

GENERIC · CHASSIS

C050F

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

C050F

Left Rear Wheel Speed Sensor A Circuit High

C050F indicates that the anti-lock brake system (ABS) control module has detected an abnormally high voltage on the signal circuit for the left rear wheel speed sensor 'A'. The sensor's output is expected to toggle between low and high voltage as the wheel rotates, but the circuit is stuck at or above the high threshold, so the module cannot determine wheel speed.

SYSTEM

Chassis

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Brakes, steering and suspension

Symptoms you may notice

- ABS warning light illuminated on the dashboard
- Traction control and stability control warning lights may also be on
- ABS and traction control systems disabled, increasing stopping distance in slippery conditions
- Speedometer may read erratically or drop to zero if the affected sensor is used for vehicle speed
- Often no symptoms besides the warning light, with normal braking performance in dry conditions

Common causes, most likely first

- 1 Damaged or chafed sensor wiring harness, especially near the wheel arch or suspension components
- 2 Corroded, loose, or water-intruded electrical connector at the wheel speed sensor
- 3 Failed left rear wheel speed sensor (internal short to voltage or open circuit)
- 4 Debris, metallic particles, or rust buildup on the sensor tip or tone ring
- 5 Excessive air gap between the sensor and tone ring due to worn hub or damaged knuckle
- 6 Faulty ABS control module (less common, but possible if all circuit checks pass)



How to diagnose and fix it

- 1 Inspect the left rear wheel speed sensor wiring and connector for damage, corrosion, or loose pins; repair or replace as needed
- 2 Clean the sensor tip and tone ring of any metallic debris or rust, then clear the code and test-drive
- 3 Measure the sensor circuit voltage with a digital multimeter (DMM) while rotating the wheel; compare to manufacturer specifications
- 4 Check the sensor's resistance and air gap if applicable, and replace the sensor if readings are out of range
- 5 Perform a wiggle test on the harness while monitoring live data to catch intermittent opens or shorts
- 6 If the circuit and sensor test good, diagnose the ABS module and its power/ground connections before replacement
- 7 After repair, clear codes and verify the ABS and traction control systems operate correctly during a road test

Don't overlook the tone ring and harness

- A high voltage reading often comes from a short to voltage in the harness rather than a failed sensor, so inspect wiring routing near sharp edges and heat sources first.
- Metallic debris stuck to the sensor tip can mimic a high-voltage fault by disrupting the magnetic field, and a simple cleaning often resolves the code.
- The left rear sensor may share a ground or signal wire with other sensors in some layouts, so a fault elsewhere can set this code as a companion.
- After replacing a sensor, the ABS module may require a calibration or learn procedure; skipping it can leave the light on even with a good part.
- A weak or failing wheel bearing can alter the air gap and cause intermittent high-voltage signals that only appear at certain speeds or during turns.

Can I keep driving with C050F?

You can usually drive the vehicle with this code because normal braking remains functional, but ABS and traction control are disabled, so avoid slippery roads and hard braking. Have the fault diagnosed soon to restore full safety system operation.

Tools that help

- OBD-II scan tool with ABS live data capability
- Digital multimeter (DMM)
- Jack and jack stands or a lift
- Wire repair kit with crimpers and heat shrink
- Basic hand tools (socket set, screwdrivers, trim removal tools)



Reading C050F

- 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.
- 0F** The exact fault within that area.

Often seen with

C0035 Left Front Wheel Speed Sensor Circuit Range/Performance · **C0040** Left Rear Wheel Speed Sensor Circuit · **C0050** Right Rear Wheel Speed Sensor Circuit Malfunction · **C050E** Left Rear Wheel Speed Sensor A Circuit Low · **C0510** Hill Hold Function Disabled

See it working

Watch the animated explainer [How ABS Works: Anti-Lock Brakes in X-Ray](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/c050f/>

