

GENERIC · POWERTRAIN

P0949

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0949

Auto Shift Manual Adaptive Learning Not Complete

P0949 means the transmission control module has not successfully completed its adaptive learning routine for the automated manual gearbox, so it cannot confirm that clutch and shift actuator behaviour matches its stored baseline. The computer detected that the learn procedure was interrupted, never finished, or repeatedly failed its acceptance criteria during a drive cycle.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Professional

AREA

Transmission

Symptoms you may notice

- The transmission may default to a fixed shift strategy, producing harsh or delayed gear changes
- The clutch may engage abruptly or slip noticeably when pulling away from a stop
- The gear indicator may flash or the transmission may refuse to select certain gears
- A limp-home or reduced-power mode may activate, limiting engine torque
- The warning light may be the only sign, with no noticeable change in driveability
- The engine may stall or hesitate during low-speed manoeuvres as the clutch control is uncertain

Common causes, most likely first

- 1 The adaptive learning drive cycle was interrupted before completion, such as by a key-off, stall, or short trip
- 2 A worn clutch friction disc or release bearing has pushed adaptation values outside the learnable range
- 3 A faulty or contaminated clutch actuator, including a sticking release cylinder or worn electric motor
- 4 A shift actuator or gear selector mechanism that cannot reach its reference positions reliably
- 5 Low or degraded transmission fluid, or air in a hydraulically actuated clutch circuit
- 6 A software or calibration issue in the transmission control module that prevents the routine from finishing
- 7 A weak battery or poor ground causing voltage drops that abort the learn procedure mid-cycle



How to diagnose and fix it

- 1 Scan all modules for stored and pending codes, and record freeze-frame data before clearing anything
- 2 Verify battery voltage and charging system health, since low voltage aborts the adaptive learn routine
- 3 Check transmission fluid level and condition, and inspect the clutch actuator circuit for leaks or air
- 4 Perform the manufacturer's adaptive learning or clutch calibration procedure exactly as specified, including the required drive cycle
- 5 Inspect the clutch disc, release bearing, and actuator travel for wear or binding if the learn routine repeatedly fails
- 6 Check shift actuator and selector mechanism operation, including position sensor readings, against the service specification
- 7 Update the transmission control module calibration if a known software revision addresses learn-completion faults

Why the learn routine keeps failing

- This code is frequently set by a technician or owner who cleared codes and then drove the car normally without completing the required adaptive learn drive cycle, so the fault is procedural rather than mechanical.
- A marginal battery that still starts the engine can drop voltage during the learn routine and abort it, which is why voltage checks come before any parts replacement.
- A worn clutch can still drive acceptably while producing adaptation values that fall just outside the learnable window, so the code appears before the driver notices slip.
- The code does not always mean the transmission is failing; on many vehicles it simply means the calibration was never finished after a clutch replacement or module reprogramming.
- Air trapped in a hydraulic clutch release circuit is a commonly missed cause because the pedal may feel normal while actuator travel remains inconsistent during the learn cycle.

Can I keep driving with P0949?

You can usually drive the vehicle to a workshop, but expect harsh shifts or a possible limp-home mode, and avoid heavy acceleration, towing, or long trips until the adaptive learning is completed. If the transmission refuses to select gears or the vehicle stalls repeatedly, stop driving and arrange recovery.

Tools that help

- OBD-II scan tool with transmission module and bidirectional control capability
- Digital multimeter for battery and circuit voltage checks
- Manufacturer-specific diagnostic software for adaptive learn and calibration routines
- Transmission fluid level and condition inspection tools
- Hydraulic pressure gauge or clutch actuator travel gauge where specified



Reading P0949

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

Often seen with

P0700 Transmission Control System Malfunction · **P0805** Clutch Position Sensor Circuit · **P0946** Hydraulic Pump Relay Circuit Range/Performance · **P0947** Hydraulic Pump Relay Circuit Low · **P0948** Hydraulic Pump Relay Circuit High

See it working

Watch the animated explainer [How an Automatic Transmission Works, Gear by Gear](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0949/>

