

GENERIC · POWERTRAIN

P2E06

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2E06

Gear Lever Position Sensor B Circuit Low

P2E06 indicates that the powertrain control module (PCM) has detected a low-voltage condition on the signal circuit for the gear lever position sensor B, which is often the second of two redundant sensors used to confirm the selected gear. The PCM expects a voltage within a specific range for each gear position, and a reading below the calibrated threshold triggers 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 engine soon light
- Often no symptoms besides the warning light, especially if the fault is intermittent
- Incorrect or delayed gear indication on the instrument cluster
- Harsh or erratic shifting because the transmission control module lacks accurate gear position data
- Failure to start if the PCM cannot confirm the transmission is in Park or Neutral
- Transmission may default to a limp-home mode with limited gear selection

Common causes, most likely first

- 1 Damaged or chafed wiring in the sensor B signal circuit, often near the transmission or gear lever
- 2 Corroded or loose electrical connector at the gear lever position sensor B
- 3 Failed gear lever position sensor B, causing a short to ground or an open circuit
- 4 Poor ground connection for the sensor or the PCM, leading to a low reference voltage
- 5 Internal fault in the PCM or transmission control module affecting the signal circuit
- 6 Aftermarket accessories or poor previous repairs that tapped into the sensor wiring



How to diagnose and fix it

- 1 Scan all modules for stored and pending codes, and record freeze-frame data to understand when the fault occurs
- 2 Inspect the sensor B connector and wiring for corrosion, chafing, or loose pins, and repair as needed
- 3 Check the sensor B signal voltage with a multimeter while moving the gear lever through all positions, comparing to specifications
- 4 Verify the sensor ground circuit and reference voltage at the sensor connector to rule out a bad ground or supply
- 5 If the signal circuit is intact but the voltage remains low, replace the gear lever position sensor B
- 6 Clear codes and perform a relearn or calibration procedure for the transmission range sensor if required by the manufacturer
- 7 If the code persists after sensor replacement, diagnose the PCM or transmission control module for internal faults

What the Low Signal Really Means

- A low signal code often results from a short to ground in the wiring harness rather than a failed sensor, so always check the harness before replacing parts.
- The sensor B circuit is frequently the redundant channel, meaning the vehicle may drive almost normally until the primary sensor also fails, masking the urgency.
- Corrosion inside the connector can create a low-voltage condition that only appears in damp weather, so intermittent codes deserve a thorough connector inspection.
- A weak battery or charging system can cause reference voltage to drop below thresholds, setting this code without any sensor fault at all.
- Aftermarket remote starters or alarm systems that tap into the gear lever wiring are a common overlooked cause of this code.

Can I keep driving with P2E06?

If the vehicle drives and shifts normally, you can drive cautiously to a repair shop, but avoid aggressive acceleration or towing. If the transmission is in limp mode or the engine will not start, stop driving and have the vehicle towed to prevent further damage.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wiring diagram for the specific vehicle
- Socket set and trim removal tools
- Contact cleaner and dielectric grease



Reading P2E06

- P** Powertrain: engine, transmission and emissions.
- 2** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- E** Hybrid propulsion.
- 06** 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 · **P2E05** Gear Lever Position Sensor B Range/Performance · **P2E07** Gear Lever Position Sensor B Circuit High

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/p2e06/>

