

SUBARU · POWERTRAIN

P1591

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1591 · Subaru

Neutral Position Switch Circuit Low Input

P1591 on Subaru vehicles means the engine control module (ECM) has detected a low input voltage on the neutral position switch circuit, indicating the switch is likely stuck closed or the signal wire is shorted to ground. The ECM expects to see battery voltage when the transmission is in gear and near zero volts only in neutral, so a constant low reading tells the computer the shifter is always in neutral.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Subaru specific	Low	Intermediate	Vehicle speed, idle control and auxiliary inputs

Symptoms you may notice

- The check engine light or malfunction indicator lamp (MIL) is illuminated on the dashboard. Often no symptoms besides the warning light, especially on manual-transmission cars where the driver does not notice a change.
- The engine may idle erratically or stall when coming to a stop because the ECM cannot confirm neutral for idle stabilization.
- Cruise control may fail to engage or may disengage unexpectedly on models that use the neutral signal for clutch or gear logic.
- Hard starting or a no-crank condition on some models if the neutral switch is part of the starter interlock circuit.
- Poor fuel economy or altered throttle response as the ECM applies the wrong idle and deceleration strategies.

Common causes, most likely first

- The neutral position switch itself has failed internally and is stuck in the closed (grounded) position.
- The signal wire between the neutral switch and the ECM is chafed and shorted to ground along the harness.
- Corrosion or water intrusion in the neutral switch connector or the ECM connector pins.
- A misadjusted or loose neutral switch on the transmission housing, causing the plunger to stay depressed.
- A faulty ground connection shared with the switch circuit, pulling the signal voltage low.
- Less commonly, an internal ECM fault holding the input circuit low.



How to diagnose and fix it

- 1 Connect a scan tool and confirm P1591 is active, then read neutral switch status in live data while moving the shifter between neutral and gear.
- 2 Inspect the neutral switch connector and harness for corrosion, water intrusion, or chafing, and repair any damaged pins or wire.
- 3 Disconnect the neutral switch and measure resistance across its terminals in neutral and in gear; replace the switch if it does not switch states.
- 4 With the switch disconnected, check the signal wire for continuity to ground; a short to ground means tracing and repairing the harness.
- 5 Verify the switch adjustment and mounting on the transmission, then reinstall or adjust it to the specified position.
- 6 Clear the code and perform a road test through all gears to confirm the neutral switch status toggles correctly and P1591 does not return.
- 7 If the circuit and switch test good, check the ECM connector and ground points, and only then consider ECM diagnosis or replacement.

Why the neutral switch code misleads

- A stuck-closed neutral switch often causes no driveability complaint at all, so many of these cars arrive with only a warning light and a perfectly running engine.
- Technicians frequently replace the switch without checking the signal wire, and the code returns because the real fault is a chafed harness shorted to ground.
- On some Subaru models the neutral signal feeds the cruise control and idle logic, so a cruise complaint can be the first clue before the code is even read.
- A misadjusted switch that stays depressed in gear will set the same low-input code, so adjustment must be checked before condemning the part.
- The ECM only flags this code after seeing a low signal for a set time, so an intermittent short may not set the code until the harness rubs through on a bumpy road.

Can I keep driving with P1591?

The car is generally safe to drive with P1591 because the fault mainly affects idle and cruise logic rather than engine safety, but avoid long trips until it is diagnosed. If you notice stalling, hard starting, or cruise control failure, have the circuit checked promptly.



Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wire probe and jumper leads
- Service information for neutral switch adjustment specifications
- Basic hand tools and socket set

Reading P1591

P Powertrain: engine, transmission and emissions.

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

5 Vehicle speed, idle control and auxiliary inputs.

91 The exact fault within that area.

Often seen with

P1590 Neutral Position Switch Circuit High Input · **P0705** Transmission Range Sensor Circuit Malfunction · **P0706** Transmission Range Sensor Circuit Range/Performance · **P0851** Park/Neutral Switch Input Circuit Low · **P0852** Park/Neutral Switch Input Circuit High

See it working

Watch the animated explainer [How a Padlock Works: Pin Tumbler Lock in X-Ray](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/subaru-p1591/>

