

GENERIC · POWERTRAIN

P06ED

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P06ED

Engine RPM Output Circuit Low

P06ED means the powertrain control module (PCM) has detected that the engine RPM output circuit is reporting a lower voltage or signal than expected for the actual engine speed. The PCM uses this circuit to send an RPM signal to other modules, and a low signal can affect their operation.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Intermediate	Computer and output circuits

Symptoms you may notice

- The check engine light is illuminated, often with no other noticeable symptoms.
- The tachometer may read zero or fluctuate erratically while the engine runs normally.
- Other modules that rely on the RPM signal, such as the transmission controller or body control module, may show unrelated fault codes or warning lights.
- The engine may idle poorly or hesitate if the PCM uses the circuit for feedback, though this is less common.
- In some vehicles, accessories like the radio or climate control may behave oddly due to missing RPM data.
- A no-start condition can occur if the RPM signal is also used for ignition or fuel synchronization, but this is rare for a low output fault alone.

Common causes, most likely first

- A damaged or corroded wire in the engine RPM output circuit, often from chafing or heat exposure.
- A faulty crankshaft position sensor or camshaft position sensor that provides the base RPM signal to the PCM.
- Poor electrical connections at the PCM, sensor, or intermediate connectors, including loose pins or water intrusion.
- A failing PCM, though this is uncommon and should be diagnosed last.
- Aftermarket accessories or poor previous repairs that tapped into the RPM signal wire and altered its voltage.
- A short to ground or to another circuit in the harness, which pulls the RPM output signal low.



How to diagnose and fix it

- 1 Scan all modules for stored codes and record freeze-frame data to understand when the fault occurs.
- 2 Inspect the engine RPM output circuit wiring and connectors for damage, corrosion, or loose pins, starting at the sensor and PCM.
- 3 Measure the AC voltage or frequency output of the crankshaft or camshaft position sensor with a multimeter or oscilloscope while cranking and running.
- 4 Check the RPM signal voltage at the PCM connector and compare it with the sensor output to isolate a wiring or PCM issue.
- 5 Perform a wiggle test on the harness and connectors while monitoring the RPM signal to catch intermittent faults.
- 6 If the signal is low at the PCM but correct at the sensor, repair or replace the affected wiring section.
- 7 If all inputs and wiring are good, substitute a known-good PCM only after confirming power and ground integrity, then reprogram if necessary.

RPM output faults that fool good technicians

- A low RPM output code often sets because the crankshaft position sensor signal is weak or intermittent, not because the PCM output driver has failed.
- Aftermarket remote starters or alarm systems that splice into the tachometer wire are a frequent cause of a pulled-low RPM signal that looks like a PCM fault.
- The PCM may set P06ED even when the tachometer works normally, because the output circuit feeds other modules on a separate wire that can fail independently.
- A shorted transmission range sensor or a faulty alternator can introduce electrical noise that corrupts the RPM signal and triggers this code.
- Clearing the code without checking freeze-frame data often leads to a comeback, since the fault may only appear at specific engine speeds or temperatures.

Can I keep driving with P06ED?

You can usually drive with this code if the engine runs normally and the tachometer is the only obvious issue, but avoid towing or heavy loads until the circuit is repaired. If the engine stalls, hesitates, or the transmission shifts erratically, stop driving and have the vehicle diagnosed promptly.

Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Digital multimeter with frequency or duty-cycle measurement
- Oscilloscope for viewing the RPM signal waveform
- Wiring diagram for the specific vehicle
- Test light or jumper wires for circuit testing
- Socket set and trim removal tools for accessing sensors and PCM connectors



Reading P06ED

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

Often seen with

P0335 Crankshaft Position Sensor A Circuit Malfunction · **P0336** Crankshaft Position Sensor A Circuit Range/Performance · **P0340** Camshaft Position Sensor A Circuit Malfunction (Bank 1) · **P0341** Camshaft Position Sensor A Circuit Range/Performance · **P0725** Engine Speed Input Circuit Malfunction

See it working

Watch the animated explainer [Excavator Simulator: Hydraulics You Can Operate](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p06ed/>

