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Title: Catastrophic DOC and DPF Failures

Applies To: All Navistar Engines

CHANGE LOG

Please refer to the change log text box below for recent changes to this article:

4/20/2016- Updated article Step 9 and figure 10
 10/29/2015 - Included information for catastrophic DPF failures as well (merged with IK1201251)
 9/14/2015 - Fixed link to V-8 DPF & DOC Catastrophic Failure Performance Assessment Sheet
 1/20/2015 - Initial Article Release.
 3/2/2015 - Added V-8 Diagnostic info, DOC cracked inlet, DOC oil soaked & updated required claim information section.

DESCRIPTION

Diesel Oxidation Catalysts (DOCs) and/or Diesel Particulate Filters (DPFs) that have catastrophically failed do not require an iApproval case file as long as it is **only** the DOC/DPF failure within the last 24 months.

This article details the following:

- What is considered a catastrophic failure
- What information must be included with the warranty claim
- What post repair data should be reviewed by the technician to correct the root cause of the failure and verify the repair

Catastrophic Failure

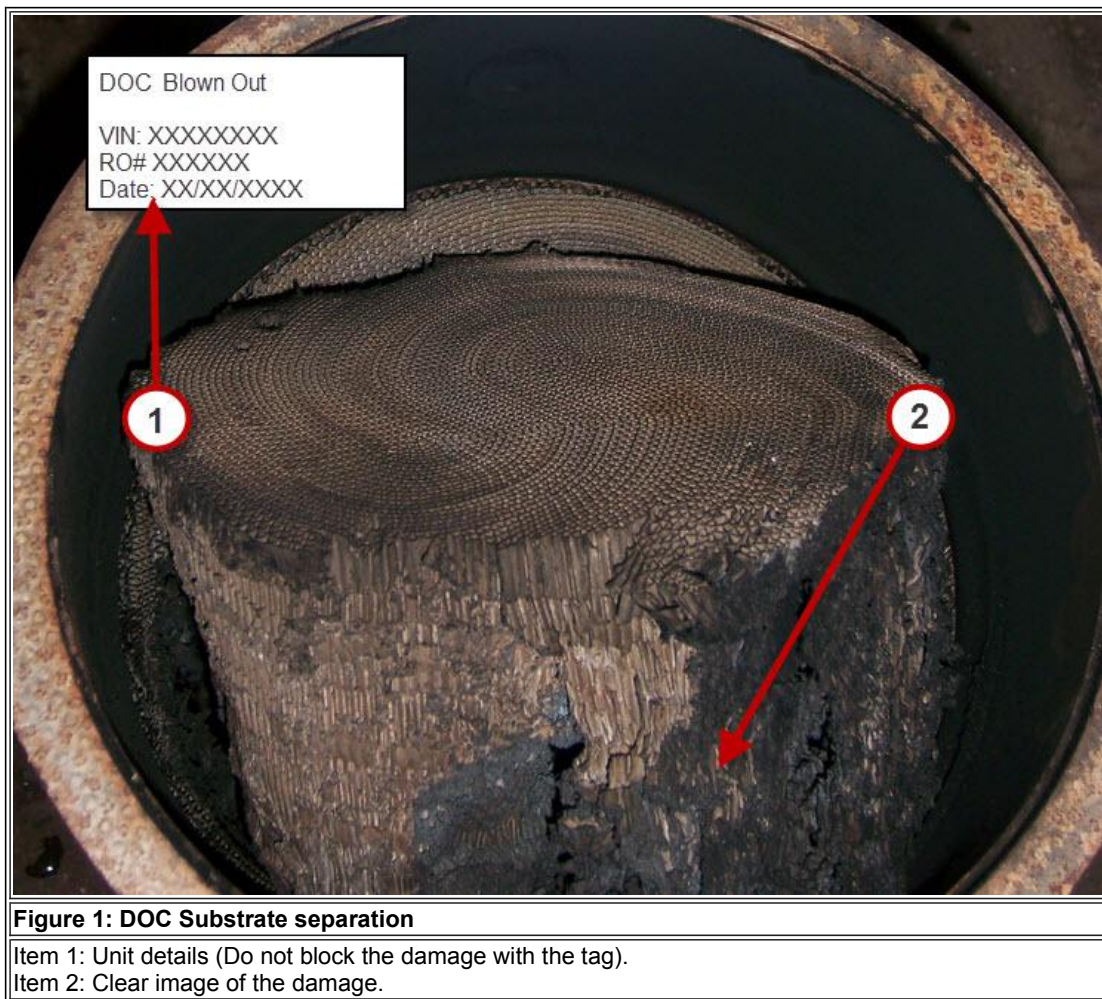
The following failure modes are considered catastrophic:

