

GENERIC · CHASSIS

C0624

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

C0624

Variable Effort Steering Sensor Circuit

C0624 indicates that the electronic control module has detected an abnormal signal from the variable effort steering sensor, which measures steering wheel position and rate to adjust power steering assist. The computer sets this code when the sensor voltage or signal falls outside the expected range for the current driving conditions, disabling the variable assist feature.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Chassis	Generic (all makes)	Medium	Intermediate	Brakes, steering and suspension

Symptoms you may notice

- Steering effort may feel heavier or lighter than usual, especially at low speeds or during parking maneuvers
- The stability control or traction control warning light may illuminate because the steering sensor is shared with those systems
- A message such as 'Service Stability System' or 'Power Steering Assist Reduced' may appear on the driver information center
- The steering wheel may feel less responsive or exhibit a slight delay when returning to center
- Often no symptoms besides the warning light, with the vehicle driving normally in default assist mode

Common causes, most likely first

- Faulty variable effort steering sensor, which is typically integrated into the steering column or steering gear
- Damaged or corroded wiring harness or connector at the steering sensor or control module
- Poor electrical ground connection for the steering sensor or chassis
- Failed steering control module or power steering control module
- Software calibration issue in the control module requiring a reflash or relearn procedure
- Mechanical binding or wear in the steering column or rack that affects sensor readings
- Voltage supply issue, such as a weak battery or charging system problem, causing erratic sensor signals



How to diagnose and fix it

- 1 Inspect the steering sensor connector and wiring for corrosion, chafing, or loose pins, and clean or repair as needed
- 2 Check battery voltage and charging system output to rule out low voltage causing false sensor codes
- 3 Perform a steering angle sensor calibration or relearn procedure using a scan tool, as some vehicles require this after battery replacement or alignment
- 4 Measure the sensor signal voltage with a multimeter while turning the steering wheel, comparing to manufacturer specifications
- 5 Test the sensor resistance and continuity through its full range of motion to identify dead spots or erratic output
- 6 Replace the variable effort steering sensor if it fails electrical testing, following the manufacturer's procedure for component replacement and calibration
- 7 If the sensor and wiring test good, diagnose the control module for internal faults or software issues, and reprogram or replace as necessary

Before you replace the steering sensor

- A common oversight is failing to perform a steering angle sensor calibration after an alignment or battery service, which can set C0624 even when the sensor is healthy.
- The variable effort steering sensor often shares data with the electronic stability control system, so a code in the ABS module may be the real root cause rather than the steering sensor itself.
- Corroded ground connections under the hood or at the steering column can produce intermittent C0624 codes that mimic a failing sensor, so always check grounds before condemning parts.
- Some vehicles require a specific drive cycle or steering sweep to relearn the sensor after replacement, and skipping this step will cause the code to return immediately.
- A weak or failing battery can cause the control module to log C0624 as a ghost code, especially if the code appears alongside other low-voltage codes.

Can I keep driving with C0624?

The vehicle remains safe to drive because the steering system defaults to a fixed assist level, but you may notice heavier steering at low speeds. Avoid aggressive maneuvers or towing until the fault is repaired, and have the system diagnosed promptly to restore full variable assist and stability control functionality.

Tools that help

- OBD-II scan tool with live data and bidirectional control capability
- Digital multimeter for voltage and resistance measurements
- Wiring diagram or service information for the specific vehicle
- Basic hand tools for trim and connector removal
- Steering angle sensor calibration tool or scan tool with relearn function



Reading C0624

- C** Chassis: brakes, steering and suspension.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 6** Brakes, steering and suspension.
- 24** The exact fault within that area.

Often seen with

C0450 Rear Wheel Steering Position Sensor Circuit · **C0621** Variable Effort Steering Lock/Safety Actuator Control Circui · **C0622** Variable Effort Steering Lock/Safety Actuator Control Circui · **C0623** Variable Effort Steering Lock/Safety Actuator Control Circui · **C0710** Steering Position Signal Malfunction

See it working

Watch the animated explainer [Readiness Monitors and the OBD-II Drive Cycle](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/c0624/>

