

GENERIC · POWERTRAIN

P0924

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0924

Gear Shift Reverse Actuator Circuit/Open

P0924 indicates that the transmission control module (TCM) has detected an open circuit or excessive resistance in the electrical path for the reverse gear shift actuator, which is the solenoid or motor that engages reverse gear. The computer monitors the actuator circuit and sets this code when the expected current flow or voltage feedback is missing, indicating a break in the wiring or a failed component.

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

Symptoms you may notice

- The check engine light or transmission warning light is illuminated on the dashboard.
- The vehicle may fail to engage reverse gear when the shifter is moved to the R position.
- A harsh engagement or delayed engagement when selecting reverse may be noticed.
- The transmission may default to a limp mode, limiting gear selection to one or two forward gears.
- Often no symptoms besides the warning light, especially if the fault is intermittent.

Common causes, most likely first

- A broken, corroded, or disconnected wire in the reverse actuator circuit, particularly at connectors or where the harness flexes.
- A failed reverse shift actuator solenoid or motor, causing an open circuit internally.
- A poor electrical connection at the transmission control module (TCM) or at the actuator connector due to corrosion or loose pins.
- A blown fuse or relay that supplies power to the reverse actuator circuit.
- A short to ground or short to voltage in the wiring that mimics an open circuit under certain conditions.
- A faulty TCM that incorrectly detects an open circuit despite good wiring and actuator.
- Physical damage to the transmission harness from road debris, heat, or chafing.



How to diagnose and fix it

- 1 Verify the code with a scan tool and check for any related transmission codes that might indicate a different root cause.
- 2 Inspect the reverse actuator circuit wiring and connectors for visible damage, corrosion, or looseness; repair as needed.
- 3 Check the fuse and relay that supply power to the reverse actuator circuit and replace any failed components.
- 4 Measure resistance across the reverse actuator solenoid or motor and compare to the manufacturer's specification; replace if out of range.
- 5 Perform a voltage drop test on the ground and power circuits to the actuator to identify excessive resistance.
- 6 If wiring and actuator test good, check the TCM connector pins for tightness and corrosion; repair or replace the TCM if necessary.
- 7 Clear the code and perform a road test to confirm the repair, ensuring reverse engages properly and the code does not return.

Before you replace the reverse actuator

- A common oversight is assuming the actuator itself is faulty when the real problem is a chafed wire in the harness near the transmission mount or a corroded connector pin.
- Intermittent open circuits can be caused by a wire that breaks only when the engine moves under load, so a wiggle test of the harness while monitoring live data is essential.
- Some vehicles use a single actuator for multiple gears, and a fault in that shared circuit may set P0924 along with other gear codes, leading to misdiagnosis.
- The TCM may set P0924 if battery voltage is low during cranking, so always check the battery and charging system before condemning the actuator.
- Aftermarket alarm or remote start installations often tap into the reverse circuit and can introduce resistance that triggers this code.

Can I keep driving with P0924?

If reverse gear still engages and the vehicle drives normally in forward gears, you can drive cautiously to a repair shop, but avoid situations that require reverse, such as parallel parking. If reverse is completely inoperable or the transmission is in limp mode, do not drive the vehicle and have it towed to avoid further damage.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wiring diagram for the specific vehicle
- Test light
- Socket set and trim removal tools



Reading P0924

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 9** Transmission.
- 24** 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' · **P0923** Gear Shift Forward Actuator Circuit High · **P0925** Gear Shift Reverse Actuator Circuit Range/Performance

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/p0924/>

