

GENERIC · POWERTRAIN

P05DC

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P05DC

Brake Pedal Position Sensor B Circuit Range/Performance

P05DC indicates that the powertrain control module (PCM) has detected an out-of-range or performance fault in the electrical circuit for brake pedal position sensor B, which is often the redundant or secondary sensor in a dual-sensor brake pedal assembly. The PCM compares the signal from sensor B against expected values and the signal from sensor A, and it sets this code when the voltage or correlation falls outside the programmed limits.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Intermediate	Vehicle speed, idle control and auxiliary inputs

Symptoms you may notice

- Illumination of the brake system warning light or the check engine light, often with no other noticeable symptoms.
- The engine may not start because the PCM does not recognize that the brake pedal is depressed, which is required on many push-button start vehicles.
- Cruise control may fail to engage or may disengage unexpectedly while driving.
- The transmission may be difficult to shift out of park, or the brake-shift interlock may not release.
- Brake lights may stay on continuously or fail to illuminate when the pedal is pressed.
- Electronic stability control (ESC) or hill-start assist may be disabled, with a corresponding warning message.

Common causes, most likely first

- 1 A faulty brake pedal position sensor B, which may have worn internal contacts or a failed hall-effect element.
- 2 Damaged, chafed, or corroded wiring in the sensor B circuit, including the signal, ground, or reference voltage wires.
- 3 A poor electrical connection at the sensor connector or at the PCM, often due to water intrusion or terminal fretting.
- 4 Mechanical binding or misalignment of the brake pedal assembly that prevents sensor B from sweeping through its full range.
- 5 A failed or improperly calibrated sensor A that causes the PCM to flag sensor B as out of correlation.
- 6 A software issue or faulty PCM that incorrectly interprets the sensor B signal, though this is less common.



How to diagnose and fix it

- 1 Use a scan tool to read the freeze-frame data and observe live brake pedal position sensor B voltage while slowly pressing and releasing the brake pedal, looking for smooth transitions without dropouts or spikes.
- 2 Visually inspect the sensor B connector and the wiring harness for damage, corrosion, or loose terminals, and repair any faults found.
- 3 Check the sensor B reference voltage and ground at the connector with a multimeter to confirm the circuit is intact before condemning the sensor.
- 4 Compare the sensor B signal to sensor A on a graph using the scan tool; a large discrepancy or a sensor B signal that does not move confirms a sensor or mechanical problem.
- 5 If the sensor is mechanically adjustable, verify that it is properly indexed to the brake pedal and that the pedal moves freely through its full travel.
- 6 Replace the brake pedal position sensor B with a quality part, then clear the codes and perform any required calibration or relearn procedure with the scan tool.
- 7 Road test the vehicle to confirm the code does not return and that brake lights, cruise control, and starting functions operate correctly.

Brake pedal sensor B correlation traps

- Many vehicles use two brake pedal position sensors for redundancy, and a fault in sensor A can cause the PCM to set a code for sensor B because the two signals no longer agree.
- A brake pedal position sensor B code can be set by a simple mechanical problem such as a missing or worn pedal return bumper, which prevents the sensor from reaching its rest position.
- After replacing the sensor, some vehicles require a calibration or a relearn procedure that is not always mentioned in aftermarket repair manuals, so the code may persist until this is done.
- Water intrusion into the connector or sensor housing is a common cause on vehicles where the brake pedal area is exposed to leaks from the cowl or heater box, and it often leaves no visible signs until the connector is separated.
- This code does not always mean the sensor itself is bad; a dragging brake pedal, a misadjusted brake light switch, or a binding cruise control cable can also cause the sensor B signal to fall outside the expected range.

Can I keep driving with P05DC?

If the brake warning light is on and you have verified that the brake lights work normally, you may drive cautiously to a repair shop, but avoid using cruise control and be prepared for the engine to not restart if you shut it off. If the brake lights are not functioning or the pedal feels abnormal, do not drive the vehicle because brake light operation is a safety requirement.



Tools that help

- OBD-II scan tool with live data and graphing capability
- Digital multimeter
- Wire piercing probes or back-probe kit
- Socket and ratchet set
- Torx or hex bit set for sensor removal
- Manufacturer service information for calibration procedures

Reading P05DC

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
5	Vehicle speed, idle control and auxiliary inputs.
DC	The exact fault within that area.

Often seen with

P0571 Brake Switch 'A' Circuit · **P0572** Brake Switch 'A' Circuit Low · **P05DB** Brake Pedal Position Sensor B Circuit/Open · **P05DD** Brake Pedal Position Sensor B Circuit Low · **P05DE** Brake Pedal Position Sensor B Circuit High

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/p05dc/>

