

GENERIC · NETWORK

U3520

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

U3520

High Voltage System Interlock Circuit E High

U3520 indicates that the vehicle's high-voltage system interlock circuit E has reported a voltage above the expected range, typically a short to power or an open circuit causing a reference voltage to rise. The computer detected this abnormal high voltage on the interlock loop, which is a safety circuit designed to disable high-voltage contactors when service covers or connectors are removed.

SYSTEM Network	CODE TYPE Generic (all makes)	SEVERITY High	FIX DIFFICULTY Professional	AREA Network communication
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Symptoms you may notice

- High-voltage system warning light illuminated on the dashboard
- Vehicle may refuse to start or enter 'Ready' mode, leaving it inoperable
- Reduced power or limp-home mode if the vehicle does start
- Audible alert or message on the driver information display about a high-voltage fault
- Often no symptoms besides the warning light, especially if the interlock circuit is only intermittently high

Common causes, most likely first

- 1 Damaged or corroded high-voltage interlock connector, allowing voltage to backfeed or short to power
- 2 Chafed or shorted interlock wiring harness, often near a service disconnect or inverter
- 3 Failed high-voltage component (e.g., inverter, charger, or battery pack) internal interlock switch stuck closed or shorted
- 4 Water intrusion into a high-voltage connector or component, causing a conductive path to a higher voltage source
- 5 Improperly seated service disconnect plug or high-voltage manual disconnect, leaving the interlock circuit in an abnormal state
- 6 Faulty high-voltage control module or interlock monitoring circuit within the battery management system



How to diagnose and fix it

- 1 Inspect all high-voltage interlock connectors for proper seating, corrosion, and water intrusion; reseal any loose connectors
- 2 Check the service disconnect plug for full engagement and inspect its interlock terminals for damage
- 3 Perform a visual inspection of the interlock wiring harness for chafing, pinches, or shorts to power, especially near metal edges
- 4 Use a multimeter to measure voltage on the interlock circuit E at the connector; compare to manufacturer specifications to confirm a high-voltage condition
- 5 Disconnect the high-voltage battery and isolate the interlock circuit; check for continuity and shorts to power on the interlock loop
- 6 If the circuit is intact, test the interlock switch inside the suspect high-voltage component (e.g., inverter or charger) for internal short
- 7 Replace the faulty high-voltage component or repair the interlock wiring as needed, then clear codes and verify the interlock circuit reads normal voltage

Interlock circuit E high-voltage traps

- A common oversight is assuming the high-voltage battery is always the culprit; the interlock circuit E often runs through the service disconnect plug, and a partially unseated plug can set this code without any component failure.
- Water intrusion into a high-voltage connector can create a conductive path that raises interlock voltage, so always check for coolant or water traces inside connectors before replacing expensive modules.
- The code can be set by a short to power in the interlock wiring, which may only occur when the vehicle is in motion or when specific accessories are powered, so intermittent faults require wiggle testing and voltage monitoring while driving.
- Some vehicles use a pulsed or encoded signal on the interlock circuit, and a high voltage reading may indicate a failed driver in the control module rather than a wiring short, so consult service information for the exact signal expected.
- After any high-voltage repair, the interlock circuit must be verified with a scan tool that can read live interlock voltage; simply clearing the code without confirming the circuit is healthy will often lead to a repeat failure.

Can I keep driving with U3520?

Do not drive the vehicle with this code present, as the high-voltage system may be disabled or in an unsafe state; have it towed to a qualified service facility. Avoid attempting to service high-voltage components without proper training and personal protective equipment.



Tools that help

- OBD-II scan tool capable of reading hybrid/EV-specific codes and live data
- Digital multimeter with high-voltage safety rating
- Insulated hand tools and high-voltage personal protective equipment (PPE)
- Service information for interlock circuit voltage specifications and connector locations
- Wiggle test tools or jumper wires for intermittent fault simulation

Reading U3520

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

Often seen with

P0A0D High Voltage System Interlock Circuit A High · **P0AA6** Hybrid/EV Battery Voltage System Isolation Fault
 · **U3521** High Voltage System Interlock Circuit F · **U3522** High Voltage System Interlock Circuit F Performance
 · **U3523** High Voltage System Interlock Circuit F Low

See it working

Watch the animated explainer [How a MAP Sensor Works: Engine Vacuum and Load](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/u3520/>

