

GENERIC · CHASSIS

C054E

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

C054E

Vacuum Sensor B Range/Performance

C054E indicates that the powertrain control module (PCM) has detected an out-of-range or erratic signal from a vacuum sensor, typically the one monitoring the brake booster or evaporative emissions system. The sensor's voltage or pressure reading does not match expected values for the current engine operating conditions, triggering the code.

SYSTEM

Chassis

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Brakes, steering and suspension

Symptoms you may notice

- Illumination of the check engine light or brake system warning light
- Often no symptoms besides the warning light
- Reduced engine performance or poor fuel economy
- Firm or hard brake pedal feel if the sensor is related to the brake booster
- Hesitation or rough idle due to incorrect vacuum readings affecting fuel delivery
- Evaporative emissions system malfunction causing a fuel odor or failed emissions test

Common causes, most likely first

- 1 Faulty vacuum sensor (brake booster or EVAP pressure sensor)
- 2 Damaged, cracked, or disconnected vacuum hose
- 3 Clogged or restricted vacuum port or passage
- 4 Wiring issue such as an open circuit, short to ground, or high resistance in the sensor circuit
- 5 Failed brake booster (if the sensor monitors booster vacuum)
- 6 Leaking intake manifold gasket or other vacuum leak
- 7 PCM software issue or internal fault (rare)

How to diagnose and fix it

- 1 Inspect all vacuum hoses and connections for cracks, leaks, or disconnections; replace as needed
- 2 Check the vacuum sensor's electrical connector for corrosion or loose pins and repair the wiring
- 3 Test the vacuum sensor's reference voltage and signal voltage with a multimeter; compare to manufacturer specifications
- 4 Use a vacuum gauge to verify actual engine vacuum and compare with sensor readings
- 5 Perform a smoke test to locate any intake or vacuum leaks
- 6 Replace the vacuum sensor if it fails testing
- 7 Clear the code and perform a drive cycle to verify the repair



Don't overlook the simple vacuum leak

- A cracked or disconnected vacuum hose is a far more common cause of C054E than a failed sensor, so always inspect the entire vacuum routing before condemning the sensor.
- On many vehicles, the vacuum sensor is integrated into the brake booster or EVAP system, and a failing booster diaphragm can mimic a sensor fault.
- The code can set intermittently due to a loose ground connection at the sensor or PCM, which is often overlooked during diagnosis.
- A restricted vacuum port at the intake manifold can cause the sensor to read out of range even though the sensor itself is good.
- Some vehicles use the same vacuum sensor for both brake and EVAP functions, so a fault in either system can trigger C054E.

Can I keep driving with C054E?

If the only symptom is the warning light, the vehicle is generally safe to drive, but avoid heavy braking if the brake pedal feels abnormal. Have the system diagnosed promptly to prevent potential brake assist loss or emissions issues.

Tools that help

- OBD-II scanner
- Vacuum gauge
- Multimeter
- Smoke machine
- Hand tools for hose and sensor replacement

Reading C054E

C	Chassis: brakes, steering and suspension.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
5	Brakes, steering and suspension.
4E	The exact fault within that area.

Often seen with

C054F Vacuum Sensor B Circuit Low · **P0171** System Too Lean (Bank 1) · **P0174** System Too Lean (Bank 2)
 · **P0455** EVAP System Leak Detected (Large) · **P0456** Evaporative Emission System Leak Detected (very small leak)



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/c054e/>

