



NA_MACK_Vehicle_Range

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LR , LEU , MRU , CHU , CXU , GU , TD

Engine family

Engine family

MP7 , MP8 , MP10

Emission Standard

Emission Standard

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

**** SOLUTION ****

Title (customer effect)

Mack Chassis - Diagnostic Trouble Codes (DTC) P208E And P103B Logging With Possible Derate (SCR Inducement) - **US14+OBD13, US14+OBD15, US14+OBD16 Emissions And Newer, Commonly Model Years 2015 And Newer**

Cause

P208E and or P103B may be generated due to the intermittent, temporary clogging of the Diesel Exhaust Fluid (DEF) dosing valve, normally at startup.

Solution

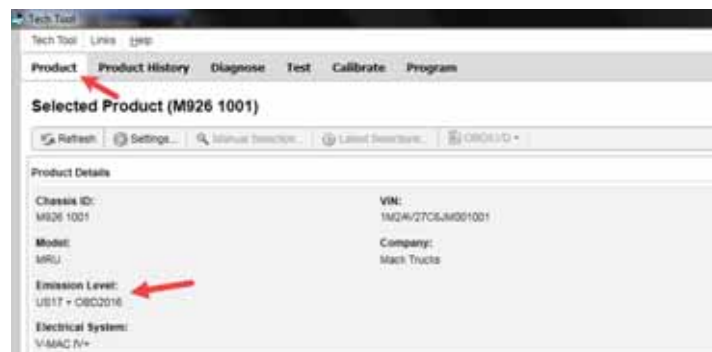
- DO NOT RUN A SERVICE REGENERATION OR CRYSTAL SUBLIMATION TO EXIT INDUCEMENT FOR THESE CODES.

- IF THE CHASSIS CAME IN WITH DERATE WARNINGS ACTIVE, Proceed to section two **Prior To Programming.**

I. Software Levels

Verify the chassis emissions level

- Details can be found in the Product Details box on the Product tab in PTT as seen below:



Review the Detailed Status Information for the relevant code on the DTC Readout.

Control Unit	DTC	Status
Brake ECU (MD 136)	SID 69: Axel load sensor, FM 2: Data erratic, intermittent, or incorrect	Active
Engine Control Module (ECM)	P029F6: NOx Sensor Gas Outlet Removed, Signal Plausibility Failure	Active

Title	Value
Confirmed DTC	True
Pending DTC	False
Test failed	True
Test failed since last clear	True
Test failed this operation cycle	True
Test not completed since last clear	False
Test not completed this operation cycle	False
Warning indicator requested	False

For US14+OBD13

- Refer to [FSB 284-066 Engine Control Module \(ECM\) and Aftertreatment Control Module \(ACM\), Reprogramming](#).
 - This bulletin is current as of 17 April 2018.

For US14+OBD15:

- Software improvements have been released to address this code. Refer to the table below:

Action Required		
ECM	Main Software	Action Required
MP7 / MP8	Equal or Less Than 22741784	Update to Latest Software
MP10	Equal or Less Than 22644017	Update to Latest Software
ACM	Main Software	Action Required
MP7 / MP8 / MP10	Equal or Less Than 22741796	Update to Latest Software

For US14+OBD16

- Refer to [FSB 284-065 Engine Control Module \(ECM\) and Aftertreatment Control Module \(ACM\), Reprogramming](#).
 - This bulletin is current as of 17 April 2018.

For All US17+OBD*

- Verify software levels are current. Update if they are not. Note that per [FSB284-067](#), the software released for GHG17 vehicles **did not address these codes**.
- Proceed to Section II.

If software shows to be current, ensure the Confirmed DTC status is True as shown above, then proceed with diagnostics below.

II. System Tests

Premium Tech Tool (PTT) Operation number [2589-08-03-05 Aftertreatment selective catalytic reduction \(SCR\) system](#), found under Function Group 2 in the Test tab should be utilized to diagnose the problem and exit inducement in the order listed below:

1. Test A: System Pressure Build Up

- This test confirms that the DEF pump builds pressure as expected (this test can be skipped if other tests will also be performed).

- **IF PRESSURE IS NOT BUILT, DO NOT REPLACE DEF PUMP.** Follow the instructions below:

1. Start the truck and allow it to run for 10 minutes.
2. Shut off the truck.
3. Rerun the test.

2. Test B: Dosing Test

- A graduated cylinder or other appropriate container with measurement accurate within 2 milliliters (cubic centimeters) should be used to measure dosing test results.

1. Sub-Test 2, Small dosing test - 120 seconds at 25% dosing
2. Sub-Test 3, Large dosing test - 120 seconds at 100% dosing
3. Sub-Test 4, Dosing Test, Exit inducement mode - This will clear any inducement (derate) condition caused by P208E or P103B.

3. Test C: Exit Inducement Mode

- Test B, sub-test 4 mentioned in the previous section runs the diagnostic monitor on the dosing valve and verifies it is operating correctly. Test C will reset any inducement (derate) timers present.

- This test should be run as the last step before releasing vehicle back to the customer so that if the problem is not completely fixed, the driver will still have 4 hours to reach a service location before the vehicle begins going into severe derate.

The screenshot displays the PTT software interface for the '2589-08-03-05 Aftertreatment selective catalytic reduction (SCR) system'. On the left, there are four test selection icons labeled A, B, C, and D. The main panel shows the test configuration for 'Simulation' mode. The 'Purpose' is to check if a faulty dosing valve, regulator, or dosing or dosing SCR system valve is present. The 'Description' states that it is necessary to remove the dosing valve from the test pass in order to perform the test. The 'Selections' section lists three tests: 'A- System pressure build up', 'B- Dosing test', and 'C- Exit inducement mode'. The 'B- Dosing test' section includes sub-steps: 'Check functionality of dosing valve' and 'Perform the dosing test after the dosing valve has been replaced in order to set inducement and clear EEC P103B or P103B'. The 'C- Exit inducement mode' section includes sub-steps: 'This should only be performed in exit inducement mode in order to clear the exit status of EEC P103B or P103B' and 'Reset SCR system inducement timer'. The 'D- SCR efficiency test status' section includes the note: 'The following diagnostic trouble codes (DTCs) are associated: P103B or P103B'. The interface also shows a 'Continue' button and a 'Cancel' button.

Recommend GD along with this CBR.

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

Campaign code	FSB284-065, FSB284-066
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Solution visibility	Dealer distribution
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Function(s)/component(s) affected

Function affected	DEF Dosing , SCR , 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 , 284 control system, fuel supply
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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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Fluid implicated	AdBlue
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Lights/Messages on information display	 Driver's information warning pictogram
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Fault code(s)

OBD 2013 Diagnostic Trouble Codes	P103B , P208E
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Conditions

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

Author	RU4469V
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Dealer ID	RU4469V
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Last modified by	RU4469V
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Status	Published
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