



Solution

Title (customer effect) Diagnostic Trouble Codes (DTC) P208E And P103B Logging With Possible Derate (SCR Inducement) - US13 Emissions And Newer

Cause P208E and or P103B may be generated due to the intermittent clogging of the DEF dosing valve. Occurrence of this fault code is more common in Truck (MY) 2016 and newer.

Solution There have been reports of dealer technicians running regenerations, crystal sublimation and NOx conversion tests to get out of inducement. **PLEASE DO NOT RUN any of them.**

Instead follow Guided Diagnostics (GD) Operation number **2589-08-03-05** and perform the Aftertreatment selective catalytic reduction (SCR) system Test in the order mentioned below:

Test A: Confirms pressure build up takes place as expected (can be skipped). **IF PRESSURE IS NOT BUILT, DO NOT REPLACE DEF PUMP.** Start truck wait for 10 minutes, shut off the truck and then re-test.

Test B, 2: Flow test (25% dosing for 2 minutes), use the graduated cylinder to document the results accurately. (2cc accuracy needed)

Test B, 3: Flow test (100% dosing for 2 minutes), use the graduated cylinder to document results accurately (2cc accuracy needed).

Test B, 4: Test designed to run P208E/P103B diagnostics. If it runs successfully the vehicle is expected to get out of SCR inducement (derate).

Test C: This should be run to delete all timers associated with derate. This should be run as the last step before releasing vehicle back to customer so that if the problem is not completely fixed, he would still have 4 hours before the vehicle begins going into severe derate.

2589-08-03-05 Aftertreatment selective catalytic reduction (SCR) system

Simulation

Information >> Conditions >> Execution

Purpose

Check that a newly installed, repaired, overhauled or replaced SCR system works correctly.

Description

It will be necessary to remove the dosing valve from the steel pipe in one of the tests.

Selections

Select the illustration corresponding to the method or test to be performed.

A - System pressure build up

Check function/leakage of pump and hoses

B - Dosing test

- Check function/leakage of dosing valve
- Perform the Dosing test after the dosing valve has been replaced in order to exit inducement and clear DTC P208E or P103B

C - Exit inducement mode

- This should only be performed to exit inducement mode in order to find the root cause of DTC P208E or P103B
- Reset SCR system inducement timers

D - SCR efficiency test values

The following diagnostic trouble codes (DTCs) are concerned: P208E or P208E

Continue Cancel

Internal comments (BO)

Do not recommend EECU /ACM replacements for this issue.

Recommend GD along with this CBR.

If the truck has been in multiple times for this issue, recommend thorough inspection for any clog.

NOTE: There is software containment available for US15 and US16 emissions conventional chassis with this issue. US17 and newer chassis do not require containment as the software already includes the changes covered in the containment. US13 and US14 chassis will need to have complete diagnosis performed to find the root cause.

Solution visibility	Dealer distribution
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Function(s)/component(s) affected

Function affected	exhaust , SCR , CV electronic control unit , 1 1 0 EMS , 2 1 0 ACM , Diagnostic tool
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Function Group

Function Group	254 catalytic converter; exhaust emission control equipment , 2584 Dosage Valve; Injector
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Customer effect

Main customer effect	regeneration , calibration/programming/pairing/missing operation , diagnostics /methodology , efficiency/abnormal behavior , fault code/display
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Fault code(s)

OBD 2013 Diagnostic Trouble Codes	P103B , P208E
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NA_MIDs	MID 128 EMS
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Conditions

Vehicle operating mode	when driving , when stationary
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Frequency of occurrence of problem	always
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Administration

Author	ut0031h
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Last modified by	RU4469V
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NA_MACK_Vehicle_Range

NA_MACK_Vehicle_Ran

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Cabover , LR , LEU , MRU , Conventional

NA_VOLVO_Vehicle_Range

NA_VOLVO_Vehicle_Range

Conventional , VNX , VNL , VNM , VHD , VAH

Engine family

Engine family

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

Emission Standard

Emission Standard

US17 GHG , US16 , US15 , US13 OBD , US14 GHG
