

GENERIC · CHASSIS

C05F0

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

C05F0

Rear Drive Shaft Speed Sensor Circuit Low

C05F0 indicates that the rear drive shaft speed sensor circuit is reporting a voltage or signal that is lower than the manufacturer's expected range for the current operating conditions. The computer, typically a transmission control module or all-wheel-drive controller, has detected a low signal on the sensor's output circuit, which it uses to calculate drive shaft speed for traction control, shift scheduling, or driveline monitoring.

SYSTEM

Chassis

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Brakes, steering and suspension

Symptoms you may notice

- Illumination of the check engine light, traction control light, or all-wheel-drive warning lamp
- Often no symptoms besides the warning light, especially if the fault is intermittent
- Erratic or delayed transmission shifting if the sensor signal is used for shift control
- Traction control or stability control system may become disabled or behave unpredictably
- Speedometer inaccuracy or cruise control disengagement on vehicles that derive vehicle speed from the drive shaft sensor
- Harsh engagement or binding during low-speed turns if the all-wheel-drive system relies on the sensor

Common causes, most likely first

- 1 Damaged or corroded wiring harness or connector at the rear drive shaft speed sensor
- 2 Faulty rear drive shaft speed sensor itself, often due to internal failure or contamination
- 3 Metal debris or damage on the sensor reluctor ring or tone wheel causing a weak signal
- 4 Poor ground connection for the sensor circuit, leading to a low reference voltage
- 5 Water intrusion or physical damage to the sensor from road debris or off-road use
- 6 Failed control module driver circuit, though this is less common than sensor or wiring faults



How to diagnose and fix it

- 1 Inspect the sensor connector and wiring for corrosion, chafing, or loose pins, and repair as needed
- 2 Check the sensor's mounting and air gap, and clean any metal debris from the sensor tip and reluctor ring
- 3 Measure the sensor's resistance and compare it to the manufacturer's specification to rule out an open or shorted sensor
- 4 Backprobe the sensor signal circuit at the control module and verify the voltage or waveform with a multimeter or oscilloscope while rotating the drive shaft
- 5 Check the sensor ground circuit for excessive resistance and repair any faulty ground points
- 6 Replace the rear drive shaft speed sensor if electrical tests confirm it is not producing a proper signal
- 7 Clear the code and perform a road test to verify the repair and ensure the code does not return

What a low signal really means

- A low signal code often results from a poor ground or a damaged connector rather than a failed sensor, so always check the ground circuit before condemning the sensor.
Metal shavings or a worn reluctor ring can cause a weak signal that sets this code intermittently, and the sensor may test fine when the vehicle is stationary.
- On some vehicles, the rear drive shaft speed sensor is shared with the vehicle speed input for the speedometer, so a fault can cause multiple seemingly unrelated symptoms.
- A low voltage code can be set by a sensor that is unplugged or has a broken wire, so a visual inspection of the entire circuit path is essential.
After replacing the sensor, some vehicles require a relearn or calibration procedure for the all-wheel-drive or traction control system to restore normal operation.

Can I keep driving with C05F0?

You can usually drive the vehicle with this code, but avoid aggressive acceleration or heavy loads because the all-wheel-drive or traction control system may not function correctly. If the vehicle exhibits harsh shifting or binding, have it inspected promptly to prevent further driveline damage.

Tools that help

- OBD-II scan tool
- Digital multimeter
- Oscilloscope
- Jack and jack stands or a lift
- Basic hand tools
- Manufacturer's service information for wiring diagrams and specifications



Reading C05F0

- 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.
- F0** 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 · **C05F1** Rear Drive Shaft Speed Sensor Circuit High · **C05F2** Rear Drive Shaft Speed Sensor Circuit Intermittent · **P0500** Vehicle Speed Sensor Malfunction

See it working

Watch the animated explainer [How a Coolant Temperature Sensor Works](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/c05f0/>

