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Coding Information

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Title: LeakLocator Diagnostic Procedure - Heavy Duty

Applies To: MaxxForce 11/13L, N13

CHANGE LOG

2014/10/09 - Initial Article Release

DESCRIPTION

This document will aid a user in effective use of the Navistar Leak Locator tool. When used properly, the Leak Locator will significantly reduce diagnostic time for air leaks (including the intake, exhaust, and aftertreatment systems) leading to regen, power and/or exhaust odor concerns.

The following information has been tailored to the 2007+ Emissions MaxxForce® 11 and 13, and N13 engines.

NOTE: For medium duty (MaxxForce 7-10, DT), please reference [IK1201142](#).





Figure 1: Navistar Leak Locator and accessory kit

SYMPTOMS

- Low power or performance concerns
- Frequent regens or aftertreatment issues
- Unwanted cabin odors

SPECIAL TOOLS

Tool Description	Tool Number
Navistar® LeakLocator	19-700-01
Heavy Duty (HD) Accessory Kit	19-700-01-01-26
Tool Instruction Sheet	4328229R1

OVERVIEW



To prevent personal injury or death, read all safety instructions in the "Safety Information" section of the Engine Diagnostic Manual or Engine Service manual.

IMPORTANT NOTES:

- Due to the size of some engine components (as well as wide temperature ranges encountered during normal operation), "pinhole" leaks can occur at some sealing surfaces. Generally, pinhole leaks do not result in odors or performance issues-- focus on large leaks.
- Do not exceed 5 psi pressure, with the tool. Higher smoke pressures can obscure test results as the fast-moving smoke can be difficult to see. At lower pressures, smoke trails "curl" out smoothly and remain visible much longer.
- Smoke from the Leak Locator cannot pass through a properly operating Diesel Particulate Filter (DPF). To properly test the Aftertreatment System, test areas before and after the DPF, separately.
- Some components (for example the High Pressure Charge Air Cooler-HPCAC) have slight air leaks, by design. For these components, it is necessary to perform a leak decay test (outlined in the Diagnostic Manual) to deem the part non-conforming.

DIAGNOSTIC PROCEDURE

The diagnostics are split into three sections; Intake, [Exhaust](#) and [Aftertreatment](#), and are hyperlinked accordingly. Perform the necessary diagnostics relative to the customer/performance concern.

INTAKE TESTING:

1. Remove intake piping
2. Install intake adapter into air intake piping
3. Using air intake piping clamp, tighten clamp around adapter
4. Connect Navistar Leak Locator line to intake adapter

