

GENERIC · POWERTRAIN

P0917

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0917

Gear Shift Position Circuit High

P0917 means the transmission control module (TCM) has detected an abnormally high voltage on the gear shift position circuit, which is the signal that tells the computer which gear the driver has selected. The TCM expects a voltage within a specific range for each position, and a reading above that range triggers this code.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Transmission

Symptoms you may notice

- The check engine light or transmission warning light is illuminated on the dashboard.
- The gear indicator on the instrument cluster may display the wrong gear or flash erratically.
- The transmission may shift harshly, hesitate, or fail to engage the selected gear.
- The vehicle may start in the wrong gear or refuse to start because the TCM cannot confirm park or neutral.
- Often no symptoms besides the warning light, especially if the fault is intermittent.

Common causes, most likely first

- 1 A faulty gear shift position sensor or range switch that sends a high-voltage signal.
- 2 Corroded, damaged, or disconnected wiring in the gear shift position circuit, including a short to voltage.
- 3 A poor ground connection at the sensor or TCM, causing reference voltage to rise.
- 4 A failed transmission control module (TCM) or internal fault in the TCM's signal processing.
- 5 A misadjusted or mechanically binding shift linkage that holds the sensor outside its normal range.
- 6 Water intrusion or contamination in the sensor connector or TCM connector.



How to diagnose and fix it

- 1 Connect a scan tool and record all stored and pending codes, then clear codes and test-drive to see if P0917 returns.
- 2 Inspect the gear shift position sensor and its connector for corrosion, water intrusion, or loose pins, and clean or repair as needed.
- 3 Check the sensor's reference voltage and ground circuits with a digital multimeter, comparing readings to the manufacturer's specification.
- 4 Back-probe the signal wire at the TCM and compare the voltage in each gear position to the expected values to isolate a sensor versus wiring fault.
- 5 Check the shift linkage adjustment and verify the sensor is mechanically aligned with the selected gear.
- 6 If the sensor and wiring test good, substitute a known-good TCM or perform a continuity and short-to-voltage test on the signal circuit.
- 7 After repairs, clear codes, perform a transmission relearn or adaptation procedure if required, and verify the fix with a test drive.

What the gear position sensor hides

- A short to voltage on the signal wire, often from a chafed harness near the shift lever or under the console, is a common cause that a simple sensor swap will not fix.
- The code can set intermittently from a poor ground at the TCM or sensor, so a voltage drop test on the ground circuit is more reliable than a resistance check.
- On many vehicles the gear shift position sensor is integrated into the transmission range switch or the shift lever assembly, so the whole unit may need replacement rather than a separate sensor.
- A misadjusted shift cable can hold the sensor just outside its expected voltage window, setting P0917 without any electrical fault at all.
- P0917 does not always mean the sensor is bad; a failing TCM or a voltage supply issue elsewhere in the vehicle can also drive the signal high.

Can I keep driving with P0917?

You can usually drive the vehicle to a repair shop, but avoid aggressive acceleration and manual gear changes, and do not continue driving if the transmission slips, refuses to engage a gear, or the vehicle will not start because park or neutral cannot be confirmed.

Tools that help

- OBD-II scan tool with live data and transmission module access
- Digital multimeter with back-probe pins
- Vehicle-specific wiring diagram
- Basic hand tools for trim and connector removal
- Jack and jack stands or ramps for under-vehicle access



Reading P0917

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

Often seen with

P0705 Transmission Range Sensor Circuit Malfunction · **P0706** Transmission Range Sensor Circuit Range/Performance · **P0915** Gear Shift Position Circuit Range/Performance · **P0916** Gear Shift Position Circuit Low · **P0918** Gear Shift Position Circuit Intermittent

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/p0917/>

