

GENERIC · POWERTRAIN

P06EB

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P06EB

NOx Sensor Processor Performance Bank 1 Sensor 2

P06EB means the engine computer has detected a performance fault inside the nitrogen oxide (NOx) sensor processor for bank 1 sensor 2, which is the downstream NOx sensor after the selective catalytic reduction (SCR) catalyst. The computer is not reporting a simple heater or circuit failure; it is flagging that the sensor's internal processing of the NOx reading is not behaving as expected.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Professional	Computer and output circuits

Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- Reduced engine power or limp mode on some vehicles
- Poor fuel economy or increased diesel exhaust fluid (DEF) consumption
- Intermittent or erratic NOx readings that may trigger other emissions codes
- Possible rough running or hesitation if the fault affects closed-loop emissions control

Common causes, most likely first

- 1 Faulty NOx sensor bank 1 sensor 2 with an internal processor failure
- 2 Contaminated or damaged sensor element from exhaust soot, oil ash, or coolant intrusion
- 3 Wiring harness damage or poor connector contact at the sensor or controller
- 4 Software or calibration issue in the engine control module (ECM) or NOx control module
- 5 Exhaust leaks upstream of the sensor allowing false air into the sample
- 6 Low DEF quality or level causing abnormal NOx levels that stress the sensor
- 7 Failed or failing SCR catalyst causing the downstream sensor to read out of range

How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data for P06EB and any related codes
- 2 Inspect the NOx sensor connector and wiring for corrosion, chafing, or loose pins
- 3 Check DEF level and quality, and verify the SCR system is dosing correctly
- 4 Perform a manufacturer-specific NOx sensor performance test or bidirectional scan-tool check
- 5 Check for exhaust leaks between the SCR catalyst and the sensor
- 6 Replace the bank 1 sensor 2 NOx sensor if testing confirms an internal processor fault
- 7 Clear codes and complete a drive cycle to verify the repair and confirm the monitor runs



What the NOx processor code really means

- P06EB is often set by a sensor that still produces a plausible reading but fails an internal self-check, so a simple live-data glance can miss it.
- A weak battery or low charging voltage can cause the NOx sensor processor to log performance faults before any hard circuit code appears.
- Technicians sometimes replace the downstream NOx sensor when the real problem is an upstream exhaust leak or a failing SCR catalyst skewing the reading.
- Some vehicles require a software update or sensor relearn after replacement, and skipping that step can make the code return immediately.
- The code can be stored alongside DEF dosing or SCR efficiency codes, so always diagnose the root cause rather than treating P06EB in isolation.

Can I keep driving with P06EB?

You can usually drive the vehicle short distances to a repair shop, but avoid heavy loads and long trips because continued driving with a faulty NOx sensor can lead to limp mode and increased emissions. If the check engine light starts flashing or the vehicle enters reduced power mode, stop driving and arrange a diagnostic scan.

Tools that help

- OBD-II scan tool with manufacturer-specific NOx sensor diagnostics
- Digital multimeter for wiring and voltage checks
- Exhaust leak detector or smoke machine
- DEF refractometer to check fluid quality
- Socket set and sensor wrench for NOx sensor removal

Reading P06EB

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

Often seen with

P06EA NOx Sensor Processor Performance Bank 1 Sensor 1 · **P06EC** Fuel Injector Control Module Requested MIL Illumination · **P207F** Reductant Quality Performance · **P20EE** NOx Catalyst Efficiency Below Threshold (Bank 1) · **P229F** NOx Sensor Circuit Range/Performance Bank 1 Sensor 2



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/p06eb/>

