

GENERIC · CHASSIS

C0830

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

C0830

Steering Wheel Angle Sensor Center Position Not Learned

This code means the electronic stability control (ESC) module has not learned the straight-ahead center position of the steering wheel angle sensor, so it cannot reliably tell where the driver is pointing the wheels. The computer detects that the learned center value is missing or invalid, usually after battery disconnection, sensor replacement, or a steering angle sensor fault.

SYSTEM

Chassis

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Brakes, steering and suspension

Symptoms you may notice

- The stability control (ESC) or traction control warning light stays illuminated on the dashboard.
- The steering angle sensor may read a nonzero angle while the wheels are pointed straight ahead.
- Stability control and traction control assist may be disabled until the center position is learned.
- The steering wheel may need to be held slightly off-center to drive straight if the sensor was installed incorrectly.
- Often no symptoms besides the warning light, especially after a battery replacement or steering repair.

Common causes, most likely first

- 1 Battery disconnected or replaced without performing the steering angle sensor center learn procedure.
- 2 Steering angle sensor replaced or removed and not recalibrated with a scan tool.
- 3 Steering column, rack, or suspension work that moved the steering wheel off its learned center.
- 4 Low voltage or a weak battery causing the ESC module to lose its learned center value.
- 5 Faulty steering angle sensor or damaged wiring/connector at the sensor.
- 6 ESC module software or memory issue preventing the learn from completing.
- 7 Wheel alignment performed without resetting the steering angle sensor center.



How to diagnose and fix it

- 1 Verify battery voltage and charge or replace the battery if it is weak, then clear codes and retest.
- 2 Check the steering angle sensor connector and wiring for damage, corrosion, or loose pins.
- 3 Use a scan tool to read the steering angle sensor live data and confirm it reads near zero degrees with the wheels straight.
- 4 Perform the manufacturer's steering angle sensor center learn/calibration procedure with the scan tool.
- 5 If the learn fails, inspect the sensor mounting and steering column for incorrect installation or damage.
- 6 Replace the steering angle sensor if it cannot be calibrated or shows erratic readings, then repeat the learn procedure.
- 7 Clear all codes, perform a road test, and confirm the ESC light stays off and live angle data tracks steering input correctly.

Why the center learn keeps failing

- A very common cause is simply disconnecting the battery or replacing it without running the steering angle sensor learn procedure afterward, which many drivers and shops overlook.
- The code does not always mean the sensor is bad; a weak battery or low voltage during cranking can wipe the learned center value and set this code without any sensor fault.
- After a wheel alignment, the steering angle sensor center must be relearned even if the alignment was perfect, or the ESC module will keep this code stored.
- Some vehicles require the steering wheel to be held perfectly straight and the scan tool procedure to be followed exactly, including driving straight for a specified distance, or the learn will not complete.
- A damaged clockspring or steering column wiring can intermittently interrupt the sensor signal and prevent the center learn from sticking, so inspect wiring before replacing the sensor.

Can I keep driving with C0830?

You can usually drive the vehicle, but stability control and traction control assist will be disabled, so avoid aggressive steering, sharp turns, or slippery conditions until the center position is learned. If the steering wheel is visibly off-center, have the steering and alignment checked before driving at highway speed.

Tools that help

- OBD-II scan tool with steering angle sensor calibration capability
- Digital multimeter
- Basic hand tools for trim and connector access
- Manufacturer service information for the learn procedure
- Battery charger or power supply



Reading C0830

- C** Chassis: brakes, steering and suspension.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 8** Brakes, steering and suspension.
- 30** The exact fault within that area.

Often seen with

C0051 Front Left ABS Solenoid 1 Circuit Malfunction · **C0710** Steering Position Signal Malfunction · **U0126** Lost Communication With Steering Angle Sensor Module

See it working

Watch the animated explainer [How a Radiator Fan Relay Circuit Works](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/c0830/>

