

GENERIC · POWERTRAIN

P07CA

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P07CA

Intermediate Shaft Speed Sensor C Circuit High

P07CA indicates that the powertrain control module has detected an abnormally high voltage on the signal circuit for the intermediate shaft speed sensor C, which is one of the speed sensors used by the transmission control system. The computer expects the sensor's signal voltage to stay within a specific range, and a sustained high reading tells it that the circuit is likely open, shorted to power, or that the sensor itself has failed.

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

Symptoms you may notice

- Illumination of the check engine light or transmission warning light, often with no other noticeable symptoms
- Harsh or delayed shifting, especially when the transmission is cold or under light throttle
- The transmission may enter limp mode, sticking in a single gear or refusing to shift
- A noticeable flare or slip when shifting between gears, accompanied by elevated engine speed
- Inconsistent speedometer readings or a speedometer that drops to zero intermittently
- Reduced fuel economy due to the transmission holding lower gears longer than normal

Common causes, most likely first

- 1 A failed intermediate shaft speed sensor C, where the internal coil or hall-effect element no longer produces a valid signal
- 2 An open or damaged signal wire between the sensor and the transmission control module, often from chafing or a broken connector pin
- 3 A short to voltage on the signal circuit, which forces the voltage high and triggers the code
- 4 Corroded, loose, or water-intruded electrical connectors at the sensor or the control module
- 5 Debris, metal shavings, or a damaged reluctor wheel on the intermediate shaft that disrupts the sensor's magnetic pickup
- 6 A faulty transmission control module or a poor ground connection that skews the sensor reference voltage
- 7 Aftermarket or incorrect sensor installation that leaves the air gap out of specification



How to diagnose and fix it

- 1 Connect a scan tool and record the freeze-frame data and live sensor voltage to confirm the high signal condition before touching any hardware
- 2 Visually inspect the sensor, its connector, and the wiring harness for chafing, corrosion, or loose pins, and repair any obvious damage
- 3 Measure the sensor's resistance and compare it to the manufacturer's specification, then check the signal wire for continuity and shorts to power with a multimeter
- 4 Back-probe the signal circuit at the control module connector and compare the voltage with the sensor output to isolate whether the fault is in the wiring or the sensor
- 5 Remove the sensor and inspect the tip and the reluctor wheel for metallic debris or physical damage, cleaning or replacing components as needed
- 6 If the wiring and sensor test good, check the control module's ground and reference voltage circuits, and substitute a known-good module only after all other tests pass
- 7 Clear the codes, perform a road test through all gears, and verify that the code does not return and that shift quality is restored

What the high-voltage reading really means

- A high signal voltage on a speed sensor circuit frequently comes from a simple open circuit rather than a failed sensor, so a broken wire or backed-out terminal deserves a thorough check before any part is replaced.
- The intermediate shaft speed sensor is often confused with the input or output shaft speed sensors, and technicians who replace the wrong sensor waste time and money because the code specifically names sensor C.
- Metallic debris clinging to the sensor tip is a common cause that scan data alone will not reveal, and it can mimic an intermittent sensor failure until the sensor is physically removed and inspected.
- A weak or corroded ground at the transmission case can elevate the sensor's reference voltage and set this code even though the sensor and wiring test perfectly fine in a bench check.
- After a transmission repair or replacement, this code often appears because the sensor air gap or connector seating was not verified during reassembly, so always recheck installation before condemning new parts.

Can I keep driving with P07CA?

You can usually drive the vehicle to a repair shop, but avoid heavy acceleration, towing, or long highway trips because the transmission may enter limp mode or shift unpredictably. If the vehicle is already stuck in a single gear or the warning light is flashing, stop driving and arrange a tow to prevent further transmission damage.



Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Digital multimeter with back-probe pins
- Jack and jack stands or a vehicle lift for underbody access
- Socket and wrench set for sensor removal
- Contact cleaner and dielectric grease for connector service
- Manufacturer service information for resistance and voltage specifications

Reading P07CA

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

Often seen with

P0715 Input/Turbine Speed Sensor Circuit Malfunction · **P0720** Output Speed Sensor Circuit Malfunction · **P07C9** Intermediate Shaft Speed Sensor C Circuit Low · **P07CB** Transmission Fluid Thermostat Performance · **P07CC** Transmission Mode Switch C Circuit Low

See it working

Watch the animated explainer [Readiness Monitors and the OBD-II Drive Cycle](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p07ca/>

