

GENERIC · POWERTRAIN

P0905

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0905

Gate Select Position Circuit Range/Performance

P0905 indicates that the transmission control module (TCM) has detected an out-of-range or performance fault in the gate select position circuit, which is responsible for confirming the physical position of the gear selector gate. The computer compares the expected gate position signal with the actual input and sets the code when the voltage or signal pattern falls outside the valid range for a calibrated time.

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 no symptoms besides the warning light, especially if the fault is intermittent
- Harsh or delayed gear engagements when moving the selector
- Transmission stuck in a default gear or limp mode
- Inability to select certain gears or ranges
- Unusual noises or resistance when moving the shift lever

Common causes, most likely first

- 1 Faulty gate select position sensor or switch
- 2 Damaged, corroded, or loose wiring or connector at the sensor or TCM
- 3 Mechanical binding or misalignment in the shift gate mechanism
- 4 Contamination or debris obstructing the gate select mechanism
- 5 Failed transmission control module (TCM) or internal circuit fault
- 6 Poor electrical ground connection for the sensor or TCM



How to diagnose and fix it

- 1 Perform a visual inspection of the gate select sensor, wiring, and connectors for damage or corrosion
- 2 Check the sensor's electrical connector for tightness and clean any corrosion
- 3 Use a scan tool to monitor live data for the gate select position signal while moving the shifter through all ranges
- 4 Test the sensor's resistance or voltage output according to the manufacturer's specification
- 5 Inspect the shift gate mechanism for mechanical binding or misalignment and lubricate or adjust as needed
- 6 Check for continuity and voltage drops in the circuit wiring between the sensor and TCM
- 7 If all else checks out, follow the manufacturer's diagnostic flow chart for TCM testing or replacement

Gate select circuit faults often misdiagnosed

- A common mistake is replacing the transmission control module when the real problem is a chafed wire hidden inside the loom near the shifter.
- The gate select position sensor is sometimes integrated into the shift lever assembly and cannot be serviced separately, leading to unnecessary replacement of the entire assembly.
- Intermittent faults often occur only under certain temperature or vibration conditions, so a wiggle test of the harness while monitoring live data is essential.
- This code can be set by a low battery or charging system issue that causes voltage spikes, so always verify battery and charging system health first.
- After repairs, the TCM may require a relearn procedure for the gate select positions, which is often overlooked and leads to repeat codes.

Can I keep driving with P0905?

If the vehicle drives normally and the warning light is the only symptom, you can drive cautiously to a repair shop, but avoid aggressive acceleration or heavy towing. If the transmission is in limp mode or gears are difficult to select, stop driving and seek professional assistance to prevent further damage.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wiring diagram for the specific vehicle
- Basic hand tools (screwdrivers, socket set)
- Contact cleaner and dielectric grease



Reading P0905

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

Often seen with

P0906 Gate Select Position Circuit Low · **P0907** Gate Select Position Circuit High · **P0908** Gate Select Position Circuit Intermittent · **P0910** Gate Select Actuator Circuit/Open · **P0911** Gate Select Actuator Circuit Range/Performance

See it working

Watch the animated explainer [How ABS Works: Anti-Lock Brakes in X-Ray](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0905/>

