

GENERIC · NETWORK

U3563

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

U3563

Cathode Bypass Valve Position Sensor Circuit

This code indicates that the powertrain control module has detected an abnormal signal from the cathode bypass valve position sensor circuit, which monitors the valve's actual position. The computer compares the sensor's reported position against the commanded position and sets the code when the two do not agree within a calibrated range.

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

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Rough idle or unstable engine operation when the bypass valve is commanded to move
- Reduced engine performance or power, particularly under certain load conditions
- Poor fuel economy due to incorrect valve positioning affecting combustion
- Intermittent hesitation or stumble during acceleration
- In rare cases, the engine may enter a limp-home mode with limited power

Common causes, most likely first

- 1 Faulty cathode bypass valve position sensor
- 2 Damaged or corroded wiring or connector at the sensor or valve
- 3 Sticking or mechanically binding bypass valve linkage
- 4 Failed cathode bypass valve actuator or solenoid
- 5 Open or short circuit in the sensor signal or reference voltage circuit
- 6 Poor electrical ground connection for the sensor circuit
- 7 Powertrain control module software or internal fault (less common)



How to diagnose and fix it

- 1 Use a scan tool to read live data and compare commanded versus actual bypass valve position to confirm the fault
- 2 Inspect the sensor and valve connectors for corrosion, loose pins, or damaged wiring, and repair as needed
- 3 Check the sensor's reference voltage and ground circuits with a multimeter to rule out wiring faults
- 4 Remove and inspect the bypass valve for mechanical binding or carbon buildup, cleaning or replacing if necessary
- 5 Test the position sensor with a multimeter for smooth resistance change through its range, replacing if faulty
- 6 Verify the actuator or solenoid operates correctly when commanded by the scan tool
- 7 Clear the code and perform a road test to confirm the repair, reprogramming the PCM if a software update is available

What the bypass valve sensor code hides

- A sticking valve is often the real culprit even when the sensor tests good, so always check for mechanical binding before replacing electrical parts.
- The code can be set by a momentary glitch in the signal circuit that does not repeat, so a thorough wiggle test of the harness is essential.
- On some vehicles, a weak battery or charging system can cause false sensor codes, so verify battery and ground integrity first.
- The cathode bypass valve is part of the emissions control system, and a fault here may also trigger related codes for the valve circuit or system performance.
- After repairs, the PCM may need to relearn the valve's end stops, so a simple code clear without a relearn procedure can lead to a repeat code.

Can I keep driving with U3563?

You can usually drive the vehicle with this code, but expect reduced performance and possible emissions non-compliance. Avoid sustained high-speed driving or heavy loads until the fault is repaired, as the engine may not manage bypass flow correctly.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Basic hand tools (sockets, wrenches, screwdrivers)
- Wiring diagram for the specific vehicle
- Contact cleaner and dielectric grease



Reading U3563

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

Often seen with

P2004 Intake Manifold Runner Control Stuck Open (Bank 1) · **P2005** Intake Manifold Runner Control Stuck Open (Bank 2) · **P2006** Intake Manifold Runner Control Stuck Closed (Bank 1) · **P2008** Intake Manifold Runner Control Circuit/Open (Bank 1) · **P2015** Intake Manifold Runner Position Sensor/Switch Circuit Range/

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/u3563/>

