

GENERIC · POWERTRAIN

P05DF

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P05DF

Brake Pedal Position Sensor B Circuit Intermittent/Erratic

P05DF indicates that the powertrain control module (PCM) has detected an intermittent or erratic signal from the brake pedal position sensor B circuit, which is typically the second channel in a redundant brake pedal position sensing system. The PCM monitors this circuit for expected voltage changes as the brake pedal is pressed and released, and it flags the code when the signal momentarily drops out, jumps, or fails to follow the pedal motion in a plausible pattern.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Vehicle speed, idle control and auxiliary inputs

Symptoms you may notice

- The brake pedal may feel normal, but the warning light on the dashboard is illuminated.
- The brake lights may flicker, stay on continuously, or fail to illuminate when the pedal is pressed.
- Cruise control may disengage unexpectedly or refuse to engage at all.
- The transmission may hesitate to shift out of park or may exhibit harsh shifting due to conflicting brake signals.
- A message such as 'Service Brake System' or 'Check Brake Pedal' may appear on the driver information center.
- Often no symptoms besides the warning light, especially if the fault is a momentary glitch that does not affect the primary brake pedal sensor.

Common causes, most likely first

- 1 A worn or contaminated brake pedal position sensor B, particularly at the internal wiper contact or hall-effect element.
- 2 An intermittent open or short in the sensor B signal wire, often due to flexing at the pedal bracket or chafing against a metal edge.
- 3 Corroded or loose terminals at the sensor connector or at the PCM connector, causing a resistance change that interrupts the signal.
- 4 A misadjusted sensor mounting bracket or a loose sensor retaining bolt that allows the sensor to move relative to the pedal arm.
- 5 Water intrusion into the sensor housing or connector, leading to intermittent conductivity changes.
- 6 A failing brake pedal position sensor A that shares a common ground or reference voltage with sensor B, causing cross-talk that the PCM interprets as a B-circuit fault.
- 7 A software calibration issue in the PCM that misinterprets normal sensor variation, though this is less common than hardware faults.



How to diagnose and fix it

- 1 Use a scan tool to read the freeze-frame data and live brake pedal position sensor B voltage while slowly pressing and releasing the pedal, looking for dropouts or spikes.
- 2 Visually inspect the sensor B connector and wiring harness for corrosion, loose pins, chafing, or signs of water intrusion, and repair any damaged terminals or wire insulation.
- 3 Check the sensor mounting bracket and retaining bolt for tightness and correct alignment, and adjust or replace the bracket if the sensor is not securely held.
- 4 Back-probe the sensor B signal wire at the PCM and wiggle the harness while watching the voltage to identify an intermittent wiring fault.
- 5 Measure the sensor B resistance or voltage output across its full travel and compare it with the manufacturer's specification to confirm sensor wear or contamination.
- 6 Replace the brake pedal position sensor B if it fails the electrical test, then clear the code and verify that the live data tracks smoothly through the full pedal range.
- 7 If the fault persists after sensor and wiring repairs, check for a shared reference or ground fault with sensor A and inspect the PCM connector for terminal tension loss.

Before you replace the brake pedal sensor

- A common oversight is replacing sensor B without checking the shared ground circuit, because a poor ground on sensor A can pull the B signal out of range and set this code.
- The code can be set by a momentary glitch that occurs only during rapid pedal movements, so a static resistance test may pass even though the sensor is failing under dynamic conditions.
- Aftermarket floor mats or debris trapped behind the brake pedal can limit pedal travel and cause the sensor to report an erratic signal, mimicking an electrical fault.
- Some vehicles use the brake pedal position signal for cruise control release and torque converter clutch strategy, so an intermittent fault can cause drivability symptoms that seem unrelated to the brakes.
- A battery that is weak or has a poor connection can cause voltage spikes that confuse the PCM and set a false P05DF, so always verify battery and charging system health before condemning the sensor.

Can I keep driving with P05DF?

The vehicle is generally safe to drive if the brake pedal feels normal and the brake lights work consistently, but avoid using cruise control and have the fault diagnosed promptly. If the brake lights flicker or the pedal feels inconsistent, stop driving and seek professional repair because the fault can affect brake light operation and other safety systems.



Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Digital multimeter with back-probing pins
- Wiring diagram for the brake pedal position sensor circuit
- Socket set and Torx bits for sensor removal
- Contact cleaner and dielectric grease for connector repair
- Manufacturer service information for sensor adjustment specifications

Reading P05DF

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.
DF	The exact fault within that area.

Often seen with

P0571 Brake Switch 'A' Circuit · **P0572** Brake Switch 'A' Circuit Low · **P0573** Brake Switch 'A' Circuit High · **P05DE** Brake Pedal Position Sensor B Circuit High · **P05E0** Brake Pedal Position Sensor A/B Correlation

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/p05df/>

