



U05BD

Invalid Data Received From Localization and Mapping Module

U05BD means the vehicle's localization and mapping module, which provides position and environment data for driver-assist and navigation functions, is sending data that other modules consider invalid or corrupted. The computer that set the code detected a message from this module that failed its internal plausibility or checksum validation, so it cannot trust the position or map information being broadcast.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Network	Generic (all makes)	Medium	Professional	Network communication

Symptoms you may notice

- Illumination of the check engine light or a dedicated driver-assist warning light
- Often no symptoms besides the warning light, with all systems appearing to operate normally
- Adaptive cruise control or lane-keeping assist may become unavailable or behave erratically
- Navigation display may show the vehicle position incorrectly or freeze
- A message on the dash indicating that forward collision warning or automatic emergency braking is disabled
- Intermittent operation of parking aids or semi-autonomous features during the same drive cycle

Common causes, most likely first

- 1 Corroded, loose, or damaged electrical connector at the localization and mapping module
- 2 Failed localization and mapping module internal fault causing corrupted data output
- 3 Software error or outdated calibration in the module or a receiving module
- 4 CAN bus communication fault, such as a shorted or open data line, affecting message integrity
- 5 Low voltage or poor ground at the module, leading to intermittent data corruption
- 6 Aftermarket electronic device or improper installation interfering with the vehicle's communication network



How to diagnose and fix it

- 1 Perform a full scan of all modules and record all stored and pending codes to establish the fault context
- 2 Inspect the localization and mapping module connector and wiring for corrosion, looseness, or damage, and repair as needed
- 3 Check battery voltage and ground connections at the module to rule out power supply issues
- 4 Verify the module's software version and calibration against the latest available from the manufacturer, and update if required
- 5 Use a scan tool to monitor live data from the localization and mapping module for implausible or missing values while wiggling harnesses
- 6 If data remains invalid after electrical and software checks, replace the localization and mapping module and perform any required initialization or calibration
- 7 Clear codes and perform a road test to confirm the fault does not return

When the mapping module is not the culprit

- A weak or failing battery often causes this code because the localization and mapping module is sensitive to voltage drops during cranking, leading to corrupted data that sets U05BD without any module defect.
- The code can be set by a faulty receiving module that misinterprets valid data, so replacing the localization and mapping module without checking communication on the bus can be an expensive misdiagnosis.
- Aftermarket dash cams, radar detectors, or phone chargers plugged into the wrong circuit can introduce electrical noise that corrupts CAN bus messages and triggers U05BD intermittently.
- A software update to the body control module or gateway may be required to correct message handling, and this is often overlooked when only the localization module is inspected.
- U05BD can appear after windshield replacement if the forward-facing camera or sensor is disturbed, because the localization and mapping module relies on that data for map matching.

Can I keep driving with U05BD?

The vehicle remains safe to drive in most cases because the fault primarily affects driver-assist and navigation features, but you should avoid relying on adaptive cruise control, lane keeping, or automatic emergency braking until the code is repaired. If the warning light is accompanied by a loss of power steering or braking assist, stop driving and seek professional service immediately.

Tools that help

- OBD-II scan tool with manufacturer-specific software and live data capability
- Digital multimeter for voltage and continuity checks
- Wiring diagram and connector pinout for the localization and mapping module
- CAN bus analyzer or oscilloscope for signal integrity testing
- Battery load tester and charging system tester



Reading U05BD

- U** Network: communication between the vehicle's control modules.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 5** Network communication.
- BD** The exact fault within that area.

Often seen with

U0100 Lost Communication With ECM/PCM A · **U0126** Lost Communication With Steering Angle Sensor Module
 · **U0140** Lost Communication With Instrument Panel Cluster · **U05BE** Invalid Data Received From Night Vision Control Module

See it working

Watch the animated explainer [How a Starter Motor Works: Pre-Engaged Starter](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/u05bd/>

