

GENERIC · POWERTRAIN

P07E2

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P07E2

Incorrect Shift from Gear 7

P07E2 is stored when the transmission control module (TCM) commands a shift from seventh gear and then detects that the actual gear ratio does not match the expected ratio for the new gear within a calibrated time window. The TCM monitors input and output shaft speeds to calculate the true ratio, and an incorrect shift from gear 7 means the transmission either slipped, hung, or engaged the wrong gear during that specific upshift or downshift.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Professional

AREA

Transmission

Symptoms you may notice

- The malfunction indicator lamp (MIL) illuminates, often with no other noticeable symptoms.
- A harsh or delayed shift when leaving seventh gear, either upshifting to eighth or downshifting to sixth.
- The transmission may enter limp mode and stay in a single gear after the fault is detected.
- RPM flare or engine revving unexpectedly during the 7-to-8 or 7-to-6 shift.
- A slight shudder or clunk felt through the driveline at the moment of the shift.
- Reduced fuel economy if the transmission repeatedly fails to complete the shift correctly.

Common causes, most likely first

- 1 Low or degraded automatic transmission fluid (ATF) causing poor hydraulic pressure and shift timing.
- 2 A sticking or contaminated shift solenoid valve responsible for the 7th gear shift sequence.
- 3 Wear or damage in the valve body, such as a scored bore or stuck spool valve, affecting hydraulic control.
- 4 Internal clutch pack wear or a leaking clutch piston seal for the clutch engaged during the 7th gear shift.
- 5 A faulty transmission speed sensor (input or output) sending erratic signals to the TCM.
- 6 Electrical issues such as chafed wiring, corroded connectors, or a poor ground at the transmission.
- 7 A software calibration issue in the TCM that misinterprets normal shift timing under certain conditions.



How to diagnose and fix it

- 1 Check the transmission fluid level and condition; top off or replace fluid if it is low, dark, or burnt-smelling.
- 2 Scan all modules for stored and pending codes, and record freeze-frame data to see the conditions when P07E2 set.
- 3 Inspect the transmission wiring harness and connectors for damage, corrosion, or loose pins, especially at the solenoid pack and speed sensors.
- 4 Test the shift solenoids with a bidirectional scan tool or a multimeter to verify resistance and operation.
- 5 Perform a road test with a scan tool monitoring commanded versus actual gear ratios to confirm the fault and identify whether it is hydraulic or electrical.
- 6 If electrical and fluid checks pass, remove the valve body for inspection and cleaning, and test solenoid function on a bench.
- 7 As a final step, reprogram the TCM with the latest calibration or replace the valve body/solenoid pack if internal wear is confirmed.

What a P07E2 really tells you about the 7th gear shift

- A P07E2 can set from a momentary glitch in the speed sensor signal rather than a mechanical failure, so always check for intermittent electrical faults before condemning the transmission.
- Many technicians replace the entire valve body when only one solenoid or a sticky spool valve is at fault; a focused cleaning or solenoid replacement often resolves the code.
- The code does not always mean the transmission is failing; low fluid from a slow leak can cause incorrect shift ratios without any visible puddle under the car.
- On some vehicles, a weak battery or charging system can cause the TCM to misbehave and set false shift codes, so verify battery voltage and grounds first.
- After any repair, the TCM adaptive learning must be reset and a relearn drive cycle performed, or the code may return even though the physical fault is fixed.

Can I keep driving with P07E2?

You can usually drive the vehicle short distances to a repair shop, but avoid heavy acceleration, towing, or highway speeds that force repeated 7th gear shifts. If the transmission is in limp mode or slipping noticeably, stop driving and have it towed to prevent further internal damage.

Tools that help

- OBD-II scan tool with bidirectional control and live data capability
- Digital multimeter for testing solenoids and wiring
- Transmission fluid level dipstick or scan tool with fluid temperature reading
- Factory service information for solenoid resistance specs and valve body torque sequences
- Transmission jack and basic hand tools for valve body removal if needed



Reading P07E2

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 7** Transmission.
- E2** The exact fault within that area.

Often seen with

P0715 Input/Turbine Speed Sensor Circuit Malfunction · **P0737** TCM Engine Speed Output Circuit · **P07E1** Incorrect Shift from Gear 6 · **P07E3** Incorrect Shift from Gear 8 · **P07E4** Unable to Engage Park

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/p07e2/>

