

**Volvo Models****Volvo Model** VNX , VNL , VNM , VHD , VAH**Engine family**

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

Emission Standard

Emission Standard US14 GHG

**** SOLUTION ****

Title Volvo Chassis - Fuel Injector Offset Learning Diagnostic Trouble Codes (DTC) / Fault Codes Logged In Engine Control Module (EMS); Possible Rough / Uneven Idle - **US14 +OBD13 Emissions, Commonly Model Year 2015**

Cause US14+OBD13 chassis may set codes for injector offset learning minimum and maximum values. The codes may be accompanied by rough idle, with no other performance complaints or symptoms of injector failure.

Cylinder balancing is only active at idle speeds, between 500 and 750 RPM. The balancing monitor does not run outside of this speed range, which means the codes do not set under high idle or driving conditions. Offset codes generated with no other injector-related codes and no symptoms aside from a possible rough idle may not indicate a physical injector problem, and diagnosing the codes will in many cases lead to no fault found. It has been determined that software may contribute to the problem. Software improvements have been implemented to better control cylinder balancing logic.

Solution**Relevant DTCs**

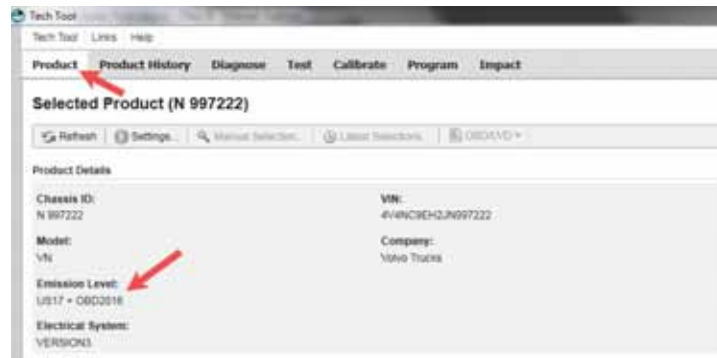
The list of all applicable DTCs for this issue is included in the Fault Codes section below.

Repair

- **Verify the chassis emissions level and ensure that the vehicle is within the applicable range for this solution.**

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

below:



If any of the fault codes in the section below are logged in a US14+OBD15 chassis:

A. Check the EMS Main Software (MSW) part number.

- If the EMS MSW part number is lower than 23167865.P01:

1. Update the EMS software
2. Reset Cylinder Balance from Premium Tech Tool (PTT) Operation [2387-08-03-01 Cylinder Balancing](#), located in the Test tab.
3. Run a Cylinder Balance test from the same screen following the reset. Start the test at minimum temperature (140 °F, 60 °C) and monitor balancing until coolant temperature reaches approximately 177 °F (81 °C). This will allow observation of performance during multiple engine modes that are entered during warm-up.
4. If the Cylinder Balance test still shows an issue and/or there are one or more Learning Offset codes that return following the update, follow Guided Diagnostics for the applicable code or codes.

- If the EMS MSW is part number 23167865.P01 or newer, proceed with Guided Diagnostics for the applicable code or codes.

NA_Sister solutions	K27811231
Solution visibility	Dealer distribution
Function(s)/component(s) affected	
Function affected	injectors , 1 1 0 EMS , Diagnostic tool
Function Group	
Function Group	237 injector and delivery pipe , 284 control system, fuel supply
Customer effect	
Main customer effect	stumble , fault code/display
Fluid implicated	fuel
Engine speed	unstable idle speed
Road behaviour	unstable behaviour



Fault code(s)

OBD 2013 Diagnostic Trouble Codes	P02CC00 , P02CD00 , P02CE00 , P02CF00 , P02D000 , P02D100 , P02D200 , P02 D300 , P02D400 , P02D500 , P02D600 , P02D700 , P101100 , P101200 , P101300 , P101400 , P101D00 , P102300 , P102400 , P1025 , P102500 , P102600 , P102700 , P102800 , P102900
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Conditions

Vehicle operating mode	when stationary
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Frequency of occurrence of problem	random
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Engine speed	500 - 1000 rpm
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Administration

Author	UT0455H
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Dealer ID	UT0455H
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Last modified by	RU4469V
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Creation date	04-05-2018 19:05
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Date of last update	15-05-2018 15:05
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Review date	30-04-2019 00:04
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Status	Published
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NA_Author_Group	GTT
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