

GENERIC · CHASSIS

C05D0

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

C05D0

Brake Master Cylinder Piston Position Sensor A/B Correlation

The C05D0 code indicates that the anti-lock brake system (ABS) module has detected a mismatch between the signals from two separate position sensors monitoring the brake master cylinder piston. The computer compares the expected correlation between sensor A and sensor B and sets this code when their readings deviate beyond the allowed tolerance, which can affect brake performance and safety systems.

SYSTEM

Chassis

CODE TYPE

Generic (all makes)

SEVERITY

High

FIX DIFFICULTY

Professional

AREA

Brakes, steering and suspension

Symptoms you may notice

- Illumination of the ABS warning light, brake system warning light, or both on the dashboard
- Reduced or disabled ABS function, which may only become apparent during hard braking or slippery conditions
- A soft or spongy brake pedal feel if the piston position is not being accurately reported
- Unexpected activation of the traction control or stability control systems
- Often no symptoms besides the warning light, especially if the correlation error is intermittent

Common causes, most likely first

- 1 Faulty brake master cylinder piston position sensor A or B, due to internal wear or electrical failure
- 2 Contaminated or degraded brake fluid causing sensor readings to drift or become inconsistent
- 3 Air trapped in the master cylinder or hydraulic system, leading to incorrect piston position feedback
- 4 Wiring damage such as chafed wires, corroded connectors, or loose pins in the sensor circuits
- 5 A failing ABS control module that misinterprets or fails to process the sensor signals correctly
- 6 Mechanical binding or wear inside the master cylinder that prevents the piston from moving as expected



How to diagnose and fix it

- 1 Use a scan tool to retrieve all stored codes and freeze-frame data, then clear the code and test-drive to see if it returns
- 2 Visually inspect the master cylinder area for leaks, damaged wiring, and corroded connectors, repairing as needed
- 3 Check the brake fluid level and condition, and bleed the brake system if contamination or air is suspected
- 4 Measure the resistance and signal output of both position sensors with a multimeter and compare to manufacturer specifications
- 5 Perform a live data check of the sensor readings while slowly pressing the brake pedal to observe correlation and smoothness
- 6 If sensor signals are erratic or out of specification, replace the faulty sensor or the master cylinder assembly as required
- 7 After repairs, clear the codes and verify that the ABS and brake warning lights remain off during a thorough test drive

What a correlation code really means

- A C05D0 code does not automatically mean the master cylinder is bad; often the root cause is a simple wiring issue or contaminated brake fluid affecting sensor signals.
- Some vehicles use a single sensor with redundant outputs, so a correlation error can be caused by a failing sensor even if the master cylinder itself is mechanically sound.
- The code may be set by a low brake fluid level or a recent brake job where the system was not properly bled, so always check the basics before replacing parts.
- Intermittent correlation errors can be caused by a weak battery or charging system, as low voltage can disrupt sensor signals and module processing.
- After replacing a sensor or master cylinder, some vehicles require a calibration or relearn procedure with a scan tool to clear the code permanently.

Can I keep driving with C05D0?

It is not safe to drive with this code because the ABS and stability control systems may be disabled, increasing stopping distances in emergencies. Avoid driving until the fault is diagnosed and repaired, especially in wet or slippery conditions.

Tools that help

- OBD-II scan tool with ABS and live data capability
- Digital multimeter
- Brake bleeding kit
- Socket and wrench set
- Manufacturer service information for sensor specifications



Reading C05D0

- C** Chassis: brakes, steering and suspension.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 5** Brakes, steering and suspension.
- D0** 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 · **C0110** ABS Pump Motor Circuit Malfunction · **C05D1** Brake Master Cylinder Piston Position Sensor Supply Circuit · **C05D2** Master Cylinder Piston Position Higher Than Expected

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/c05d0/>

