

GENERIC · CHASSIS

C0541

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

C0541

Brake Pressure Sensor B Range/Performance

C0541 indicates that the antilock braking system (ABS) module has detected an out-of-range or erratic signal from brake pressure sensor B, which is typically the secondary pressure sensor in a dual-sensor arrangement. The computer compares this signal against expected values and other sensor inputs, and it flags the code when the voltage or pressure reading falls outside the normal operating window or behaves unpredictably.

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

Symptoms you may notice

- ABS warning light illuminated on the dashboard, often accompanied by the traction control and stability control lights.
- Reduced or disabled antilock braking function, which may only become apparent during hard braking or on slippery surfaces.
- A soft, spongy, or unusually firm brake pedal feel that does not match pedal effort.
- Intermittent brake performance or a pulsation through the pedal during normal driving.
- Often no symptoms besides the warning light, with normal braking feel in everyday driving.

Common causes, most likely first

- 1 Faulty brake pressure sensor B, which may internally short, drift, or fail to respond to pressure changes.
- 2 Damaged, corroded, or chafed wiring in the sensor circuit, including the connector pins and harness near the ABS module.
- 3 Contaminated or degraded brake fluid that affects hydraulic pressure readings and sensor response.
- 4 Air trapped in the hydraulic system after recent brake service, causing pressure readings to deviate from expected values.
- 5 A failing ABS control module that misinterprets or fails to process the sensor signal correctly.
- 6 Low brake fluid level or a hydraulic leak that prevents the sensor from seeing the correct pressure range.
- 7 Mechanical binding in the brake caliper or master cylinder that creates abnormal pressure fluctuations.



How to diagnose and fix it

- 1 Verify the brake fluid level and condition, then inspect the sensor connector and wiring for corrosion, looseness, or physical damage.
- 2 Use a scan tool to read live brake pressure sensor data and compare sensor B readings with sensor A and with actual pedal application.
- 3 Perform a voltage drop and resistance test on the sensor signal and ground circuits to rule out wiring faults before replacing parts.
- 4 Bleed the brake system thoroughly to remove any trapped air, then clear the code and road-test the vehicle to see if it returns.
- 5 If the signal remains erratic, replace brake pressure sensor B with a quality part and recalibrate or relearn the sensor if required.
- 6 Inspect the ABS module connectors and grounds for water intrusion or loose pins, and repair any damaged terminals.
- 7 As a final step, if all wiring and sensors test good, diagnose or replace the ABS control module after confirming power and ground integrity.

What most technicians overlook on C0541

- A brake pressure sensor can pass a static resistance test and still fail dynamically under heat or vibration, so live data during a road test is more reliable than a bench check.
- The code often sets after brake pad or caliper replacement because air is introduced into the hydraulic system, and a proper bleed with an ABS scan-tool routine is required to purge trapped air from the module.
- Corroded ground connections near the ABS module can cause sensor B to read out of range even when the sensor and wiring are healthy, so always verify ground integrity before condemning parts.
- Some vehicles use brake pressure sensor B as part of the stability control system, and a fault here can disable traction control and hill-start assist without any change in normal braking feel.
- A failing master cylinder can produce pressure fluctuations that mimic a sensor fault, so check for a slowly sinking pedal or external leaks before replacing the sensor.

Can I keep driving with C0541?

The vehicle remains driveable with normal braking in most cases, but antilock braking and stability control may be disabled, so avoid hard braking, towing, and slippery road conditions until the fault is repaired. If the brake pedal feels abnormal or the fluid level is low, stop driving and have the system inspected immediately.



Tools that help

- OBD-II scan tool with ABS live-data capability
- Digital multimeter for circuit testing
- Brake pressure gauge set
- Brake bleeder kit
- Socket and wrench set for sensor and module access

Reading C0541

- 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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- 5** Brakes, steering and suspension.
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- 41** The exact fault within that area.

Often seen with

C0040 Left Rear Wheel Speed Sensor Circuit · **C0540** Hill Hold Control Performance · **C0542** Brake Pressure Sensor B Circuit Low · **C0543** Brake Pressure Sensor B Circuit High · **C0550** Encoder Position Switch Circuit

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/c0541/>

