

GENERIC · POWERTRAIN

P0725

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0725

Engine Speed Input Circuit Malfunction

P0725 means the powertrain control module (PCM) is not receiving a valid engine speed signal from the engine control module (ECM) or the crankshaft position sensor over the controller area network (CAN) bus. The PCM uses this signal to calculate shift points and torque converter lockup, so when it goes missing or erratic, the transmission control strategy is compromised.

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

Symptoms you may notice

- The check engine light or transmission warning light illuminates, often with no other noticeable symptoms.
- Harsh or delayed shifting as the transmission control module (TCM) loses engine speed data for shift scheduling.
- The transmission may default to a limp-home mode, holding a single gear or refusing to downshift.
- The tachometer may read zero or fluctuate erratically while the engine runs normally.
- Intermittent stalling or a no-crank condition if the engine speed signal is also used for starting logic.
- Poor fuel economy or reduced power if the PCM substitutes a default engine speed value.

Common causes, most likely first

- A faulty crankshaft position sensor or a damaged sensor reluctor ring.
- Wiring damage, corrosion, or loose pins in the engine speed signal circuit between the ECM and PCM.
- A failing engine control module (ECM) that is not broadcasting engine speed over the CAN bus.
- A failing powertrain control module (PCM) or transmission control module (TCM) with an internal communication fault.
- A weak or failing battery or poor ground connection causing communication bus voltage drops.
- Aftermarket electronic accessories or a poorly installed remote starter interfering with the CAN bus.
- Software calibration issues in the ECM or PCM that require a reflash.



How to diagnose and fix it

- 1 Connect a scan tool and read all stored codes in every module, then record freeze-frame data for P0725 and any companion codes.
- 2 Inspect the battery, charging system, and all ground straps for voltage drops that could disrupt module communication.
- 3 Visually inspect the crankshaft position sensor and its wiring harness for chafing, corrosion, or loose connectors.
- 4 Back-probe the engine speed signal circuit at the ECM and PCM and compare the signal with a lab scope while cranking and running.
- 5 Check for technical service bulletins (TSBs) or calibration updates for the ECM and PCM that address engine speed signal communication.
- 6 If the signal is absent at the PCM but present at the ECM, test the CAN bus wiring between the two modules for opens or shorts.
- 7 Replace the confirmed faulty component, such as the crankshaft sensor, ECM, or PCM, only after all circuit tests pass.

Why P0725 is often a communication fault

- P0725 is frequently set by a failing crankshaft position sensor even when the engine still runs, because the ECM may broadcast a substituted or intermittent signal that the PCM rejects.
- A weak battery or a bad ground can set P0725 without any hard failure, so always load-test the battery and check voltage drops before replacing modules.
- Aftermarket remote starters and alarm systems that tap into the CAN bus are a common hidden cause of engine speed communication codes.
- The code does not always mean the transmission is damaged; many vehicles set P0725 purely from an ECM-to-PCM communication glitch and clear after a battery reset.
- A faulty alternator producing excessive AC ripple can corrupt the CAN bus signal and trigger P0725 along with other communication codes.

Can I keep driving with P0725?

You can usually drive the vehicle to a repair shop if the engine runs normally and the transmission is not in limp mode, but avoid heavy acceleration and towing until the fault is diagnosed. If the transmission is stuck in a single gear or the engine stalls, stop driving and arrange a tow.



Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Digital multimeter with voltage drop and resistance functions
- Oscilloscope or lab scope for signal waveform analysis
- Wiring diagram and connector pinout for the ECM and PCM
- Battery load tester and charging system tester

Reading P0725

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

Often seen with

P0335 Crankshaft Position Sensor A Circuit Malfunction · **P0336** Crankshaft Position Sensor A Circuit Range/Performance · **P0700** Transmission Control System Malfunction · **P0720** Output Speed Sensor Circuit Malfunction · **U0100** Lost Communication With ECM/PCM A

See it working

Watch the animated explainer [How Airbags Work: A 50 km/h Crash in Slow Motion](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0725/>

