



U031C

Software Incompatibility With Brake System Control Module B

U031C is a network communication fault indicating that one electronic control unit (ECU) on the vehicle's controller area network (CAN) has detected a software incompatibility with the brake system control module B, which is typically the electronic stability control or ABS module on many vehicles. The detecting module expected a specific software version, calibration identifier, or message protocol from the brake module and received something it cannot work with, so it flags the mismatch rather than a hardware failure.

SYSTEM Network	CODE TYPE Generic (all makes)	SEVERITY Medium	FIX DIFFICULTY Professional	AREA Software and configuration mismatches
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Symptoms you may notice

- Anti-lock braking system (ABS), traction control, and stability control warning lights illuminated on the dashboard
- A generic check engine light or service vehicle soon message with no drivability change
- Brake system warning lamp on, sometimes accompanied by a chime at startup
- Loss of advanced driver assistance features such as adaptive cruise control or automatic emergency braking
- Often no symptoms besides the warning light, with normal brake pedal feel and stopping performance
- Intermittent warning lights that appear after battery disconnect, module replacement, or software reflash

Common causes, most likely first

- 1 Brake system control module B was replaced or reflashed with software that does not match the vehicle's configured variant
- 2 A module on the CAN bus was replaced with a used unit carrying a different calibration or part revision
- 3 Incomplete or interrupted programming event left the brake module with a mismatched software level
- 4 Corrupted configuration or coding data in the detecting module after battery replacement or voltage spike
- 5 Aftermarket or incorrect software update applied to the brake control module
- 6 CAN bus wiring fault or poor ground causing garbled messages that the receiving module interprets as incompatible
- 7 Failed brake system control module B internal software or memory fault



How to diagnose and fix it

- 1 Connect a scan tool and record all stored codes in every module, not just the engine computer, to confirm U031C and identify which module is reporting the incompatibility
- 2 Check the vehicle's service history and ask whether the brake module, ABS module, or any other ECU was recently replaced or reprogrammed
- 3 Verify battery voltage and condition, then clear the code and perform a full ignition cycle to see whether the fault returns immediately or only after a drive cycle
- 4 Inspect CAN bus wiring and grounds at the brake control module connector for corrosion, loose pins, or chafed harnesses
- 5 Use the manufacturer's diagnostic software to read the software part number and calibration ID of the brake module and compare it with the vehicle's expected configuration
- 6 Perform module programming or configuration with the correct factory software for the vehicle's VIN, following the manufacturer's reprogramming procedure
- 7 If programming fails or the mismatch persists, replace the brake system control module B with a correctly programmed unit and perform initialization and calibration

Why a brake module software mismatch appears

- This code is frequently set after a battery replacement or jump start on vehicles where the brake module loses its configuration, so check power supply history before condemning any module
- A used ABS or stability control module from a donor vehicle will almost always trigger U031C because the software calibration is tied to the donor's VIN and options
- U031C can be stored alongside U0121 or U0122 loss-of-communication codes, and technicians sometimes replace the brake module when the real problem is a chafed CAN wire
- Some manufacturers require a specific sequence of module programming and initialization after replacement, and skipping a step leaves the incompatibility stored even though the new module is correct
- The code does not always mean the brake module is faulty; the detecting module may have outdated software that cannot interpret a legitimately updated brake module message

Can I keep driving with U031C?

The vehicle usually remains safe to drive because the base hydraulic brakes still work, but ABS, traction control, and stability control may be disabled, so avoid hard braking, slippery surfaces, and towing until the fault is corrected. If the brake warning lamp is red rather than amber, stop driving and have the system inspected immediately.



Tools that help

- Factory-level scan tool with module programming capability
- Digital multimeter for voltage and continuity checks
- CAN bus breakout box or oscilloscope for network diagnostics
- Battery charger and power supply to maintain voltage during programming
- Vehicle service information for programming and configuration procedures

Reading U031C

- U** Network: communication between the vehicle's control modules.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 3** Software and configuration mismatches.
- 1C** The exact fault within that area.

Often seen with

U0121 Lost Communication With Anti-Lock Brake System (ABS) Control · **U0122** Lost Communication With Vehicle Dynamics Control Module · **U031A** Software Incompatibility With Transmission Range Control Mod · **U031B** Software Incompatibility With DC/DC Converter Control Module · **U031D** Software Incompatibility With Parking Assist Control Module

See it working

Watch the animated explainer [How ABS Works: Anti-Lock Brakes in X-Ray](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/u031c/>

