

GENERIC · CHASSIS

C0628

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

C0628

Variable Effort Steering Module Performance

C0628 indicates that the variable effort steering module has detected a performance fault within its own system, meaning the module cannot reliably vary steering assist as designed. The module monitors its internal circuits and the commands it sends to the steering actuator, and it sets this code when the expected response does not match the commanded effort level.

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

Symptoms you may notice

- The steering feel may become heavier or lighter than expected, especially at low speeds or during parking maneuvers.
- A stability control or power steering warning light illuminates on the dashboard.
- The steering may feel inconsistent, with assist changing abruptly or not changing when it should.
- Often no symptoms besides the warning light, because the system may default to a fixed assist level.
- In some cases, the variable effort feature is disabled entirely and steering reverts to a constant effort mode.

Common causes, most likely first

- A faulty variable effort steering module, often due to internal electronic failure or water intrusion.
- Damaged or corroded wiring and connectors between the module and the steering actuator or sensors.
- A failing steering actuator or solenoid that cannot respond to module commands.
- Low or contaminated power steering fluid affecting hydraulic assist on systems that use hydraulic variable effort.
- A weak or failing battery or charging system causing low voltage to the module.
- A steering angle or wheel speed sensor fault that provides incorrect inputs to the module.
- Software calibration issues in the module that require reflashing or reprogramming.



How to diagnose and fix it

- 1 Verify battery voltage and charging system output, as low voltage can cause false performance codes.
- 2 Inspect all wiring and connectors at the variable effort steering module and actuator for corrosion, chafing, or loose pins.
- 3 Check power steering fluid level and condition on hydraulic variable effort systems, and top up or flush if contaminated.
- 4 Use a scan tool to read live data from the module, comparing commanded effort to actual actuator response.
- 5 Perform any available calibration or relearn procedure for the steering system after repairs.
- 6 If inputs and wiring are good, test the steering actuator or solenoid for proper resistance and function.
- 7 Replace the variable effort steering module only after all other checks pass, and reprogram it if required.

What most technicians overlook on C0628

- A weak battery or poor ground connection often sets this code because the module needs stable voltage to command the actuator accurately.
The code can be stored intermittently by a momentary loss of communication on the controller area network (CAN) bus, so always check for other communication codes.
- On hydraulic variable effort systems, a restricted or contaminated fluid circuit can mimic a failed module, so fluid condition is a critical first check.
- After replacing the module, some vehicles require a steering angle sensor calibration or a module configuration procedure that is easy to miss.
This code does not always mean the module is bad; a faulty steering angle sensor or wheel speed sensor can provide bad inputs that the module interprets as a performance fault.

Can I keep driving with C0628?

You can usually continue driving with this code because the system defaults to a fixed assist level, but steering effort may be higher than normal. Avoid high-speed maneuvers and parking situations that require maximum assist until the fault is repaired.

Tools that help

- OBD-II scan tool with manufacturer-specific software for live data and calibration
- Digital multimeter for voltage and resistance checks
- Wiring diagram and connector pinout for the variable effort steering circuit
- Power steering fluid tester or hydrometer
- Battery load tester and charging system analyzer



Reading C0628

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

Often seen with

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 · **C0625** Variable Effort Steering Sensor Circuit Range/Performance · **U0126** Lost Communication With Steering Angle Sensor Module

See it working

Watch the animated explainer [Master the Four-Stroke Engine Cycle](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/c0628/>

