



USE FOR NEW VEHICLES (US21+OBD22 Emissions) - Intermittent Diagnostic Trouble Codes U02A3, U029D, U029E



Vehicles manufactured with US21+OBD22 emissions, most often 2023 model year, may set the following Diagnostic Trouble Codes:

- U02A300 – PM sensor missing signal
- U029D00 – NOx Inlet (NOx1) sensor missing signal
- U029E00 – NOx Outlet (NOx2) sensor missing signal

This has been determined to be a software error in the timing of component initialization at startup and occurs if the vehicle is started immediately after Key On.

If these three codes above are coming active under the conditions described above on an applicable vehicle:

1. Perform a DTC clear using Premium Tech Tool (PTT) to clear inducement conditions.
2. Under the Test tab in PTT, run operation [2589-08-03-05 SCR Dosing System Test](#) to clear any existing derate conditions.
3. Inform the customer that to prevent these codes from setting, when starting the vehicle they should:
 - 3.1. Turn the ignition to Key On.
 - 3.2. Wait five seconds.
 - 3.3. Start the vehicle as normal.

A software update will be released mid to late 2022 to remedy this issue. This solution will be updated when more information is available.



Tags

[u02a300](#)

[u029d00](#)

[u029e00](#)

[volvo](#)

[mack](#)

Related links and attachments

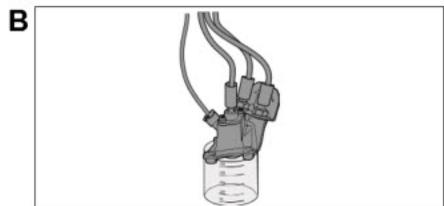
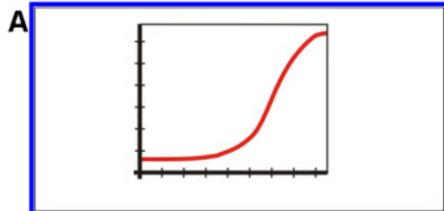
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C

Exit inducement mode

D

SCR efficiency test values

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

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 timers

D - SCR efficiency test values

The following diagnostic trouble codes (DTCs) are concerned: **P207F** or **P20EE**



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

Simulation

Information >> Conditions >> Execution

Automatically checked conditions

- 1 Parking brake applied
- 2 Engine not running
- 3 DEF tank level above 10 %
- 4 Ambient temperature above 41 °F

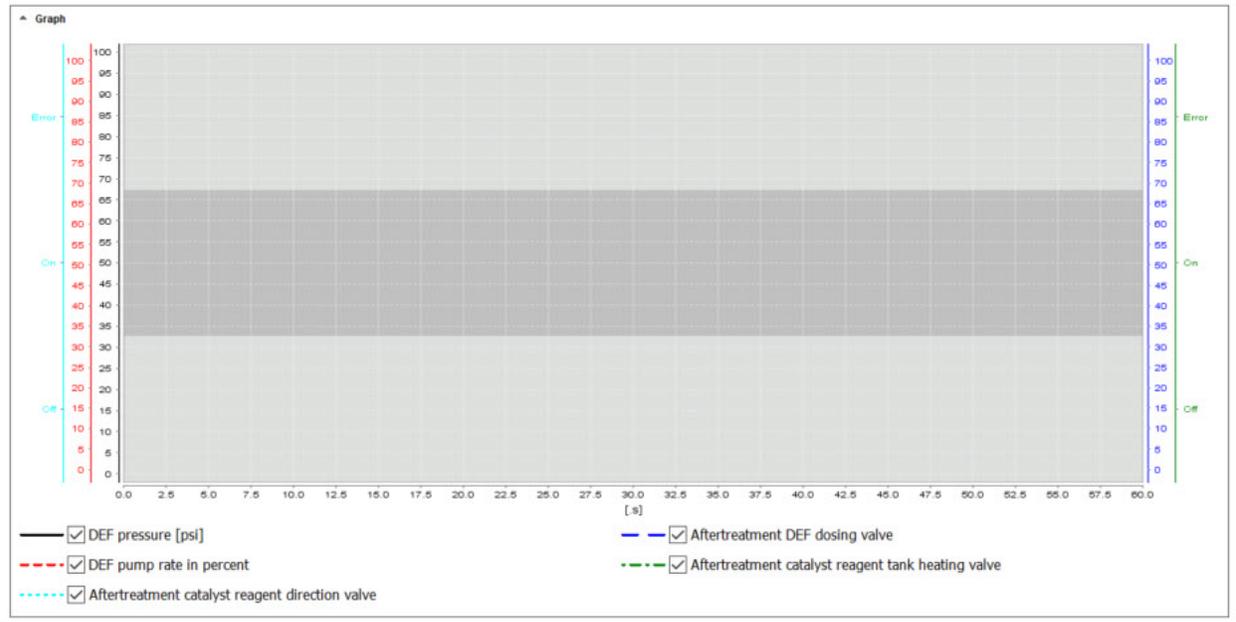
1				
2		= 0 rpm	0 rpm	
3		> 10 %	11 %	
4		> 41 °F	41 °F	

Continue > Cancel

SCR Start-up Test (Pressure build up)

▶ ⏸

DEF System Status:
Waiting for start



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

Simulation

Information >> Conditions >> Execution

Information

This test gives the possibility to start up / build up the pressure without starting the engine
The test can be used to check that the repaired, serviced or replaced dosing system is working correctly

Action

- Before starting the test, monitor the signals and make sure the DEF pressure is near 0 kPa (0 psi) without a large deviation
- Start the test

Note: The SCR Start-up test should be run for several minutes to verify that the system can hold pressure over time

Parameter values

14.5038 psi	DEF pressure
0 %	DEF pump rate in percent
0	Aftertreatment DEF dosing valve
	DEF tank heating valve
	DEF direction valve
60 %	DEF concentration

Evaluation

The pressure should build up to approximately 900 kPa (130 psi)

Test result

Select one of the following alternatives

OK

Not OK

Restart the operation

Continue >