

GENERIC · CHASSIS

# C05E7

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

## C05E7

### 4WD/AWD Clutch B Actuator Control Circuit/Open

C05E7 indicates that the control module for the four-wheel-drive or all-wheel-drive system has detected an open circuit in the actuator control circuit for clutch B. This means the electrical path that commands the clutch actuator is broken, so the module cannot reliably engage or disengage that clutch, and it stores this code while disabling the affected 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 illuminates steadily on the dashboard.
- The vehicle may remain in two-wheel drive and refuse to engage four-wheel drive or lock the rear axle.
- A drivetrain shudder or binding sensation may occur during low-speed turns if the clutch remains partially engaged.
- The four-wheel-drive selector may flash or fail to respond when the driver turns the knob or presses the button.
- Often no symptoms besides the warning light, especially if the failure is intermittent or affects only a redundant circuit path.

#### Common causes, most likely first

- A broken, corroded, or disconnected wire in the clutch B actuator control circuit, commonly at a connector or flex point.
- A failed clutch B actuator solenoid or motor with an open internal winding.
- Corroded or loose pins at the actuator connector or at the control module connector.
- A failed control module driver circuit that no longer supplies or grounds the actuator command.
- Rodent damage or chafing against a chassis component that severs the circuit.
- An open circuit in a shared power or ground feed that serves the actuator, often caused by a blown fuse or bad ground.



## How to diagnose and fix it

- 1 Inspect the clutch B actuator connector and the control module connector for corrosion, loose pins, or pushed-out terminals, and clean or repair as needed.
- 2 Check the actuator circuit for continuity and resistance with a multimeter, flexing the harness while testing to reveal intermittent opens.
- 3 Test the clutch B actuator directly with a known-good power and ground source to confirm whether the actuator itself is open.
- 4 Check the fuse and ground connections that feed the actuator circuit, and verify voltage and ground at the actuator with the key on.
- 5 If the circuit and actuator test good, perform a bidirectional scan-tool test to command the actuator and observe whether the module driver responds.
- 6 Repair or replace the faulty harness section, actuator, or control module as indicated by the test results, then clear the code and verify the repair with a road test.

## What the open circuit really means

- An open circuit code does not always mean the actuator has failed, because a corroded connector pin or a chafed wire often sets this code while the actuator itself is still good.
- Intermittent opens can set C05E7 only when the vehicle flexes over bumps or when temperature changes, so a simple static continuity test may pass and mislead you.
- A weak or failing battery or charging system can cause the control module to log false open-circuit codes, so verify system voltage before condemning the actuator.
- The clutch B actuator often shares a ground or power feed with other drivetrain components, so an open in a shared circuit can set this code along with unrelated-looking codes.
- After repairing the circuit, the control module may require a relearn or calibration procedure before four-wheel drive functions return to normal.

## Can I keep driving with C05E7?

You can usually drive the vehicle in two-wheel drive, but avoid relying on four-wheel drive or all-wheel drive and avoid slippery or off-road conditions where the missing function could leave you stuck. If the drivetrain shudders or binds, have the vehicle checked promptly to prevent clutch or differential damage.

## Tools that help

- OBD-II scan tool with bidirectional control capability
- Digital multimeter
- Wiring diagram for the four-wheel-drive system
- Test light
- Terminal pick and electrical contact cleaner



## Reading C05E7

- 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.
- E7** The exact fault within that area.

## Often seen with

**C05E6** 4WD/AWD Clutch A Position Control Error · **C05E8** 4WD/AWD Clutch B Actuator Control Circuit Performance · **C05E9** 4WD/AWD Clutch B Actuator Control Circuit Low · **C05EA** 4WD/AWD Clutch B Actuator Control Circuit High · **C05EB** 4WD/AWD Clutch B Temperature Too High

## See it working

Watch the animated explainer [Manual Car Driving Simulator: Learn Clutch Control](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/c05e7/>

