

GENERIC · POWERTRAIN

P033D

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P033D

Knock/Combustion Vibration Sensor D Circuit High

P033D means the engine control module has detected an abnormally high voltage on the signal circuit for knock sensor D, which is one of the combustion vibration sensors used to detect engine knock. The circuit is reading above the expected range, so the module cannot trust the sensor's vibration signal and sets this code.

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

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Reduced engine performance or power if the module defaults to a conservative spark strategy
- Audible engine knock or pinging under acceleration in some cases
- Poor fuel economy or sluggish throttle response
- Intermittent misfire-like hesitation on vehicles that rely heavily on knock feedback
- No symptoms besides the warning light on many vehicles

Common causes, most likely first

- 1 Damaged, chafed, or open signal wire between knock sensor D and the engine control module
- 2 Corroded or loose electrical connector at knock sensor D
- 3 Failed knock sensor D internally shorted or open
- 4 Poor engine ground or sensor ground circuit fault causing a high reference voltage
- 5 Engine control module internal fault on the knock sensor input circuit
- 6 Aftermarket or incorrect sensor installed that does not match the circuit specification
- 7 Physical damage to the sensor or its mounting boss from impact or improper installation



How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data for P033D before clearing anything
- 2 Inspect the knock sensor D connector and harness for corrosion, chafing, or loose pins
- 3 Measure signal circuit voltage and resistance against the manufacturer's specification with a digital multimeter
- 4 Check sensor ground and engine ground integrity with a voltage drop test
- 5 Swap the suspect sensor with a known-good identical unit only if the circuit tests point to the sensor
- 6 Repair or replace the damaged section of harness and clear the code
- 7 Verify the repair with a road test and confirm the monitor runs to completion

What a high knock sensor voltage really means

- A high voltage on the knock sensor circuit often comes from a poor ground rather than a failed sensor, so check grounds before condemning the part.
- Some engines use a shielded cable for knock sensors, and a damaged shield can induce voltage that mimics a sensor fault.
- P033D refers specifically to sensor D, so on engines with multiple knock sensors, mixing up the connector positions during prior repairs is a common cause.
- The engine control module may set this code intermittently if the fault only appears when the engine is hot or under specific vibration conditions.
- Replacing the sensor without repairing a chafed harness will usually bring the code back within a short drive cycle.

Can I keep driving with P033D?

You can usually drive the vehicle with P033D, but avoid heavy acceleration and towing until it is diagnosed, because the module may not be able to protect the engine from knock. If you hear loud pinging or experience noticeable power loss, have it inspected promptly.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wiring diagram for the specific vehicle
- Socket set and torque wrench
- Electrical contact cleaner and dielectric grease



Reading P033D

- 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.
- 3D** The exact fault within that area.

Often seen with

P0325 Knock Sensor 1 Circuit Malfunction (Bank 1) · **P0327** Knock Sensor 1 Circuit Low Input (Bank 1) · **P0330** Knock Sensor 2 Circuit · **P0332** Knock Sensor 2 Circuit Low · **P0333** Knock Sensor 2 Circuit High

See it working

Watch the animated explainer [Manual Car Driving Simulator: Learn Clutch Control](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p033d/>

