

GENERIC · NETWORK

U3553

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

U3553

Hydrogen Tank B Valve Control Circuit

This code indicates that the powertrain control module has detected an abnormal condition in the electrical circuit that controls the hydrogen tank B valve, which is used to regulate hydrogen flow from one of the vehicle's high-pressure storage tanks. The computer monitors the valve's control circuit for expected voltage or current feedback and sets the code when the signal falls outside the manufacturer's specified range.

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

Symptoms you may notice

- Illumination of the malfunction indicator lamp on the dashboard
- Often no symptoms besides the warning light, especially if the fault is intermittent
- Reduced power or a limp-home mode if the vehicle's control strategy limits hydrogen delivery
- Inability to refuel the hydrogen tank or a refueling station fault message
- Rough running or stalling if the valve fails to open when commanded
- A noticeable fuel smell or pressure release in rare cases of a stuck valve

Common causes, most likely first

- 1 Damaged or corroded electrical connector at the hydrogen tank B valve
- 2 Open or shorted wiring in the valve control circuit, including chafed harness insulation
- 3 Failed hydrogen tank B valve solenoid or internal coil
- 4 Faulty tank pressure sensor providing incorrect feedback to the control module
- 5 Corrosion or contamination at the valve's electrical pins due to moisture intrusion
- 6 Failed powertrain control module driver circuit for the valve (less common)
- 7 Loose or damaged ground connection shared by the valve circuit



How to diagnose and fix it

- 1 Connect a scan tool and record all stored codes and freeze-frame data to confirm U3553 is current and not history
- 2 Visually inspect the hydrogen tank B valve connector and harness for corrosion, damage, or loose pins
- 3 Measure resistance across the valve solenoid and compare to the manufacturer's specification
- 4 Check for battery voltage and ground at the valve connector with the key on and the circuit commanded active
- 5 Perform a wiggle test on the harness while monitoring the valve control signal on a scan tool to detect intermittent faults
- 6 If the circuit and valve test good, verify the control module output with an oscilloscope or a known-good test load
- 7 Repair or replace the faulty wiring, connector, valve, or control module as indicated by the test results, then clear codes and verify the repair

Hydrogen valve circuit checks most techs overlook

- A loose or corroded ground connection at the chassis can mimic a failed valve and is frequently missed during circuit testing.
- The code can set from a momentary voltage spike during refueling, so always check for history codes and freeze-frame data before replacing parts.
- Some vehicles use a smart valve with integrated electronics, and a failed internal sensor can set U3553 even when the solenoid coil tests good.
- The hydrogen tank B valve is often confused with the tank shutoff valve, but they are separate components with distinct control circuits.
- After any repair, a relearn or adaptation procedure may be required for the control module to recognize the new valve correctly.

Can I keep driving with U3553?

If the warning light is on but the vehicle drives normally, you can continue driving to a service center, but avoid hard acceleration or high-speed driving. If you notice rough running, stalling, or a fuel smell, stop driving and have the vehicle towed to prevent safety risks.

Tools that help

- OBD-II scan tool with live data and bidirectional control
- Digital multimeter
- Oscilloscope
- Wire terminal test kit
- Manufacturer service information for circuit specifications



Reading U3553

- 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.
- 53** The exact fault within that area.

Often seen with

P0AC0 Hybrid/EV Battery Pack Current Sensor A Circuit Range/Perfor · **P0AC1** Hybrid/EV Battery Pack Current Sensor A Circuit Low · **U0100** Lost Communication With ECM/PCM A · **U3552** Hydrogen Tank A Valve Performance · **U3554** Hydrogen Tank B Valve Enable Circuit

See it working

Watch the animated explainer [Four-Stroke Engine Cutaway: Intake to Exhaust](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/u3553/>

