

**\*\* SOLUTION \*\***

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Title *Expired - Refer To P20EE Solutions - NOx Conversion Test (Test -- 2549-08-03-03) Interpretation*

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**Mack Models**

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**Mack Model** Cabover , LEU , LR , MRU - TerraPro , Conventional , CHU - Pinnacle, Axle back , CXU - Pinnacle, Axle front , GU - Granite , TD - Titan

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**Volvo Models**

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**Volvo Model** Conventional , VNL , VNM , VNX , VAH , VHD

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**Emission Standard**

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Emission Standard US10+OBD13 , US14+OBD13 , US17 , US17+OBD16

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**Engine family**

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Engine family Volvo , 11L Engine , 13L Engine , 16L Engine , Mack , MP7 , MP8 , MP10

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**\*\* SOLUTION \*\***

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**Cause** There have been reports of the NOx conversion test being performed when it is not needed causing the results to be interpreted incorrectly.

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**Solution** Please use the NOx conversion test only when one or more of the four fault codes are lighting the lamp (Confirmed DTC).

1. P20EE, P225C and P225E .
2. P2201 (Except OBD2015, Truck MY2016, with engine MSW 22644017 or older).

Please make sure the fault is "confirmed" before performing this operation.

Another reason to run the NOx conversion test is if the vehicle is in SCR inducement with suspected DEF quality concerns (Active P103B, P207F are typical fault codes under this scenario).

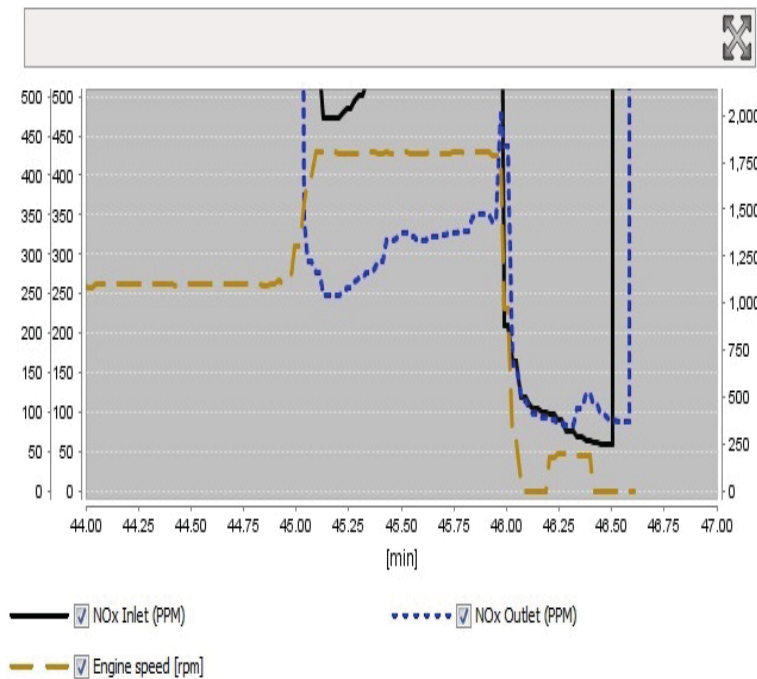
**NOx conversion test only checks the NOx sensors by comparing against each other. Therefore you will have to use original fault code to determine which sensor to replace if test results are bad.**

**While running NOx conversion test if any new NOx sensor faults are logged (Egs: P220E-93, P220F-93), make sure to troubleshoot the code (in case of P220E-93 requires NOx1 sensor to be replaced).**

Egs: **Truck had MIL ON due to P2201 fault** (NOx1 sensor rationality fault). NOx conversion test showed the following results (Typical Good NOx1 value before shutdown is around 300ppm).

**For the case below, we should be replacing NOx1 sensor, not NOx2 sensor.**

## NOx-in and NOx-out levels vs. Engine speed



Note: The engine must be cranking is not done within this time

### Result

The test was not executed successfully. Please repeat the test again.

### Test result

Inlet NOx sensor zero level

Outlet NOx sensor zero level

### Recommended actions

Observe the values in the graph for a few minutes. NOx sensors values do not deviate from 0 PPM.

Note: The sensor that failed "Te"

Sensor replacement is only needed if the NOx sensor value is higher than 10 PPM prior to engine speed r

Solution visibility

Dealer distribution

## Function(s)/component(s) affected

Function affected: CV electronic control unit, 110 EMS, EECU, MID 128 – EMS, Diagnostic tool, engine, exhaust, EGR, DPF, SCR

## Function Group

Function Group: 254 catalytic converter; exhaust emission control equipment, 258 emissions after-treatment

## Customer effect

Main customer effect: regeneration, calibration/programming/pairing/missing operation, diagnostics/methodology, efficiency/abnormal behavior, fault code/display

Fluid implicated: AdBlue, air

Lights/Messages on information display: message on display, ----, --/--

## Conditions

Vehicle operating mode: when stationary

Frequency of occurrence of problem: always

## Administration

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