

GENERIC · POWERTRAIN

P085A

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P085A

Gear Shift Control Module B Communication Circuit

P085A indicates that the transmission control module (TCM) has lost or degraded communication with the gear shift control module B, which is often the module responsible for interpreting shifter position or controlling shift-by-wire functions. The TCM sets this code when it fails to receive expected controller area network (CAN) messages from that module within a specified time, or when the data is implausible.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Transmission

Symptoms you may notice

- The malfunction indicator lamp (MIL) illuminates, often with no other noticeable symptoms.
- The transmission may default to a limp-home mode, staying in a single gear or refusing to shift.
- The gear position indicator on the instrument cluster may flash, show the wrong gear, or go blank.
- The vehicle may not start or may not recognize the key fob if the shift module is part of the starting interlock.
- Shifting between drive and reverse may feel harsh or may not engage immediately.
- A message such as 'Transmission Service Required' or 'Shift System Fault' may appear on the driver information display.

Common causes, most likely first

- 1 A faulty or intermittent wiring connection at the gear shift control module B, including corroded pins or a loose connector.
- 2 A damaged or shorted CAN bus wire between the gear shift control module B and the TCM, often due to chafing or rodent damage.
- 3 A failed gear shift control module B, either internally or due to a power or ground fault at the module.
- 4 Low battery voltage or a weak charging system that causes the module to drop offline intermittently.
- 5 A software or calibration issue in the TCM or gear shift control module B that disrupts message timing.
- 6 A poor ground connection shared by the shift module and other transmission components.



How to diagnose and fix it

- 1 Verify battery voltage and charging system output, as low voltage is a common cause of communication codes.
- 2 Inspect the gear shift control module B connector for corrosion, loose pins, or water intrusion, and clean or repair as needed.
- 3 Check the CAN bus wiring between the shift module and the TCM for continuity, shorts to ground, and shorts to power.
- 4 Use a scan tool to confirm that the TCM can communicate with the gear shift control module B and to check for other communication codes.
- 5 Perform a voltage drop test on the power and ground circuits at the gear shift control module B.
- 6 If wiring and power are good, substitute a known-good gear shift control module B or reflash the module with the latest calibration.
- 7 Clear the code and perform a road test to verify that the communication fault does not return.

When the shifter module is not the culprit

- A weak battery or a failing alternator can cause this code to set intermittently, so always load-test the battery before condemning the shift module.
- Corrosion inside a connector that looks dry from the outside is a frequent cause, especially on vehicles with sunroof drains or cowl leaks near the shifter area.
- The code can be set by a TCM that is failing to receive messages, not only by a faulty gear shift control module B, so check the TCM's power and ground as well.
- Aftermarket accessories wired into the shifter console can introduce CAN bus interference that mimics a failed module.
- A software update for the TCM or shift module often resolves communication timing issues without any part replacement.

Can I keep driving with P085A?

You can usually drive the vehicle to a repair shop if it remains in limp-home mode and shifts are otherwise predictable, but avoid highway speeds and heavy traffic because the transmission may not downshift or upshift as expected. If the vehicle refuses to engage a gear or stalls, stop driving and arrange a tow.

Tools that help

- OBD-II scan tool with bidirectional communication and live data
- Digital multimeter with min/max recording
- Wiring diagram for the CAN bus and shift module circuits
- Battery load tester
- Terminal pick and contact cleaner
- Factory service information for module reflash procedures



Reading P085A

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 8** Transmission.
- 5A** The exact fault within that area.

Often seen with

P0700 Transmission Control System Malfunction · **P0850** Park/Neutral Switch Input Circuit · **P085B** Gear Shift Control Module B Communication Circuit Low · **U0103** Lost Communication With Gear Shift Module · **U0140** Lost Communication With Instrument Panel Cluster

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/p085a/>

