

GENERIC · POWERTRAIN

P0851

OBD-II TROUBLE CODE

P0851

Park/Neutral Switch Input Circuit Low

P0851 means the powertrain control module (PCM) has detected a low-voltage condition on the park/neutral switch input circuit, which tells the computer whether the transmission is in park or neutral. The PCM expects a specific voltage on this signal wire, and a reading below the threshold for the current gear state triggers the code.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Intermediate	Transmission

Symptoms you may notice

- Often no symptoms besides the warning light, especially if the vehicle starts and drives normally
- Engine may crank but not start because the PCM does not recognize park or neutral
- Intermittent no-crank condition that may resolve when the shifter is wiggled or moved
- Rough or erratic idle quality if the PCM uses the signal for load compensation
- Transmission may not engage the correct shift schedule or may feel like it starts in the wrong gear
- Remote start or keyless ignition may fail to operate because the park/neutral status is unknown

Common causes, most likely first

- Faulty park/neutral switch (also called transmission range sensor or neutral safety switch) internally shorted to ground
- Damaged or chafed signal wire shorting to ground between the switch and the PCM
- Corroded or loose electrical connector at the switch or PCM
- Water intrusion into the switch or connector causing a low-resistance path to ground
- Misadjusted shift linkage preventing the switch from reaching the correct park/neutral position
- Failed PCM driver or internal ground reference for the switch input circuit



How to diagnose and fix it

- 1 Connect a scan tool and verify P0851 is current, then check the park/neutral switch data parameter while moving the shifter through all positions
- 2 Inspect the switch connector and wiring harness for corrosion, chafing, or signs of water intrusion, and repair as needed
- 3 Measure resistance or voltage on the signal wire at the switch and at the PCM to confirm a short to ground
- 4 Check shift linkage adjustment and confirm the switch aligns with the park and neutral detents
- 5 Backprobe the switch terminals and compare readings to the manufacturer's specification to isolate an internal switch fault
- 6 Replace the park/neutral switch if it fails electrical testing, then clear the code and verify the data parameter reads correctly in each gear
- 7 If the switch and wiring test good, check the PCM ground reference and signal circuit integrity before condemning the PCM

What the park/neutral switch really does

- Many vehicles use the park/neutral signal for more than starting; it also feeds the PCM load compensation and shift strategy, so a low signal can cause drivability complaints that seem unrelated to the switch.
- A common misdiagnosis is replacing the starter or ignition switch when the real fault is a park/neutral switch that never reports park, preventing crank authorization.
- Aftermarket remote start systems and alarm installations frequently tap into the park/neutral wire, and a poor splice there can set P0851 without any factory component being faulty.
- The code can be set by a momentary short during heavy rain or a car wash if water reaches the connector, and it may not return until the next wet event.
- On some transmissions the park/neutral switch is integrated into the transmission range sensor, so a range sensor fault can set P0851 alongside other range codes.

Can I keep driving with P0851?

The vehicle is generally safe to drive if it starts and shifts normally, but avoid relying on remote start or keyless entry until the fault is repaired. If the engine will not crank or the transmission behaves erratically, stop driving and have the circuit diagnosed.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wire piercing probes or backprobe pins
- Service information for connector pinouts and switch specifications
- Basic hand tools for connector and linkage access



Reading P0851

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 8** Transmission.
- 51** The exact fault within that area.

Often seen with

P1899 P/N Position Transaxle Range Switch Circuit Fault · **P1899** Park Neutral Position Switch Stuck In Park or In Gear · **P1899** Park Neutral Position Switch Stuck In Park Or In Gear · **P0705** Transmission Range Sensor Circuit Malfunction · **P0706** Transmission Range Sensor Circuit Range/Performance · **P0850** Park/Neutral Switch Input Circuit · **P0852** Park/Neutral Switch Input Circuit High

See it working

Watch the animated explainer [How an Elevator Works: Traction Lift in X-Ray](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0851/>

