

GENERIC · POWERTRAIN

P091D

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P091D

Gear Shift Position Circuit B High

P091D indicates that the transmission control module (TCM) has detected an abnormally high voltage on the circuit for gear shift position sensor B, which is often part of a multi-signal range switch or internal transmission mode switch. The TCM compares this signal to expected values and other gear position inputs, and it sets the code when the voltage stays above the calibrated threshold for a set time.

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

Symptoms you may notice

- Illumination of the malfunction indicator lamp (MIL) on the instrument cluster.
- Transmission may default to a limp-home mode with limited gear selection or harsh shifting.
- Incorrect or missing gear position indication on the dashboard display.
- Delayed or erratic engagement when shifting from park or neutral into drive or reverse.
- Sometimes no noticeable drivability symptoms besides the warning light.

Common causes, most likely first

- 1 Faulty gear shift position sensor B or the range switch assembly it belongs to.
- 2 Damaged, chafed, or corroded wiring in the sensor B signal or reference voltage circuit.
- 3 Loose or contaminated electrical connector at the transmission range switch.
- 4 High resistance or open in the ground circuit shared by the range switch.
- 5 Internal transmission control module (TCM) fault causing incorrect voltage interpretation.
- 6 Aftermarket or incorrectly installed remote start or alarm wiring interfering with the range signal.
- 7 Mechanical misalignment of the shift cable or range switch linkage affecting sensor B position.



How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data for P091D before clearing any codes.
- 2 Visually inspect the range switch connector and harness for corrosion, chafing, or loose pins.
- 3 Back-probe the sensor B signal wire at the TCM and compare voltage in park, neutral, and drive against the manufacturer's specification.
- 4 Check reference voltage and ground integrity at the range switch connector with a digital multimeter under load.
- 5 Perform a wiggle test on the harness while monitoring sensor B voltage to reveal intermittent faults.
- 6 If voltage is out of range at the sensor but correct at the TCM, repair the wiring; if incorrect at the sensor, replace the range switch or sensor B.
- 7 After repair, clear codes and verify gear position readings match the selector through a full sweep, then road test.

Range switch voltage checks that save time

- A high-voltage code on a position circuit often means the signal wire is shorted to voltage or the ground reference has drifted, not that the sensor itself has failed.
- Many technicians replace the range switch only to find a corroded connector pin or a chafed harness behind the transmission, so always load-test the circuit first.
- Aftermarket remote start systems that tap into the range switch wiring can back-feed voltage and set P091D even when the transmission hardware is healthy.
- The TCM may use sensor B in combination with sensor A and C signals, so a single high reading can be caused by a failed companion sensor skewing the plausibility check.
- A misadjusted shift cable can hold the range switch between detents, producing a high voltage on sensor B without any electrical fault at all.

Can I keep driving with P091D?

The vehicle may enter limp-home mode with limited gear selection, so avoid highway driving and heavy loads until the fault is repaired. If the transmission slips, refuses to engage a gear, or the warning light flashes, stop driving and have it towed.

Tools that help

- OBD-II scan tool with live transmission data
- Digital multimeter with back-probe pins
- Manufacturer service information for range switch voltage specifications
- Wire terminal removal and crimping tools
- Jack and safety stands for under-vehicle access



Reading P091D

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 9** Transmission.
- 1D** The exact fault within that area.

Often seen with

P0705 Transmission Range Sensor Circuit Malfunction · **P0706** Transmission Range Sensor Circuit Range/Performance · **P091B** Gear Shift Position Circuit B Range/Performance · **P091C** Gear Shift Position Circuit B 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/p091d/>

