

GM · POWERTRAIN

**P1819**

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1819 · GM

## Internal Mode Switch No Start Wrong Range

P1819 on GM vehicles means the transmission control module (TCM) is reading an invalid or out-of-range signal from the internal mode switch (IMS) inside the transmission, and it has prevented the engine from starting because it cannot confirm the gear selector is in Park or Neutral. The computer compares the IMS voltage pattern against the expected range for each selector position and flags the code when the pattern falls outside the valid window during a start request.

SYSTEM

Powertrain

CODE TYPE

GM specific

SEVERITY

Medium

FIX DIFFICULTY

Professional

AREA

Transmission

### Symptoms you may notice

- Engine will not crank or start when the gear selector is in Park or Neutral
- No response or delayed response when turning the key or pressing the start button
- Instrument cluster may not display the correct gear position or may show a blank or flashing indicator
- Transmission may default to a limp or fail-safe mode with harsh or delayed shifts
- Often no symptoms besides the warning light and a no-start condition that appears intermittent
- Backup lights may fail to operate or stay on continuously

### Common causes, most likely first

- 1 Internal mode switch (IMS) inside the transmission is worn, contaminated, or has a faulty contact plate
- 2 Damaged or chafed wiring harness between the IMS and the transmission control module
- 3 Corroded or loose electrical connector at the transmission case pass-through or TCM
- 4 Water or debris intrusion into the transmission connector causing signal shorts
- 5 Failed or failing transmission control module (TCM) not processing the IMS signal correctly
- 6 Misadjusted or loose IMS mounting allowing the switch to rotate out of its valid range
- 7 Internal transmission mechanical wear causing the manual valve to not align with the IMS



## How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data for P1819, then clear the code and verify whether it returns immediately or only during a start attempt
- 2 Inspect the transmission range switch connector and harness for corrosion, chafing, or loose pins, and repair any damaged wiring first
- 3 Check the IMS signal voltage at the TCM connector while moving the gear selector through each position and compare to the manufacturer's range chart
- 4 Remove and inspect the internal mode switch for contamination, worn contacts, or a loose mounting, and replace it if it does not produce the correct resistance or voltage pattern
- 5 Verify the transmission fluid level and condition, since low or burnt fluid can affect internal switch operation and should be corrected before replacing electrical parts
- 6 If the IMS and wiring test good, substitute a known-good TCM or perform a relearn and recheck for the code during a start request
- 7 After repair, clear codes, perform the transmission adapt relearn if required, and confirm the engine starts in Park and Neutral with no pending or stored P1819

## Before you replace the internal mode switch

- A loose or corroded connector at the transmission case is a far more common cause of P1819 than a failed internal mode switch, so always load-test the wiring before condemning the switch.
- The code can set intermittently from a marginal IMS signal that only falls out of range when the transmission is hot or when the selector is bumped, so a cold static test may pass and mislead you.
- A weak or failing battery can cause a no-start with P1819 because the TCM may not see a valid Park or Neutral signal during low-voltage cranking, so check battery and grounds before deeper diagnosis.
- After replacing the IMS or TCM, some GM models require a transmission range switch relearn or adapt reset, and skipping that step will leave the code stored even with good parts.
- P1819 does not always mean the transmission is mechanically damaged; it is an electrical signal-range fault, and internal mechanical wear is a much less likely cause than a wiring or switch issue.

## Can I keep driving with P1819?

Do not drive the vehicle if it will not start or if the gear indicator is incorrect, because the transmission may not engage the intended gear and the engine can start in an unexpected range. If the vehicle does start and move, limit driving to a short distance to a repair shop and avoid highway speeds until the fault is repaired.



## Tools that help

- OBD-II scan tool with GM manufacturer-specific software and live data capability
- Digital multimeter with back-probe pins for testing IMS signal voltage
- Transmission range switch socket or appropriate hand tools for IMS removal
- Wiring diagram and manufacturer's IMS resistance or voltage range chart
- Battery load tester and test light for verifying power and ground circuits

## Reading P1819

**P** Powertrain: engine, transmission and emissions.

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

**8** Transmission.

**19** The exact fault within that area.

## Often seen with

**P1815** Pressure Control Solenoid 1 Short To B+ · **P1810** ATF Pressure Manual Valve Position Switch Malfunction · **P1811** Long Shift / Maximum Adaptation Limit Reached · **P1815** Transmission Range Switch Start In Wrong Range · **P1810** TFP Valve Position Switch Circuit Transmission 4-Wheel Drive · **P1815** Transmission 4-Wheel Drive Mode Select Short Circuit To Grou · **P0705** Transmission Range Sensor Circuit Malfunction · **P0706** Transmission Range Sensor Circuit Range/Performance

## See it working

Watch the animated explainer [How the EVAP System Works: Fuel Vapour and Leak Test](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/gm-p1819/>