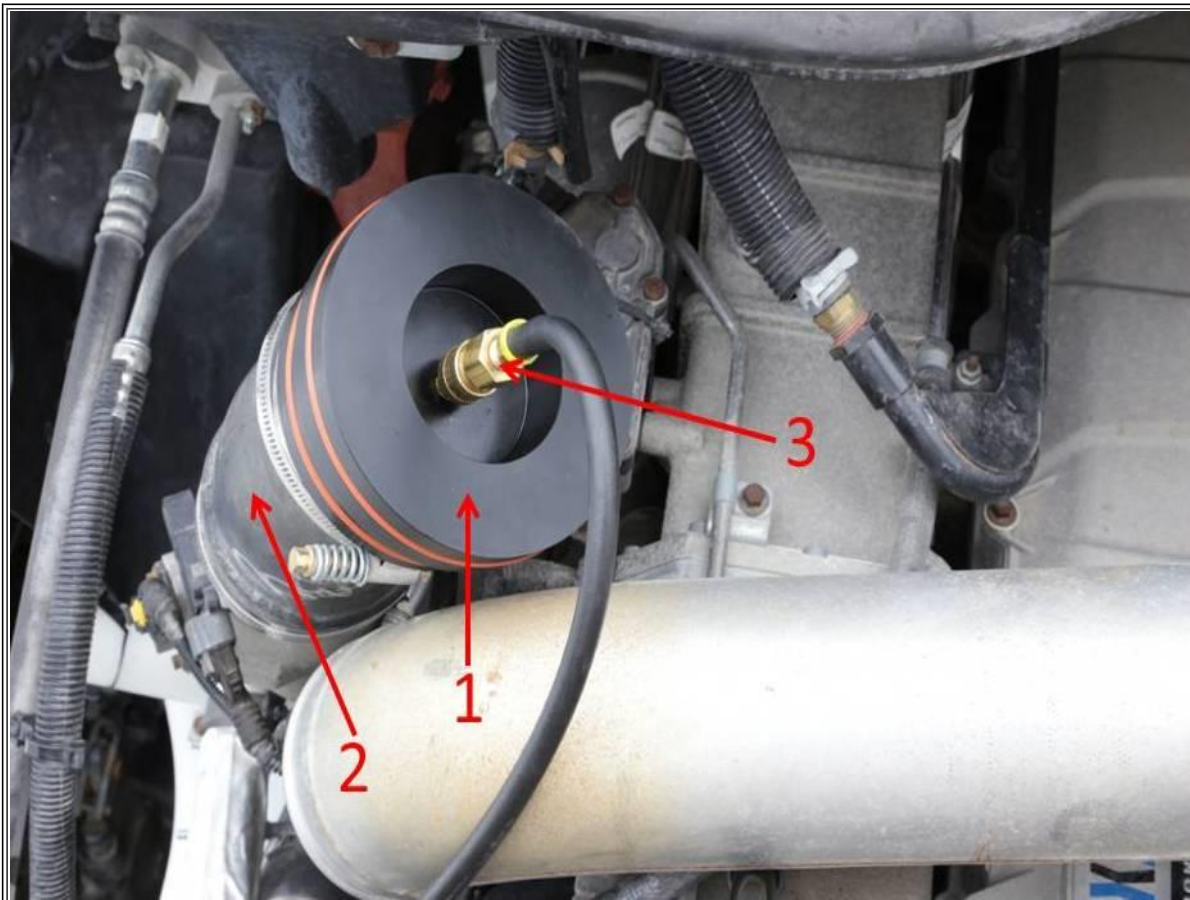


Figure 2: Maxxforce 11 and 13L Intake adapter installed

Item 1: Intake Adapter
 Item 2: Air intake piping
 Item 3: Navistar leak locator line

5. Initiate pressurized smoke (3-5 psi is recommended)
6. Carefully inspect entire intake system for leaks
7. Once leak is found, remove tooling, repair leak and install removed items. Follow the service manual for correct repair procedures.

EXHAUST TESTING

1. Remove intake piping/air cleaner
2. Install intake adapter into air intake piping
3. Using air intake piping clamp, tighten clamp around intake adapter
4. Install plug/block off onto the intake adapter

