

GENERIC · POWERTRAIN

P0925

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

## P0925

# Gear Shift Reverse Actuator Circuit Range/Performance

P0925 indicates that the powertrain control module (PCM) has detected an abnormal range or performance in the electrical circuit for the reverse gear shift actuator, which is responsible for engaging reverse gear in vehicles with electronically controlled transmissions. The PCM monitors the actuator's command signal and feedback, and when the actual response deviates from the expected range or timing, it stores this code and illuminates the warning light.

| SYSTEM     | CODE TYPE           | SEVERITY | FIX DIFFICULTY | AREA         |
|------------|---------------------|----------|----------------|--------------|
| Powertrain | Generic (all makes) | Medium   | Professional   | Transmission |

## Symptoms you may notice

- The check engine light or transmission warning light is illuminated on the dashboard.
- The transmission may fail to engage reverse gear when selected, or engagement may be delayed or harsh.
- The vehicle may default to a limp-home mode, limiting speed and gear selection.
- In some cases, the driver may notice no symptoms besides the warning light, especially if the fault is intermittent.
- A stored code may be accompanied by other transmission-related codes, such as shift solenoid or range sensor faults.
- The reverse gear may engage unexpectedly or disengage while driving, though this is less common.

## Common causes, most likely first

- A faulty reverse gear shift actuator, such as a worn solenoid or stuck mechanical component.
- Damaged or corroded wiring and connectors in the actuator circuit, leading to high resistance or intermittent opens.
- A poor ground connection for the actuator or transmission control module, causing voltage drops.
- A failing transmission control module (TCM) or PCM, though this is less likely and should be diagnosed last.
- Internal transmission mechanical issues, such as a stuck reverse shift fork or low fluid pressure, affecting actuator performance.
- Electrical interference or a short to voltage or ground in the actuator circuit.
- Aftermarket modifications or improper previous repairs that disturb the actuator circuit.



## How to diagnose and fix it

- 1 Verify the code with a scan tool and check for any related transmission codes to understand the full context.
- 2 Inspect the reverse gear shift actuator circuit visually for damaged wiring, loose connectors, or corrosion, and repair as needed.
- 3 Test the actuator's resistance and compare it to the manufacturer's specification; replace if out of range.
- 4 Check the ground connections for the actuator and TCM/PCM, cleaning and tightening as necessary.
- 5 Perform a voltage drop test on the actuator circuit under load to identify excessive resistance.
- 6 If electrical checks pass, test the actuator mechanically by applying power directly and observing operation; replace if it fails to actuate.
- 7 As a last step, consult factory diagnostic procedures for the specific vehicle to test the TCM/PCM or internal transmission components.

## Reverse Actuator Circuit Checks You Might Overlook

- A common oversight is assuming the actuator itself is faulty when the real problem is a corroded connector or chafed wire hidden inside a loom, so always perform a thorough visual and electrical inspection before replacing parts.
- The code can be set by a mechanical binding in the reverse shift mechanism that increases actuator current draw, which is often misdiagnosed as an electrical fault.
- In some transmissions, the reverse actuator shares a power or ground circuit with other solenoids, so a fault in a seemingly unrelated circuit can trigger P0925.
- Intermittent faults may only appear under certain conditions, such as cold temperatures or after the vehicle has been driven for a while, so a wiggle test of the harness while monitoring live data can be revealing.
- Replacing the actuator without checking for a software update or performing a relearn procedure may result in the code returning, as some systems require calibration after replacement.

## Can I keep driving with P0925?

If the vehicle drives normally and reverse gear engages without issue, you can drive cautiously to a repair shop, but avoid situations that require heavy load or frequent reverse gear use. If reverse gear is inoperative or the transmission is in limp mode, stop driving and seek professional assistance to prevent further damage.

## Tools that help

- OBD-II scan tool with transmission diagnostic capabilities
- Digital multimeter for circuit testing
- Factory service information for circuit diagrams and specifications
- Wire repair kit and electrical contact cleaner
- Jack and jack stands or a lift for under-vehicle access



## Reading P0925

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

## Often seen with

**P0705** Transmission Range Sensor Circuit Malfunction · **P0706** Transmission Range Sensor Circuit Range/Performance · **P0750** Shift Solenoid 'A' · **P0924** Gear Shift Reverse Actuator Circuit/Open · **P0926** Gear Shift Reverse Actuator Circuit Low

## 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/p0925/>

