

GENERIC · POWERTRAIN

P0320

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0320

Ignition/Distributor Engine Speed Input Circuit

P0320 indicates that the powertrain control module (PCM) has detected a problem with the ignition or distributor engine speed input circuit, which provides the signal used to determine engine RPM and ignition timing. The PCM monitors this circuit and sets the code when the signal is missing, erratic, or out of expected range, often resulting in a no-start or poor running condition.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Ignition system and misfire

Symptoms you may notice

- Engine may crank but not start, or may stall immediately after starting
- Intermittent stalling while driving, especially at low speeds or during deceleration
- Rough idle or misfire, sometimes with backfiring through the intake or exhaust
- Tachometer may fluctuate erratically or read zero while the engine is running
- Often no symptoms besides the warning light, especially if the fault is intermittent

Common causes, most likely first

- 1 Faulty crankshaft position sensor or distributor pickup coil (engine speed sensor)
- 2 Damaged or corroded wiring in the engine speed input circuit, including chafed insulation or broken conductors
- 3 Loose or corroded electrical connectors at the sensor or PCM
- 4 Failed ignition control module or distributor assembly (on distributor-equipped engines)
- 5 PCM internal fault affecting the signal processing circuit (rare)
- 6 Aftermarket alarm or remote start installation tapping into the tachometer signal wire



How to diagnose and fix it

- 1 Inspect the engine speed sensor and its wiring for physical damage, corrosion, or loose connections; clean and secure as needed
- 2 Check for technical service bulletins (TSBs) or known issues for the specific vehicle make and model related to this code
- 3 Measure the sensor's resistance and compare to specification; replace if out of range
- 4 Backprobe the sensor signal wire at the PCM and check for an AC voltage signal while cranking; a missing or weak signal indicates a sensor or wiring fault
- 5 Check the sensor's air gap (if adjustable) and ensure the reluctor ring or distributor pickup is not damaged or contaminated
- 6 Perform a wiggle test on the wiring harness while monitoring the signal with a lab scope to detect intermittent opens or shorts
- 7 If all external circuits and components test good, suspect a faulty PCM and perform further diagnostics before replacement

Don't overlook the tachometer signal

- A common oversight is a failing crankshaft position sensor that only acts up when hot; the code may not set until the engine reaches operating temperature, so testing must include a heat soak.
- Aftermarket remote starters or alarms often splice into the tachometer wire, introducing resistance or intermittent shorts that mimic a failed sensor; always inspect for non-factory wiring.
- On distributor-equipped engines, a worn distributor shaft bushing can cause the pickup coil air gap to vary, setting P0320 without a completely failed sensor.
- The PCM may set P0320 due to a poor ground connection at the engine block or chassis, which affects the reference voltage for the sensor circuit; check grounds before condemning parts.
- A faulty ignition switch or worn ignition cylinder can cause intermittent power loss to the ignition system, leading to a stored P0320 that is misdiagnosed as a sensor failure.

Can I keep driving with P0320?

If the engine starts and runs without stalling, you can drive cautiously to a repair shop, but avoid heavy acceleration or long trips because the fault can cause sudden stalling. If the engine will not start or stalls repeatedly, do not drive and have the vehicle towed to prevent safety hazards.



Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Oscilloscope (lab scope) for signal analysis
- Basic hand tools (socket set, screwdrivers, wire crimpers)
- Feeler gauges for air gap adjustment
- Factory service information for wiring diagrams and specifications

Reading P0320

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.
20	The exact fault within that area.

Often seen with

P1351 VVT Sensor Range Performance Problem Bank 2 · **P1351** Injection Sensor Circuit · **P1351** Ignition Diagnostic Monitor Signal Lost To PCM Or Out Of Ran · **P1351** Ignition Control Circuit Voltage High · **P1351** Ignition Diagnostic Monitor Circuit Input Fault · **P1351** IC Circuit High Voltage · **P1351** Misfire Cylinder 5 With Fuel Cut-off · **P0325** Knock Sensor 1 Circuit Malfunction (Bank 1) · **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/p0320/>

