

FORD · POWERTRAIN

P1815

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1815 · Ford

Transmission 4-Wheel Drive Mode Select Short Circuit To Ground

P1815 on a Ford vehicle means the transmission control module (TCM) or four-wheel-drive control module has detected a short to ground on the mode select switch circuit, which is the wiring that tells the computer which drive mode the driver has chosen. The computer sees the circuit voltage pulled lower than expected, so it cannot trust the mode select input and sets this code.

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

Symptoms you may notice

- The four-wheel-drive or transmission warning light illuminates on the instrument cluster
- The vehicle may stay stuck in a default drive mode and ignore the dash switch
- The four-wheel-drive mode selector buttons may not respond or may work intermittently
- The transmission may shift differently or hold gears longer because the computer is using a default strategy
- Often no symptoms besides the warning light, especially if the short is intermittent
- In some cases the vehicle may not engage four-wheel drive at all

Common causes, most likely first

- 1 Chafed or pinched wiring harness between the mode select switch and the control module, shorting the signal wire to ground
- 2 Moisture or corrosion inside the mode select switch connector causing a ground path
- 3 A faulty mode select switch internally shorted to ground
- 4 A shorted signal wire inside the transmission or transfer case harness where it rubs on a bracket or case edge
- 5 A defective transmission control module or four-wheel-drive control module with an internal ground fault on the input circuit
- 6 Aftermarket accessories or poor previous repairs that tapped into the mode select circuit and created a ground short



How to diagnose and fix it

- 1 Scan all modules for codes and record freeze-frame data to confirm P1815 is current and not a history code from a past event
- 2 Inspect the mode select switch connector and the harness along the transmission and transfer case for chafing, pinching, or corrosion
- 3 Disconnect the mode select switch and measure resistance from the signal wire to ground with the key off to see if the short is in the wiring or the switch
- 4 Check the switch itself by operating it through all positions and comparing resistance or voltage readings against Ford service information
- 5 Repair any damaged wiring by soldering and sealing the repair, then clear the code and verify the mode select input reads correctly on a scan tool
- 6 If the wiring and switch test good, substitute a known-good control module only after confirming power and ground feeds to the module are intact
- 7 Road test through all drive modes and recheck for pending or stored codes before returning the vehicle

What a short to ground really means here

- A short to ground on this circuit does not always mean the switch is bad; a rubbed-through signal wire behind the transfer case is a common culprit that gets missed when only the switch is replaced.
- The code can set intermittently from water intrusion after a car wash or deep puddle, so a clean dry connector that tests fine may still hide a chafed wire that only shorts when the harness flexes.
- Ford trucks and SUVs often share the mode select circuit with the transfer case control module, so a fault in that module or its ground can mimic a switch short and send a technician down the wrong path.
- Do not assume the transmission itself is failing; this code is an electrical input fault, and the harsh shifting or default mode is the computer's reaction to losing the mode select signal.
- Aftermarket wiring for trailer brake controllers or off-road lights tapped into the wrong wire near the transfer case is a frequent cause on older Ford vehicles and is easy to overlook.

Can I keep driving with P1815?

You can usually drive the vehicle, but it may stay in a default mode and four-wheel drive may not engage, so avoid slippery or off-road conditions until the fault is repaired. If the transmission is shifting harshly or the vehicle feels stuck in one mode, keep speeds moderate and get it diagnosed promptly.

Tools that help

- OBD-II scan tool with Ford-specific software or a capable bidirectional scanner
- Digital multimeter with back-probing pins
- Wiring diagram and connector pinout for the mode select circuit
- Trim removal tools and a flashlight for harness inspection
- Soldering iron and heat-shrink tubing for wire repair



Reading P1815

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

Often seen with

P1812 Transmission Over Temperature Condition · **P1816** TFP Valve Position Switch Park Neutral With Drive Ratio · **P1812** Transmission 4-Wheel Drive Mode Select Circuit Failure · **P1867** Transmission Transfer Case Contact Plate General Circuit Fai · **P1876** Transmission Transfer Case 2-Wheel Drive Solenoid Circuit Fa · **U0102** Lost Communication with Transfer Case Control Module

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-p1815/>

