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Countries:

Document ID: IK1201258

Availability: ISIS, Bus ISIS, IsSIR

Major System: ENGINES

Current Language: English

Other Languages: NONE

Viewed: 29447

Revision: 8

Created: 1/20/2015

Last Modified: 10/6/2017

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Coding Information

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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:

10/4/2017 - Updated warranty requirements
 7/25/2016 - Updated first sentence under Description per request.
 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

DESCRIPTION

- 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

Failures:

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:

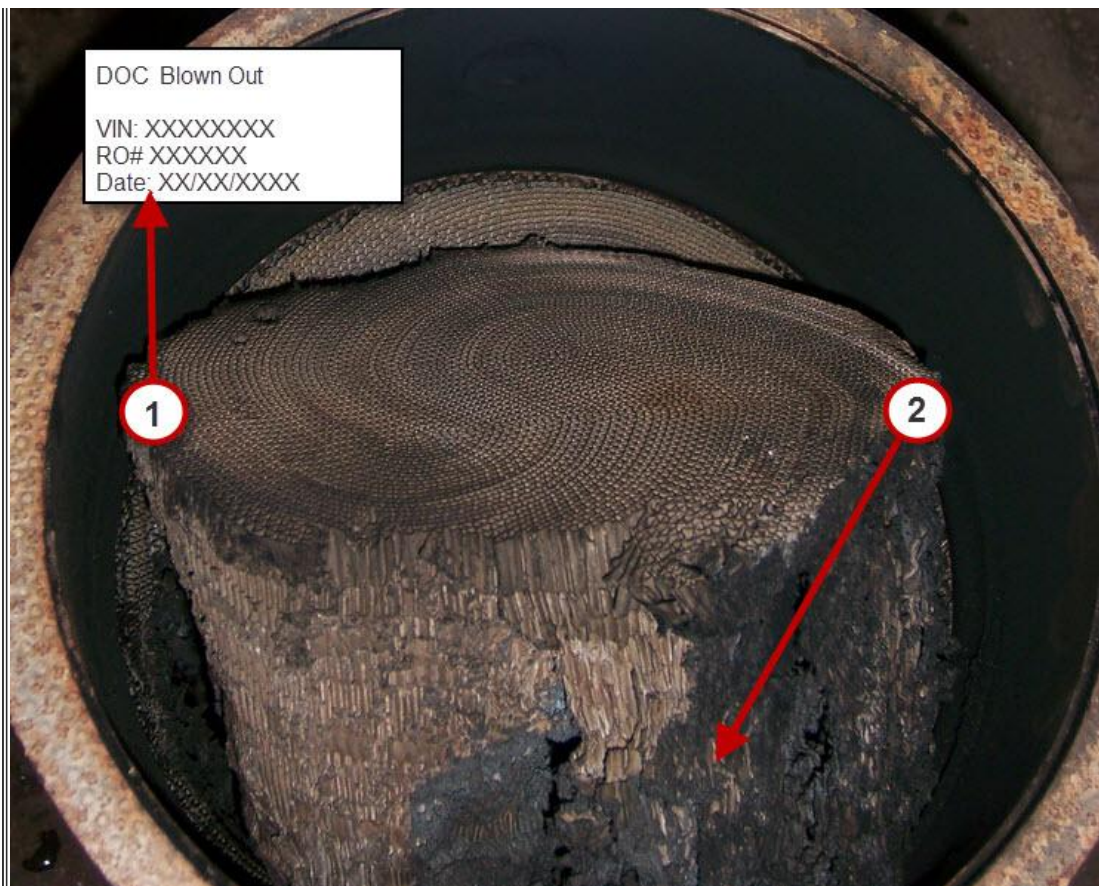


Figure 1: DOC Substrate separation

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

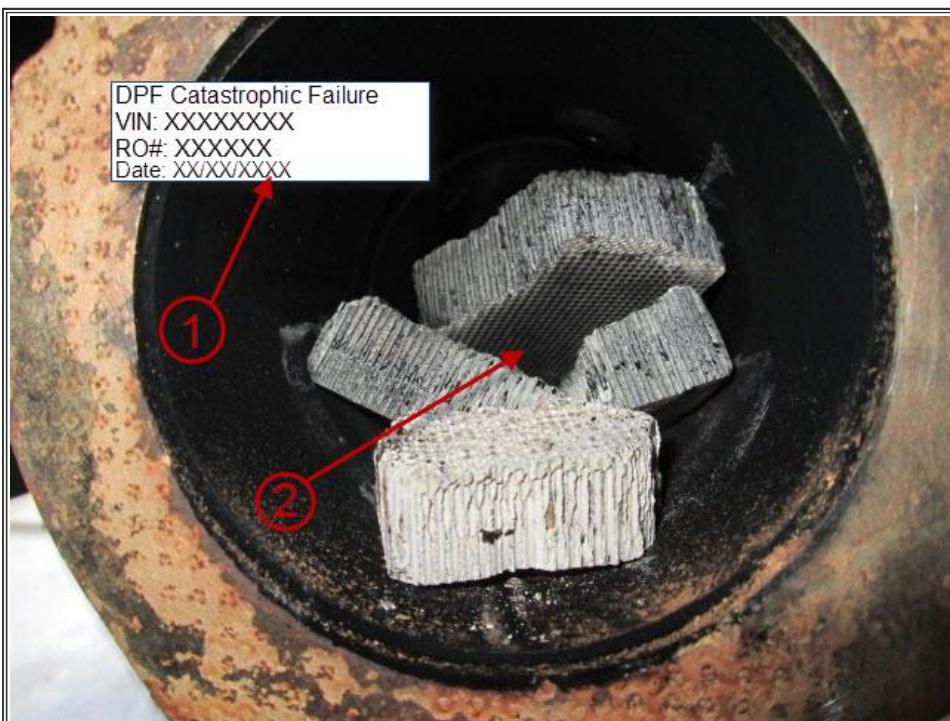


Figure 2: DPF Substrate separation

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

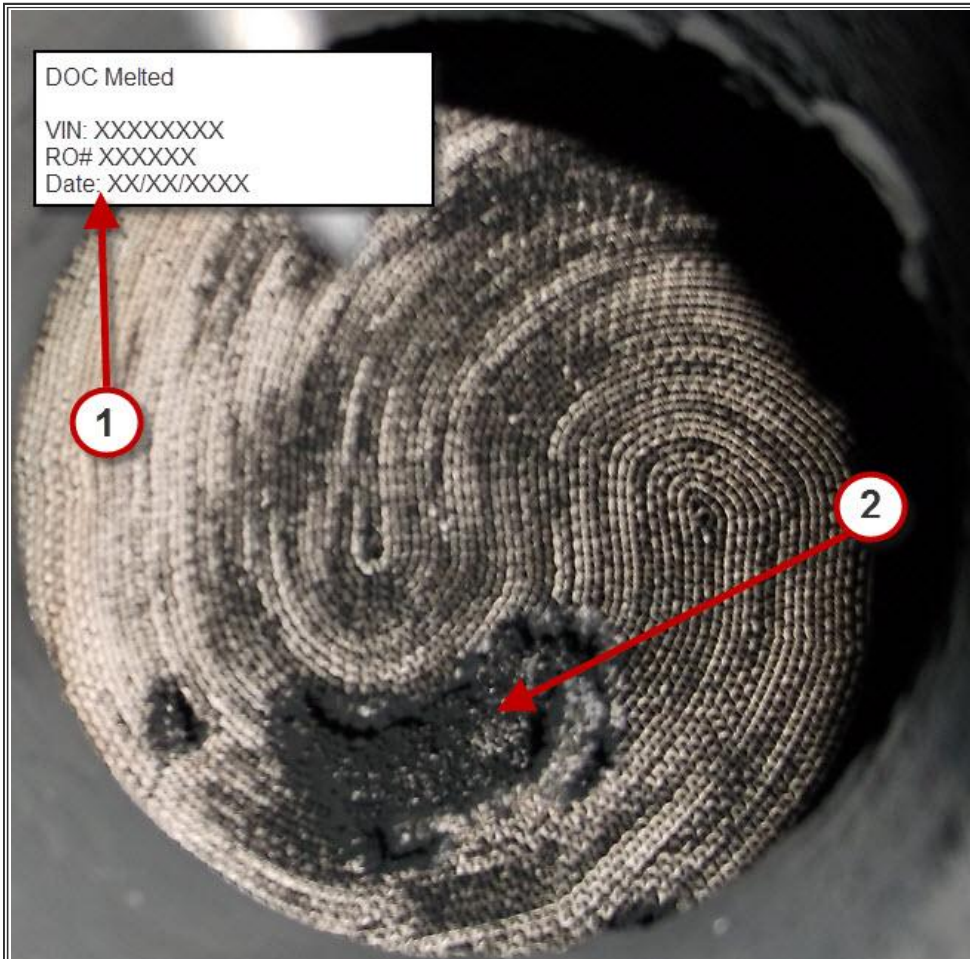
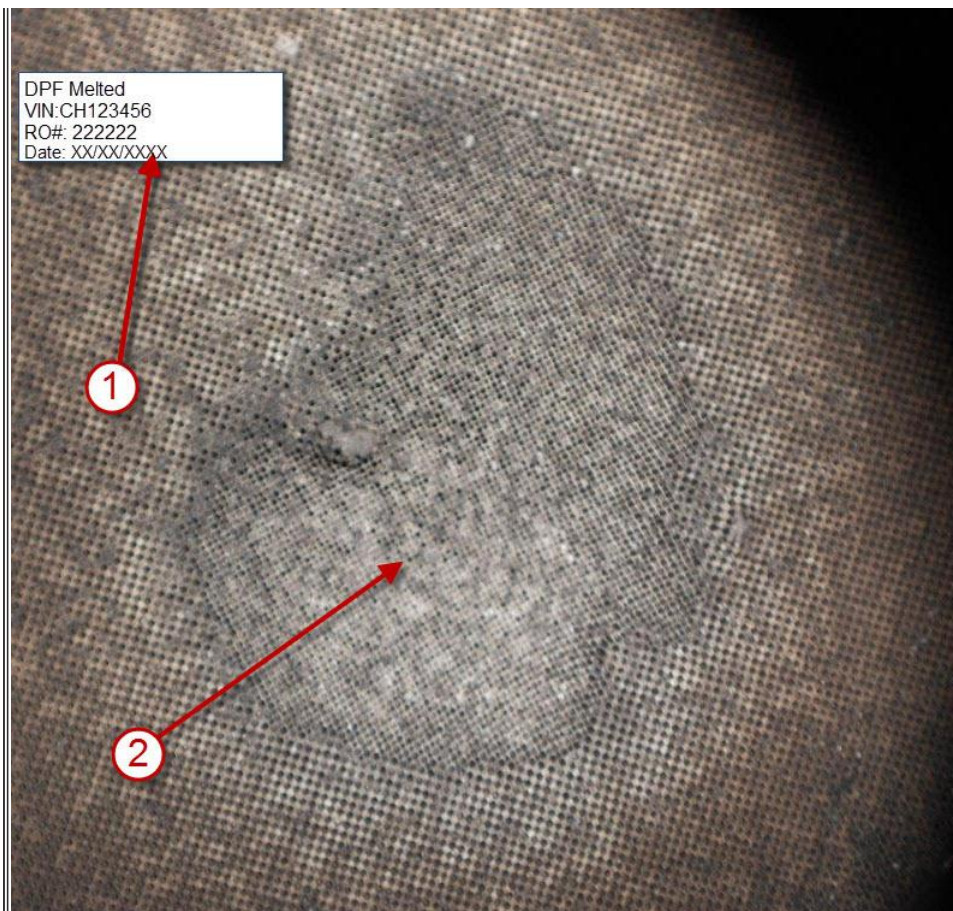
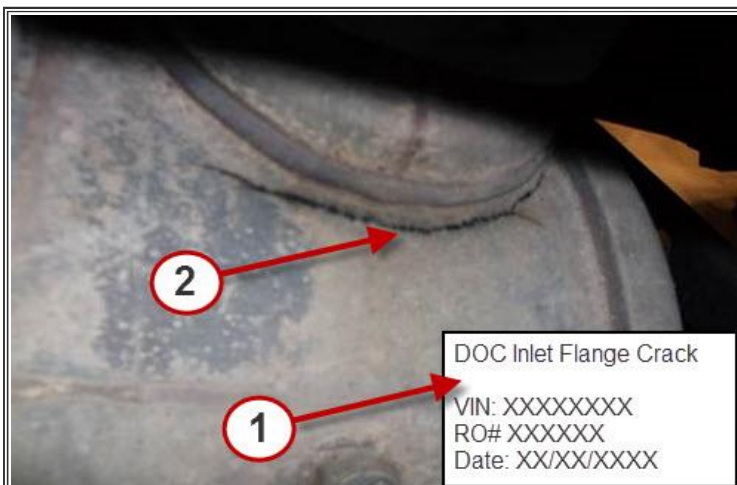


