

GENERIC · CHASSIS

C051D

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

C051D

Multi-axis Acceleration Sensor Module A Missing Calibration

C051D indicates that the multi-axis acceleration sensor module A, which measures vehicle motion in multiple directions, has not been calibrated or its calibration data is missing from the module's memory. The computer detects this when it cannot find valid calibration values during startup or when the sensor's output does not match expected values for a calibrated unit.

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

Symptoms you may notice

- The stability control or traction control warning light illuminates on the dashboard.
- The ABS light may also come on if the system shares the same sensor module.
- The vehicle may disable stability control and traction control functions, reducing safety in slippery conditions.
- Some vehicles may limit engine power or apply brakes unexpectedly if the system enters a fail-safe mode.
- Often no symptoms besides the warning light, and the vehicle drives normally.
- The cruise control may become inoperative if it relies on stability control data.

Common causes, most likely first

- 1 The acceleration sensor module was replaced but not calibrated with a scan tool.
- 2 The module's memory has lost calibration data due to a low battery or electrical fault.
- 3 A faulty acceleration sensor module that cannot retain calibration.
- 4 Corroded or damaged wiring or connectors at the sensor module, causing intermittent power or data loss.
- 5 A software glitch in the control module that requires a recalibration procedure.
- 6 Improper installation of the sensor module, such as incorrect mounting angle or loose bolts.
- 7 A defective control module that fails to store or recognize the calibration.



How to diagnose and fix it

- 1 Use a scan tool to check for other codes and verify that C051D is current, not history.
- 2 Inspect the acceleration sensor module and its wiring for physical damage, corrosion, or loose connections.
- 3 Check battery voltage and charging system to ensure stable power supply to the module.
- 4 Perform the manufacturer's calibration procedure for the multi-axis acceleration sensor using a scan tool.
- 5 If calibration fails, replace the sensor module with a new or remanufactured unit and recalibrate.
- 6 After repair, clear codes and perform a road test to verify the stability control system operates correctly.
- 7 If the code persists, diagnose the control module and consider replacement or reprogramming.

Calibration Is Not a Simple Reset

- Many technicians replace the acceleration sensor module assuming it is defective, but the real issue is often that the new module was never calibrated with a scan tool.
- A weak or failing battery can cause the module to lose its calibration memory, so always check the battery and charging system before condemning the sensor.
- The multi-axis acceleration sensor is sometimes called a yaw rate and lateral acceleration sensor, and its calibration is critical for stability control accuracy.
- This code can set if the sensor module is not mounted at the correct angle or if mounting bolts are loose, as the calibration assumes a specific orientation.
- On some vehicles, the calibration procedure requires the vehicle to be on a level surface and may need to be driven in a specific pattern to complete.

Can I keep driving with C051D?

You can usually drive the vehicle with this code, but stability and traction control systems may be disabled, reducing safety in adverse conditions. Avoid aggressive driving or slippery roads until the fault is repaired, and have the system calibrated or fixed promptly.

Tools that help

- OBD-II scan tool with bidirectional control and calibration capabilities
- Digital multimeter for checking wiring and voltage
- Vehicle service information for calibration procedures
- Basic hand tools for inspecting and removing sensor module



Reading C051D

- 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.
- 1D** The exact fault within that area.

Often seen with

C0050 Right Rear Wheel Speed Sensor Circuit Malfunction · **C0051** Front Left ABS Solenoid 1 Circuit Malfunction · **C051C** Multi-axis Acceleration Sensor Module A Range/Performance · **C051E** Multi-axis Acceleration Sensor Module A Intermittent/Erratic · **C0521** Multi-axis Acceleration Sensor Module B Range/Performance

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/c051d/>

