

FORD · POWERTRAIN

P1731

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1731 · Ford

1-2 Shift Malfunction

P1731 on a Ford vehicle means the powertrain control module (PCM) commanded a 1-2 upshift but the transmission did not achieve the expected gear ratio within the calibrated time window. The PCM compares input shaft speed to output shaft speed during the shift and flags the code when the calculated slip or ratio error exceeds its threshold.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Ford specific	Medium	Professional	Transmission

Symptoms you may notice

- Check engine light or transmission warning light illuminated on the dash
- Harsh, delayed, or flared 1-2 upshift that feels like the transmission slips before engaging second gear
- Transmission may default to limp mode or hold a single gear after the fault is detected
- RPM flare between first and second gear during normal acceleration
- Often no symptoms besides the warning light if the fault is intermittent or only occurs under specific load conditions

Common causes, most likely first

- 1 Low or degraded automatic transmission fluid (ATF) causing poor hydraulic pressure during the 1-2 shift
- 2 Sticking or worn 1-2 shift solenoid or shift solenoid pack
- 3 Worn or burnt intermediate band or 2-4 band friction material
- 4 Valve body wear or a sticking 1-2 shift valve causing delayed or erratic apply pressure
- 5 Faulty transmission range sensor or internal speed sensor providing inaccurate input or output shaft speed data
- 6 Damaged or chafed wiring harness to the transmission solenoid pack or speed sensors
- 7 Internal transmission mechanical wear such as a slipping one-way clutch or worn planetary gearset



How to diagnose and fix it

- 1 Scan all modules for stored and pending codes and record freeze-frame data for P1731
- 2 Check transmission fluid level, condition, and color; top off or service fluid if it is low or burnt
- 3 Inspect the transmission wiring harness and connectors for chafing, corrosion, or loose pins
- 4 Verify input and output shaft speed sensor signals with a scan tool during a road test
- 5 Command the 1-2 shift solenoid with a bidirectional scan tool and listen for solenoid operation
- 6 Perform a transmission line pressure test and compare against Ford specifications for the 1-2 shift
- 7 If electrical and hydraulic checks pass, remove the valve body for inspection or authorize internal transmission repair

What P1731 does not always mean

- A P1731 does not automatically condemn the transmission; a low fluid level or a failing shift solenoid often produces the same ratio error and is far cheaper to correct.
- Ford transmissions in trucks and SUVs can set P1731 from a loose or corroded connector at the solenoid pack, so inspect the harness before removing the pan.
- A worn intermediate band or 2-4 band can cause a 1-2 flare that mimics a solenoid fault, and a line pressure test is the quickest way to separate hydraulic wear from electrical failure.
- Intermittent P1731 codes that only appear under heavy load or during cold starts often trace to a sticking 1-2 shift valve in the valve body rather than a failed solenoid.
- Some Ford models store P1731 alongside ratio codes for other gears when the root cause is a single faulty speed sensor, so always review all stored codes before ordering parts.

Can I keep driving with P1731?

You can drive the vehicle cautiously to a repair shop if the transmission still engages gears and the warning light is steady, but avoid heavy acceleration and towing. If the transmission slips badly, flares repeatedly, or drops into limp mode, stop driving and arrange a tow to prevent internal damage.

Tools that help

- OBD-II scan tool with bidirectional control and transmission data streaming
- Transmission fluid level dipstick or scan-tool fluid temperature check
- Digital multimeter for harness and solenoid resistance checks
- Transmission line pressure gauge
- Factory service information for Ford shift solenoid and line pressure specifications



Reading P1731

- P** Powertrain: engine, transmission and emissions.
- 1** Manufacturer-specific code (Ford): its meaning depends on the make.
- 7** Transmission.
- 31** The exact fault within that area.

Often seen with

P0731 Gear 1 Incorrect Ratio · **P0732** Gear 2 Incorrect Ratio · **P0741** Torque Converter Clutch Circuit Performance or Stuck Off · **P0751** Shift Solenoid 'A' Performance or Stuck Off · **P0756** Shift Solenoid 'B' Performance or Stuck Off

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/ford-p1731/>

