

GENERIC · CHASSIS

C004F

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

C004F

ABS Control Module Over Temperature

C004F means the anti-lock braking system (ABS) control module has detected that its internal temperature has risen above a safe operating limit, so it has logged this fault and may temporarily disable ABS function. The module is not reporting a wheel speed sensor or hydraulic fault; it is reporting a thermal condition inside the electronic control unit itself.

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

Symptoms you may notice

- ABS warning light illuminated on the dashboard, often accompanied by the traction control or stability control light
- ABS and stability control systems temporarily disabled until the module cools down
- Intermittent warning light that appears during heavy braking, long downhill descents, or hot weather and clears after the vehicle sits
- Reduced or no anti-lock braking assistance during the over-temperature event, though normal base braking remains
- Often no symptoms besides the warning light, with the driver noticing no change in pedal feel or braking performance

Common causes, most likely first

- Prolonged or repeated ABS activation that keeps the module's internal driver circuits working hard and generating heat
- A failing ABS control module with degraded internal power components or a faulty temperature sensor inside the unit
- Poor heat dissipation caused by a blocked or missing module mounting surface, corroded mounting bolts, or debris packed around the module
- High ambient temperatures combined with heavy braking loads, such as mountain driving or towing, pushing the module beyond its thermal design
- A low or unstable charging system voltage that makes the module's internal regulators work harder and run hotter
- Corroded or high-resistance grounds and power feeds at the ABS module connector, causing excess resistance and localized heating
- A stuck ABS pump motor or solenoid that keeps drawing current after the self-test, heating the module from within



How to diagnose and fix it

- 1 Scan all modules for stored and pending codes, record freeze-frame data for C004F, and clear the code to see whether it returns immediately or only after a specific driving condition
- 2 Inspect the ABS control module mounting area for debris, corrosion, and proper metal-to-metal contact, and clean or repair the mounting surface as needed
- 3 Check battery voltage and charging system output, and load-test the battery, because low voltage makes the ABS module run hotter
- 4 Inspect the ABS module connector and ground points for corrosion, loose pins, and high resistance, and repair any damaged wiring
- 5 Use a scan tool to monitor ABS module temperature-related live data and command the pump motor and solenoids to verify they release and do not stay energized
- 6 Perform a voltage drop test on the module's power and ground circuits under load to find hidden resistance that causes heat
- 7 If the fault persists with good power, grounds, and cooling, replace or reprogram the ABS control module following the manufacturer's procedure

Why the ABS module overheats without a hard fault

- This code is frequently set by a failing ABS pump motor that continues to draw current after the self-test, so technicians who only check wheel speed sensors miss the real heat source.
- A weak battery or failing alternator can set C004F because low voltage forces the module's internal regulators to dissipate more heat, and the code often disappears after charging system repair.
- The module's temperature sensor and thermal protection are internal, so a code can be stored even when the module feels cool to the touch after the vehicle has sat, leading to unnecessary replacement.
- Corroded ground straps and mounting bolts are a common hidden cause because the module uses its case as part of the heat path and ground return, and cleaning them resolves many repeat codes.
- C004F does not always mean the module is failing; repeated heavy braking on long descents or with a trailer can legitimately push a healthy module into thermal protection.

Can I keep driving with C004F?

You can usually drive the vehicle because normal base braking remains, but ABS and stability control may be unavailable while the fault is active. Avoid heavy braking, long downhill descents, and towing until the cause is repaired, and have the system diagnosed promptly because a recurring over-temperature condition can lead to complete ABS module failure.



Tools that help

- OBD-II scan tool with ABS module live data and bidirectional control capability
- Digital multimeter for voltage drop and resistance testing
- Battery load tester and charging system tester
- Basic hand tools for inspecting mounts, grounds, and connectors
- Infrared thermometer to check module temperature after driving

Reading C004F

C Chassis: brakes, steering and suspension.

0 Generic (SAE) code: it means the same thing on every OBD-II vehicle.

0 Brakes, steering and suspension.

4F The exact fault within that area.

Often seen with

C0035 Left Front Wheel Speed Sensor Circuit Range/Performance · **C0040** Left Rear Wheel Speed Sensor Circuit · **C0050** Right Rear Wheel Speed Sensor Circuit Malfunction · **C0110** ABS Pump Motor Circuit Malfunction · **U0121** Lost Communication With Anti-Lock Brake System (ABS) Control

See it working

Watch the animated explainer [How ABS Works: Anti-Lock Brakes in X-Ray](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/c004f/>

