

GENERIC · POWERTRAIN

P2145

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2145

Exhaust Gas Recirculation Vent Control Circuit High

P2145 indicates that the powertrain control module has detected an abnormally high voltage on the exhaust gas recirculation vent control circuit, which typically points to an open circuit, a short to voltage, or a failed vent solenoid. The computer monitors the commanded state of the EGR vent solenoid and compares it to the actual feedback voltage; when the voltage stays above the expected threshold for a calibrated time, the code is stored and the check engine light is illuminated.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Fuel and air metering

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Rough idle or stumbling when the engine is cold, especially if the EGR valve is stuck open
- A slight decrease in fuel economy due to improper EGR flow
- Intermittent engine hesitation or surge during light acceleration
- Failed emissions inspection because the EGR monitor will not complete
- In rare cases, a no-start condition if the EGR valve remains open and floods the intake with exhaust gas

Common causes, most likely first

- 1 Open or damaged wire in the EGR vent control circuit, such as a broken conductor or corroded connector
- 2 Short to voltage on the vent control wire, often from chafed insulation against a power wire
- 3 Failed EGR vent solenoid, where the coil is open or the internal driver has failed
- 4 Faulty powertrain control module driver for the vent circuit, though this is less common
- 5 Poor electrical connection at the EGR valve harness, including backed-out pins or water intrusion
- 6 Carbon buildup or mechanical binding inside the EGR valve that prevents the vent solenoid from moving freely



How to diagnose and fix it

- 1 Verify the code with a scan tool and check for any related EGR or engine performance codes before proceeding
- 2 Inspect the EGR valve harness and connector for corrosion, loose pins, or chafed wires, and repair as needed
- 3 Measure resistance of the EGR vent solenoid coil and compare to the manufacturer's specification to rule out an open coil
- 4 With the key on and the connector unplugged, check for reference voltage on the vent control circuit and ensure it is not shorted to battery voltage
- 5 Command the EGR vent solenoid on and off with a scan tool while monitoring voltage or listening for a click to confirm circuit operation
- 6 If the circuit tests good but the solenoid does not respond, replace the EGR valve assembly or vent solenoid as applicable
- 7 Clear the code and perform a drive cycle to verify the repair and ensure the EGR monitor completes

What the vent circuit test really shows

- A high voltage reading on the vent control circuit often means the circuit is open, not that the solenoid is receiving too much power, so technicians who replace the solenoid without checking continuity waste money.
- The EGR vent solenoid is frequently part of the EGR valve assembly on many modern vehicles, so a failed vent coil can require replacing the entire valve rather than a separate component.
- Carbon deposits can hold the EGR valve pintle in a position that makes the vent solenoid appear electrically faulty, so always inspect for mechanical binding before condemning the electrical circuit.
- A short to voltage on the vent control wire can be caused by a nearby accessory wire that has rubbed through its insulation, and this often occurs in the harness loom near the engine block.
- Some vehicles set P2145 only after a cold start when the EGR monitor runs, so a code that appears intermittently may be temperature-related and require freezing the frame data to catch the fault conditions.

Can I keep driving with P2145?

You can usually continue driving with P2145 because the EGR system is an emissions control device and does not affect basic engine operation, but avoid heavy acceleration or long idling if you notice rough running. Have the fault diagnosed soon to prevent potential carbon buildup or a failed emissions test.

Tools that help

- OBD-II scan tool with bidirectional control capability
- Digital multimeter with voltage and resistance measurement
- Wiring diagram for the specific vehicle
- Hand tools for harness and connector inspection
- Vacuum pump or smoke machine for mechanical EGR testing



Reading P2145

- 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.
- 45** The exact fault within that area.

Often seen with

P0401 EGR Flow Insufficient Detected · **P0402** EGR Flow Excessive Detected · **P0403** EGR Circuit Malfunction
 · **P0404** EGR Circuit Range/Performance · **P2144** Exhaust Gas Recirculation Vent Control Circuit Low

See it working

Watch the animated explainer [How Misfire Detection Works: Crankshaft Speed](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2145/>

