

GM · POWERTRAIN

P1823

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1823 · GM

Internal Mode Switch Circuit P Low

P1823 on GM vehicles means the transmission control module (TCM) has detected a low-voltage condition on the internal mode switch (IMS) circuit, which is the sensor array inside the transmission that tells the computer which gear range the driver has selected. The TCM compares the expected voltage pattern for the current shift lever position against what it actually sees on the 'P' signal line, and when that signal stays below the expected threshold, it logs this code and may default to a limp-home strategy.

SYSTEM

Powertrain

CODE TYPE

GM specific

SEVERITY

Medium

FIX DIFFICULTY

Professional

AREA

Transmission

Symptoms you may notice

- Often no symptoms besides the warning light, especially if the fault is intermittent
- The instrument cluster may show the wrong gear range or flash the range indicator
- Harsh or delayed shifts as the TCM substitutes a default shift schedule
- Transmission may stay in a single gear or refuse to engage reverse
- Engine may crank but not start if the TCM cannot confirm park or neutral
- Reduced power or limp-home mode with the check engine light illuminated

Common causes, most likely first

- 1 Faulty internal mode switch (IMS) assembly inside the transmission, worn or contaminated
- 2 Damaged or chafed wiring between the IMS and the TCM, often at the transmission case connector
- 3 Corroded or loose pins at the IMS connector or TCM harness connector
- 4 Transmission fluid contamination or low fluid level affecting IMS signal integrity
- 5 Failed TCM internal driver for the IMS 'P' circuit
- 6 Poor ground connection shared by the IMS and TCM circuits
- 7 Mechanical wear in the manual shift linkage preventing the IMS from reaching the correct detent



How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data for P1823, then clear the code and verify whether it returns immediately or only after a drive cycle
- 2 Check transmission fluid level and condition; top off or service fluid if contaminated, as dirty fluid can skew IMS signals
- 3 Inspect the IMS connector and transmission case pass-through for corrosion, pushed-back pins, or fluid intrusion, and clean or repair as needed
- 4 Backprobe the IMS 'P' signal circuit at the TCM connector and compare voltage in park, reverse, neutral, and drive against the GM service information chart
- 5 Perform a wiggle test on the harness while monitoring IMS signal voltage to expose intermittent opens or shorts
- 6 Remove and inspect the internal mode switch for mechanical wear, debris, or a misaligned detent plate, and replace it if resistance or continuity is out of specification
- 7 If the IMS and wiring test good, substitute a known-good TCM or reprogram the existing module per GM service procedures before condemning it

What the IMS code hides from you

- A P1823 is frequently set by a simple loose ground at the transmission case rather than a failed internal mode switch, so always verify ground integrity before dropping the pan.
- The IMS on many GM transmissions is a sealed switch plate that can be replaced without removing the transmission, but the detent spring and manual valve must be aligned correctly or the new switch will set the same code.
- Intermittent P1823 codes that appear only on cold mornings often trace to fluid that has thickened and is not reaching the IMS passages, not to an electrical fault at all.
- A misadjusted manual shift cable can hold the IMS just off its detent, producing a low 'P' signal that looks exactly like a failed switch on a scan tool.
- Some GM platforms share the IMS signal with the backup lamp circuit, so a shorted backup lamp bulb or socket can pull the 'P' line low and set P1823 without any transmission fault.

Can I keep driving with P1823?

You can usually drive the vehicle to a shop if it still moves through the gears, but avoid highway speeds and heavy loads because the TCM may be in a default shift schedule that can overheat the transmission. If the vehicle will not crank or move out of park, stop driving and have it towed.



Tools that help

- GM-compatible scan tool with transmission data and freeze-frame capability
- Digital multimeter with backprobe pins
- GM service information wiring diagrams for the IMS circuit
- Transmission fluid level gauge and drain pan
- Torque wrench and basic hand tools for IMS replacement
- Jumper wires with fused leads for circuit testing

Reading P1823

P Powertrain: engine, transmission and emissions.

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

8 Transmission.

23 The exact fault within that area.

Often seen with

P1820 Pressure Control Solenoid 2 Short To B+ · **P1810** ATF Pressure Manual Valve Position Switch Malfunction · **P1811** Long Shift / Maximum Adaptation Limit Reached · **P1820** Internal Mode Switch Circuit A Low · **P1810** TFP Valve Position Switch Circuit Transmission 4-Wheel Drive · **P1820** Transmission Transfer Case Clockwise Shift Relay Coil Circui · **P0705** Transmission Range Sensor Circuit Malfunction · **P0706** Transmission Range Sensor Circuit Range/Performance

See it working

Watch the animated explainer [V6 Engine Explained: 60° Bank and Firing Order](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/gm-p1823/>

