

GENERIC · POWERTRAIN

P090B

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P090B

Clutch B Actuator Control Circuit Performance

P090B means the transmission control module (TCM) has detected a performance problem with the control circuit for clutch B, which is the clutch actuator responsible for engaging or disengaging a specific gearset in an automated manual or dual-clutch transmission. The computer monitors the electrical current and response time of the actuator circuit and sets this code when the circuit does not behave as expected during a commanded shift or self-test.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Professional

AREA

Transmission

Symptoms you may notice

- The malfunction indicator lamp (MIL) illuminates on the dashboard, often with no other noticeable symptoms.
- Harsh or delayed gear engagements, especially when shifting into or out of the gear controlled by clutch B.
- The transmission may slip or fail to engage a gear, causing the engine to rev without corresponding vehicle acceleration.
- Intermittent loss of drive or a sudden neutral condition while driving, sometimes accompanied by a warning message.
- The transmission may enter limp-home mode, limiting vehicle speed and available gears.
- Unusual noises such as clunking or whining from the transmission area during shifts.

Common causes, most likely first

- 1 A faulty clutch B actuator solenoid or its internal coil, causing an open or short circuit.
- 2 Damaged, chafed, or corroded wiring in the clutch B actuator control circuit, including poor connector pins.
- 3 A failed transmission control module (TCM) driver circuit for the clutch B actuator.
- 4 Low or contaminated transmission fluid, leading to actuator performance issues and erratic clutch operation.
- 5 A mechanically binding clutch B actuator or shift fork, increasing current draw and causing a performance fault.
- 6 A worn or failing clutch pack for clutch B, causing the actuator to travel beyond its expected range.
- 7 Software calibration issues in the TCM that misjudge actuator response under certain conditions.



How to diagnose and fix it

- 1 Verify the code with a scan tool and check for any related transmission codes or pending faults before clearing anything.
- 2 Inspect the clutch B actuator connector and wiring harness for damage, corrosion, or loose pins, and repair as needed.
- 3 Measure the resistance of the clutch B actuator solenoid and compare it to the manufacturer's specification to rule out an open or shorted coil.
- 4 Check transmission fluid level and condition, and service the fluid if it is low or contaminated according to the maintenance schedule.
- 5 Perform a bidirectional actuator test with a capable scan tool to command clutch B and observe its electrical response and mechanical operation.
- 6 If electrical checks pass, remove and inspect the clutch B actuator for mechanical binding or wear, and replace it if defective.
- 7 After repairs, clear the codes and perform a transmission adaptation or relearn procedure as required by the manufacturer.

What the clutch B actuator test reveals

- A common oversight is assuming the actuator itself is at fault when the real problem is a chafed wire in the harness near the transmission, which only shows up under vibration or heat.
- Low fluid level or a clogged filter can cause the actuator to work harder than expected, setting a performance code without any electrical fault in the actuator circuit.
- Some vehicles require a transmission control module relearn or adaptation reset after any actuator or clutch work, and skipping this step can cause the code to return immediately.
- The code can be set by a momentary glitch during a single harsh shift, so always check for stored freeze-frame data and repeat occurrences before condemning parts.
- A binding shift fork or worn clutch pack can make a healthy actuator draw excessive current, leading to a misdiagnosis of the actuator itself.

Can I keep driving with P090B?

You can usually drive the vehicle to a repair shop, but avoid aggressive acceleration, heavy loads, and long trips because the transmission may enter limp-home mode or lose a gear unexpectedly. If the vehicle slips, refuses to engage a gear, or shows a flashing warning, stop driving and have it towed to prevent further damage.



Tools that help

- OBD-II scan tool with bidirectional control and transmission data capabilities
- Digital multimeter for circuit and resistance testing
- Manufacturer service information for wiring diagrams and actuator specifications
- Transmission fluid level dipstick or inspection tool
- Basic hand tools for connector and actuator access

Reading P090B

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
9	Transmission.
0B	The exact fault within that area.

Often seen with

P090A Clutch B Actuator Control Circuit/Open · **P090C** Clutch B Actuator Control Circuit Low · **P090D** Clutch B Actuator Control Circuit High · **P0910** Gate Select Actuator Circuit/Open

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/p090b/>

