

GENERIC · POWERTRAIN

P0824

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0824

Gear Lever Y Position Circuit Intermittent

P0824 indicates that the transmission control module (TCM) has detected an intermittent fault in the electrical circuit for the gear lever Y position sensor, which is part of the shift-by-wire or automatic transmission range sensor system. The TCM monitors the Y-position signal for expected voltage or resistance changes as the lever moves, and it sets this code when the signal drops out or becomes erratic for a brief period.

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

Symptoms you may notice

- Illumination of the check engine light or transmission warning light, often with no other noticeable symptoms.
- The gear indicator on the instrument cluster may flicker or show an incorrect range momentarily.
- Intermittent failure to start because the TCM cannot confirm the lever is in Park or Neutral.
- Harsh or delayed shifts as the TCM substitutes a default shift strategy when the signal is lost.
- The transmission may unexpectedly enter limp mode or neutral while driving, though this is less common.
- A stored code may be the only evidence if the intermittent fault does not recur during a road test.

Common causes, most likely first

- 1 A loose, corroded, or damaged electrical connector at the gear lever position sensor or transmission range sensor.
- 2 Chafed or broken wires in the harness between the sensor and the TCM, often near moving components or heat sources.
- 3 Internal wear or contamination in the gear lever position sensor causing intermittent contact.
- 4 Poor ground connection for the sensor or TCM, leading to voltage fluctuations.
- 5 A failing TCM or a software glitch that misinterprets a valid signal, though this is less likely.
- 6 Aftermarket accessories or poor previous repairs that have disturbed the sensor wiring.



How to diagnose and fix it

- 1 Inspect the gear lever position sensor connector for corrosion, loose pins, or pushed-out terminals and clean or repair as needed.
- 2 Check the sensor wiring harness for chafing, breaks, or heat damage along its routing, especially near the transmission and under the console.
- 3 Measure the sensor signal voltage with a multimeter while wiggling the harness and moving the gear lever to reproduce the intermittent fault.
- 4 Verify the sensor ground circuit has less than 0.1 volts drop under load to rule out a bad ground.
- 5 If the sensor is accessible, remove and inspect it for wear or contamination, and replace it if the signal is erratic when tested.
- 6 Clear the code and perform a road test with a scan tool recording live data to confirm the Y-position signal remains stable.
- 7 If the fault persists after sensor and wiring repairs, check for TCM software updates or consult a specialist for TCM diagnostics.

Intermittent faults hide in connectors and harnesses

- Many technicians replace the gear lever position sensor only to find the real fault is a chafed wire in the harness near the transmission mount or a corroded connector pin.
- P0824 can be set by a momentary voltage drop caused by a weak battery or poor ground, so always check the charging system and grounds before condemning the sensor.
- The Y-position signal is often one of several range sensor outputs; a fault in a shared power or ground circuit can set multiple position codes, so look for related codes.
- In some vehicles, the gear lever position sensor is integrated into the transmission range sensor or shift actuator, making replacement more involved and expensive than a simple sensor swap.
- Intermittent codes that do not recur during a test drive may require a flight recorder or oscilloscope to capture the glitch while driving.

Can I keep driving with P0824?

You can usually continue driving if the only symptom is a warning light, but avoid aggressive acceleration or towing until the fault is repaired. If the transmission enters limp mode or refuses to engage gears, stop driving and have the vehicle towed to avoid transmission damage.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wire piercing probes or back-probe kit
- Electrical contact cleaner
- Oscilloscope (optional for capturing intermittent signals)



Reading P0824

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

Often seen with

P0820 Gear Lever X-Y Position Sensor Circuit · **P0821** Gear Lever X Position Circuit · **P0822** Gear Lever Y Position Circuit · **P0823** Gear Lever X Position Circuit Intermittent · **P0825** Gear Lever Push-Pull Switch (Shift Anticipate)

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/p0824/>