- Substrate separation
- Melted DOC/DPF
- DOC cracked inlet flange
- Oil soaked DOC/DPF
- Excessive substrate shifting
- Broken Bung
- Black smoke

The following are **NOT** considered catastrophic failures:

- Moderate substrate shifting
- Stripped threads

Each of the seven failure modes are detailed below.



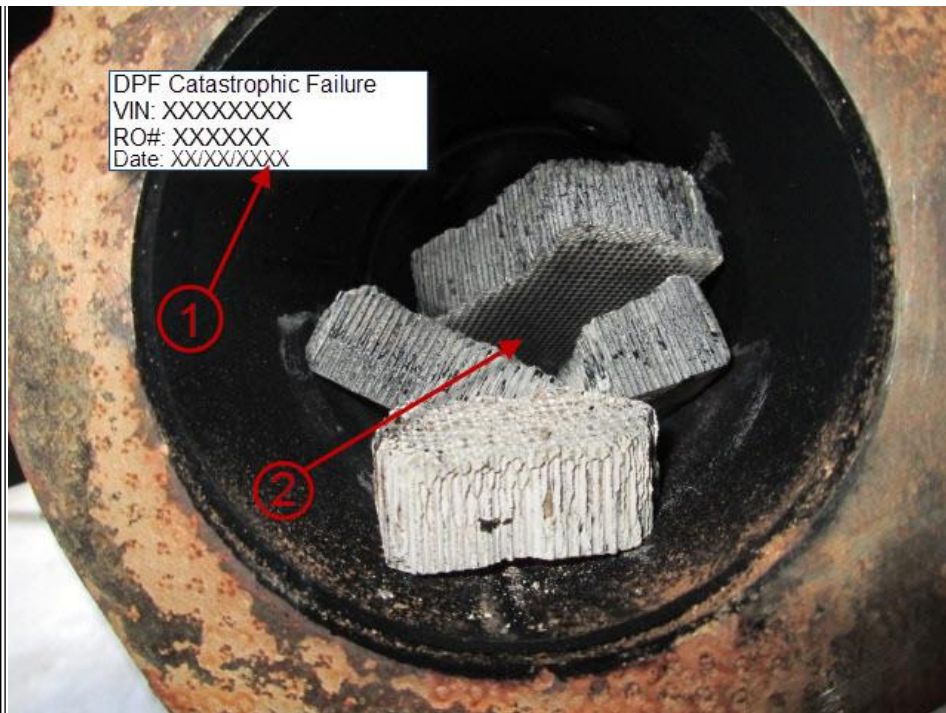
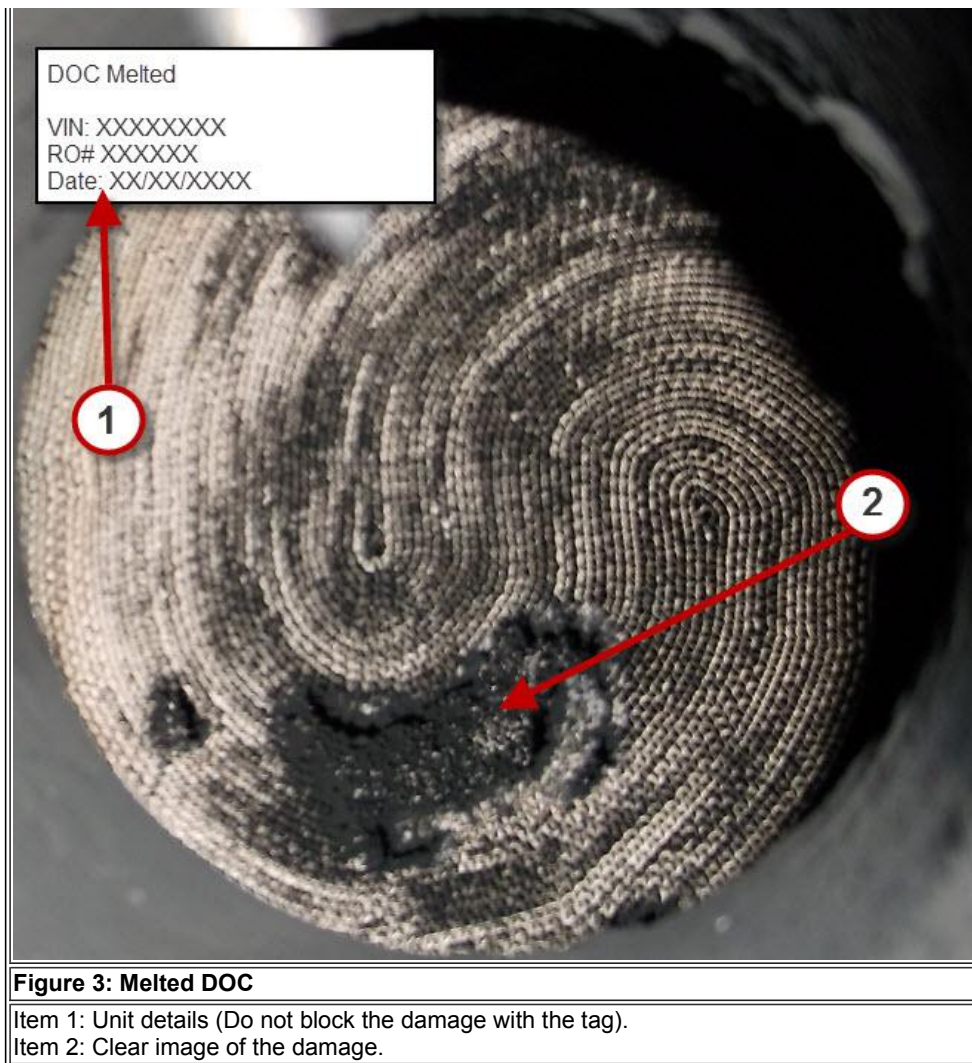
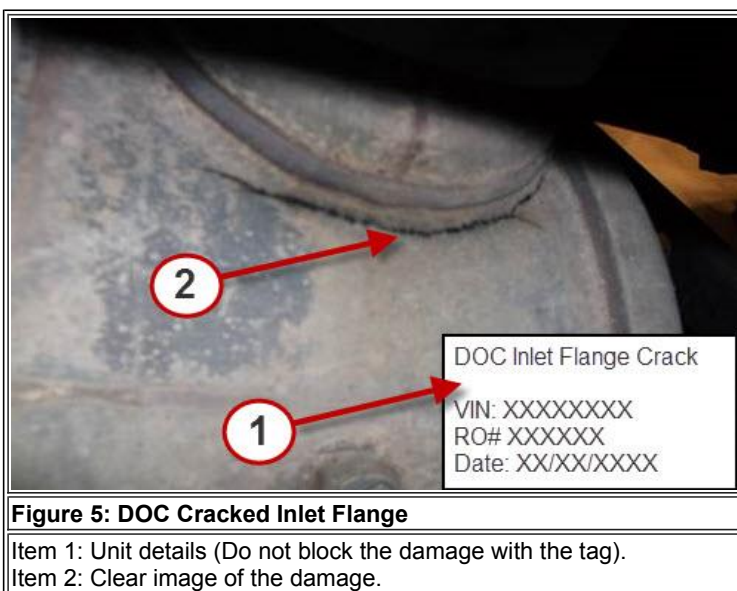
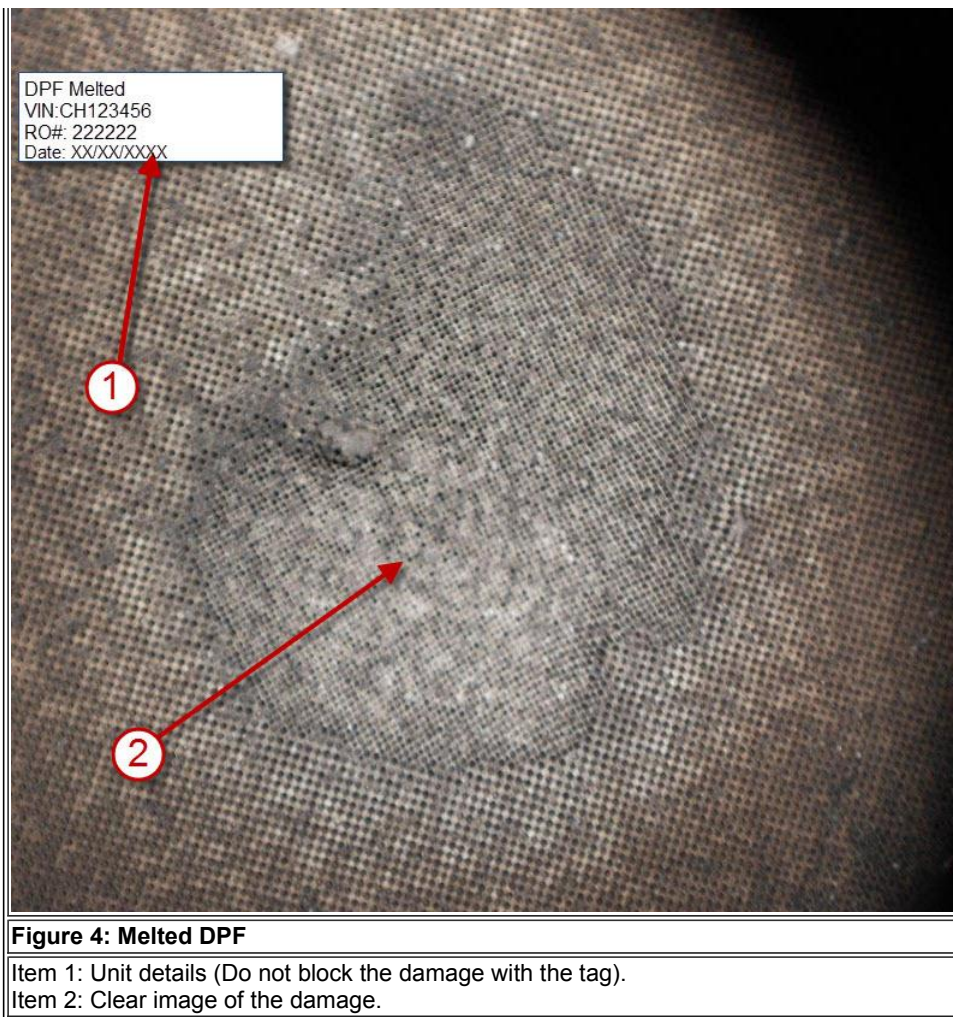


