

GENERIC · POWERTRAIN

P033E

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P033E

Knock/Combustion Vibration Sensor D Circuit Intermittent

P033E indicates that the engine control module has detected an intermittent fault in the circuit for knock sensor D, which is one of the combustion vibration sensors used to detect engine knock. The computer sees the signal from sensor D dropping out or behaving erratically rather than reporting a steady vibration pattern.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

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, especially under acceleration or load
- Audible engine knocking or pinging that the system fails to suppress
- Poor fuel economy due to the computer defaulting to a conservative ignition timing strategy
- Rough idle or hesitation during acceleration in some cases
- In rare instances, the engine may enter limp mode to protect against potential damage

Common causes, most likely first

- 1 Damaged or corroded wiring or connector at knock sensor D or along its circuit
- 2 Faulty knock sensor D itself, such as an internal short or open circuit
- 3 Loose or improperly torqued knock sensor D, causing a poor mechanical connection to the engine block
- 4 Engine mechanical issues like excessive carbon buildup or abnormal combustion that produce erratic vibrations
- 5 Electrical interference from aftermarket accessories or poor grounding affecting the sensor signal
- 6 A failing engine control module, though this is less common



How to diagnose and fix it

- 1 Inspect the knock sensor D connector and wiring for damage, corrosion, or loose pins, and repair as needed
- 2 Check the sensor mounting to ensure it is clean and torqued to the manufacturer's specification
- 3 Use a scan tool to monitor live knock sensor data and compare sensor D readings with other knock sensors if available
- 4 Perform a resistance or continuity test on the sensor and its circuit according to the factory service information
- 5 Swap the sensor with a known-good unit of the same part number to see if the code follows the sensor
- 6 Check for technical service bulletins or software updates for the engine control module that address intermittent knock sensor codes
- 7 If all else fails, consult a professional technician for advanced diagnostics, including oscilloscope testing of the sensor signal

Intermittent Knock Sensor D Traps

- A loose knock sensor is a frequent culprit that many DIYers overlook because the sensor appears fine visually but does not make proper contact with the engine block.
- The code can be set by vibrations from a failing accessory drive component, such as a worn belt tensioner, that mimic knock sensor signals.
- Intermittent faults often appear only under specific conditions like cold starts or high load, so a static test may not reveal the problem.
- Aftermarket electrical accessories, such as high-power audio systems, can introduce noise into the knock sensor circuit and trigger false intermittent codes.
- Some vehicles use a single knock sensor for multiple cylinders, and a fault in sensor D may actually be caused by a problem in the shared wiring harness rather than the sensor itself.

Can I keep driving with P033E?

You can generally continue driving with this code, but avoid heavy acceleration or towing until it is repaired, as the engine may be more susceptible to knock damage. If you notice audible knocking or reduced performance, have it checked promptly.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Torque wrench
- Socket set
- Oscilloscope (optional for advanced diagnostics)



Reading P033E

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

Often seen with

P0325 Knock Sensor 1 Circuit Malfunction (Bank 1) · **P0326** Knock Sensor 1 Circuit Range/Performance (Bank 1) · **P0327** Knock Sensor 1 Circuit Low Input (Bank 1) · **P0328** Knock Sensor 1 Circuit High Input (Bank 1) · **P0330** Knock Sensor 2 Circuit

See it working

Watch the animated explainer [How a MAP Sensor Works: Engine Vacuum and Load](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p033e/>

