

FORD · POWERTRAIN

P1828

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1828 · Ford

Transmission Transfer Case Counter Clockwise Shift Relay Coil Circuit Failure

P1828 on Ford vehicles means the transmission control module (TCM) commanded the transfer case shift relay to move the shift motor counter-clockwise and did not see the expected electrical response on the relay coil circuit. The TCM monitors the relay coil for opens, shorts, or excessive current draw and sets this code when the circuit fails its self-test.

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

Symptoms you may notice

- The four-wheel-drive (4WD) or transfer case selector may not engage or disengage when commanded
- The 4WD indicator light may flash or stay off when a mode is requested
- The transfer case may remain stuck in its current range, such as 4H or 2H
- A warning message may appear in the instrument cluster on vehicles with a driver information display
- Often no symptoms besides the warning light if the fault is intermittent and the transfer case is already in the commanded range
- The shift motor may run in one direction only, preventing a complete range change

Common causes, most likely first

- Failed transfer case shift relay coil, typically due to an open winding or internal short
- Corroded, loose, or damaged connector terminals at the relay, transfer case shift motor, or TCM
- Chafed or broken wiring in the relay coil circuit between the TCM and the relay, often near the transfer case or under the hood
- Blown fuse or poor ground connection serving the relay coil circuit
- Water intrusion into the relay box or transfer case connector causing corrosion
- Faulty TCM driver circuit for the relay coil, though this is less common than wiring or relay failure



How to diagnose and fix it

- 1 Verify the code with a scan tool and check for related transfer case codes before replacing any parts
- 2 Inspect the transfer case shift relay, its connector, and the fuse serving the relay coil circuit for corrosion or damage
- 3 Test the relay coil resistance and compare it to the manufacturer specification, then test for voltage and ground at the coil terminals while commanding the relay
- 4 Check the wiring harness between the TCM and the relay for continuity, shorts to ground, and shorts to power, paying attention to areas near the transfer case
- 5 Inspect the transfer case shift motor connector and wiring for water intrusion or chafing
- 6 If the circuit tests good, substitute a known-good relay and clear the code to see if it returns
- 7 If the code persists after all circuit checks pass, follow the Ford diagnostic flow for the TCM driver circuit before condemning the TCM

Relay coil circuit checks that save time

- A relay that clicks does not prove the coil circuit is healthy, because the TCM monitors current draw and a partially shorted coil can still actuate the relay while setting P1828.
- Corrosion inside the transfer case shift motor connector often mimics a failed relay coil, so always inspect the motor connector before replacing the relay.
- Intermittent P1828 codes that appear only in cold or wet weather usually point to a chafed wire or water intrusion rather than a failed relay.
- The TCM may set P1828 as a secondary code when the transfer case shift motor is mechanically binding, so check for mechanical resistance in the shift motor before chasing electrical faults.
- Ford trucks that see frequent off-road use can accumulate mud and debris around the relay box, trapping moisture and accelerating terminal corrosion.

Can I keep driving with P1828?

You can usually drive the vehicle in its current range, but avoid relying on four-wheel drive until the fault is repaired because the transfer case may not engage when needed. Do not repeatedly command mode changes, as that can overheat the shift motor or relay.

Tools that help

- OBD-II scan tool with Ford-specific transfer case capabilities
- Digital multimeter
- Test light
- Wiring diagram for the transfer case shift relay circuit
- Relay puller or small pick for terminal inspection



Reading P1828

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

Often seen with

P1829 Pressure Control Solenoid 4 Open Short To Ground · **P1826** Internal Mode Switch Circuit C High · **P1826** Transmission 4-Wheel Drive Low Clutch Relay Circuit To Batte · **P1867** Transmission Transfer Case Contact Plate General Circuit Fai · **P1876** Transmission Transfer Case 2-Wheel Drive Solenoid Circuit Fa

See it working

Watch the animated explainer [Four-Stroke Engine Cutaway: Intake to Exhaust](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/ford-p1828/>

