

GENERIC · POWERTRAIN

P0321

OBD-II TROUBLE CODE

P0321

Ignition/Distributor Engine Speed Input Circuit Range/Performance

P0321 indicates that the powertrain control module (PCM) has detected an implausible or out-of-range signal from the ignition/distributor engine speed input circuit, which typically comes from the crankshaft position sensor or the distributor-mounted pickup. The PCM expects a consistent pulse pattern that correlates with engine speed, and it sets this code when the signal is erratic, missing, or outside the expected range for the current operating conditions.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Intermediate	Ignition system and misfire

Symptoms you may notice

- Engine may crank but fail to start, or start and stall immediately
- Intermittent misfire or rough running, especially under load or at certain RPMs
- Sudden loss of power or engine cut-out while driving
- Tachometer may fluctuate erratically or read zero
- Often no symptoms besides the warning light, especially if the fault is intermittent

Common causes, most likely first

- Faulty crankshaft position sensor or distributor pickup coil
- Damaged or corroded wiring or connector in the engine speed input circuit
- Poor electrical connection at the sensor or PCM
- Failed reluctor ring or distributor gear that disrupts the signal
- Electrical interference from aftermarket ignition components or poor grounding
- PCM internal fault (rare)

How to diagnose and fix it

- Perform a visual inspection of the sensor, wiring, and connectors for damage or corrosion
- Check for technical service bulletins (TSBs) related to this code for the specific vehicle
- Use a scan tool to monitor live engine speed data and compare with actual RPM
- Test the sensor's resistance and signal output with a multimeter or oscilloscope
- Check the reluctor ring or distributor gear for damage or excessive play
- Repair or replace damaged wiring and connectors as needed
- Replace the faulty sensor or distributor assembly if tests confirm failure



What the code does not always mean

- A P0321 can be set by a failing crankshaft position sensor even when the engine still runs, because the PCM may detect an intermittent glitch that does not yet cause a stall.
- Corroded or loose connectors at the sensor or PCM are a frequent cause that is often overlooked in favor of replacing the sensor itself.
- Aftermarket ignition systems or poorly routed wiring can introduce electrical interference that mimics a faulty sensor signal.
- On some vehicles, a failing distributor bearing or gear can produce a P0321 without any obvious driveability symptoms until the distributor fails completely.

Can I keep driving with P0321?

If the engine runs smoothly and the light is steady, you can drive cautiously to a repair shop, but avoid heavy acceleration or long trips. If the engine stalls, misfires, or loses power, stop driving and have the vehicle towed to prevent safety risks.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Oscilloscope (optional but helpful for signal analysis)
- Basic hand tools (socket set, screwdrivers, wire crimpers)
- Service manual or wiring diagram for the specific vehicle

Reading P0321

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

Often seen with

P0320 Ignition/Distributor Engine Speed Input Circuit · **P0322** Ignition/Distributor Engine Speed Input Circuit No Signal · **P0335** Crankshaft Position Sensor A Circuit Malfunction · **P0336** Crankshaft Position Sensor A Circuit Range/Performance · **P0340** Camshaft Position Sensor A Circuit Malfunction (Bank 1)



See it working

Watch the animated explainer **Four-Stroke Engine Cutaway: Intake to Exhaust** on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0321/>

