

GENERIC · CHASSIS

C0627

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

C0627

Variable Effort Steering Sensor Circuit High

C0627 means the electronic control module that manages the variable effort steering system has detected an abnormally high voltage on the sensor circuit that reports steering assist level. The computer expects the sensor signal to stay within a calibrated voltage window, and a high reading tells it the circuit is open, shorted to voltage, or the sensor reference is lost.

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

Symptoms you may notice

- Steering effort changes abruptly or feels heavier than usual, especially at low speeds
- The stability control or traction control warning light may illuminate along with the steering warning
- A message such as 'Service Variable Effort Steering' or 'Power Steering Assist Reduced' appears in the driver information center
- Steering assist may default to a fixed, heavier mode as a fail-safe
- Often no symptoms besides the warning light, because the system reverts to a safe default
- Intermittent warning light that comes and goes over bumps or during temperature changes

Common causes, most likely first

- Open or high-resistance wiring in the variable effort steering sensor signal circuit, often at a connector or flex point
- Failed variable effort steering sensor or steering angle sensor assembly that reports an out-of-range high voltage
- Corroded, loose, or water-intruded connector at the steering gear, column, or control module
- Short to voltage on the sensor signal wire from chafed insulation against a power feed
- Loss of the sensor's 5-volt reference or ground circuit, causing the signal to float high
- Failing electronic control module or steering control module driver circuit
- Aftermarket accessories or poor ground connections disturbing the reference voltage



How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data for C0627, then clear the code and verify whether it returns immediately or only under specific steering conditions
- 2 Inspect the variable effort steering sensor connector and harness for corrosion, pushed pins, chafing, and water intrusion, repairing terminals as needed
- 3 Back-probe the sensor signal, reference, and ground circuits with a digital multimeter and compare readings to the manufacturer's voltage specification through the full steering range
- 4 Check for a short to voltage on the signal wire by measuring voltage with the sensor disconnected and the key on
- 5 Perform a wiggle test on the harness while watching live sensor voltage data to expose intermittent opens or shorts
- 6 If wiring and reference voltages are correct, substitute a known-good sensor or follow the manufacturer's sensor calibration procedure before condemning the control module
- 7 After repair, clear codes, perform any required steering angle or variable effort calibration, and road-test through parking-lot and highway speed ranges

What a high steering sensor voltage really tells you

- A high signal voltage usually means the circuit is open or the reference is missing, not that the sensor itself has failed, so resistance and reference checks come before parts replacement
- The same sensor circuit often feeds stability control and steering angle data, so a C0627 can appear alongside traction control codes even when the steering gear is healthy
- Water intrusion at the steering gear connector is a common hidden cause on vehicles that see road spray, and the corrosion can be inside the connector body where a visual check misses it
- A weak or corroded ground for the steering control module can pull the sensor signal high, so ground voltage-drop testing belongs in the diagnostic routine
- Replacing the sensor without checking the 5-volt reference and signal wire continuity frequently leads to a repeat code and unnecessary expense

Can I keep driving with C0627?

You can usually drive the vehicle because the system defaults to a fixed steering assist, but expect heavier steering at low speeds and reduced stability control intervention. Avoid high-speed maneuvers and towing until the fault is repaired, and have the circuit inspected promptly if the steering effort changes suddenly.



Tools that help

- OBD-II scan tool with live data and module scanning capability
- Digital multimeter with back-probe pins
- Wiring diagram and manufacturer voltage specifications for the variable effort steering circuit
- Terminal pick and connector repair kit
- Steering angle or variable effort calibration tool if required by the manufacturer

Reading C0627

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

Often seen with

C0450 Rear Wheel Steering Position Sensor Circuit · **C0626** Variable Effort Steering Sensor Circuit Low · **C0628** Variable Effort Steering Module Performance · **C0710** Steering Position Signal Malfunction · **U0126** Lost Communication With Steering Angle Sensor Module

See it working

Watch the animated explainer [How a Coolant Temperature Sensor Works](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/c0627/>

