

GENERIC · POWERTRAIN

P0812

OBD-II TROUBLE CODE

P0812

Reverse Input Circuit

P0812 indicates that the powertrain control module (PCM) has detected an implausible signal or an open/high voltage condition in the reverse input circuit, which is used to inform the PCM when the transmission is in reverse gear. The PCM compares this input against other gear range signals and sets the code when the expected voltage or state does not match the commanded or actual gear.

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

Symptoms you may notice

- The check engine light (malfunction indicator lamp) illuminates on the dashboard.
- Often no symptoms besides the warning light, especially if the fault is intermittent.
- Reverse lights may fail to illuminate when the shifter is placed in reverse.
- The transmission may not engage reverse properly or may hesitate when reverse is selected.
- The engine may idle poorly or stall when reverse is engaged due to incorrect load compensation.
- Some vehicles may display a message such as 'Transmission Range Not In Gear' or a gear indicator error.

Common causes, most likely first

- Faulty reverse light switch or transmission range sensor (TRS) on the transmission.
- Damaged, corroded, or disconnected wiring or connector at the reverse input circuit.
- Open or shorted circuit in the reverse input signal wire between the switch and the PCM.
- Failed park/neutral position (PNP) switch or inhibitor switch that incorporates the reverse signal.
- Internal transmission mechanical issue causing the reverse switch not to be actuated.
- PCM software glitch or internal fault in the reverse input processing circuit.
- Aftermarket alarm or remote start system improperly tapped into the reverse circuit.



How to diagnose and fix it

- 1 Verify the condition by clearing the code and test-driving the vehicle in reverse to see if it returns.
- 2 Inspect the reverse light switch and its connector for physical damage, corrosion, or loose pins.
- 3 Check the reverse light bulbs and fuses; a blown fuse can mimic a circuit fault.
- 4 Use a digital multimeter to measure voltage and continuity on the reverse input circuit at the switch and at the PCM connector.
- 5 Test the switch operation with a scan tool by monitoring the reverse input parameter while shifting between park, neutral, and reverse.
- 6 If the switch tests good, perform a wiggle test on the wiring harness while monitoring the signal to detect intermittent opens.
- 7 Replace the faulty reverse light switch or range sensor, then clear codes and verify the repair with a test drive.

Reverse Circuit Faults That Fool Technicians

- A blown fuse for the reverse lights is a common cause that is often overlooked because the code points to a circuit fault rather than a power supply issue.
- Aftermarket accessories such as backup cameras or trailer wiring tapped into the reverse light circuit can introduce resistance or shorts that set P0812 without any switch failure.
- On some vehicles, the reverse input is derived from a transmission range sensor that also handles other gears, so a faulty sensor may set multiple range codes along with P0812.
- The PCM may set P0812 even when the reverse lights work perfectly if the signal voltage is slightly out of specification, so always verify with a multimeter rather than relying on visual checks.
- Intermittent P0812 codes often stem from a chafed wire in the harness near the transmission, especially where it rubs against the body or engine mount.

Can I keep driving with P0812?

You can usually continue driving if the only symptom is the warning light, but avoid relying on reverse gear for safety-critical maneuvers until the fault is repaired. If reverse lights are inoperative or the transmission behaves erratically in reverse, have the vehicle inspected promptly to prevent potential safety hazards.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter (DMM)
- Test light
- Wire piercing probes or backprobe pins
- Vehicle service manual or wiring diagram for the specific make and model



Reading P0812

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

Often seen with

P0705 Transmission Range Sensor Circuit Malfunction · **P0706** Transmission Range Sensor Circuit Range/Performance · **P0811** Excessive Clutch Slippage · **P0813** Reverse Output Circuit · **P0850** Park/Neutral Switch Input Circuit

See it working

Watch the animated explainer [EV Powertrain Trainer: How an Electric Car Drives](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0812/>

