

GENERIC · CHASSIS

C0290

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

C0290

Brake Pedal Stroke Sensor Circuit Malfunction

C0290 indicates that the antilock braking system (ABS) control module has detected an implausible or missing signal from the brake pedal stroke sensor circuit. The computer expects a specific voltage or digital pattern as the brake pedal moves through its travel, and it has logged this code because the signal is out of range, erratic, or absent.

SYSTEM

Chassis

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Brakes, steering and suspension

Symptoms you may notice

- ABS warning light illuminated on the dashboard
- Traction control or stability control warning light may also be on
- Brake pedal feels normal in most cases, with no change in stopping power
- Occasionally a soft or inconsistent brake pedal feel if the sensor is mechanically binding
- Cruise control may become inoperative or disengage unexpectedly
- Often no symptoms besides the warning light

Common causes, most likely first

- 1 Faulty brake pedal stroke sensor (internal wear or contamination)
- 2 Damaged or disconnected electrical connector at the sensor
- 3 Chafed, broken, or corroded wiring in the sensor circuit
- 4 Poor electrical ground for the sensor or ABS module
- 5 Brake pedal assembly mechanical binding or incorrect adjustment
- 6 Failed ABS control module (less common)
- 7 Aftermarket or incorrect brake pedal components interfering with sensor travel



How to diagnose and fix it

- 1 Connect a scan tool and read all ABS codes to confirm C0290 is current and not history
- 2 Visually inspect the brake pedal stroke sensor, its connector, and wiring for damage or corrosion
- 3 Check sensor reference voltage and ground at the connector with a digital multimeter
- 4 Perform a live data check of the brake pedal stroke sensor signal while slowly pressing and releasing the pedal
- 5 Inspect the brake pedal assembly for binding, worn bushings, or incorrect adjustment
- 6 If the signal is erratic or out of range, replace the brake pedal stroke sensor and clear codes
- 7 If the sensor and wiring test good, diagnose the ABS control module and its power/ground circuits

What the brake stroke sensor really does

- The brake pedal stroke sensor is often confused with the brake pedal position switch, but the stroke sensor provides a continuous analog or digital signal of pedal travel, not just an on/off brake light signal.
- A misadjusted or sticking brake pedal can set C0290 even when the sensor itself is perfectly functional, so always verify pedal mechanics before replacing parts.
- The ABS module may set C0290 as a secondary code when the brake pedal stroke sensor signal is lost due to a blown fuse or a poor ground, not a failed sensor.
- On some vehicles, the brake pedal stroke sensor is part of the brake pedal assembly and cannot be replaced separately, which changes the repair approach.
- Clearing the code without repairing the underlying circuit issue will usually result in the code returning after a few drive cycles.

Can I keep driving with C0290?

The vehicle remains safe to drive under normal braking because the base hydraulic system is unaffected, but you should avoid hard braking or situations that require ABS activation until the fault is repaired. Have the system diagnosed promptly to restore full ABS and stability control function.

Tools that help

- OBD-II scan tool with ABS capability
- Digital multimeter
- Wire probe set
- Service manual or wiring diagram for the vehicle
- Basic hand tools (sockets, screwdrivers, trim tools)



Reading C0290

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

Often seen with

C0110 ABS Pump Motor Circuit Malfunction · **C0121** Valve Relay Circuit Malfunction · **C0291** Brake Pedal Apply Sensor 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/c0290/>

