

FORD · POWERTRAIN

P1785

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1785 · Ford

Transmission Mechanical Failure First And Second

P1785 on Ford vehicles indicates that the transmission control module (TCM) has detected a mechanical failure affecting first and second gear operation, typically by comparing engine speed to transmission output speed and finding an excessive slip ratio. The computer sets this code when the calculated gear ratio for first or second gear falls outside the expected range, signaling internal slippage or a hydraulic control problem rather than an electrical sensor fault.

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

Symptoms you may notice

- Illuminated check engine light or transmission warning lamp, often with no other noticeable symptoms at first
- Harsh or delayed engagement when shifting from park to drive or reverse
- Slipping during acceleration in first or second gear, with engine RPM rising faster than vehicle speed
- Transmission may enter limp mode, sticking in a single gear or refusing to downshift
- Shuddering or clunking noise during low-speed shifts between first and second gear
- Poor fuel economy and elevated transmission fluid temperature during prolonged driving

Common causes, most likely first

- 1 Worn or burnt low/reverse and intermediate clutch packs inside the transmission, causing slip in first and second gear
- 2 Valve body wear or sticking shift solenoids preventing proper hydraulic pressure to the first and second gear circuits
- 3 Low or degraded transmission fluid, often from a neglected service interval or a slow leak
- 4 Damaged or leaking internal seals and gaskets that reduce clutch apply pressure
- 5 Faulty transmission range sensor or output shaft speed sensor providing erratic ratio data to the TCM
- 6 Mechanical damage to the one-way clutch or planetary gearset used in first and second gear
- 7 A recent improper transmission rebuild or valve body replacement that left clearances out of specification



How to diagnose and fix it

- 1 Check transmission fluid level and condition; top off or replace fluid and filter if burnt or contaminated
- 2 Scan all modules for stored and pending codes, and record freeze-frame data to confirm when P1785 set
- 3 Perform a road test with a scan tool logging engine RPM, output shaft speed, and commanded gear to verify actual slip in first and second
- 4 Inspect the transmission range sensor and output shaft speed sensor wiring and connectors for corrosion or damage
- 5 Run a pressure test on the transmission to compare line pressure against Ford specifications for first and second gear
- 6 Remove the valve body for inspection and test shift solenoids and check for stuck valves or worn bores
- 7 If internal clutch material or mechanical damage is confirmed, remove and disassemble the transmission for overhaul or replacement

What Ford technicians check before pulling the transmission

- A marginal battery or charging system can cause the TCM to log false ratio errors, so always verify stable voltage before condemning internal transmission parts.
- The code can set from a simple low-fluid condition after a cooler line leak, and a fluid top-off with a filter change may clear the fault without any internal repair.
- Aftermarket or incorrect transmission fluid can cause clutch shudder and slip that mimics a mechanical failure, especially on Ford six-speed units that require a specific fluid specification.
- A sticking shift solenoid may only misbehave when the transmission is cold, so a scan tool log during the first few minutes of driving is more revealing than a warm idle check.
- P1785 does not always mean the transmission is destroyed; a faulty output shaft speed sensor can produce the same ratio error, so confirm sensor signal integrity before authorizing a rebuild.

Can I keep driving with P1785?

Limit driving to a short distance to a repair shop, because continued operation with a slipping first or second gear can overheat the transmission and turn a repairable valve body issue into a full overhaul. Avoid heavy acceleration, towing, or highway speeds until the fault is diagnosed.

Tools that help

- OBD-II scan tool with live transmission data and freeze-frame capability
- Transmission pressure gauge kit
- Digital multimeter for sensor and wiring checks
- Fluid pump and drain pan for transmission service
- Factory service information for Ford transmission specifications



Reading P1785

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

Often seen with

P1784 Shift Up Down Wire Open Short To Ground · **P1783** Transmission Fluid Temperature High Input · **P1783** Transmission Fluid Temperature High Input · **P1783** Transmission Over-Temperature Condition · **P1784** Transmission Mechanical Failure First And Reverse · **P0731** Gear 1 Incorrect Ratio · **P0732** Gear 2 Incorrect Ratio · **P0741** Torque Converter Clutch Circuit 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-p1785/>

