



Mack Models

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

Engine family

Engine family MP7 , MP8 , MP10

Emission Standard

Emission Standard 2018 , OBD2017 , US17 GHG , US16 , US15 , US13 OBD , US14 GHG

** SOLUTION **

Title Mack Chassis - Diagnostic Trouble Codes (DTC) P208E And P103B Logging With Possible Derate (SCR Inducement) - **US14+OBD13, US14+OBD15, US14+OBD16 And US17+OBD16 And Newer Emissions, Common Year Models 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.

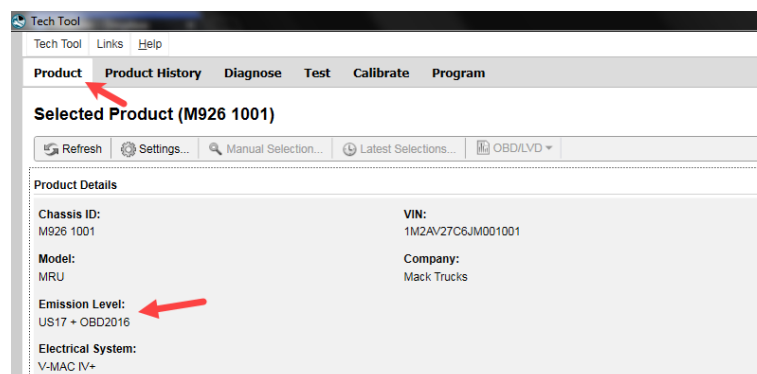
Solution - **DO NOT RUN A SERVICE REGENERATION OR CRYSTAL SUBLIMATION TO EXIT INDUCEMENT FOR THESE CODES.**

- **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.

DTC List (2 Items)

Control Unit	DTC	Status
Brake ECU (MID 136)	SID 69: Axel load sensor, FMI 2: Data erratic, intermittent, or incorrect	Active
Engine Control Module (ECM)	P229F64: NOx Sensor Gas Outlet Removed, Signal Plausibility Failure	Active

NOx Sensor Gas Outlet Removed

Detailed status information

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, US14+OBD15, and US14+OBD16

Software improvements have been released for all three emissions levels to address this DTC. Field Service Bulletins with information and instructions have been published for each emissions level. All of the FSBs can be found under the Service tab in [Impact](#), [Function Group 284](#). The articles can also be searched for by Title. Refer to the chart below for the correct bulletin information:

Emissions Level (Model Year)	Field Service Bulletin
US14+OBD13 (2015)	FSB 284-066 Engine Control Module (ECM) and Aftertreatment Control Module (ACM), Reprogramming
US14+OBD15 (2016)	FSB 284-064 Engine Control Module (ECM) and Aftertreatment Control Module (ACM), Reprogramming
US14+OBD16 (2017)	FSB 284-065 Engine Control Module (ECM) and Aftertreatment Control Module (ACM), Reprogramming

If the Bulletin does not appear when searched with either VIN or Chassis information entered, search by model:

1. Clear any chassis information from the Search box.
2. Select or enter the applicable model.

The screenshot shows a search interface with several input fields. The 'CXU' dropdown menu is highlighted with a red arrow, indicating the selection of a model.

3. Make sure Title is selected in the Search By field. Enter the correct Bulletin title in the text entry field.

Additional search values ▼

Search by:

Titles ▼

FSB 284-066 ▼

4. Press the Search button. The operation will appear in the results window.

Fgrp ▲	Title ▼	Info type ▼	ID/Operation ▼
284	FSB 284-066, Engine Control Module (ECM) and Aftertreatment Control Module (ACM), Reprogramming	Repair	2841-22-09-18

5. Select the correct vehicle configuration from the list that appears as shown below:

FSB 284-065, Engine Control Module (ECM) and Aftertreatment Control Module (ACM), Reprogramming ×

Description	ID	Date
<input type="checkbox"/> CXU, ENG-VE11, EOBD-U16, Assembly Date 2016-01-01 - 2016-12-31		06/08/2018
<input type="checkbox"/> CXU, ENG-VE13, EOBD-U16, Assembly Date 2016-01-01 - 2016-12-31		
<input type="checkbox"/> CXU, ENG-VE16, EOBD-U16, Assembly Date 2016-01-01 - 2016-12-31		

For All US17+OBD16 And Newer

- 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.

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 inlet 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 P207F** or **P103C**
- Reset SCR system inducement times

D - SCR efficiency test values
The following diagnostic trouble codes (DTCs) are concerned **P207F** or **P20EE**

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/electrical issues.

NA_Sister solutions

[K24483157](#)

Campaign code

FSB284-064, FSB284-065, FSB284-066

Solution visibility

Dealer distribution

Function(s)/component(s) affected

Function affected

DEF Dosing , SCR , 1 1 0 EMS , 2 1 0 ACM , Diagnostic tool

Function Group

Function Group

254 catalytic converter; exhaust emission control equipment , 2584 Dosage Valve; Injector , 284 control system, fuel supply

Customer effect

Main customer effect

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

Fluid implicated AdBlue

Fault code(s)

OBD 2013 Diagnostic Trouble Codes P103B , P208E

Conditions

Vehicle operating mode when driving , when stationary

Frequency of occurrence of problem random

Administration

Author RU4469V

Dealer ID RU4469V

Last modified by RU4469V

Creation date 20-04-2018 15:04

Date of last update 19-06-2018 19:06

Review date 15-02-2019 00:02

Status Published