Figure 2: DPF Substrate separation

Item 1: Unit details (Do not block the damage with the tag).
Item 2: Clear image of the damage.





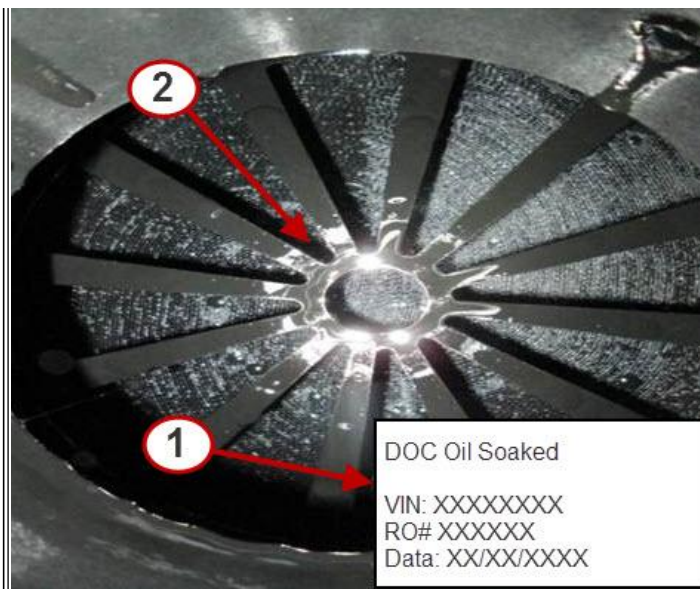


Figure 6: Oil Soaked DOC

Item 1: Unit details (Do not block the damage with the tag).
Item 2: Clear image of the damage.

