

GENERIC · CHASSIS

C0121

OBD-II TROUBLE CODE

C0121

Valve Relay Circuit Malfunction

The C0121 code indicates that the anti-lock brake system (ABS) control module has detected a malfunction in the electrical circuit for the valve relay, which is the relay that supplies power to the ABS hydraulic valve solenoids. The module monitors the relay's control circuit and feedback, and when the voltage or current is outside the expected range, it stores this code and disables ABS operation.

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

Symptoms you may notice

- The ABS warning light is illuminated on the dashboard.
- The traction control system (TCS) or stability control (ESC) warning light may also be on, if equipped.
- The ABS system is disabled, which may be felt as a lack of anti-lock function during hard braking.
- Often no other symptoms besides the warning light, especially if the relay fails open and normal braking remains.
- In some cases, a clicking or buzzing sound from the ABS relay or module area may be heard when the ignition is turned on.
- The brake pedal may feel normal, but the driver should be aware that ABS is not available.

Common causes, most likely first

- Faulty ABS valve relay, such as burned contacts or a failed coil.
- Blown fuse or fusible link that supplies power to the valve relay circuit.
- Corroded, loose, or damaged wiring or connectors in the valve relay circuit.
- Defective ABS control module, including internal driver or monitoring circuit failure.
- Poor ground connection for the ABS pump motor or valve relay circuit.
- Water intrusion or contamination in the relay or connector causing intermittent operation.



How to diagnose and fix it

- 1 Check all fuses and fusible links related to the ABS system, including the valve relay power supply, and replace any that are blown.
- 2 Inspect the valve relay and its socket for corrosion, loose terminals, or damage; swap with a known-good relay of the same type if possible.
- 3 Perform a voltage drop test on the relay power and ground circuits to identify high resistance connections.
- 4 Check the control circuit from the ABS module to the relay for opens, shorts, or high resistance, and repair as needed.
- 5 Verify the relay operation by listening for a click when the ignition is turned on, or by testing the relay coil with a multimeter.
- 6 If all external circuits and the relay are good, test the ABS control module's internal driver and feedback circuits; replace the module if faulty.
- 7 Clear the code and perform a road test to verify the repair, ensuring the ABS light stays off and the system functions correctly.

Before you replace the ABS module

- A valve relay that fails due to worn contacts can sometimes be repaired by cleaning the contacts, but replacement is the more reliable fix.
- The C0121 code can be set by a low battery or charging system problem that causes the ABS module to see low voltage during self-test.
- Some vehicles use a solid-state relay integrated into the ABS module, so a relay failure may require module replacement rather than a simple relay swap.
- Intermittent C0121 codes often trace to a poor ground connection at the ABS pump motor or chassis, which can be overlooked when focusing on the relay itself.
- Always check for technical service bulletins (TSBs) for the specific vehicle, as some models have known issues with relay circuit corrosion or module software.

Can I keep driving with C0121?

You can usually drive the vehicle with the ABS light on because normal braking remains functional, but you should avoid hard braking or slippery conditions where ABS is needed. Have the system diagnosed soon to restore full safety features.



Tools that help

- OBD-II scan tool with ABS capability
- Digital multimeter
- Test light
- Relay puller or small screwdriver
- Wiring diagram for the ABS circuit
- Socket set and trim tools for access

Reading C0121

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

Often seen with

C0110 ABS Pump Motor Circuit Malfunction

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/c0121/>

