GENERIC · NETWORK

U3021

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

U3021

Control Module Wake-up Circuit B Performance

U3021 indicates that a control module responsible for waking up other modules on the vehicle's communication network has detected a performance fault in the wake-up circuit for channel B. The module monitors the voltage or signal on that wake-up line and sets this code when the signal is outside the expected range or timing, meaning one or more modules may not be commanded to wake up properly.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Network	Generic (all makes)	Medium	Professional	Network wiring and bus faults

Symptoms you may notice

- Often no symptoms besides the warning light, especially if the affected module is not critical for engine operation.
- Intermittent failure of accessories or systems controlled by modules on the affected wake-up circuit, such as lighting, climate control, or infotainment.
- A dead battery or repeated battery drain if a module stays awake when it should sleep.
- Multiple unrelated warning lights or communication codes appearing together.
- Delayed or no response from certain features after the ignition is switched on.
- The vehicle may fail to start or have a no-crank condition if the wake-up circuit feeds a module involved in starting.

Common causes, most likely first

1. Damaged or chafed wiring in the wake-up circuit B, often at a flex point or near a connector.
2. Corroded, loose, or water-intruded connector pins on the wake-up line.
3. A faulty control module that is supposed to receive or pass the wake-up signal, internally shorted or open.
4. A failed or degraded relay or fuse that supplies power to the wake-up circuit.
5. Voltage drops or ground issues on the module that generates the wake-up signal.
6. Aftermarket accessories improperly tapped into the wake-up circuit, causing excessive load or interference.
7. Software or configuration mismatch in a module after replacement or reprogramming.

How to diagnose and fix it

1. Connect a scan tool and record all stored codes and freeze-frame data, then clear codes and verify whether U3021 returns immediately or only under specific conditions.
2. Inspect the battery, charging system, and main grounds to rule out low voltage as the root cause of communication faults.
3. Locate the wake-up circuit B wiring and check for continuity, shorts to ground, and shorts to power between the originating module and the affected modules.
4. Perform a voltage drop test on the wake-up line while wiggling harnesses and connectors to expose intermittent faults.
5. Disconnect suspected modules one at a time and observe whether the wake-up signal returns to normal, isolating a faulty module.
6. Check for technical service bulletins or software updates for the modules involved, as wake-up timing issues are sometimes addressed by reprogramming.
7. Repair or replace damaged wiring, connectors, or the faulty module, then clear codes and verify the repair with a road test and sleep-cycle check.

Wake-up circuit faults that mimic module failure

- A wake-up circuit fault often presents as a dead module or a no-communication code, leading technicians to replace a module that was simply never told to wake up.
- Aftermarket alarms, remote starters, or dash cams tapped into the wake-up line are a frequent cause of U3021 that owners overlook.
- The code can set intermittently from a harness rubbed through only at certain temperatures or vibration levels, so a static continuity test may pass.
- A weak battery or poor ground can cause modules to drop off the wake-up bus without any wiring damage, so always verify system voltage first.
- Some vehicles use a dedicated wake-up wire while others use a network message; U3021 on a message-based system points to software or configuration rather than a physical wire.

Can I keep driving with U3021?

If the vehicle starts and runs normally, you can drive it to a repair shop, but avoid long trips and do not ignore a battery drain that could leave you stranded. If the engine cranks but does not start or multiple safety systems are disabled, have the vehicle towed rather than driven.

Tools that help

- OBD-II scan tool with bidirectional control and live data
- Digital multimeter with min/max recording
- Wiring diagram and connector pinout for the vehicle
- Test light or logic probe
- Battery load tester and charging system tester

Reading U3021

U	Network: communication between the vehicle's control modules.
3	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
0	Network wiring and bus faults.
21	The exact fault within that area.

Often seen with

U0100 Lost Communication With ECM/PCM A · **U0140** Lost Communication With Instrument Panel Cluster · **U3000** Control Module · **U3001** Control Module Improper Shutdown Performance · **U3002** Vehicle Identification Number

See it working

Watch the animated explainer **How a Six-Speed Manual Gearbox Works** on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: https://www.autoveteran.tech/dtc-codes/u3021/