

November 2024 MDEG Updates

- Some units (predominantly DD8.1/8.2) are still faulting for 4364/17 after updating to the latest fuel maps released in December 2022.
- 1 DD8.1 customer remains undergoing testing in Detroit for root cause pinpointing.
- 1 DD8.1 returned to customer with logger installed (programmed June 5th, 2024).
- DD8.1 Field Testing
 - 5 8.1 units now flashed with test calibration.
 - 3 units with an additional fault occurred – 2nd test cal planned with some adjustments for late August.
 - The three units showed different DL8 data on when fault occurred but believed to be tied to same root cause with NOx sensor enablement, the additional conditions need to be understood and loggers are being requested for some of the existing test units to pair with the updated test calibration.
 - Revised 2nd Test calibration setup on test units started August 28th.
 - Fault frequency has declined but all test units have faulted at least once.
 - Exhaust wraps keeping elevated temperature may raise frequency with the updated calibration improvements.
 - DD8.2 started test cell work on July 22nd, 2024 and remains in test cell working. DD5 to begin upon 8.2 completion, date TBD.
 - A defined release timeline for DD8.2 or DD5 is unavailable at this point.
 - Testing needs to be completed and continues to build off the work completed and tested on the DD8.1 units above.
 - Initial compliance approval for 8.2 and 5 is completed for same changes as 8.1 release but the calibrations won't be ready until test cell work is complete.
 - DD 8.1 release completed October 29th, 2024.
 - Fuelmap details on next slide.

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DD8.1 (936.913 ONLY) Calibration Specifications

- Required Software/Calibration levels by calendar build year for 936.913 units:
 -
 - CY18-19 Trucks - 13.54.2.0 with fuelmap **A0194486854_006**
 - - Update ACM only
 - CY20-21 Trucks - 13.56.1.0 with fuelmap **A0244487554_004**
 - - Update ACM only

 - CY22-24 Trucks - 13.58.4.0 with fuelmap **A0314480554_002**
 - - CY22-23 units also need to update MCM to 19.4.2.4 and CPC4 to R47 or CPC5 to 22.32 for compatibility with the 2024 software package.
 - - CY2024 units only update ACM fuelmap.

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October – DD8.1 Calibration Release Communication Information

- This release is not a 100% solution where all faults will no longer log - this initial fuelmap release addresses 2 out of 3 root causes that were identified via testing in Detroit on customer vehicles – there will be another release in 2025 (date TBD) once the 3rd root cause solution is validated and approved per compliance and regulatory, but we expect this first release to our customers will help significantly reduce fault frequency in colder weather.
- Of the 3 root cause issues found – the first two items on the below list are contained in the recently released DD8.1 (engine model 936.913 only):
 1. Tailpipe NOx Sensor Initialization
 - Issue - Lower than expected SCR conversion efficiency reporting upon NOx sensor enablement due to signal stabilization
 - Resolution - NOx sensor enablement delay
 2. Monitoring Enablement
 - Issue – Misalignment between actual and threshold conversion efficiency and/or extended duration near low temp monitoring threshold
 - Resolution - Disablement of monitoring condition at cool SCR temps (<250C)
 3. SCR Warm-Up Scenario (**still to be resolved**)
 - Issue – Lower than expected SCR conversion efficiency reporting during SCR warm-up scenarios due to NH3 slip
 - Potential Resolution – Optimization of DEF dosing control and/or monitor filtering.

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