Figure 3: Melted DOC

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

**Figure 4: Melted DPF**

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

**Figure 5: DOC Cracked Inlet Flange**

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

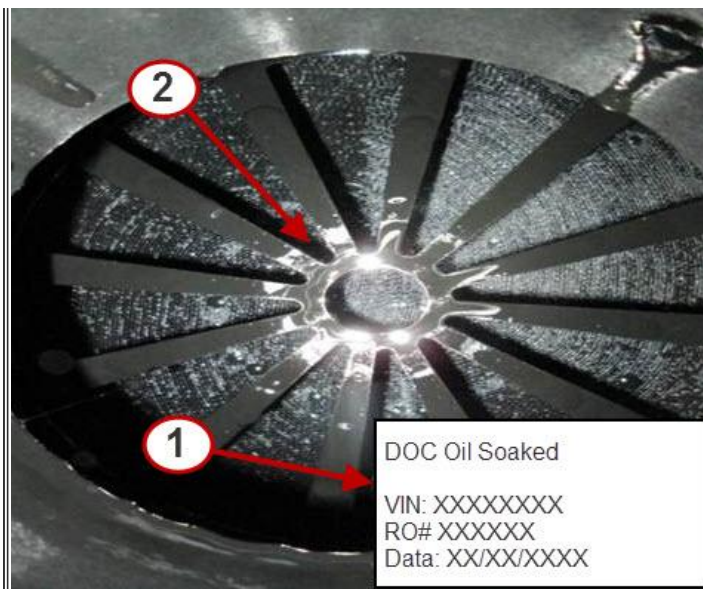


Figure 6: Oil Soaked DOC

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

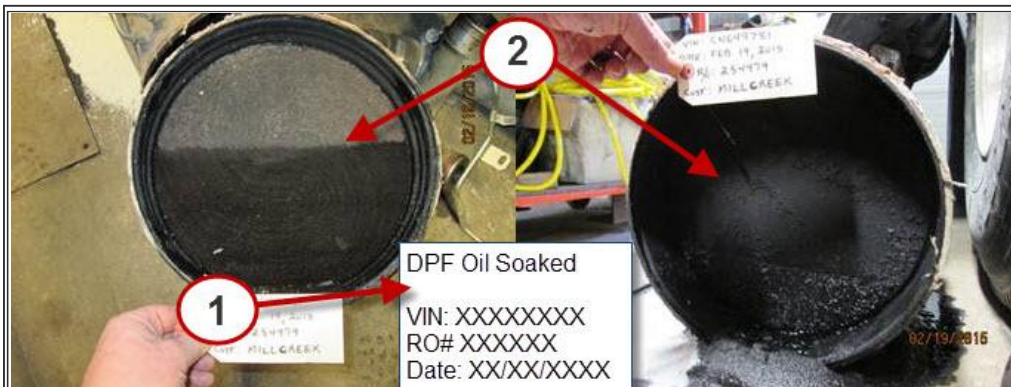


Figure 7: Oil Soaked DPF

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

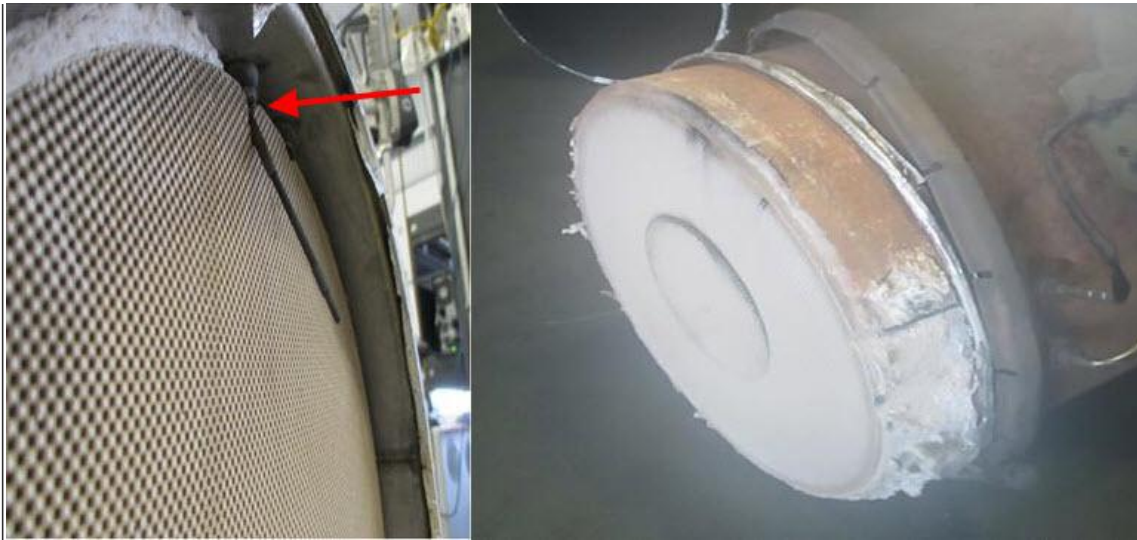


Figure 8: Excessive substrate shifting

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.

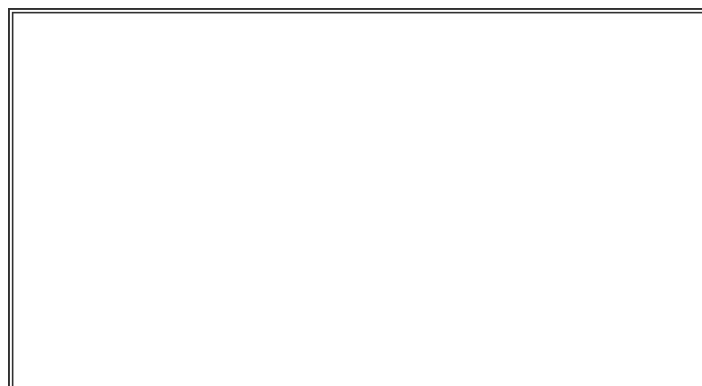




Figure 10: Black smoke

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

- Snap Acceleration Test
- During zero - highway speed (100% engine load)
- Pulling a load or hill

Required Claim Information for Warranty Processing

NOTE: Claims lacking required details can be rejected.

Diesel Oxidation Catalyst (DOC) and/or Diesel Particulate Filter (DPF) that have catastrophically failed do not require an iApproval case file as long as it is the only DOC/DPF failure within the last 24 months. Multiple part and service part warranty replacement will require an iApproval.

Non-iApproval and iApproval cases must have the following information:

1. Catastrophic failures figures 1-10 that meet the criteria, also see [WPL2800083](#).
2. **Clear photograph's of the failed component, including housing, DPF and DOC inlet and outlet, substrate material and black smoke during snap test. If black smoke occurs only during heavy acceleration (0-60 mph), photographs of the stack, diffuser and tailpipe will be required. If visible include pictures of the part and serial numbers.**
3. A vehicle health report must be taken prior to any repairs.
4. 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.

