



U041E

Invalid Data Received From All Wheel Drive Control Module

U041E is a network communication code indicating that one or more control modules received invalid or missing data from the all-wheel-drive (AWD) control module over the vehicle's controller area network (CAN) bus. The AWD module either failed to broadcast its status messages or sent data that other modules judged implausible, so the receiving module set this code and may disable or limit AWD operation as a precaution.

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 ABS, traction control, or AWD warning light on the dashboard
- The vehicle may default to front-wheel drive or two-wheel drive, with noticeably reduced traction in slippery conditions
- A message such as 'AWD system disabled' or 'All-wheel drive fault' displayed in the driver information center
- Harsh or delayed transmission shifts if the transmission module is one of the receivers of the invalid AWD data
- Often no symptoms besides the warning light, especially if the fault is intermittent and the AWD system still engages normally
- Reduced engine power or limp-home mode in some vehicles when the AWD data is used for torque management

Common causes, most likely first

- 1 A weak or failing 12-volt battery, poor battery terminal connection, or low charging system voltage causing the AWD module to drop offline intermittently
- 2 Damaged, corroded, or chafed wiring in the CAN bus circuit between the AWD module and the rest of the network
- 3 A faulty AWD control module, often due to internal circuit board corrosion from water intrusion or a failed internal CAN transceiver
- 4 Loose or corroded ground connection at the AWD module or at a shared body ground point
- 5 An open or shorted CAN bus wire, or a failed terminating resistor in the network, disrupting communication for multiple modules
- 6 Software calibration issues in the AWD module that cause it to broadcast invalid data under certain conditions
- 7 A malfunctioning component within the AWD system, such as a wheel speed sensor or coupling actuator, that causes the AWD module to report implausible data



How to diagnose and fix it

- 1 Perform a battery and charging system test, including a load test and voltage drop check on the battery cables, and repair any weak connections before condemning modules
- 2 Use a scan tool to read all modules for communication codes and check for related U-codes that point to a shared bus fault rather than an AWD-specific issue
- 3 Inspect the AWD module connector and harness for corrosion, water intrusion, chafed wires, and loose pins, and repair as needed
- 4 Check and clean the AWD module ground connections, verifying less than 0.1 volt drop under load
- 5 Measure CAN bus resistance and voltage levels at the diagnostic connector and at the AWD module to confirm the network is intact and properly terminated
- 6 If wiring and power are good, reflash or update the AWD module software with the latest calibration from the manufacturer
- 7 If the fault persists after all electrical checks, substitute a known-good AWD module or perform a module swap with proper programming to confirm internal failure

What the AWD module is really telling you

- A low or failing battery is the most common root cause of U041E on vehicles that sit for long periods or are driven mostly on short trips, because the AWD module may boot up slowly and miss its first CAN message.
- This code does not automatically mean the AWD module is bad; a single chafed wire in the harness or a corroded ground can produce the same invalid-data message, so always verify power, ground, and bus integrity before replacing parts.
- On many vehicles the AWD module shares a CAN segment with the ABS and transmission modules, so a fault in one of those systems can cause the AWD module to broadcast implausible data and set U041E in other modules.
- Intermittent U041E codes that appear only in cold or damp weather often trace to water intrusion in the AWD module connector or a failing module seal, not to a software problem.
- Clearing the code without repairing the underlying communication fault will usually result in the code returning within a few drive cycles, and repeated clearing can mask a developing safety issue with the AWD system.

Can I keep driving with U041E?

The vehicle is generally safe to drive with U041E because the AWD system defaults to a fail-safe mode, but you should avoid slippery or off-road conditions where all-wheel traction is needed. Have the fault diagnosed promptly, especially if the warning light is accompanied by ABS or transmission symptoms.



Tools that help

- OBD-II scan tool with bidirectional control and module communication capabilities
- Digital multimeter with CAN bus voltage and resistance measurement functions
- Wiring diagram and connector pinout for the specific vehicle
- Battery load tester and charging system analyzer
- CAN bus breakout box or oscilloscope for signal integrity checks
- Module programming device or J2534 pass-through tool for software updates

Reading U041E

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.

1E The exact fault within that area.

Often seen with

C0561 ABS Disabled Warning Indicator Request · **U0102** Lost Communication with Transfer Case Control Module · **U0126** Lost Communication With Steering Angle Sensor Module · **U0401** Invalid Data Received From ECM/PCM · **U0415** Invalid Data Received From Anti-Lock Brake System Control Mo

See it working

Watch the animated explainer [How a MAF Sensor Works: Hot-Wire Airflow Explained](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/u041e/>