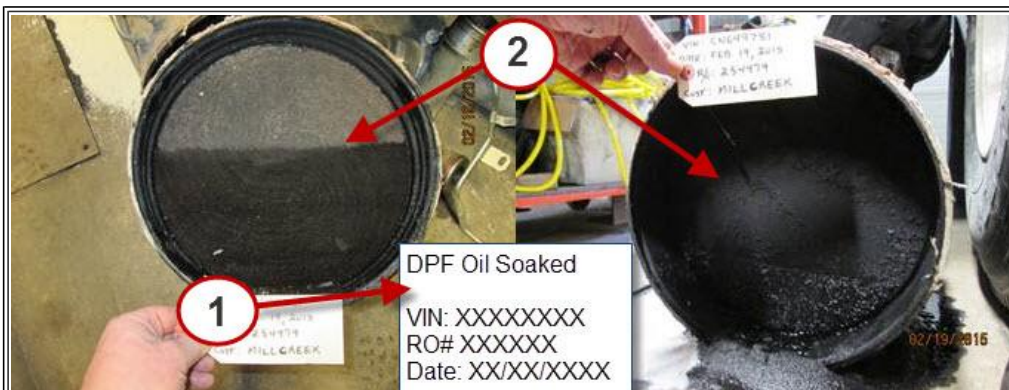


Figure 7: Oil Soaked DPF

Item 1: Unit details (Do not block the damage with the tag).
Item 2: Clear image of the damage.

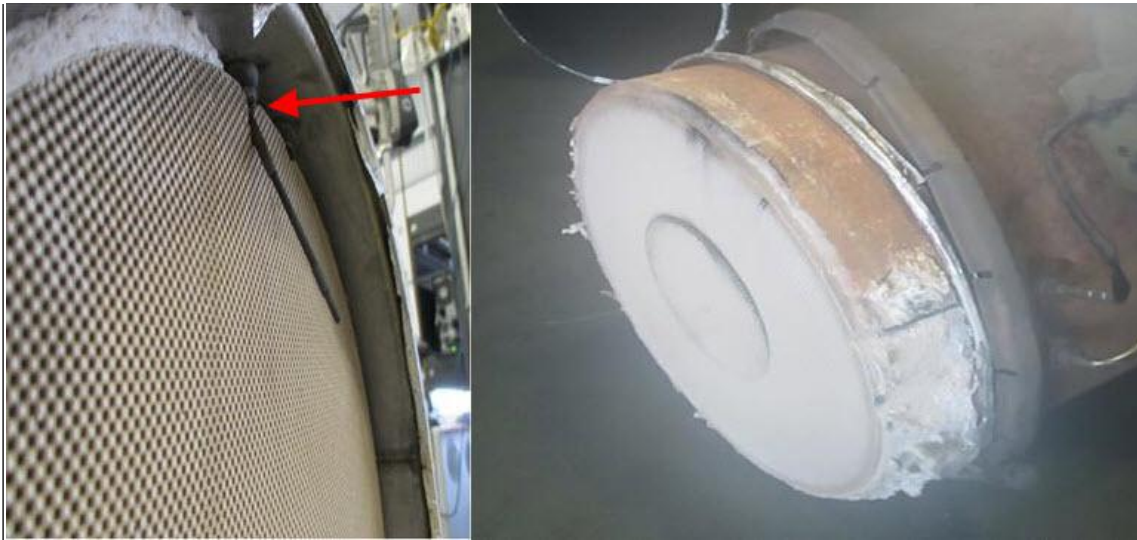


Figure 8: Excessive substrate shifting

Moderate substrate shifting is not considered a catastrophic failure. Excessive shifting is defined as enough movement to damage sensors. Please reference the aftertreatment diagnostic manual for additional information on brick shifting.



Figure 9: Broken bung

Pictured above are broken bungs. If broken or damaged unable to remove DPFDP tube the assembly must be replaced. **Stripped threads are not considered a catastrophic failure.** Reference the aftertreatment diagnostic manual (P.225) for repair process.

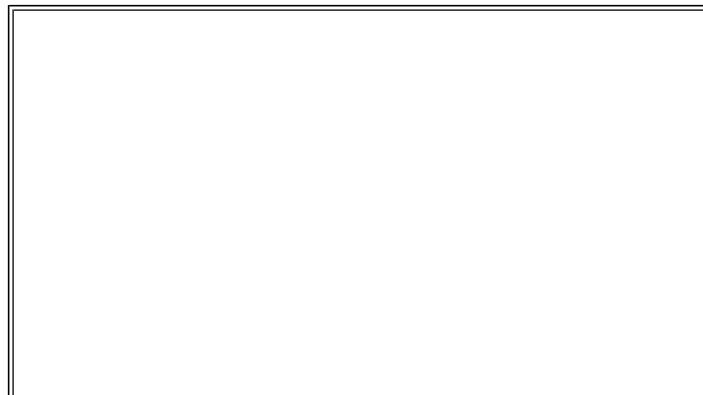




Figure 10: Black smoke

If continuous black smoke is seen exiting the tailpipe during one of the following tests below then the DPF has catastrophically failed.

