

GENERIC · CHASSIS

C0277

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

C0277

Brake Booster Vacuum Sensor Circuit Malfunction

C0277 indicates that the antilock brake system (ABS) control module has detected an electrical fault in the brake booster vacuum sensor circuit, which monitors the vacuum assist provided to the brake pedal. The computer compares the sensor signal against expected values and flags the code when the voltage or pressure reading falls outside the normal range for the current engine operating conditions.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Chassis	Generic (all makes)	Medium	Intermediate	Brakes, steering and suspension

Symptoms you may notice

- Illumination of the ABS warning light, and often the traction control and stability control lights as well
- A hard or stiff brake pedal because the vacuum assist is reduced or absent
- Longer stopping distances or the need for increased pedal effort during braking
- A stored code in the ABS module with no other noticeable driving symptoms
- In some vehicles, a message on the driver information center indicating a brake system fault

Common causes, most likely first

- 1 Failed brake booster vacuum sensor, which is the most common cause on high-mileage vehicles
- 2 Damaged, cracked, or disconnected vacuum hose between the intake manifold and the brake booster
- 3 Corroded or loose electrical connector at the vacuum sensor, often due to heat and vibration
- 4 Broken or chafed wires in the sensor circuit, particularly near the engine or firewall
- 5 A leaking brake booster diaphragm or check valve that prevents the sensor from reading correct vacuum
- 6 Faulty ABS control module, though this is less likely than sensor or wiring issues
- 7 Engine vacuum leaks elsewhere that reduce the vacuum available to the booster and sensor



How to diagnose and fix it

- 1 Inspect the vacuum hose and connections at the brake booster and intake manifold for cracks, soft spots, or disconnection, and replace any damaged hose.
- 2 Check the electrical connector at the vacuum sensor for corrosion, pushed-out pins, or loose fit, and clean or repair as needed.
- 3 Test the vacuum sensor with a scan tool that can read live data to see if the reported vacuum matches actual engine vacuum measured with a gauge.
- 4 Perform a voltage drop test on the sensor's power, ground, and signal wires to rule out high resistance in the circuit.
- 5 If the sensor signal is erratic or stuck, replace the brake booster vacuum sensor and clear the code to see if it returns.
- 6 Check the brake booster check valve and diaphragm for leaks using a vacuum pump, and replace the booster if it cannot hold vacuum.
- 7 If all external components test good, diagnose the ABS control module for internal faults, which may require reprogramming or replacement.

What the vacuum sensor code hides

- A common misdiagnosis is replacing the ABS module when the real problem is a simple vacuum leak from a cracked hose that costs far less to fix.
- The brake booster vacuum sensor often shares its ground with other engine sensors, so a bad ground can set this code along with others and lead you astray.
- On some vehicles, the sensor is integrated into the brake booster and cannot be replaced separately, requiring a complete booster assembly.
- The code can set intermittently due to engine vibration wearing through wire insulation near the booster, so always wiggle-test the harness while watching live data.
- A failing brake booster check valve can cause the sensor to read low vacuum only during certain driving conditions, such as after the engine is shut off and restarted.

Can I keep driving with C0277?

You can usually drive the vehicle to a repair shop, but be aware that the brake assist may be reduced, requiring more pedal effort to stop. Avoid heavy braking or towing until the fault is repaired, and do not ignore the warning light because a loss of vacuum assist can lengthen stopping distances.



Tools that help

- OBD-II scan tool with live data capability
- Handheld vacuum pump with gauge
- Digital multimeter
- Basic socket and wrench set
- Wire probe and electrical contact cleaner

Reading C0277

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

Often seen with

C0279 Brake Booster Boost Sensor Circuit Malfunction · **P0171** System Too Lean (Bank 1) · **P0505** Idle Control System Malfunction

See it working

Watch the animated explainer [Turbocharger Trainer: Boost, Wastegate and Intercooler](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/c0277/>