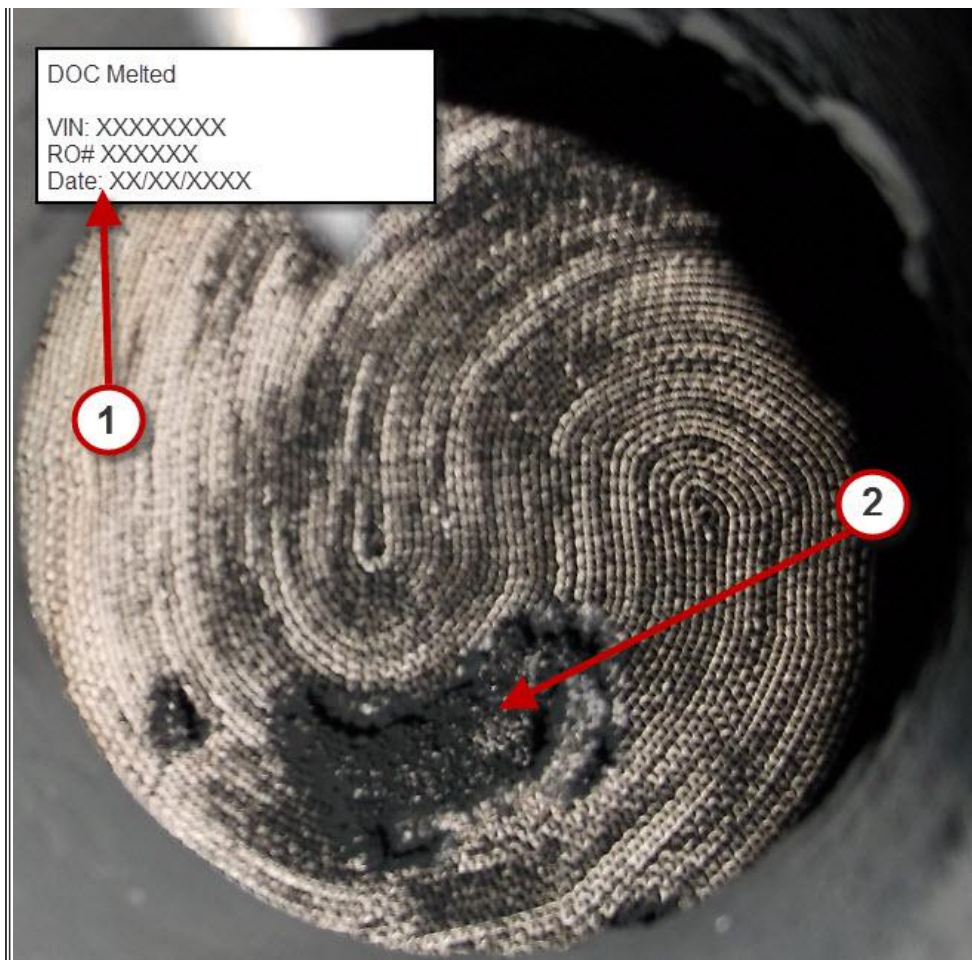


Figure 11: Melted DOC

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.

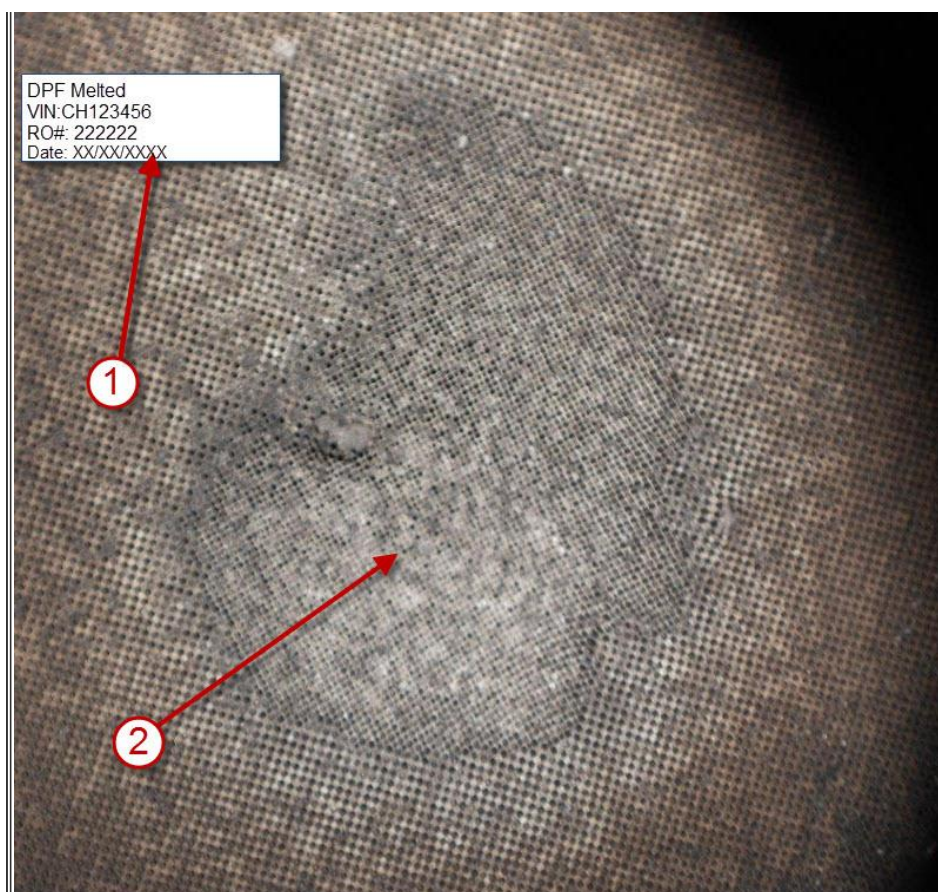


Figure 12: Melted DPF

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-OB D 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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