- Snap Accel Test ([IK0700032](#))
- During zero - highway speed (100% engine load)
- Pulling a load or hill

Claim Information

NOTE: Claims lacking the required details can be rejected.

All non-iApproval cases must have the following information:

1. A clear inlet & outlet photo of the catastrophically failed DOC/DPF as shown in figures 1-10 above. Also see [WPL2800083](#).
2. A vehicle health report taken prior to the repair.
3. A detailed explanation of what the root cause of failure was if applicable should be included as shown in figures 11 and 12 below, however if unable to determine the root cause ensure unit meets all performance specifications per its diagnostic manual before releasing.

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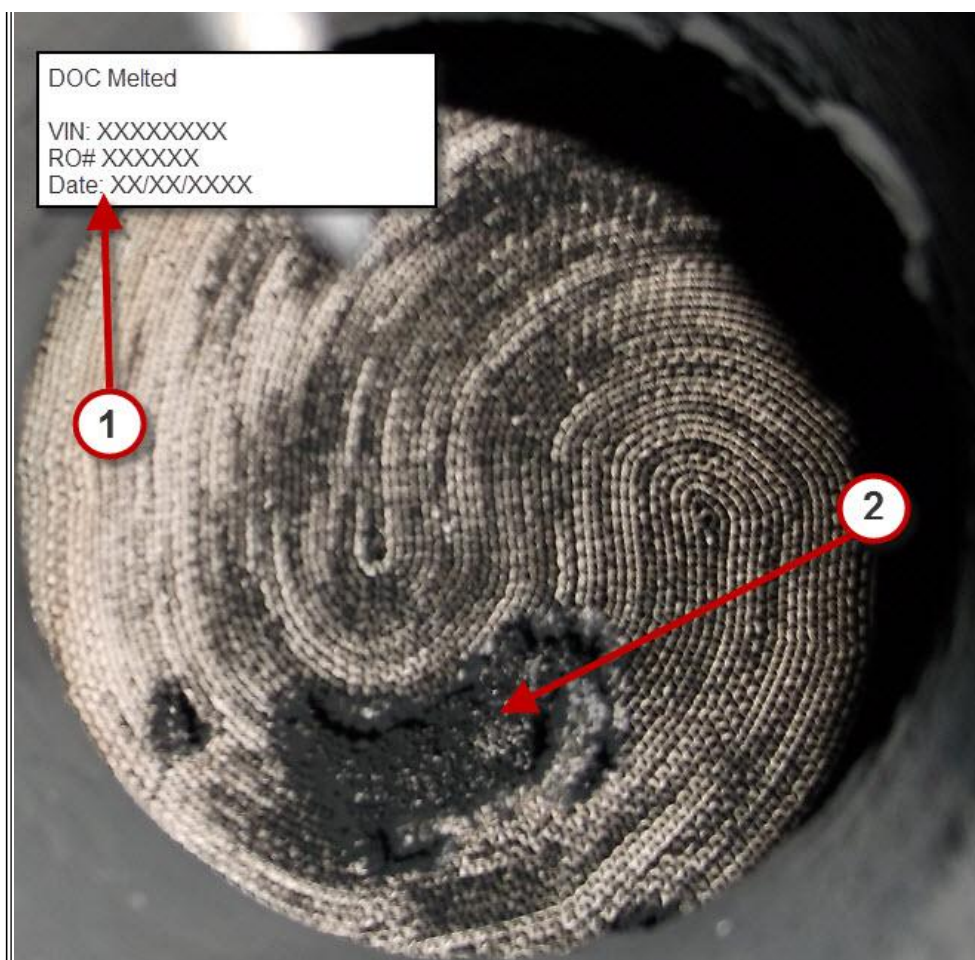


Figure 11: Melted DOC

Item 1: Unit details (Do not block the damage with the tag).

Item 2: Clear image of the damage.

Description: Followed Aftertreatment Diagnostic Manual 0000003081 symptom 3 to step 4, identified DOC was melted. Replaced DOC, followed to step 6 to verify system operation found unit has a cracked injector tip that is the root cause of the DOC melting. Completed all repairs and verified unit meets all operating specifications listed in the engine diagnostic manual.

