

GENERIC · POWERTRAIN

P2E07

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2E07

Gear Lever Position Sensor B Circuit High

P2E07 indicates that the powertrain control module has detected an abnormally high voltage on the signal circuit for the gear lever position sensor B, which is one of the inputs used to confirm the selected gear. The computer expects a voltage within a calibrated range for each lever position, and a reading above the upper threshold for the current state sets this code.

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

Symptoms you may notice

- Illumination of the check engine light or service vehicle soon message on the dashboard
- Often no symptoms besides the warning light, especially if the fault is intermittent
- Incorrect or missing gear position indication on the instrument cluster
- Harsh or delayed shifting because the transmission controller cannot confirm the selected range
- Failure to start or a no-crank condition if the controller cannot recognize park or neutral
- Unexpected movement or engagement of a gear when the lever is moved, in severe cases

Common causes, most likely first

- 1 Damaged or chafed wiring in the sensor B signal circuit shorting to a voltage source
- 2 Corroded, loose or pushed-back terminals at the sensor B connector or the transmission control module connector
- 3 Internal failure of the gear lever position sensor B causing an open signal return or skewed output
- 4 Water intrusion into the sensor housing or connector causing conductive contamination
- 5 A faulty transmission control module or powertrain control module pulling the signal circuit high
- 6 Poor ground connection for the sensor or controller, which raises the reference voltage seen on the signal line



How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data for P2E07 before clearing any codes
- 2 Visually inspect the sensor B connector and harness for corrosion, chafing, water intrusion and loose pins
- 3 Back-probe the sensor B signal circuit and compare live voltage across each lever position against the manufacturer's specification
- 4 Check the sensor ground circuit for excessive resistance with a voltage drop test under load
- 5 Disconnect the sensor and the controller and measure the signal wire for a short to voltage or to another circuit
- 6 Replace the gear lever position sensor if the wiring and grounds test good but the signal remains out of range
- 7 Clear codes and perform a relearn or calibration procedure if the manufacturer requires it after sensor replacement

What the voltage reading really tells you

- A high signal voltage often means the sensor return circuit is open rather than the sensor itself failing, so a resistance check of the ground side is more revealing than replacing parts.
- Intermittent P2E07 codes that appear only in wet weather frequently trace to water tracking through a cracked connector seal rather than an electrical failure inside the sensor.
- Some vehicles use a shared five-volt reference for several position sensors, and a short in an unrelated sensor on that reference can pull the gear lever signal high and set this code.
- A transmission controller that has lost its ground can bias the sensor signal high, mimicking a sensor failure and leading to unnecessary replacement.
- After any sensor or wiring repair, the controller may need a lever position relearn before the code will stay cleared, even when the electrical fault is fully resolved.

Can I keep driving with P2E07?

You can usually drive carefully to a repair shop if the vehicle still selects gears and starts normally, but avoid relying on the gear indicator and do not tow or drive aggressively. If the vehicle will not start, will not engage park or neutral reliably, or moves unexpectedly, stop driving and have it towed.

Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Digital multimeter with back-probe pins
- Wiring diagram for the gear lever position sensor circuit
- Contact cleaner and dielectric grease
- Jack and jack stands or ramps for under-vehicle access



Reading P2E07

- P** Powertrain: engine, transmission and emissions.
- 2** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- E** Hybrid propulsion.
- 07** The exact fault within that area.

Often seen with

P0705 Transmission Range Sensor Circuit Malfunction · **P0706** Transmission Range Sensor Circuit Range/Performance · **P0707** Transmission Range Sensor Circuit Low · **P2E06** Gear Lever Position Sensor B Circuit Low · **P2E08** Gear Lever Position Sensor C Circuit

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/p2e07/>

