

GENERIC · CHASSIS

C05BF

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

C05BF

Brake Booster Motor B Position Sensor Supply Circuit Range/Performance

This code indicates that the brake booster motor's position sensor supply circuit is not delivering the expected voltage range or performance, so the control module cannot trust the sensor's feedback. The computer monitors the supply voltage to the position sensor and sets this code when the signal falls outside the manufacturer's specified range for a calibrated time.

SYSTEM

Chassis

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Brakes, steering and suspension

Symptoms you may notice

- Illumination of the brake system warning light or a generic check engine light
- Often no symptoms besides the warning light, especially if the fault is intermittent
- Reduced or inconsistent brake assist, requiring more pedal effort
- A soft or spongy brake pedal feel during normal driving
- Unusual noises from the brake booster area when the brake pedal is pressed
- The vehicle may enter a limited-power or limp mode in some applications

Common causes, most likely first

- 1 Faulty brake booster motor position sensor
- 2 Damaged or corroded wiring in the sensor supply circuit
- 3 Loose or corroded electrical connector at the sensor or control module
- 4 Failed brake booster motor assembly affecting sensor supply
- 5 Control module software or internal fault misreading the supply voltage
- 6 Poor ground connection shared with the sensor circuit
- 7 Aftermarket or incorrect sensor installed previously



How to diagnose and fix it

- 1 Inspect the sensor connector and wiring for corrosion, chafing, or loose pins
- 2 Measure the sensor supply voltage with a multimeter and compare to specification
- 3 Check the ground circuit for excessive resistance using a voltage drop test
- 4 Clear the code and test-drive to see if it returns immediately or intermittently
- 5 If voltage is out of range, back-probe the sensor signal wire to confirm sensor operation
- 6 Replace the brake booster motor position sensor if supply and ground are correct but signal is erratic
- 7 Reprogram or replace the control module only after all wiring and sensor checks pass

What the supply circuit code really tells you

- A supply circuit range code often points to a voltage drop in the wiring rather than a failed sensor, so always load-test the circuit before condemning parts.
- Intermittent codes can be caused by a connector that only loses contact when the engine bay is hot or during vibration, so wiggle-test the harness while monitoring live data.
- Some vehicles share the sensor supply with other sensors, and a fault in one can pull down the reference voltage for the booster sensor and set this code.
- A weak or failing brake booster motor can draw excessive current and momentarily drop the sensor supply voltage, mimicking a wiring fault.
- This code does not always mean the booster motor is failing; the position sensor supply circuit is a separate sub-circuit that can fail independently.

Can I keep driving with C05BF?

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 noticeably reduced or the pedal feels strange, stop driving and have the vehicle towed to prevent a safety risk.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Back-probe kit or fine test leads
- Wiring diagram for the brake booster circuit
- Socket set and trim removal tools



Reading C05BF

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

Often seen with

C05B8 Brake Booster Motor A Position Sensor Supply Circuit/Open · **C05B9** Brake Booster Motor A Position Sensor Supply Circuit Low · **C05BA** Brake Booster Motor A Position Sensor Supply Circuit High · **C05BB** Brake Booster Motor A Position Sensor Supply Circuit Range/P · **C05BC** Brake Booster Motor B Position Sensor Supply Circuit/Open

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/c05bf/>

