

GENERIC · POWERTRAIN

P06E7

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P06E7

Sensor Power Supply C Circuit Low

P06E7 indicates that the powertrain control module (PCM) has detected a low-voltage condition on the sensor power supply circuit labeled 'C'. This circuit typically provides a regulated 5-volt reference to multiple sensors, and a low reading means the PCM sees the supply voltage below its expected threshold, which can disable or skew sensor readings.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Computer and output circuits

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Multiple sensor-related trouble codes stored alongside P06E7
- Rough running or poor fuel economy if the affected sensors include those for air or fuel metering
- Intermittent stalling or hesitation if the low supply affects critical engine sensors
- Transmission shift quality issues if the circuit powers a transmission sensor
- Reduced engine power or limp mode in some vehicles when the fault is severe

Common causes, most likely first

- 1 A short to ground on the sensor power supply circuit C, such as a chafed wire touching metal
- 2 A faulty sensor internally shorted on that reference circuit, pulling the voltage down
- 3 Corroded or loose connector terminals at the PCM or at any sensor sharing circuit C
- 4 Water intrusion into a connector or splice pack causing a partial short
- 5 A damaged PCM driver for the sensor reference voltage, though this is less common
- 6 Aftermarket accessories improperly tapped into the reference circuit



How to diagnose and fix it

- 1 Use a scan tool to record all stored codes and freeze-frame data, then clear codes and verify whether P06E7 returns immediately
- 2 Obtain the wiring diagram for the specific vehicle and identify every sensor and splice on the sensor power supply circuit C
- 3 Disconnect each sensor on circuit C one at a time and observe whether the reference voltage returns to normal, isolating the faulty component
- 4 Perform a voltage drop test on the circuit while loaded with a known-good sensor or a test light to check for excessive resistance
- 5 Inspect connectors and harness routing for corrosion, chafing, or water intrusion, repairing terminals or replacing damaged wire sections as needed
- 6 If the circuit and all sensors test good, check the PCM reference voltage output directly at the connector; replace the PCM only if it fails the output test
- 7 After repair, clear codes and complete a drive cycle to confirm the code does not reset and all sensor readings are within specification

What a low reference voltage really means

- A single shorted sensor on a shared 5-volt reference circuit can pull down the voltage for every other sensor on that circuit, so the code may point to circuit C while the actual fault is in a sensor you would not expect.
- Technicians often replace the PCM prematurely when the real problem is a chafed harness behind the engine or near a sharp bracket, so always inspect wiring before condemning the module.
- P06E7 can be set by a completely different sensor than the one you are diagnosing, because circuit C may feed sensors for power steering, air conditioning, or other systems not directly related to engine performance.
- Intermittent low voltage on a reference circuit often leaves no freeze-frame data, so a wiggle test of the harness while monitoring live sensor voltages is more reliable than static checks.
- Some vehicles use a dedicated power supply circuit for each sensor group, and a low voltage on circuit C may be caused by a failing voltage regulator inside a sensor that only acts up when hot.

Can I keep driving with P06E7?

You can usually drive the vehicle to a repair shop if the engine runs normally and the check engine light is steady, but avoid heavy acceleration or long trips because the fault can worsen and cause stalling or limp mode. If the engine runs rough, stalls, or the light flashes, stop driving and have the vehicle towed.



Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter with voltage and resistance functions
- Wiring diagram or service information for the specific vehicle
- Test light or load resistor for voltage drop testing
- Wire terminal removal tools and electrical tape
- Flashlight and inspection mirror for harness inspection

Reading P06E7

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.
E7	The exact fault within that area.

Often seen with

P0641 Sensor Reference Voltage 'A' Circuit/Open · **P0651** Sensor Reference Voltage 'B' Circuit/Open · **P06E5** Glow Plug Control Module 1 Performance · **P06E6** Sensor Power Supply C Circuit/Open · **P06E8** Sensor Power Supply C Circuit High

See it working

Watch the animated explainer [How a Turbocharger Works, Step by Step](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p06e7/>

