

GENERIC · CHASSIS

C052A

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

C052A

Steering Angle Sensor Module Correlation

C052A indicates that the steering angle sensor (SAS) module is reporting data that does not agree with other modules on the vehicle network, such as the electronic stability control (ESC) or anti-lock brake (ABS) module. The computer detects a correlation error when the steering angle value sent by the SAS does not match the expected value calculated from wheel speeds, yaw rate, and other sensor inputs.

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

Symptoms you may notice

- The stability control (ESC) or traction control warning light illuminates steadily.
- The anti-lock brake (ABS) warning light may also come on, depending on the vehicle.
- A message such as 'Service StabiliTrak' or 'ESC Off' appears in the driver information center.
- The power steering assist may feel reduced or uneven, especially at low speeds.
- The vehicle may disable cruise control or hill start assist as a precaution.
- Often no symptoms besides the warning light, with normal steering and braking performance.

Common causes, most likely first

- 1 A steering angle sensor that is out of calibration or has lost its zero point after battery disconnection or suspension work.
- 2 A faulty steering angle sensor caused by wear, contamination, or internal electronic failure.
- 3 Damaged or corroded wiring in the steering column harness, often from a clock spring that has failed or been disturbed.
- 4 A misaligned steering wheel or incorrect wheel alignment that makes the sensor reading disagree with the actual straight-ahead position.
- 5 A failing clock spring (spiral cable) that intermittently interrupts the sensor signal.
- 6 Software or calibration errors in the ABS/ESC module that require a relearn procedure.
- 7 A weak or failing battery that causes voltage drops and sets communication or correlation codes in multiple modules.



How to diagnose and fix it

- 1 Connect a scan tool and read all codes in the ABS, ESC, and steering angle sensor modules to confirm C052A is the primary fault and not a secondary code.
- 2 Check battery voltage and condition, then clear the code and perform a steering angle sensor calibration or relearn procedure as specified for the vehicle.
- 3 Inspect the steering column wiring and clock spring for damage, corrosion, or loose connectors, and repair or replace as needed.
- 4 Verify the steering wheel is centered and the front wheels are aligned; perform a four-wheel alignment if the steering angle offset is excessive.
- 5 If calibration fails or the sensor signal is erratic, replace the steering angle sensor and perform the required calibration.
- 6 Check for software updates or recalibration bulletins for the ABS/ESC module that address correlation errors.
- 7 After repair, clear all codes and perform a road test to confirm the warning lights stay off and the steering angle reading matches the actual steering input.

Before you replace the steering angle sensor

- A simple battery disconnect or low voltage event can erase the steering angle sensor's learned zero point and set C052A without any physical fault.
- Many vehicles require a steering angle sensor calibration after an alignment, and skipping that step is a common reason the code returns.
- A failing clock spring often causes intermittent C052A along with horn or airbag warning issues, so check those functions before condemning the sensor.
- C052A can be set by a mismatched or incorrect ABS module calibration, especially after a used module is installed without proper programming.
- The steering angle sensor is sometimes integrated into the clock spring assembly, so replacing only the sensor may not be possible on every vehicle.

Can I keep driving with C052A?

The vehicle remains safe to drive in most cases because the fault affects stability control and not the base steering or braking system, but avoid aggressive maneuvers or towing until repaired. Have the system diagnosed soon, as disabled stability control reduces safety in slippery conditions.

Tools that help

- OBD-II scan tool with ABS/ESC and steering angle sensor capability
- Digital multimeter for checking voltage and continuity
- Steering angle sensor calibration tool or factory-level diagnostic software
- Wheel alignment equipment
- Basic hand tools for steering column trim removal



Reading C052A

- 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.
- 2A** The exact fault within that area.

Often seen with

C0045 Left Rear Wheel Speed Sensor Circuit Malfunction · **C0051** Front Left ABS Solenoid 1 Circuit Malfunction
 · **C0561** ABS Disabled Warning Indicator Request · **C0710** Steering Position Signal Malfunction · **U0126** Lost Communication With Steering Angle Sensor Module

See it working

Watch the animated explainer [How a Helicopter Flies: Rotor and Tail in X-Ray](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/c052a/>

