

GENERIC · CHASSIS

C0097

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

C0097

4WD/AWD Rear Differential Unit Actuator B

C0097 indicates that the control module for the four-wheel-drive or all-wheel-drive system has detected a fault with the rear differential actuator circuit designated as 'B'. This actuator is responsible for engaging or modulating the rear differential lock or torque distribution, and the code is set when the module sees an unexpected voltage, current draw, or position feedback from that specific actuator.

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

Symptoms you may notice

- Illumination of the 4WD or AWD warning light on the dashboard
- The vehicle may remain in two-wheel drive and refuse to engage four-wheel drive
- A grinding or clunking noise from the rear differential when the system attempts to engage
- Reduced traction or handling performance, especially on slippery surfaces
- Often no symptoms besides the warning light, with the vehicle driving normally in most conditions
- In some cases, the 4WD system may engage intermittently or default to a fail-safe mode

Common causes, most likely first

- 1 Failed rear differential actuator 'B' due to internal electrical or mechanical wear
- 2 Damaged or corroded wiring harness or connector at the actuator
- 3 Open or short circuit in the actuator control circuit
- 4 Faulty control module software or internal driver failure
- 5 Binding or seized mechanical linkage preventing actuator movement
- 6 Water intrusion or contamination in the actuator connector or housing
- 7 Poor ground connection for the actuator or control module



How to diagnose and fix it

- 1 Perform a visual inspection of the actuator, wiring, and connectors for damage, corrosion, or loose pins
- 2 Check the actuator's electrical connector for proper voltage and ground signals using a multimeter
- 3 Test the actuator's resistance and compare to the manufacturer's specification to identify an open or shorted coil
- 4 Command the actuator through a scan tool to verify mechanical operation and listen for abnormal noises
- 5 Inspect the differential fluid level and condition for signs of contamination or internal damage
- 6 Repair or replace damaged wiring or connectors as needed, then clear the code and retest
- 7 If the actuator fails electrical and mechanical tests, replace the actuator and perform any required calibration or relearn procedure

Actuator B faults often misdiagnosed

- A code for actuator 'B' does not always mean the actuator itself has failed; wiring issues or a faulty control module can set the same code.
The rear differential actuator is often exposed to road debris and moisture, so connector corrosion is a common cause that is frequently overlooked.
- Some vehicles require a relearn or calibration procedure after actuator replacement, and skipping it can cause the code to return immediately.
- A weak battery or charging system issue can cause erratic actuator operation and set this code without any hard failure.
The code may be stored as historical if the fault was intermittent, so always check for pending or history codes before replacing parts.

Can I keep driving with C0097?

You can generally continue driving if the vehicle otherwise feels normal, but avoid relying on four-wheel-drive capability and refrain from off-road or slippery conditions until the fault is repaired. If the vehicle exhibits unusual noises or handling issues, have it inspected promptly.

Tools that help

- OBD-II scan tool with bidirectional control capability
- Digital multimeter
- Wire terminal test kit
- Service information for the specific vehicle
- Basic hand tools



Reading C0097

- 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.
- 97** The exact fault within that area.

Often seen with

C0095 4WD/AWD Rear Differential Unit Actuator A · **C0096** 4WD/AWD Rear Differential Unit Actuator A Data · **C0098** 4WD/AWD Rear Differential Unit Actuator B Data · **C0410** Adaptive Cruise Control Sensor Circuit Malfunction

See it working

Watch the animated explainer [How Hydraulic Brakes Work: Pedal to Caliper](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/c0097/>