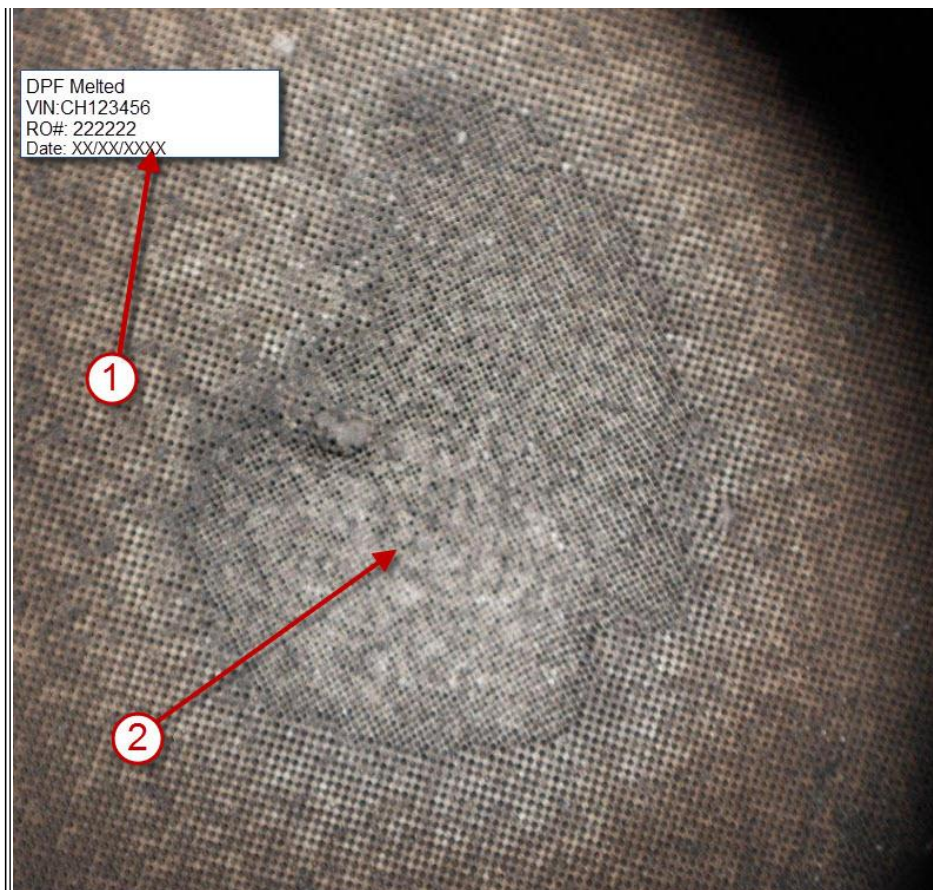


Figure 12: Melted DPF

Item 1: Unit details (Do not block the damage with the tag).
Item 2: Clear image of the damage.

Description: Followed Aftertreatment Diagnostic Manual 0000003081 symptom 5 to step 2, identified DPF was melted. Replaced DPF, followed to step 4 to verify system operation found unit has a cracked injector tip that is the root cause of the DPF melting. Completed all repairs and verified unit meets all operating specifications listed in the engine diagnostic manual.

Post Repair Information

NOTE: This information does not need to be included in the warranty claim but must be performed to assure a proper repair was conducted.

1. Unit should not have any obvious running issues (misfire, low power or knocking)
2. Unit should meet all of the performance specifications of its appropriate engine service manual
3. Unit should complete all tests successfully by meeting criteria outlined in the After Treatment Diagnostic Manual / Engine Diagnostic Manual / V-8 Engine Diagnostic Reference Sheet (Linked Below)

OTHER RESOURCES

[Master Service Information Site](#)

[2010 & HD-OBD I-6 & BB Engines Aftertreatment Symptom-Based Diagnostic and Inspection Manual \(EPA 10\)](#)

[N9 & N10 Engine with SCR \(EPA 10\) Diagnostic Manual](#)

[N13 Engine with SCR \(EPA 10\) Diagnostic Manual](#)

[V-8 DPF & DOC Catastrophic Failure Performance Assessment Sheet](#)

[MaxxForce® 7 Engine Diagnostic Manual \(EPA 10 with HD-OBD\)](#)

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