increased nitrogen oxide emissions, which may cause a failed emissions test.
- In some cases, a noticeable decrease in fuel economy.
- Occasional surging or erratic engine behavior if the EGR system remains stuck in one position.

## Common causes, most likely first

- 1 Broken, corroded, or disconnected wiring or connector at the EGR vent solenoid.
- 2 Failed EGR vent control solenoid (open internal coil).
- 3 Open circuit in the power or ground circuit feeding the vent solenoid.
- 4 Corroded or damaged pins in the engine control module connector.
- 5 Failed engine control module driver for the vent control circuit (rare).
- 6 Blown fuse or fusible link that supplies power to the EGR vent circuit.
- 7 Aftermarket or damaged wiring harness chafing against engine components.



## How to diagnose and fix it

- 1 Verify the code with a scan tool and check for any related EGR or electrical codes.
- 2 Inspect the EGR vent solenoid connector and wiring for obvious damage, corrosion, or looseness.
- 3 Measure the resistance of the vent solenoid coil with a multimeter and compare to the manufacturer's specification.
- 4 Check for battery voltage and ground at the solenoid connector with the key on, engine off.
- 5 Perform a wiggle test on the wiring harness while monitoring the solenoid resistance or voltage to find intermittent opens.
- 6 If the circuit checks out, command the vent solenoid on and off with a scan tool to confirm it clicks or changes state.
- 7 Repair or replace the faulty wiring, connector, or solenoid as needed, then clear the code and verify the repair with a test drive.

## What the vent solenoid actually does

- The EGR vent solenoid is often confused with the EGR valve itself; a P2143 points to the vent control circuit, not a stuck valve, so replacing the valve without testing the circuit is a common misdiagnosis.
- A failed vent solenoid can cause the EGR valve to remain slightly open, leading to a rough idle that mimics a vacuum leak or a faulty PCV valve.
- Some vehicles use a single solenoid to control both vent and vacuum functions, and a shorted vent coil can back-feed the control module, causing other unrelated codes to set.
- The vent solenoid is frequently located in a harsh environment near the exhaust, so heat damage and corrosion are common causes that visual inspection often misses.
- A P2143 can be set by a loose ground connection at the engine block even if the solenoid and wiring appear perfect, so always verify ground integrity before condemning parts.

## Can I keep driving with P2143?

You can usually continue driving with this code, but avoid heavy acceleration and long idling because the EGR system may not function correctly, which can increase emissions and slightly affect engine smoothness. Have the circuit inspected soon to prevent potential damage to the EGR valve or catalytic converter.

## Tools that help

- OBD-II scan tool with live data and bidirectional control
- Digital multimeter
- Wiring diagram for the specific vehicle
- Test light
- Socket set and screwdrivers for connector access



### Reading P2143

- P** Powertrain: engine, transmission and emissions.
- 2** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 1** Fuel and air metering.
- 43** The exact fault within that area.

### Often seen with

**P0401** EGR Flow Insufficient Detected · **P0403** EGR Circuit Malfunction · **P0405** EGR Sensor A Circuit Low · **P2144** Exhaust Gas Recirculation Vent Control Circuit Low · **P2145** Exhaust Gas Recirculation Vent Control Circuit High

### 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/p2143/>

