

GENERIC · POWERTRAIN

P2E0F

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2E0F

Gear Lever Position Sensor D Circuit High

P2E0F means the powertrain control module (PCM) has detected an abnormally high voltage on the signal circuit for the gear lever position sensor, often labeled sensor D. The PCM expects a voltage within a calibrated range as the lever moves through its positions, and a reading above the upper limit for a set time triggers this code.

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

Symptoms you may notice

- The check engine light or service transmission message illuminates on the dashboard.
- The gear indicator on the instrument cluster may display the wrong position or flash erratically.
- The transmission may shift harshly, hesitate to engage a gear, or stay in a single gear (limp mode).
- The engine may crank but not start if the PCM cannot confirm the lever is in Park or Neutral.
- Often no symptoms besides the warning light, especially if the fault is intermittent.
- Remote start or keyless entry features may stop working because the PCM cannot verify the gear position.

Common causes, most likely first

- A faulty gear lever position sensor (sensor D) internally shorted to voltage or failing to provide a valid signal.
- Damaged or chafed wiring in the sensor circuit, particularly where the harness flexes near the gear lever or passes through the floor.
- Corroded or loose electrical connectors at the sensor or at the PCM, causing high resistance or intermittent opens.
- A short to voltage on the signal circuit from another wire in the same harness, often due to a pinched loom.
- A malfunctioning transmission control module (TCM) or PCM, though this is less common and should be confirmed last.
- Water intrusion into the sensor or connector, leading to corrosion and abnormal voltage readings.
- Aftermarket accessories or poor previous repairs that tapped into the sensor wiring and altered its voltage.



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 P2E0F returns; note any freeze-frame data.
- 2 Inspect the gear lever position sensor and its connector for corrosion, loose pins, or signs of water intrusion, and clean or repair as needed.
- 3 Backprobe the sensor signal circuit at the sensor connector with a digital multimeter and compare the voltage to the manufacturer's specification while moving the lever through all positions.
- 4 Check the sensor's power and ground circuits for proper voltage and continuity, repairing any open or high-resistance wiring.
- 5 Perform a wiggle test on the harness while monitoring sensor voltage to reveal intermittent shorts or opens, and repair any damaged wiring.
- 6 If the sensor signal remains out of range with good wiring and connections, replace the gear lever position sensor and relearn its calibration if required.
- 7 As a final step, verify the PCM/TCM is not misinterpreting a valid signal by checking for software updates or testing with a known-good module.

Before you replace the gear position sensor

- A high voltage reading on the signal circuit often comes from a short to voltage elsewhere in the harness, not from a failed sensor, so inspect the loom for chafing before condemning the part.
- Intermittent P2E0F codes frequently trace to a loose ground connection at the transmission or chassis, which raises reference voltage and fools the PCM.
- Aftermarket remote starters or alarm systems that tap into the gear position wiring are a common cause of this code on otherwise healthy vehicles.
- The code can set even when the sensor is functioning correctly if the PCM's calibration is corrupted or if battery voltage was low during a relearn procedure.
- Do not overlook the possibility that a different sensor in the same circuit (such as sensor C or a range switch) is shorted and pulling the shared reference voltage high.

Can I keep driving with P2E0F?

You can usually drive the vehicle to a repair shop, but avoid sustained highway speeds and be prepared for harsh shifting or limp mode; if the engine will not start or the transmission refuses to engage gears, stop driving and have it towed.



Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Digital multimeter with backprobe pins
- Wiring diagram for the gear lever position sensor circuit
- Basic hand tools for trim and connector removal
- Contact cleaner and dielectric grease

Reading P2E0F

P	Powertrain: engine, transmission and emissions.
2	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
E	Hybrid propulsion.
0F	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 · **P2E0E** Gear Lever Position Sensor D Circuit Low · **P2E10** Gear Selection Actuator Position Sensor 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/p2e0f/>

