

GENERIC · POWERTRAIN

P0737

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0737

TCM Engine Speed Output Circuit

P0737 is set when the transmission control module (TCM) detects an abnormal condition on the engine speed output circuit, which is the signal path the TCM uses to report engine RPM to other modules or to verify its own output. The TCM monitors the voltage or signal integrity on this circuit and flags the code when the expected electrical behavior is not present.

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

Symptoms you may notice

- Illumination of the malfunction indicator lamp (MIL) on the dashboard
- Often no symptoms besides the warning light, with normal shift quality and drivability
- Erratic or harsh shifting if the TCM loses engine speed data used for shift scheduling
- Incorrect or missing tachometer reading on the instrument cluster
- Transmission may enter limp mode or default to a fixed gear on some vehicles
- Other modules may log communication or signal-loss codes related to engine speed

Common causes, most likely first

- 1 Damaged, chafed, or open wiring in the engine speed output circuit between the TCM and the component it feeds
- 2 Corroded or loose connector terminals at the TCM or at the receiving module
- 3 Failed TCM output driver or internal circuit fault
- 4 Faulty engine speed sensor or crank sensor providing an invalid input the TCM cannot output correctly
- 5 Short to ground or short to voltage on the signal wire
- 6 Poor ground connection shared by the TCM or the instrument cluster
- 7 Aftermarket accessories or poor previous repairs tapping into the circuit



How to diagnose and fix it

- 1 Scan all modules and record stored, pending, and permanent codes before clearing anything
- 2 Inspect the TCM connectors and the engine speed output circuit for corrosion, loose pins, and chafed insulation
- 3 Check continuity and resistance of the signal wire end to end, and test for shorts to ground and to voltage
- 4 Verify the engine speed sensor input to the TCM is clean and consistent with a scan tool live data reading
- 5 Confirm the receiving module or cluster is not the source of the fault by swapping or testing it where accessible
- 6 If the circuit and inputs test good, follow the manufacturer's pinpoint test for the TCM output driver
- 7 Replace or reprogram the TCM only after all wiring and input checks pass, then clear codes and verify the repair

What the engine speed output circuit really does

- Many technicians replace the TCM first, but a chafed signal wire or corroded pin is far more common and costs far less to fix.
This code does not always mean the TCM has failed; a bad crank or engine speed sensor input can cause the TCM to output an invalid signal.
- The engine speed output circuit often feeds the instrument cluster tachometer, so a dead tachometer alongside P0737 points to the wiring or cluster rather than the transmission itself.
- A weak or shared ground can mimic a failed TCM output driver, so ground voltage drop testing should be part of every diagnosis.
Aftermarket remote starters, alarms, or stereo installs that tap into the tach or data wires are a commonly missed cause of this code.

Can I keep driving with P0737?

The vehicle is usually safe to drive short distances because the fault is electrical and often does not affect shifting, but avoid towing or aggressive driving until the circuit is repaired. If the transmission enters limp mode or shifts harshly, have it diagnosed promptly to prevent further damage.

Tools that help

- OBD-II scan tool with live data and bidirectional control
- Digital multimeter with continuity and voltage drop functions
- Wiring diagram and pinpoint test procedure for the specific vehicle
- Back probe pins and terminal test kit
- Soldering iron and heat shrink for wire repair



Reading P0737

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

Often seen with

P0335 Crankshaft Position Sensor A Circuit Malfunction · **P0715** Input/Turbine Speed Sensor Circuit Malfunction · **P0725** Engine Speed Input Circuit Malfunction · **P0736** Reverse Incorrect Ratio · **U0100** Lost Communication With ECM/PCM A

See it working

Watch the animated explainer [How a Rotary Engine Works: Wankel in X-Ray](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0737/>

