

GENERIC · POWERTRAIN

P087A

OBD-II TROUBLE CODE

P087A

Clutch Position Sensor B Circuit

P087A is a generic powertrain code that indicates the transmission control module (TCM) has detected an implausible or out-of-range signal from the clutch position sensor B circuit. This sensor is typically used on vehicles with an automated manual transmission or dual-clutch transmission to monitor clutch engagement, and the TCM sets the code when the voltage or signal does not match expected values for the current driving conditions.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Intermediate	Transmission

Symptoms you may notice

- Illumination of the check engine light or transmission warning light, often with no other noticeable symptoms
- Harsh or delayed gear shifts, especially when engaging or disengaging the clutch
- The transmission may fail to engage a gear or may slip out of gear unexpectedly
- A noticeable loss of power or hesitation during acceleration
- In some cases, the vehicle may enter limp mode and restrict shifting to a single gear

Common causes, most likely first

- 1 Faulty clutch position sensor B, which may have an internal short or open circuit
- 2 Damaged or corroded wiring harness or connector at the sensor or TCM
- 3 Poor electrical connection due to loose pins or water intrusion
- 4 Failed TCM or a software glitch in the transmission control module
- 5 Mechanical issues with the clutch assembly, such as a worn release bearing or fork, causing the sensor to read out of range
- 6 Contamination or debris on the sensor tip or reluctor wheel



How to diagnose and fix it

- 1 Use an OBD-II scanner to retrieve the code and check for any related transmission codes; clear the code and test-drive to see if it returns
- 2 Visually inspect the clutch position sensor B and its wiring for obvious damage, corrosion, or loose connections
- 3 Perform a voltage drop test on the sensor circuit to check for excessive resistance in the wiring
- 4 Check the sensor's resistance or voltage output with a multimeter and compare to manufacturer specifications
- 5 If the sensor is faulty, replace it and clear the codes; follow the manufacturer's procedure for calibration or relearn if required
- 6 If the sensor and wiring are good, inspect the clutch mechanism for wear or misalignment that could affect sensor readings
- 7 As a last resort, diagnose the TCM for internal faults or update its software if a known issue exists

Clutch Sensor B Circuit Pitfalls

- A common mistake is replacing the clutch position sensor without checking the wiring harness, as chafed wires near the transmission bell housing often cause intermittent signals.
- The code can be set by a mechanical problem such as a worn clutch fork that prevents the sensor from reaching its full range of motion, so always inspect the clutch assembly before condemning the sensor.
- On some vehicles, a low or weak battery can cause voltage spikes that trigger this code, so verify battery health and charging system operation first.
- After replacing the sensor, many transmissions require a relearn procedure using a scan tool; skipping this step can cause the code to return immediately.
- This code is often stored alongside other transmission codes like P087B or P087C, which indicate related circuit issues, so diagnosing all codes together is essential.

Can I keep driving with P087A?

You can usually drive the vehicle with this code, but avoid aggressive acceleration or heavy loads because the transmission may not shift properly and could enter limp mode. If the vehicle feels sluggish or refuses to shift, seek service soon to prevent further transmission damage.

Tools that help

- OBD-II scan tool with transmission code capability
- Digital multimeter
- Wiring diagram for the specific vehicle
- Socket set and basic hand tools
- Jack and jack stands or a lift for under-vehicle access



Reading P087A

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

Often seen with

P0700 Transmission Control System Malfunction · **P0805** Clutch Position Sensor Circuit · **P087B** Clutch Position Sensor B Circuit Range/Performance · **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/p087a/>

