

GENERIC · CHASSIS

C0096

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

C0096

4WD/AWD Rear Differential Unit Actuator A Data

C0096 indicates that the control module for the four-wheel-drive or all-wheel-drive system has detected a data fault with the rear differential actuator, specifically the 'A' circuit or channel. The computer is not seeing the expected feedback signal from the actuator that engages or disengages the rear differential, so it sets this code and typically disables the automatic four-wheel-drive function.

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

Symptoms you may notice

- The four-wheel-drive or all-wheel-drive warning light illuminated on the dashboard.
- The vehicle remains in two-wheel drive and will not engage four-wheel drive automatically or manually.
- A message on the driver information center stating that four-wheel drive is unavailable or service required.
- Often no symptoms besides the warning light, especially if the vehicle is driven mostly on dry pavement.
- Intermittent engagement of the rear differential, causing a clunk or hesitation when the system tries to activate.
- Reduced traction in slippery conditions because the rear axle is not being commanded to lock or engage.

Common causes, most likely first

- 1 A faulty rear differential actuator, such as a stuck motor or damaged internal position sensor.
- 2 Wiring damage between the control module and the actuator, including chafed wires, corroded connectors, or a broken ground.
- 3 A blown fuse or relay that supplies power to the rear differential actuator circuit.
- 4 A failing control module that commands the actuator but cannot read the feedback data correctly.
- 5 Water or debris intrusion into the actuator connector or housing, causing signal corruption.
- 6 A mechanical binding in the rear differential engagement mechanism that prevents the actuator from moving through its full range.



How to diagnose and fix it

- 1 Connect a scan tool and read all codes in the four-wheel-drive control module to confirm C0096 is current and not history.
- 2 Inspect the actuator wiring harness and connector for corrosion, loose pins, or chafed insulation, and repair as needed.
- 3 Check the fuse and relay that feed the rear differential actuator circuit and replace any failed component.
- 4 Command the actuator through the scan tool and observe whether the feedback data changes smoothly through its range.
- 5 Measure resistance and voltage at the actuator connector and compare with the manufacturer's specification to isolate an open or shorted circuit.
- 6 If the actuator fails to respond or the feedback signal is erratic, remove and replace the rear differential actuator, then clear codes and retest.
- 7 If all external circuits and the actuator test good, diagnose the control module for internal faults before replacement.

What the rear differential actuator data really means

- A common misdiagnosis is replacing the actuator when the real problem is a corroded connector or a broken ground wire that corrupts the data signal.
- The code can set intermittently from a low battery or charging system fault, so always check battery voltage and grounds before condemning the actuator.
- Some vehicles use the same actuator for both engagement and limited-slip functions, so a mechanical bind in the differential can mimic an electrical data fault.
- C0096 does not always mean the actuator is dead; it can be stored when the control module loses communication with the actuator for even a few seconds.
- After any repair, the four-wheel-drive system often requires a calibration or relearn procedure with a scan tool before the light will clear.

Can I keep driving with C0096?

You can usually continue driving in two-wheel drive, but avoid slippery conditions where four-wheel drive is needed because traction will be reduced. Do not ignore the warning light for long, as a binding actuator can cause driveline damage if it engages partially.

Tools that help

- OBD-II scan tool with four-wheel-drive module capability
- Digital multimeter
- Wire terminal pick and connector cleaning tools
- Factory service information for circuit specifications
- Basic hand tools for actuator removal



Reading C0096

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

Often seen with

C0095 4WD/4WD Rear Differential Unit Actuator A · **C0097** 4WD/4WD Rear Differential Unit Actuator B · **C0098** 4WD/4WD Rear Differential Unit Actuator B Data · **C00A0** 4WD/4WD Rear Differential Unit Actuator B Position Sensor Co · **C00A1** Driveline Control Module

See it working

Watch the animated explainer [Four-Stroke Engine Notebook: The Otto Cycle Explained](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/c0096/>