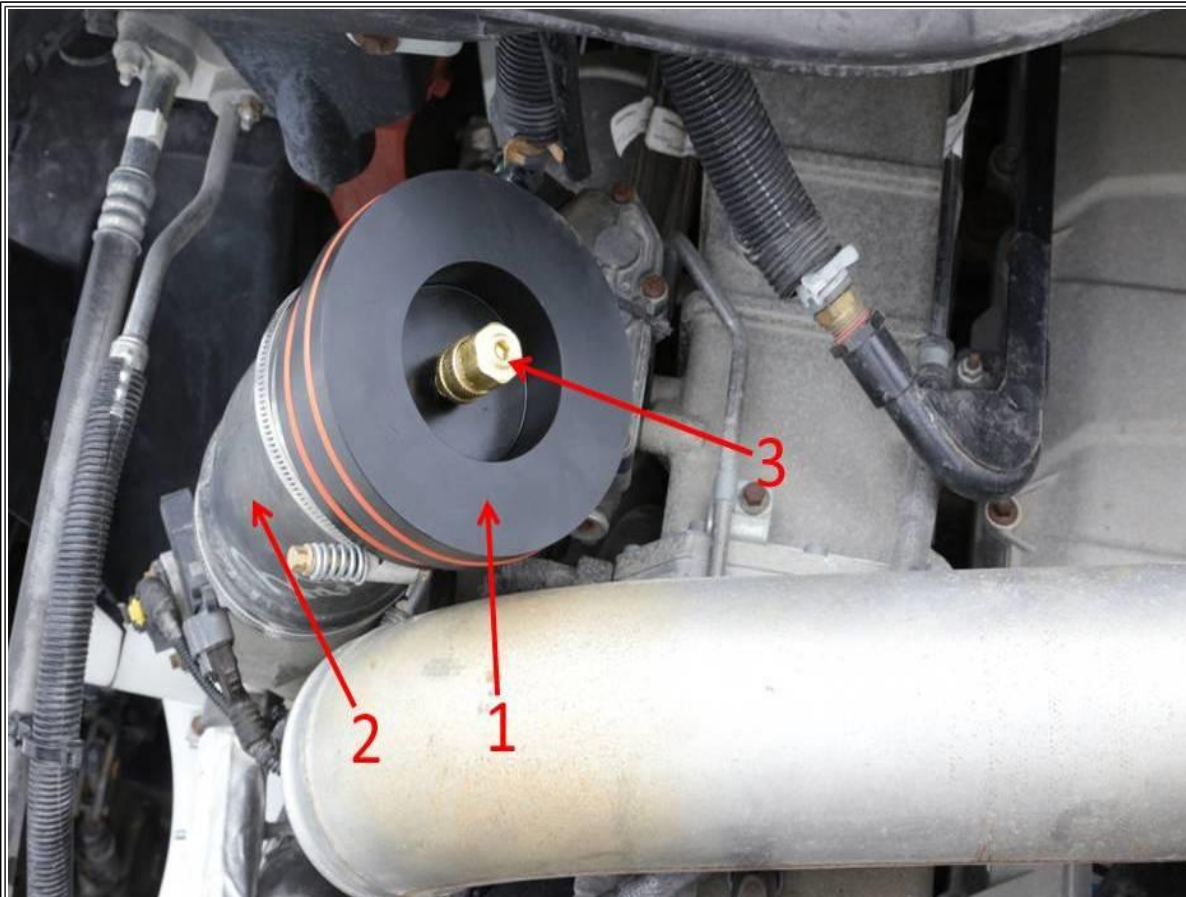


Figure 3: Power smoke adapter (2.9inch) in exhaust piping

Item 1: Intake adapter
 Item 2: Air intake piping
 Item 3: Plug/block off

5. Remove DOC inlet clamp and install Powersmoke Adapter 2.9in into the exhaust pipe (DOC inlet side) and inflate per Navistar Leak Locator Operation Manual

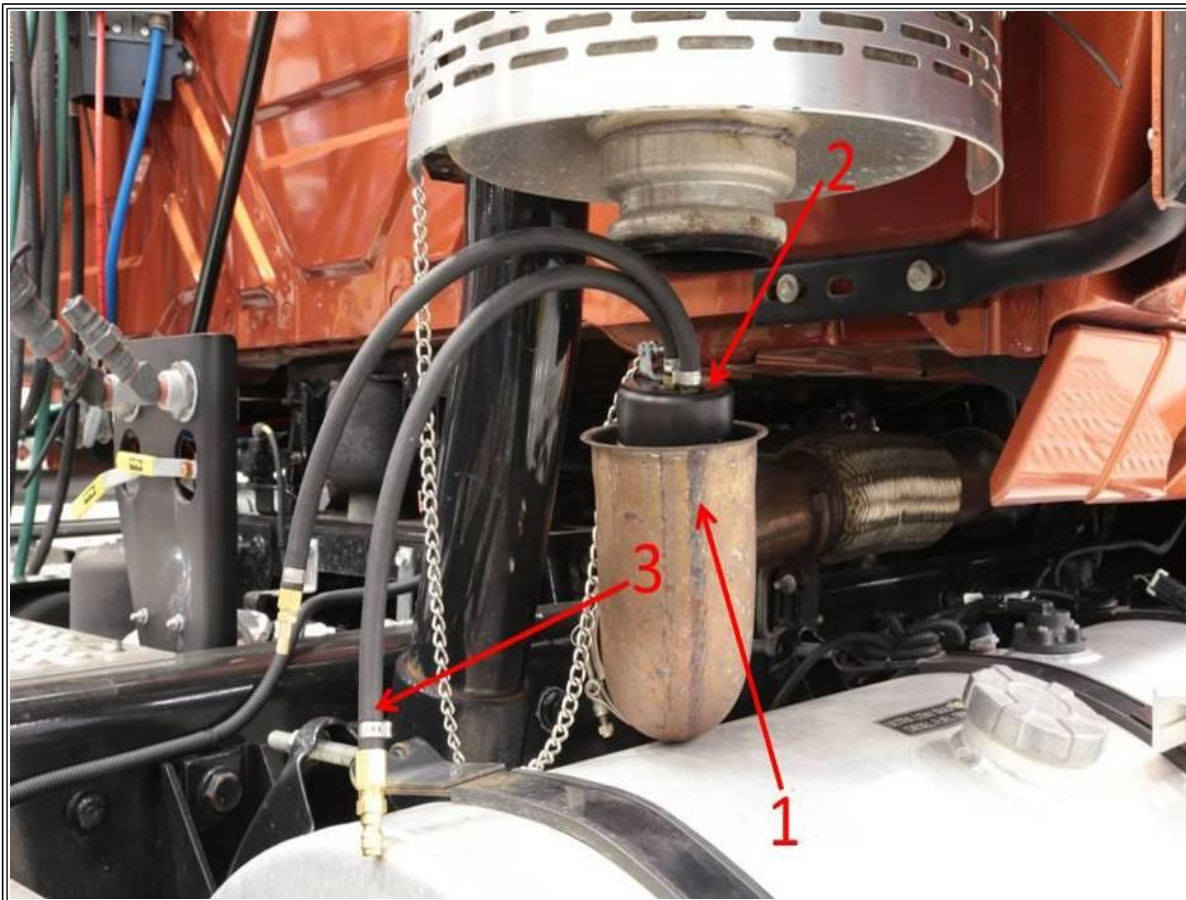


Figure 4: Power smoke adapter (2.9inch) in exhaust piping

- Item 1:** DOC Inlet exhaust piping
Item 2: Power smoke adapter (2.9 inch) inserted into tail pipe
Item 3: Navistar Leak Locator supply line



WARNING:

To prevent personal injury or death, connect the chain on the Powersmoke Adapter to a secure location.

