



P1577 · GM

Brake Booster Vacuum Sensor Circuit Low Voltage

P1577 on a GM vehicle means the powertrain control module (PCM) has detected a low-voltage signal from the brake booster vacuum sensor circuit, indicating the sensor is reporting vacuum outside its expected range or the circuit is shorted to ground. The PCM uses this sensor to monitor available vacuum assist for the brakes and to manage engine load and emissions strategies, so a low signal forces it to substitute a default value.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	GM specific	Medium	Intermediate	Vehicle speed, idle control and auxiliary inputs

Symptoms you may notice

- Illuminated check engine light or service vehicle soon message, often with no other symptoms besides the warning light
- A noticeably firmer brake pedal with increased effort required to stop the vehicle
- Rough or erratic engine idle quality, especially during braking or deceleration
- Reduced fuel economy as the PCM defaults to a less efficient vacuum management strategy
- Intermittent warning light that appears during cold starts or damp weather and clears after warm-up
- Possible stalling or near-stall when coming to a stop if the vacuum reading is far outside the expected range

Common causes, most likely first

- 1 Failed brake booster vacuum sensor, which is the most common cause on high-mileage GM vehicles
- 2 Damaged or chafed sensor wiring harness near the brake booster or engine bay heat sources
- 3 Corroded or loose electrical connector pins at the sensor or PCM
- 4 A leaking or disconnected vacuum hose between the booster and the sensor, causing a false low reading
- 5 A failed brake booster check valve or internal booster diaphragm leak that prevents the sensor from seeing proper vacuum
- 6 A short to ground in the sensor signal circuit, which pulls the voltage below the PCM's expected range
- 7 Rarely, an internal PCM fault on the sensor reference or signal input circuit



How to diagnose and fix it

- 1 Connect a scan tool and read the brake booster vacuum sensor live data in inches of mercury (inHg) or kilopascals (kPa) to confirm the low reading matches the code
- 2 Visually inspect the sensor connector, pins, and the wiring harness for chafing, corrosion, or looseness, and repair any damaged terminals
- 3 Check the vacuum hose routing between the booster, sensor, and intake manifold for cracks, disconnection, or collapse, and replace as needed
- 4 Test the sensor signal circuit with a multimeter for a short to ground and verify the reference voltage at the sensor connector with the key on
- 5 Test the brake booster check valve and booster diaphragm for leaks using a vacuum gauge or a simple pedal-hold test
- 6 Replace the brake booster vacuum sensor if the circuit and vacuum supply test good but the live data still reads low
- 7 Clear the diagnostic trouble code (DTC) and verify the repair by confirming the sensor reads normal vacuum and the code does not return after a road test

What the vacuum sensor reading really tells you

- A low voltage reading from this sensor often comes from a vacuum leak at the booster hose or check valve rather than a failed sensor, so always verify actual vacuum with a gauge before condemning the part.
- The PCM may set P1577 intermittently when the sensor signal drops out only during cold starts or heavy engine load, which can make the code hard to reproduce in a warm shop.
- Chafed wiring near the brake booster is a frequent hidden cause on older GM trucks and SUVs, and the damage is often on the underside of the harness where a visual inspection from above misses it.
- This code does not always mean the brakes are unsafe; the booster still provides assist, but the PCM loses the ability to fine-tune vacuum management and may default to a less efficient strategy.
- A failing brake booster diaphragm can pull the sensor reading low without any external vacuum leak, so a booster that holds vacuum at idle but leaks down overnight deserves a close look.

Can I keep driving with P1577?

You can usually drive the vehicle to a repair shop, but expect a firmer brake pedal and allow extra stopping distance, and avoid heavy braking or towing until the fault is repaired. If the pedal becomes very hard or the engine stalls repeatedly, stop driving and have the vehicle towed.



Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Hand vacuum pump with gauge
- Basic socket and wrench set
- Wire probe kit and electrical tape

Reading P1577

P Powertrain: engine, transmission and emissions.

1 Manufacturer-specific code (GM): its meaning depends on the make.

5 Vehicle speed, idle control and auxiliary inputs.

77 The exact fault within that area.

Often seen with

P1575 Right Engine Mount Solenoid Valve Short To B+ · **P1576** Right Engine Mount Solenoid Valve Short To Ground · **P1575** Extended Travel Brake Switch Circuit · **P1576** Brake Booster Vacuum Sensor Circuit High Voltage · **P1575** Pedal Position Out of Self Test Range · **P1576** Pedal Position Not Available · **P1575** Extended Travel Brake Switch Circuit · **P1576** BBV Sensor Circuit High Voltage · **P0171** System Too Lean (Bank 1) · **P0556** Brake Booster Pressure Sensor Circuit Range/Performance · **P0557** Brake Booster Pressure Sensor Circuit Low Input

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/gm-p1577/>

