

GENERIC · NETWORK

U3524

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

U3524

High Voltage System Interlock Circuit F High

U3524 indicates that the high-voltage interlock loop, a safety circuit that confirms all high-voltage connectors are properly seated, has detected a high voltage condition on its 'F' branch. The vehicle's control module sets this code when the interlock circuit voltage exceeds the expected threshold, often due to a poor connection or a fault in the wiring or module.

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

Symptoms you may notice

- Illumination of the high-voltage system warning light or service vehicle soon message
- The vehicle may refuse to start or enter 'ready' mode, especially in electric and hybrid models
- Reduced power or limited operation mode, often called 'limp home'
- Often no symptoms besides the warning light, with the vehicle driving normally
- In some cases, the high-voltage system may be disabled entirely for safety

Common causes, most likely first

- 1 A high-voltage connector that is not fully seated or has a damaged interlock pin
- 2 Corrosion or water intrusion in the interlock circuit connector
- 3 A short to voltage or high resistance in the interlock wiring harness
- 4 A faulty high-voltage component (e.g., battery pack, inverter, or motor) with an internal interlock fault
- 5 A malfunctioning control module that monitors the interlock circuit
- 6 Aftermarket accessories or improper repairs that disturb the high-voltage wiring

How to diagnose and fix it

- 1 Inspect all high-voltage connectors for proper seating and visible damage; reseat any loose connectors
- 2 Check the interlock circuit wiring for continuity, shorts to voltage, and resistance using a multimeter
- 3 Inspect for corrosion or water intrusion in the connectors and clean or dry them as needed
- 4 Consult the factory service information for the specific interlock circuit 'F' and perform pinpoint tests
- 5 Test the interlock switch or sensor within the affected high-voltage component if accessible
- 6 Replace the faulty high-voltage component or wiring harness as directed by diagnostic results
- 7 Clear the code and verify the repair by test-driving and monitoring for code return



Interlock Circuit F High: Common Oversights

- A common mistake is replacing the high-voltage battery when the actual fault is a simple loose connector or chafed wire in the interlock loop.
- The interlock circuit is a low-voltage safety loop; a 'high voltage' code refers to the signal level, not the main high-voltage system, so do not assume a catastrophic battery failure.
- After any service that involves disconnecting high-voltage components, the interlock connectors must be fully latched; partially seated connectors are a leading cause of this code.
- Some vehicles set U3524 if the 12-volt battery is weak or during voltage spikes, so always verify system voltage and clear codes after charging.
- The 'F' circuit may be part of a daisy-chained interlock loop; a fault in any connector on that chain can trigger this code, so inspect the entire loop.

Can I keep driving with U3524?

Do not continue driving if the high-voltage warning is active, as the vehicle may unexpectedly shut down or disable the high-voltage system, posing a safety risk. Have the vehicle inspected by a qualified high-voltage technician before driving further.

Tools that help

- OBD-II scan tool with manufacturer-specific software
- Digital multimeter with high-voltage safety rating
- Insulated hand tools
- Safety gloves and eye protection
- Factory service information for interlock circuit testing

Reading U3524

- 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.
- 24** 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 · **U0111** Lost Communication With Battery Energy Control Module 'A' · **U3523** High Voltage System Interlock Circuit F Low · **U3525** High Voltage System Interlock Circuit G



See it working

Watch the animated explainer [How a Wideband Air-Fuel Sensor Works](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/u3524/>