6. Initiate pressurized smoke (3-5 psi is recommended)
7. Carefully inspect entire exhaust system for leaks
8. Once leak is found, remove tooling, repair leak and install removed items. Follow the service manual for correct repair procedures.

AFTERTREATMENT TESTING

1. Insert the 3.9in adapter in the outlet of the exhaust and inflate
2. Connect hose plug to 3.9in adapter



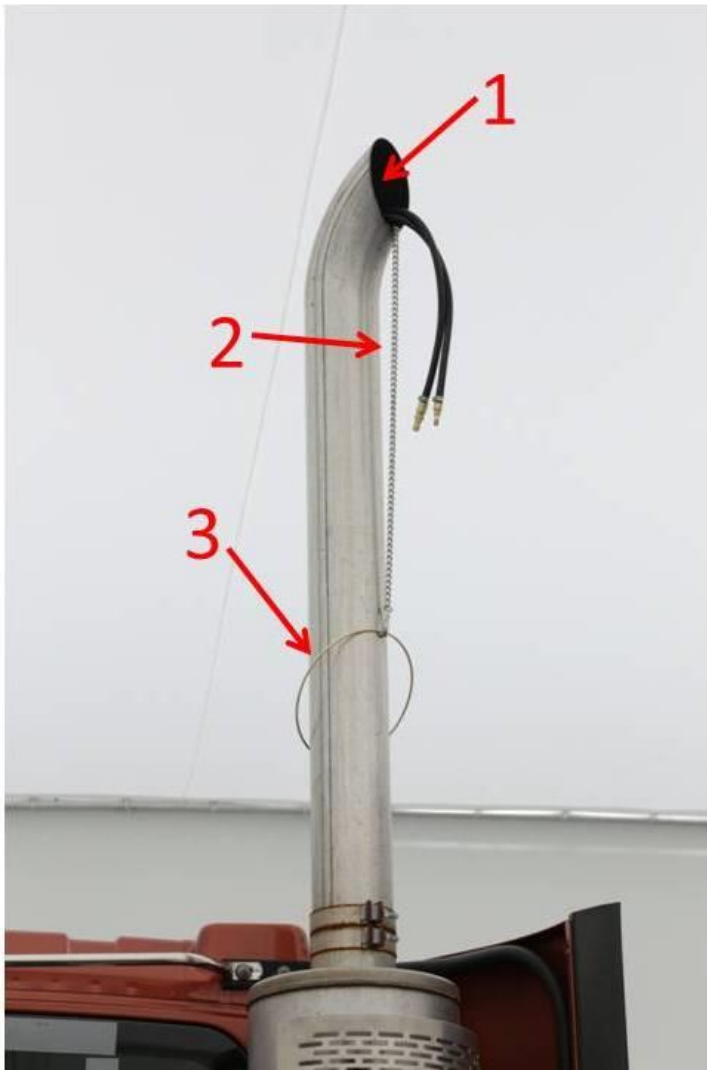


Figure 5: MaxxFer 11/13L vertical exhaust with Powersmoke™ Adapter 3.9 in installed

3. Remove exhaust pipe from DOC, install Powersmoke Adapter (2.9in) into the tail pipe and inflate per Navistar Leak Locator Operation Manual



Figure 6: MaxxFace 11/13L vertical exhaust with Powersmoke™ Adapter 2.9 in installed

4. Connect Navistar Leak Locator supply line to Powersmoke Adapter (2.9in)
5. Initiate pressurized smoke (3-5 psi is recommended)
6. Carefully inspect aftertreatment system for leaks
7. Once leak is found, remove tooling, repair leak and install removed items. Follow the service manual for correct repair procedures.

WARRANTY INFORMATION

Warranty Claim Coding:

Due to the amount of components this repair can diagnose, please reference the coding manual for claim coding guidelines. Coding suggestions will be added once SRTs have been evaluated.

STANDARD REPAIR TIMES:

SRTs are currently under review. In the meantime, use T-Times as necessary.

OTHER RESOURCES

[Master Service Information](#)

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