

# December 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.
- DD8.1 Field Testing
  - 8.1 calibration improvements were released on October 29<sup>th</sup>, 2024.
    - Revised 2<sup>nd</sup> Test calibration setup on test units started August 28<sup>th</sup>.
    - 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 22<sup>nd</sup>, 2024 and remains in test cell working on next round of calibration enhancements.
  - DD5 to begin upon 8.2 completion, date TBD.
  - A defined release timeline for DD5 is unavailable at this point as additional 8.2 work continues.
    - Testing needs to be completed and continues to build off the work already completed.
    - Initial compliance approval for 8.2 and 5 is completed for same changes as 8.1 release.
  - DD 8.1 release completed October 29<sup>th</sup>, 2024.
  - **DD 8.2 release completed on December 4<sup>th</sup>, 2024.**
  - Fuelmap details for each on next slides.

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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.
- DD 8.1 release completed October 29<sup>th</sup>, 2024.

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## DD8.2 (936.917 ONLY) Calibration Specifications

- Required Software/Calibration levels by calendar build year for 936.917 units:
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  - CY18-19 Trucks - 13.54.2.0 with fuelmap **A0194486754\_006**
    - - Update ACM only
  - CY20-21 Trucks - 13.56.1.0 with fuelmap **A0244487454\_004**
    - - Update ACM only
  - CY22-24 Trucks - 13.58.4.0 with fuelmap **A0314480454\_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.
- DD 8.2 release completed on December 4<sup>th</sup>, 2024.

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# October – DD8 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 3<sup>rd</sup> 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 updates (engine models 936.913 and 936.917 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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