

GENERIC · POWERTRAIN

P2C50

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2C50

Clutch Pedal Position Sensor A/Clutch Actuator Position Sensor Correlation

P2C50 indicates that the powertrain control module (PCM) has detected a discrepancy between the clutch pedal position sensor A signal and the clutch actuator position sensor signal, which should normally track each other during clutch operation. The PCM compares these two inputs to ensure the clutch system is engaging and disengaging as commanded, and it sets this code when the correlation falls outside the expected range for a calibrated period.

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

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Difficulty shifting gears or a clutch pedal that feels inconsistent
- Unexpected engine revving or stalling when the clutch is operated
- A delay or jerk when engaging the clutch from a stop
- In rare cases, the vehicle may enter limp mode or refuse to start if the clutch pedal position is used for starting logic

Common causes, most likely first

- 1 Faulty clutch pedal position sensor A or its wiring connector
- 2 Faulty clutch actuator position sensor or its wiring
- 3 Worn or misadjusted clutch linkage or actuator mechanism
- 4 Contaminated or damaged sensor tone ring or magnet (in non-contact sensors)
- 5 Corroded or damaged electrical connectors or harness between the sensors and the PCM
- 6 PCM software issue or internal fault (less common)



How to diagnose and fix it

- 1 Use a scan tool to read live data for both clutch pedal position and clutch actuator position while operating the clutch to confirm the correlation fault.
- 2 Inspect the clutch pedal position sensor and actuator sensor connectors for corrosion, loose pins, or damaged wiring, and repair as needed.
- 3 Check the clutch pedal and actuator mechanism for mechanical binding, wear, or misadjustment, and adjust or replace components as required.
- 4 Perform a resistance and voltage drop test on the sensor circuits to rule out high resistance or short circuits.
- 5 If the sensors are accessible, swap known-good sensors or perform a relearn/calibration procedure as specified by the manufacturer.
- 6 Verify the PCM has the latest software calibration and reflash if a known issue exists.
- 7 Clear the code and perform a road test to confirm the repair, monitoring live data for proper correlation.

Clutch Sensor Correlation Traps to Avoid

- A misadjusted clutch pedal position sensor can mimic a failed actuator sensor, so always verify both signals with a scan tool before replacing parts.
- On some vehicles, the clutch actuator position sensor is integrated into the clutch master cylinder or release bearing, making it a costly guess if not properly diagnosed.
- Wiring harness chafing near the clutch pedal assembly is a common cause that is often overlooked during visual inspections.
- This code can be set by a perfectly functioning clutch if the battery was recently disconnected or the PCM lost power, requiring a relearn procedure.
- Aftermarket clutch components with different travel characteristics can trigger this code even when all sensors are within specification.

Can I keep driving with P2C50?

The vehicle is generally safe to drive if the clutch operates normally and the only symptom is the warning light, but avoid aggressive clutch use and schedule diagnosis soon. If you experience difficulty shifting, stalling, or inconsistent clutch engagement, limit driving to low-speed trips to a repair shop.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wiring diagram for the clutch sensor circuits
- Basic hand tools (sockets, wrenches, screwdrivers)
- Feeler gauges or adjustment tools for clutch linkage



Reading P2C50

- P** Powertrain: engine, transmission and emissions.
- 2** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- C** Hybrid propulsion.
- 50** The exact fault within that area.

Often seen with

P0805 Clutch Position Sensor Circuit · **P0806** Clutch Position Sensor Circuit Range/Performance · **P2C51** Fuel Level Sensor A/B Correlation · **P2C52** Cylinder 1 Fuel Injector B Offset Learning At Min Limit · **P2C53** Cylinder 1 Fuel Injector B Offset Learning At Max Limit

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/p2c50/>

