

GENERIC · CHASSIS

C0582

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

C0582

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

C0582 indicates that the electronic brake control module has detected an out-of-range or performance fault in the phase U, V, or W circuit of the brake booster motor's three-phase inverter. The module monitors current, voltage, and motor position feedback for each phase and sets this code when the signals deviate from expected values during self-test or booster operation.

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 the traction control or stability control warning light
- A hard brake pedal with reduced power assist, requiring noticeably higher pedal effort to stop the vehicle
- Audible whining or grinding noises from the brake booster area during brake pedal application
- Intermittent loss of brake assist that may return after the vehicle is restarted
- Often no symptoms besides the warning light, especially if the fault is intermittent or only affects one phase at low load

Common causes, most likely first

- 1 Damaged or chafed wiring in the brake booster motor phase harness, particularly at flex points or near heat sources
- 2 Corroded or loose terminals at the brake booster motor connector or the electronic brake control module connector
- 3 Internal failure of the brake booster motor windings, such as a short between phases or to ground
- 4 Faulty inverter circuit inside the electronic brake control module, including failed driver transistors or current sensors
- 5 Water intrusion into the brake booster motor connector or control module enclosure causing intermittent phase faults
- 6 Mechanical binding or excessive drag in the brake booster motor assembly that overloads one or more phases



How to diagnose and fix it

- 1 Perform a visual inspection of the brake booster motor harness and connectors for chafing, corrosion, or loose pins, and repair as needed
- 2 Use a scan tool to clear the code and verify whether it returns immediately or only under specific operating conditions such as cold start or heavy braking
- 3 Measure resistance and insulation between each phase (U, V, W) at the motor connector and compare to manufacturer specifications to rule out motor winding faults
- 4 Back-probe the phase circuits at the control module connector while commanding the booster motor with a scan tool to check for voltage drops or abnormal current waveforms
- 5 Check for technical service bulletins or software updates for the electronic brake control module that address false phase fault detection
- 6 If wiring and motor test good, replace the electronic brake control module and perform any required programming or calibration
- 7 After repair, clear codes and perform a full brake system function test including booster operation and stability control self-test

What the phase fault really means

- A phase U-V-W range or performance code often results from a marginal connection that only breaks down under vibration or heat, so a simple static resistance check can pass while the fault remains intermittent.
- Technicians sometimes replace the brake booster motor when the actual fault is a failed current sensor inside the control module, so always verify phase current waveforms before condemning the motor.
- This code can be set by a low or weak 12-volt supply to the control module, so check battery voltage and ground integrity before diving into phase circuit diagnostics.
- After any repair involving the brake booster motor or control module, a calibration or learn procedure is typically required, and skipping it can cause the code to reset or the brake assist to feel abnormal.
- The phase circuits are pulse-width modulated, so a standard multimeter may show plausible average voltages even when one phase driver is failing; an oscilloscope or a scan tool with live motor data is far more revealing.

Can I keep driving with C0582?

Because this fault can reduce or eliminate power brake assist, the vehicle should not be driven until the cause is corrected; if you must move it, do so at very low speed with firm pedal pressure and be prepared for increased stopping distance.



Tools that help

- Scan tool with bidirectional control and live data for the electronic brake control module
- Digital multimeter with resistance and voltage measurement capabilities
- Oscilloscope or graphing multimeter for phase current waveform analysis
- Breakout box or back-probe kit for control module connector testing
- Manufacturer service information for wiring diagrams and phase resistance specifications

Reading C0582

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.
82	The exact fault within that area.

Often seen with

C0581 Park Brake Apply Performance · **C0583** Park Brake Release Performance · **C0584** Brake Booster Motor B Phase U-V-W Circuit Low · **C0585** Brake Booster Motor B Phase U-V-W Circuit High · **C0586** Brake Booster Motor B Phase U-V-W Circuit Range/Performance

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/c0582/>

