



U040F

Invalid Data Received From Reductant Control Module

U040F is a communication fault where the engine control module (ECM) or another controller receives invalid or corrupted data from the reductant control module over the vehicle's network. The reductant control module manages the diesel exhaust fluid (DEF) system, and when its messages fail plausibility checks or contain out-of-range values, the receiving module stores this code and may illuminate the malfunction indicator lamp.

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

Symptoms you may notice

- Illumination of the malfunction indicator lamp (MIL) with no other noticeable drivability issues
- A warning message on the dashboard indicating a problem with the emissions or DEF system
- Possible reduction in engine power or activation of limp mode if the fault persists
- The vehicle may refuse to restart after the engine is shut off once the DEF system is disabled
- Inconsistent or erratic operation of the DEF dosing system, though often undetectable by the driver
- Other communication-related trouble codes stored in multiple modules

Common causes, most likely first

- 1 Corrupted or invalid data transmitted by a faulty reductant control module
- 2 Damaged or chafed wiring in the controller area network (CAN) bus between the reductant control module and the ECM
- 3 Poor electrical connections or corrosion at the reductant control module harness connector
- 4 Low battery voltage or a weak battery causing modules to send erratic data
- 5 A software glitch or outdated calibration in the reductant control module
- 6 Failure of the reductant control module itself due to internal hardware fault
- 7 Aftermarket accessories or improper wiring interfering with the CAN bus signals



How to diagnose and fix it

- 1 Perform a full scan of all modules to record stored and pending codes, then clear codes and test-drive to see if U040F returns
- 2 Inspect the reductant control module harness and connectors for corrosion, loose pins, or damage, and repair as needed
- 3 Check battery voltage and charging system performance; recharge or replace the battery if it fails a load test
- 4 Measure CAN bus resistance and check for shorts or opens between the reductant control module and the ECM using a wiring diagram
- 5 Verify that the reductant control module has the latest software calibration and reflash if an update is available
- 6 Substitute a known-good reductant control module for testing if all wiring and power checks pass
- 7 After repairs, clear codes and perform a complete drive cycle to confirm the fault does not reset

What the DEF Module Isn't Telling You

- U040F often sets alongside U010E or U029D, and those codes can point to a lost communication rather than invalid data, so always diagnose the root communication fault first.
- A weak or failing battery is a common hidden cause because low voltage can cause the reductant control module to send corrupted messages without any other obvious symptoms.
- The code does not automatically mean the reductant control module is defective; wiring issues or network interference frequently mimic a module failure.
- Aftermarket electrical accessories tapped into the CAN bus can introduce noise that corrupts data, so check for recent installations before replacing parts.
- Some vehicles require a relearn or adaptation procedure after replacing the reductant control module, and skipping it can cause the code to return.

Can I keep driving with U040F?

You can usually drive the vehicle short distances to a repair shop, but avoid long trips or heavy loads because the DEF system may be disabled and could lead to reduced power or a no-restart condition. If the engine enters limp mode or a countdown timer appears, stop driving and seek service immediately.

Tools that help

- OBD-II scan tool with manufacturer-level software for full module communication
- Digital multimeter for voltage, resistance, and CAN bus signal checks
- Wiring diagram and connector pinout for the reductant control module circuit
- Battery load tester and charging system analyzer
- CAN bus breakout box or oscilloscope for signal integrity testing



Reading U040F

- 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.
- 0F** The exact fault within that area.

Often seen with

P207F Reductant Quality Performance · **P20E8** Reductant Pressure Too Low · **U010E** Lost Communication With Reductant Control Module · **U029D** Lost Communication With NOx Sensor A · **U040E** Invalid Data Received From Turbocharger/Supercharger Control

See it working

Watch the animated explainer [How a Radiator Fan Relay Circuit Works](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/u040f/>

