

FORD · POWERTRAIN

P1819

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1819 · Ford

Transmission Neutral Safety Switch Short Circuit To Ground

P1819 on Ford vehicles indicates that the transmission control module (TCM) or powertrain control module (PCM) has detected a short to ground on the neutral safety switch circuit, which is also known as the transmission range sensor. This short prevents the module from reliably determining whether the transmission is in Park or Neutral, which can affect starting and reverse lamp operation.

SYSTEM

Powertrain

CODE TYPE

Ford specific

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Transmission

Symptoms you may notice

- The engine may not crank or start in Park or Neutral because the module cannot confirm the safe starting range.
- The reverse lights may stay on continuously or fail to illuminate when Reverse is selected.
- The gear position indicator on the instrument cluster may be blank, flashing, or show the wrong range.
- The transmission may shift harshly or enter limp mode with delayed engagements.
- Often no symptoms besides the warning light, especially if the short is intermittent or only affects a non-critical part of the circuit.

Common causes, most likely first

- 1 Chafed or pinched wiring harness between the neutral safety switch and the transmission control module, shorting the signal wire to ground.
- 2 Internal failure of the neutral safety switch (transmission range sensor) causing the signal circuit to short to ground.
- 3 Corroded or damaged electrical connector at the switch or at the module, allowing moisture to bridge the signal wire to ground.
- 4 Loose or broken ground strap on the transmission or engine, creating an unintended ground path for the switch signal.
- 5 Aftermarket alarm or remote start wiring improperly spliced into the neutral safety circuit, creating a short to ground.
- 6 Fluid intrusion into the switch connector from a leaking transmission seal or cooler line, leading to a short.



How to diagnose and fix it

- 1 Connect a scan tool and verify P1819 is current; clear the code and test-drive to see if it returns before replacing any parts.
- 2 Visually inspect the neutral safety switch connector and the wiring harness for chafing, corrosion, or fluid intrusion, repairing any damage found.
- 3 Disconnect the switch and measure resistance from the signal wire to ground with a multimeter; a reading near zero ohms confirms a short in the harness or module.
- 4 Check the switch itself by measuring resistance across its terminals in Park, Neutral, and Drive; compare to Ford specifications to rule out an internal short.
- 5 Inspect and clean all ground connections between the transmission, engine, and chassis, tightening any loose fasteners.
- 6 If the harness and switch test good, substitute a known-good neutral safety switch and recheck for the code before condemning the TCM.
- 7 After repair, clear codes and perform a relearn or range calibration if required by the Ford service procedure, then verify proper starting and reverse lamp operation.

Neutral safety switch short to ground pitfalls

- A short to ground in the neutral safety switch circuit can be caused by a failed transmission range sensor even when the sensor still allows the engine to start, so resistance testing at the connector is essential.
- Ford trucks and SUVs often route the neutral safety switch wiring near the exhaust or steering shaft, where heat and vibration can wear through insulation and create an intermittent short that only sets the code on rough roads.
- Aftermarket remote start systems frequently tap into the neutral safety wire, and a poor splice can short the circuit to ground, setting P1819 without any fault in the factory wiring.
- The code does not always mean the switch is bad; a shorted signal wire inside the main harness near the PCM can mimic a failed switch, so always check the harness before replacing parts.
- On some Ford models, a weak or missing ground at the transmission can cause the neutral safety signal to find ground through the switch, setting P1819 and confusing diagnosis.

Can I keep driving with P1819?

You can usually drive the vehicle, but avoid relying on the reverse lights and be aware that the engine may not restart if it stalls or is turned off in gear. Have the fault diagnosed soon, especially if starting becomes unreliable or the transmission shifts abnormally.



Tools that help

- OBD-II scan tool with Ford-specific software
- Digital multimeter
- Wiring diagram for the specific Ford model
- Socket set and trim removal tools
- Electrical contact cleaner and dielectric grease

Reading P1819

P Powertrain: engine, transmission and emissions.

1 Manufacturer-specific code (Ford): its meaning depends on the make.

8 Transmission.

19 The exact fault within that area.

Often seen with

P1818 Pressure Control Solenoid 2 Electrical · **P1820** Pressure Control Solenoid 2 Short To B+ · **P1818** TFP Valve Position Switch Drive Without Drive Ratio · **P1820** Internal Mode Switch Circuit A Low · **P1820** Transmission Transfer Case Clockwise Shift Relay Coil Circui · **P0705** Transmission Range Sensor Circuit Malfunction · **P0706** Transmission Range Sensor Circuit Range/Performance · **P0708** Transmission Range Sensor Circuit High

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-p1819/>

