

GENERIC · CHASSIS

C003C

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

C003C

Rear Tone Wheel

C003C indicates a fault in the rear tone wheel circuit, which is the toothed ring that the anti-lock brake system (ABS) wheel speed sensor reads to measure rear wheel rotation. The control module detected an abnormal signal from that ring, such as missing teeth, a damaged surface, or an erratic pattern, and it has stored this code to alert you that rear wheel speed data is unreliable.

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

Symptoms you may notice

- Anti-lock brake system (ABS) warning light illuminated on the dashboard.
- Traction control or stability control warning light may also come on.
- ABS may deactivate, leaving only conventional braking during hard stops.
- Speedometer may fluctuate or read incorrectly if the rear tone wheel affects the vehicle speed signal.
- Often no symptoms besides the warning light, especially if the damage is minor.
- In some cases, a pulsation or noise from the rear brakes during low-speed stops.

Common causes, most likely first

- 1 Corroded or damaged rear tone wheel teeth due to rust and debris buildup.
- 2 Physical damage to the tone wheel from road debris or improper service procedures.
- 3 Loose or improperly installed rear tone wheel, causing an inconsistent air gap.
- 4 Metal shavings or dirt stuck to the tone wheel, disrupting the magnetic signal.
- 5 Worn rear wheel bearing allowing excessive play that changes the sensor-to-ring gap.
- 6 Faulty rear wheel speed sensor or damaged wiring, though the code specifically points to the tone wheel.
- 7 Rear axle or hub assembly damage that distorts the tone wheel mounting surface.



How to diagnose and fix it

- 1 Inspect the rear tone wheel visually for cracks, missing teeth, or heavy rust after removing the wheel and brake components as needed.
- 2 Clean the tone wheel with a soft brush and brake cleaner to remove metal debris or dirt, then clear the code and test-drive.
- 3 Check the air gap between the sensor and tone wheel with a feeler gauge; compare to specification and adjust if possible.
- 4 Verify the rear wheel bearing condition by checking for play and noise; replace if worn.
- 5 Test the rear wheel speed sensor and its wiring for continuity and signal output with a multimeter or oscilloscope.
- 6 If the tone wheel is damaged or excessively corroded, replace the tone wheel or the hub assembly it is pressed onto.
- 7 After repair, clear the code and perform a road test to confirm the ABS light stays off and the signal is consistent.

Tone wheel faults that mimic sensor failures

- A rear tone wheel code often gets misdiagnosed as a bad wheel speed sensor, but the sensor itself may be fine; always inspect the ring before replacing parts.
- Rust jacking, where rust expands under the tone wheel and lifts it, is a common hidden cause on older vehicles and can create an erratic signal without visible tooth damage.
- Metal debris from brake wear or road grit can stick to the magnetic tone wheel and cause intermittent codes that disappear after cleaning.
- A worn rear wheel bearing can change the air gap enough to set this code even when the tone wheel looks perfect, so always check bearing play.
- This code does not always mean the ABS is fully disabled; some systems retain partial function, but the warning light will stay on until repaired.

Can I keep driving with C003C?

You can usually drive the vehicle with this code, but the anti-lock braking system may be disabled, so avoid hard braking or slippery conditions where ABS would help. Have the fault inspected soon to restore full braking safety.



Tools that help

- OBD-II scan tool with ABS capability
- Jack and jack stands
- Feeler gauge set
- Brake cleaner and soft brush
- Multimeter or oscilloscope
- Wheel chocks

Reading C003C

C Chassis: brakes, steering and suspension.

0 Generic (SAE) code: it means the same thing on every OBD-II vehicle.

0 Brakes, steering and suspension.

3C The exact fault within that area.

Often seen with

C0035 Left Front Wheel Speed Sensor Circuit Range/Performance · **C0036** Left Front Wheel Speed Sensor Circuit Intermittent · **C0037** Right Rear Wheel Speed Sensor Circuit · **C0040** Left Rear Wheel Speed Sensor Circuit · **C0050** Right Rear Wheel Speed Sensor Circuit Malfunction

See it working

Watch the animated explainer [How Drive-by-Wire Works: Electronic Throttle Body](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/c003c/>

