

GENERIC · POWERTRAIN

P0813

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0813

Reverse Output Circuit

P0813 indicates that the transmission control module (TCM) has detected an open circuit, short to ground, or short to power in the reverse output circuit, which typically controls the reverse lockout solenoid or reverse lamp relay. The TCM commands the reverse function and monitors the circuit for expected voltage or current, setting the code when the feedback does not match the command.

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.
- The reverse lights may not illuminate when the gear selector is placed in reverse.
- The reverse lockout solenoid may not engage, allowing unintended engagement of reverse gear.
- The vehicle may be unable to shift into reverse or may shift harshly.
- Often no symptoms besides the warning light, especially if the fault is intermittent.

Common causes, most likely first

- Damaged or corroded wiring harness in the reverse output circuit.
- Failed reverse lockout solenoid or reverse lamp relay.
- Blown fuse or poor connection at the fuse box.
- Faulty transmission control module (TCM) or body control module (BCM) driver.
- Water intrusion or corrosion at connectors.
- Aftermarket accessories tapped into the reverse circuit.

How to diagnose and fix it

- Verify the code with a scan tool and check for related codes in other modules.
- Inspect the reverse lamp circuit and lockout solenoid wiring for obvious damage or corrosion.
- Test the reverse lockout solenoid and relay for proper resistance and operation.
- Check the fuse and ensure power and ground are present at the solenoid connector.
- Perform a voltage drop test on the circuit while commanding reverse to identify high resistance.
- If the circuit tests good, suspect the TCM or BCM and follow manufacturer diagnostic procedures.



Reverse circuit faults often misdiagnosed

- A faulty reverse lamp bulb or aftermarket LED conversion can cause this code by altering the circuit's current draw.
- The reverse output circuit may share a ground with other components, so a bad ground can set P0813 without any reverse-specific symptoms.
- On some vehicles, the reverse lockout solenoid is part of the shifter assembly and is not serviceable separately, leading to unnecessary transmission repairs.
- Intermittent P0813 codes often result from chafed wiring near the shifter or under the console, which can be missed during a quick visual inspection.
- A scan tool that can command the reverse solenoid on and off is essential to confirm the circuit's integrity before replacing parts.

Can I keep driving with P0813?

If the reverse lights are inoperative or the lockout solenoid is not functioning, avoid driving because reverse gear may be difficult to engage or the vehicle may not comply with safety regulations. If only the warning light is on and reverse works normally, you can drive cautiously to a repair shop, but avoid relying on reverse until diagnosed.

Tools that help

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

Reading P0813

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

Often seen with

P0705 Transmission Range Sensor Circuit Malfunction · **P0706** Transmission Range Sensor Circuit Range/Performance · **P0812** Reverse Input Circuit · **P0814** Transmission Range Display Circuit · **P0850** Park/Neutral Switch Input Circuit



See it working

Watch the animated explainer [How a CVT Works: Belt and Pulley Transmission](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0813/>

