



P045E

EGR B Control Stuck Open

P045E indicates that the powertrain control module has commanded the exhaust gas recirculation (EGR) valve for circuit B to close, but the valve remains stuck open. The computer detects this by monitoring the EGR valve position sensor or the resulting change in manifold absolute pressure (MAP) and intake air flow when the valve is commanded closed.

SYSTEM Powertrain	CODE TYPE Generic (all makes)	SEVERITY Medium	FIX DIFFICULTY Intermediate	AREA Auxiliary emission controls
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Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Rough idle or engine stumbling, especially when the engine is cold
- Reduced engine performance and poor fuel economy
- Increased exhaust emissions, which may cause a failed emissions test
- In some cases, a slight hissing or whistling noise from the EGR valve area

Common causes, most likely first

- 1 Carbon buildup on the EGR valve pintle or seat preventing full closure
- 2 Faulty EGR valve actuator or internal mechanical binding
- 3 Damaged or disconnected EGR valve electrical connector or wiring
- 4 Failed EGR valve position sensor providing incorrect feedback
- 5 Stuck-open EGR valve due to a broken return spring
- 6 Vacuum supply issues (for vacuum-operated EGR valves) such as a leaking hose or faulty solenoid

How to diagnose and fix it

- 1 Use a scan tool to command the EGR valve open and closed while monitoring the position sensor and MAP sensor to confirm the sticking condition
- 2 Inspect the EGR valve electrical connector and wiring for corrosion, damage, or loose pins
- 3 Remove the EGR valve and inspect for carbon deposits; clean the valve and passages if deposits are found
- 4 Test the EGR valve actuator with a vacuum pump or scan tool bidirectional control to verify smooth operation
- 5 Check vacuum hoses and solenoid for leaks or proper function on vacuum-operated systems
- 6 Replace the EGR valve if cleaning does not resolve the sticking condition
- 7 Clear the diagnostic trouble codes and perform a drive cycle to verify the repair



Carbon Buildup Often Mimics a Failed Valve

- A sticking EGR valve is frequently caused by carbon deposits rather than an electrical failure, so cleaning the valve before replacement can save significant cost.
- The code may set intermittently if the valve sticks only under certain temperature or load conditions, making it important to test the valve when the engine is at operating temperature.
- On some vehicles, a stuck-open EGR valve can cause a lean condition that the computer misinterprets as a vacuum leak, leading to misdiagnosis.
- A faulty EGR position sensor can report a stuck-open condition even when the valve is physically closing, so always verify actual valve movement.
- After replacing or cleaning the EGR valve, the adaptive learning values for the EGR system may need to be reset with a scan tool to prevent false code recurrence.

Can I keep driving with P045E?

Driving with P045E is generally safe for short distances, but prolonged driving can lead to poor engine performance, increased emissions, and potential damage to the catalytic converter. Avoid heavy acceleration and have the fault diagnosed promptly.

Tools that help

- OBD-II scan tool with bidirectional control
- Vacuum pump
- Basic hand tools (wrenches, sockets, screwdrivers)
- Digital multimeter
- Carburetor or throttle body cleaner
- Inspection mirror and flashlight

Reading P045E

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
4	Auxiliary emission controls.
5E	The exact fault within that area.

Often seen with

P0171 System Too Lean (Bank 1) · **P0400** Exhaust Gas Recirculation Flow Malfunction · **P0401** EGR Flow Insufficient Detected · **P0402** EGR Flow Excessive Detected · **P0455** EVAP System Leak Detected (Large)



See it working

Watch the animated explainer [How Airbags Work: A 50 km/h Crash in Slow Motion](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p045e/>

