

GENERIC · CHASSIS

C054D

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

C054D

Vacuum Sensor B Circuit/Open

C054D indicates the electronic control module has detected an open circuit or abnormal voltage on the signal or return path of Vacuum Sensor B, which is a pressure sensor used by systems such as the brake booster or evaporative emissions. The computer monitors the sensor's voltage and sets this code when the reading falls outside the expected range for the current operating conditions, typically indicating a broken wire, poor connection, or failed sensor.

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

Symptoms you may notice

- Illumination of the check engine light or a chassis-specific warning lamp
- Often no symptoms besides the warning light, especially if the sensor is not critical to engine operation
- Reduced brake assist or a hard brake pedal if the sensor monitors brake booster vacuum
- Poor engine idle quality or stalling if the sensor affects fuel delivery calculations
- A stored freeze-frame record showing the fault occurred under specific vacuum or electrical conditions
- Intermittent warning light that comes and goes with vibration or temperature changes

Common causes, most likely first

- 1 Broken, chafed, or corroded wire in the sensor's signal or ground circuit
- 2 Loose or contaminated electrical connector at the vacuum sensor
- 3 Failed vacuum sensor B itself
- 4 Vacuum leak or disconnected vacuum hose causing the sensor to read out of range
- 5 Faulty power or ground supply to the sensor
- 6 Damaged or corroded terminals inside the engine control module or body control module connector
- 7 Aftermarket accessories or repairs that disturbed the sensor wiring harness



How to diagnose and fix it

- 1 Connect a scan tool and record the freeze-frame data and any related codes before clearing anything
- 2 Visually inspect the vacuum sensor B, its connector, and the vacuum hoses for damage, corrosion, or disconnection
- 3 Perform a wiggle test on the sensor harness while watching live sensor voltage on the scan tool to reveal intermittent opens
- 4 Measure resistance and voltage on the sensor signal and ground circuits with a digital multimeter, comparing to manufacturer specifications
- 5 Check for vacuum leaks using a smoke machine or propane enrichment while monitoring sensor voltage
- 6 If wiring and vacuum supply are good, substitute a known-good sensor and recheck live data
- 7 Repair or replace the faulty wiring, connector, or sensor, then clear codes and verify the repair with a road test

What a vacuum sensor open really means

- A vacuum sensor B open code often appears after a repair that disturbed the harness, such as a brake booster or intake manifold job, rather than from a failed sensor.
- The sensor may share a five-volt reference or ground with other sensors, so a fault in a shared circuit can set multiple codes and mislead you into replacing the wrong part.
- A disconnected or cracked vacuum hose can cause the sensor to report a voltage outside the expected range, mimicking an electrical open even when the wiring is intact.
- Some vehicles use the vacuum sensor for brake assist and will set a chassis code rather than a powertrain code, so check both modules for related faults.
- Clearing the code without checking freeze-frame data can erase the operating conditions that would point directly to the cause, making diagnosis harder.

Can I keep driving with C054D?

If the only symptom is a warning light and the brake pedal feels normal, you can drive cautiously to a repair shop, but avoid heavy braking or towing until the fault is diagnosed. If the brake pedal is hard or braking assist is reduced, stop driving and have the vehicle towed because the vacuum sensor may be part of the brake assist system.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Vacuum gauge or smoke machine
- Wire terminal pick and electrical contact cleaner
- Service information with wiring diagrams for the specific vehicle



Reading C054D

- 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.
- 4D** The exact fault within that area.

Often seen with

C054C Vacuum Sensor A Circuit High · **C054E** Vacuum Sensor B Range/Performance · **P0450** Evaporative Emission System Pressure Sensor/Switch · **P0451** Evaporative Emission System Pressure Sensor/Switch Range/Per · **P0452** Evaporative Emission System Pressure Sensor/Switch Low

See it working

Watch the animated explainer [How an Oxygen Sensor Works: Live 3D Cutaway](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/c054d/>

