

GENERIC · CHASSIS

C0586

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

C0586

Brake Booster Motor B Phase U-V-W Circuit Range/Performance

C0586 indicates that the brake booster motor's three-phase (U, V, W) electrical circuit has a range or performance fault, meaning the control module detected an abnormal voltage, current, or phase relationship while commanding the motor. The computer expects balanced phase currents and a predictable response during self-tests or brake assist events, and this code sets when those values fall outside the allowed window.

SYSTEM

Chassis

CODE TYPE

Generic (all makes)

SEVERITY

High

FIX DIFFICULTY

Professional

AREA

Brakes, steering and suspension

Symptoms you may notice

- Illumination of the brake system warning light, often accompanied by a chime
- Reduced or absent brake assist, requiring noticeably higher pedal effort
- A hard brake pedal that feels unresponsive during the first press
- Intermittent assist loss that may clear after the vehicle is restarted
- Often no symptoms besides the warning light, especially if the fault is stored but not currently active

Common causes, most likely first

- 1 Damaged or corroded wiring in the brake booster motor phase harness, particularly at connectors or where the loom flexes
- 2 A failing brake booster motor with worn brushes, shorted windings, or internal phase-to-phase faults
- 3 Poor ground connection for the booster motor or its control module, causing voltage drops under load
- 4 A faulty brake booster control module that misreads phase current or fails to output a clean drive signal
- 5 Water intrusion or debris in the motor connector causing intermittent phase shorts
- 6 A weak or failing 12-volt battery or charging system that drops voltage during high-current motor operation



How to diagnose and fix it

- 1 Perform a thorough visual inspection of the booster motor harness and connectors for chafing, corrosion, or loose pins
- 2 Measure battery voltage and charging system output to rule out low supply voltage during motor activation
- 3 Use a scan tool to command the brake booster motor and observe live phase current and voltage data for imbalance
- 4 Check resistance and continuity of each phase winding at the motor connector, comparing U-V, V-W, and U-W readings
- 5 Inspect and clean the motor and control module ground points, then retest the circuit under load
- 6 If wiring and grounds are good, substitute a known-good booster motor or control module to isolate the faulty component
- 7 Clear the code and perform a road test with brake assist events to confirm the repair and verify no pending return

What most technicians miss on C0586

- A stored C0586 can be set by a momentary voltage dip during engine cranking, so always check for a weak battery before condemning the booster motor.
- The phase U-V-W circuit is sensitive to connector pin tension; a pin that backs out slightly under vibration can cause this code without any visible wire damage.
- Some vehicles set C0586 when the brake booster motor is commanded during a self-test and the module sees an unexpected current spike, even though the motor still provides normal assist.
- A failing brake pedal position sensor or brake switch can cause the module to command the booster motor at the wrong time, triggering a phase performance fault that looks like a motor problem.
- After replacing the booster motor or control module, some platforms require a calibration or learn procedure; skipping it can leave C0586 stored even with good hardware.

Can I keep driving with C0586?

If the brake pedal feels normal and the warning light is the only symptom, you can drive cautiously to a repair shop, but avoid heavy braking or towing. If brake assist is reduced or the pedal is hard, stop driving and have the vehicle towed, because stopping distance increases significantly.

Tools that help

- Scan tool with bidirectional control and live data for the brake booster system
- Digital multimeter with min/max recording and low-ohm capability
- Oscilloscope for viewing phase current waveforms
- Breakout box or back-probe kit for connector testing
- Service information for phase resistance specifications and calibration procedures



Reading C0586

- 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.
- 86** The exact fault within that area.

Often seen with

C0585 Brake Booster Motor B Phase U-V-W Circuit High · **C0587** Brake Booster Motor A Position Sensor Circuit/Open · **C0588** Brake Booster Motor A Position Sensor Circuit Low · **C0590** Brake Booster Motor A Phase U-V-W Current High · **U0121** Lost Communication With Anti-Lock Brake System (ABS) Control

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/c0586/>

