

GENERIC · POWERTRAIN

P082F

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P082F

Gear Lever Y Position Sensor 1 Circuit High

P082F indicates that the powertrain control module (PCM) has detected an abnormally high voltage on the signal circuit of the gear lever Y position sensor 1, which is part of the shift-by-wire system on many modern vehicles. The PCM expects a voltage within a specific range that corresponds to the lever's position, and a high reading typically means the circuit is open, shorted to power, or the sensor has failed.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

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 flash or show an incorrect position
- Difficulty shifting between gears or the vehicle may not engage the selected gear
- The transmission may default to a limp mode, limiting engine power or speed
- In some cases, the vehicle may not start or may stall when attempting to select a gear

Common causes, most likely first

- 1 A faulty gear lever Y position sensor 1, internally shorted or damaged
- 2 An open or high-resistance connection in the sensor's signal circuit, such as a broken wire or corroded connector
- 3 A short to voltage on the signal circuit, often caused by chafed wiring harness insulation
- 4 Poor electrical ground for the sensor or the PCM, leading to reference voltage errors
- 5 A malfunctioning PCM, though this is rare and should be considered only after other causes are ruled out
- 6 Contamination or mechanical damage to the gear lever mechanism affecting sensor alignment



How to diagnose and fix it

- 1 Use an OBD-II scanner to retrieve the code and check for any related transmission codes, then clear the code and test-drive to see if it returns
- 2 Visually inspect the sensor and its wiring harness for obvious damage, corrosion, or loose connections, and repair as needed
- 3 Measure the sensor's reference voltage and signal voltage with a digital multimeter (DMM) at the sensor connector, comparing to manufacturer specifications
- 4 Check the continuity and resistance of the signal circuit from the sensor to the PCM to identify opens or shorts
- 5 Test the sensor's ground circuit for excessive resistance and verify the PCM's ground connections are clean and tight
- 6 If the circuit tests good, replace the gear lever Y position sensor 1 with a quality part and perform any required calibration or relearn procedure
- 7 After repairs, clear the codes and verify the fix by test-driving the vehicle through all gear ranges

Don't overlook the shift lever mechanism

- A common oversight is assuming the sensor itself is at fault when the real problem is a worn shift lever mechanism that misaligns the sensor, causing high voltage readings.
- The code can be set intermittently by a loose connector that only loses contact when the lever is moved to a specific position, so wiggle-testing the harness while monitoring live data is crucial.
- On some vehicles, a weak or failing battery can cause voltage spikes that trigger this code, so always check the charging system before condemning the sensor.
- After replacing the sensor, many vehicles require a relearn procedure for the shift-by-wire system, and skipping this step will cause the code to return immediately.
- A shorted sensor can sometimes pull down the reference voltage for other sensors on the same circuit, leading to multiple codes that may distract from the root cause.

Can I keep driving with P082F?

If the vehicle drives normally and the only symptom is the warning light, you can drive cautiously to a repair shop, but avoid aggressive acceleration or heavy loads. If the transmission is in limp mode or shifting is erratic, limit driving to a short distance at low speed and seek professional diagnosis promptly.

Tools that help

- OBD-II scanner with live data capability
- Digital multimeter (DMM)
- Wire probe set or backprobe pins
- Service manual or wiring diagram for the specific vehicle
- Basic hand tools for trim and connector removal



Reading P082F

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
8	Transmission.
2F	The exact fault within that area.

Often seen with

P082E Gear Lever Y Position Sensor 1 Circuit Low · **P0830** Clutch Pedal Switch 'A' Circuit · **P0831** Clutch Pedal Switch 'A' Circuit Low · **P0832** Clutch Pedal Switch 'A' Circuit High · **P0833** Clutch Pedal Switch 'B' 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/p082f/>

