

GENERIC · NETWORK

U0409

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

U0409

Invalid Data Received From Alternative Fuel Control Module

U0409 means the module that supervises alternative fuel delivery, such as a compressed natural gas or propane control unit, sent data the powertrain control module (PCM) judged invalid or implausible. The PCM sets this code when the alternative fuel control module's messages arrive corrupted, out of range, or missing required content on the controller area network (CAN) bus.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Network	Generic (all makes)	Medium	Professional	Invalid data received from a module

Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- Rough running or hesitation when the vehicle switches to or runs on the alternative fuel
- Reduced power or a limp-home mode if the PCM defaults to gasoline-only operation
- Intermittent stalling or hard starting, particularly after refueling the alternative fuel tank
- Fuel gauge or alternative fuel level indicator behaving erratically
- Other warning lights for the alternative fuel system or a message on the driver information display

Common causes, most likely first

- 1 Corroded, loose, or damaged wiring and connectors between the alternative fuel control module and the CAN bus
- 2 Failed or failing alternative fuel control module, often due to internal circuit faults or water intrusion
- 3 Low or unstable voltage supply to the alternative fuel control module, including a weak battery or poor ground
- 4 CAN bus communication faults such as a shorted or open data line, or a faulty terminating resistor
- 5 Software or calibration mismatch in the alternative fuel control module after a repair or replacement
- 6 Aftermarket or improperly installed alternative fuel system components causing signal interference



How to diagnose and fix it

- 1 Scan all modules for stored codes and record freeze-frame data to confirm U0409 is current and not history
- 2 Inspect the alternative fuel control module connectors and harness for corrosion, chafing, or loose pins, and repair as needed
- 3 Test battery voltage and the module's power and ground circuits under load, correcting any voltage drop
- 4 Check CAN bus integrity with a digital multimeter or oscilloscope, looking for shorts to ground or battery voltage and proper resistance
- 5 Verify the alternative fuel control module has the latest software and reflash or recalibrate if a known update applies
- 6 Substitute a known-good alternative fuel control module only after wiring and power checks pass, then clear codes and retest
- 7 Perform a road test with a scan tool monitoring alternative fuel data to confirm the code does not return

Before you replace the alternative fuel module

- A weak or failing battery is a common hidden cause because the alternative fuel control module may boot up and send invalid data when supply voltage dips during cranking.
- U0409 can be set by a completely different module on the same CAN bus that is corrupting messages, so always check for communication codes in all modules before condemning the alternative fuel controller.
- Aftermarket remote starters, alarms, or poorly routed accessory wiring can introduce noise on the CAN bus and trigger invalid data codes that disappear once the add-on is disconnected.
- The code does not always mean the alternative fuel control module is defective; a loose ground shared with other modules can produce the same invalid data message.
- Some vehicles store U0409 as a history code after a one-time low-voltage event, so clearing it and verifying it does not reset is a valid first step before any parts are ordered.

Can I keep driving with U0409?

The vehicle is usually safe to drive because the PCM typically defaults to gasoline operation, but avoid heavy loads or long trips on the alternative fuel until the fault is repaired. If the engine runs rough, stalls, or enters limp mode, have it diagnosed promptly rather than continuing to drive.

Tools that help

- OBD-II scan tool with CAN bus and module communication capability
- Digital multimeter with min/max recording
- Oscilloscope for CAN bus signal analysis
- Wiring diagram and connector pinout for the alternative fuel control module
- Battery load tester and charging system tester
- Terminating resistor test kit or breakout box for CAN bus



Reading U0409

- U** Network: communication between the vehicle's control modules.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 4** Invalid data received from a module.
- 09** The exact fault within that area.

Often seen with

U0100 Lost Communication With ECM/PCM A · **U0101** Lost Communication with TCM · **U0140** Lost Communication With Instrument Panel Cluster · **U0401** Invalid Data Received From ECM/PCM

See it working

Watch the animated explainer [How a Car Clutch Works: Diaphragm Clutch Cutaway](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/u0409/>

