

GENERIC · POWERTRAIN

P087B

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P087B

Clutch Position Sensor B Circuit Range/Performance

P087B indicates that the powertrain control module has detected an out-of-range or erratic signal from the clutch position sensor B circuit, which is used to monitor the travel or engagement point of the clutch. The computer compares the sensor voltage against expected values for the current driving conditions and flags the code when the signal falls outside the valid range or fails a rationality check.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Transmission

Symptoms you may notice

- Illumination of the check engine light or service engine soon light
- Often no symptoms besides the warning light, especially in early stages
- Hesitation or jerking during gear changes, particularly from a stop
- Inconsistent clutch engagement point or a clutch pedal that feels different
- Reduced engine power or limp mode in some vehicles
- Difficulty starting the engine if the clutch pedal position is used for starter interlock

Common causes, most likely first

- 1 Faulty clutch position sensor B or its internal circuitry
- 2 Damaged, chafed, or corroded wiring in the sensor circuit
- 3 Loose or corroded electrical connector at the sensor or PCM
- 4 Mechanical wear or misalignment of the clutch pedal assembly affecting sensor travel
- 5 Contamination or debris on the sensor element
- 6 PCM software issue or internal fault (less common)



How to diagnose and fix it

- 1 Inspect the clutch position sensor and its connector for physical damage, corrosion, or loose pins
- 2 Check the sensor circuit wiring for continuity, shorts to ground, and shorts to voltage using a multimeter
- 3 Verify sensor operation with a scan tool by monitoring live data while slowly pressing and releasing the clutch pedal
- 4 Perform a visual inspection of the clutch pedal assembly for wear, binding, or missing return springs
- 5 Compare sensor B readings with sensor A (if equipped) to identify irrational signals
- 6 Replace the clutch position sensor if electrical and mechanical checks pass but the signal remains erratic
- 7 Clear the code and perform a road test to confirm the repair and ensure the code does not return

Clutch sensor B faults that fool technicians

- A worn clutch pedal bushing or a missing pedal return spring can cause the sensor to report an out-of-range signal even when the sensor itself is good.
- Aftermarket floor mats or pedal covers that restrict clutch pedal travel can trigger this code by preventing the sensor from reaching its expected endpoints.
- The code can set intermittently due to a poor ground connection at the chassis or engine block, which affects the reference voltage seen by the PCM.
- Some vehicles use the clutch position signal for cruise control cancel and engine start logic, so a failing sensor may cause unrelated drivability complaints before the code sets.
- A binding clutch master cylinder pushrod can mimic a sensor fault by altering the pedal travel ratio, leading to misdiagnosis and unnecessary sensor replacement.

Can I keep driving with P087B?

The vehicle is generally safe to drive with this code, but avoid aggressive clutch operation and be prepared for inconsistent engagement that could affect smooth gear changes. If the vehicle enters limp mode or the clutch pedal feels abnormal, have it inspected promptly to prevent further damage.

Tools that help

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



Reading P087B

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 8** Transmission.
- 7B** The exact fault within that area.

Often seen with

P0805 Clutch Position Sensor Circuit · **P0806** Clutch Position Sensor Circuit Range/Performance · **P087A** Clutch Position Sensor B Circuit · **P087C** Clutch Position Sensor B Circuit Low · **P087D** Clutch Position Sensor B Circuit High

See it working

Watch the animated explainer [Manual Car Driving Simulator: Learn Clutch Control](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p087b/>

