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Coding Information

|                                                                                                       |                                                                                                                |                                                                                                                                           |                                                                                                              |                                                                                                   |                                                                                                                |                                                                                                            |                                                                                                                |
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**Title:** LeakLocator Diagnostic Procedures - Medium Duty

**Applies To:** EPA 2007 and 2010 MaxxForce® 7, DT, 9, 10

## **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 diagnosis 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® 7, DT, 9 and 10.

**NOTE:** For heavy duty (11 and 13L), please reference [IK1201216](#).

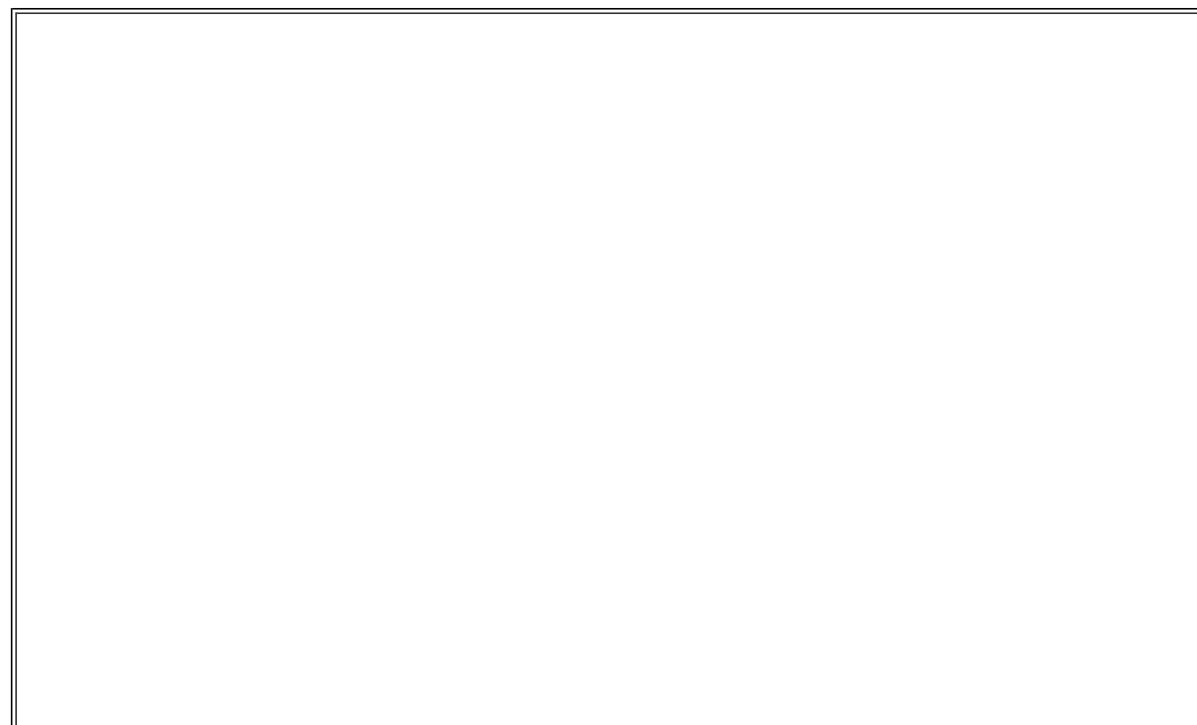




**Figure 1:** Navistar Leak Locator and accessory kit

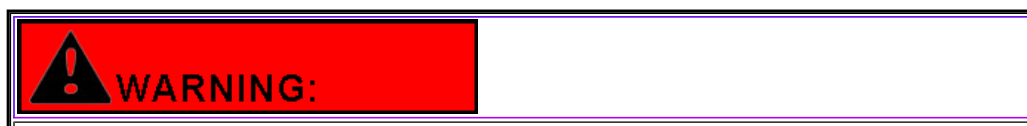
## **SYMPTOMS**

- Low power or performance concerns
- Frequent regens or aftertreatment problems
- 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/air cleaner
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

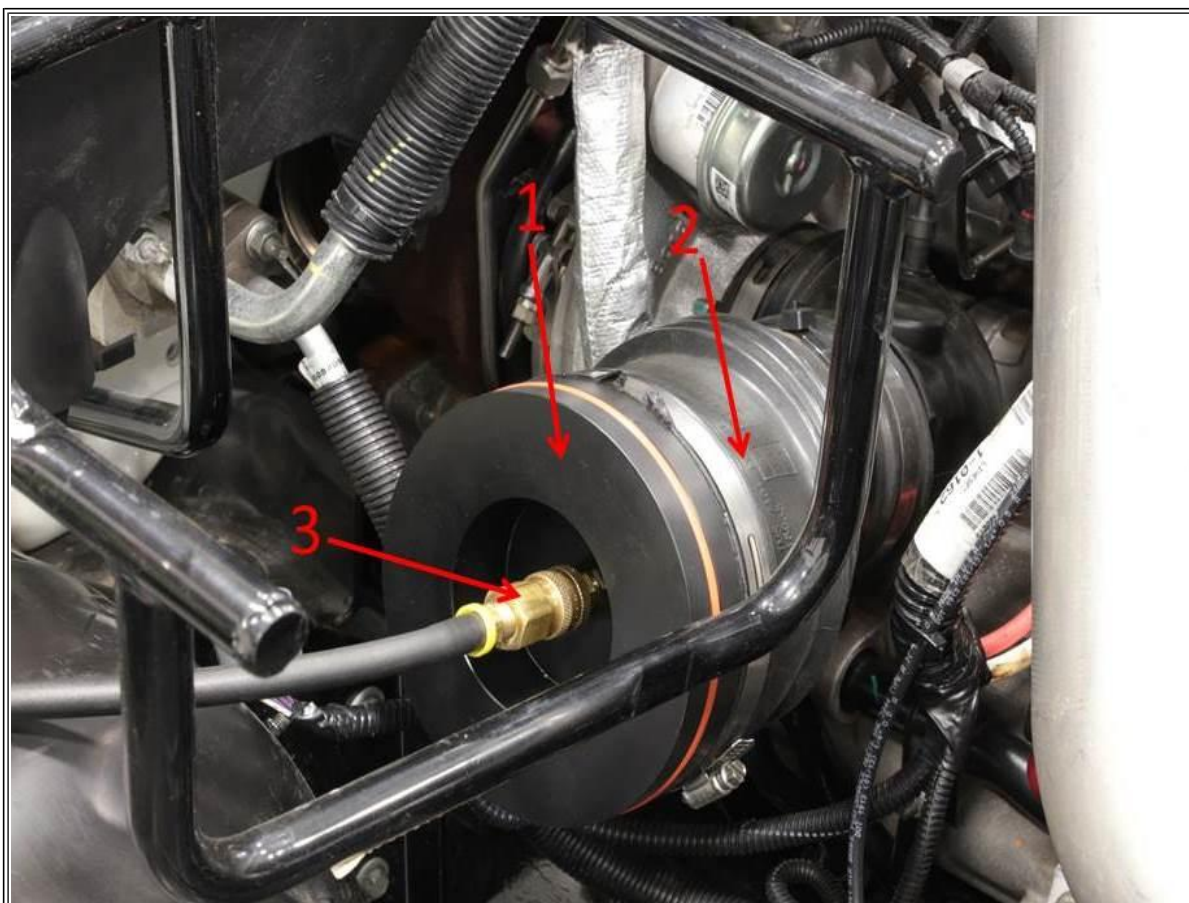


**Figure 2:** Maxxforce 7, DT, 9 and 10 Intake adapter installed

**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 and AFTERTREATMENT 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

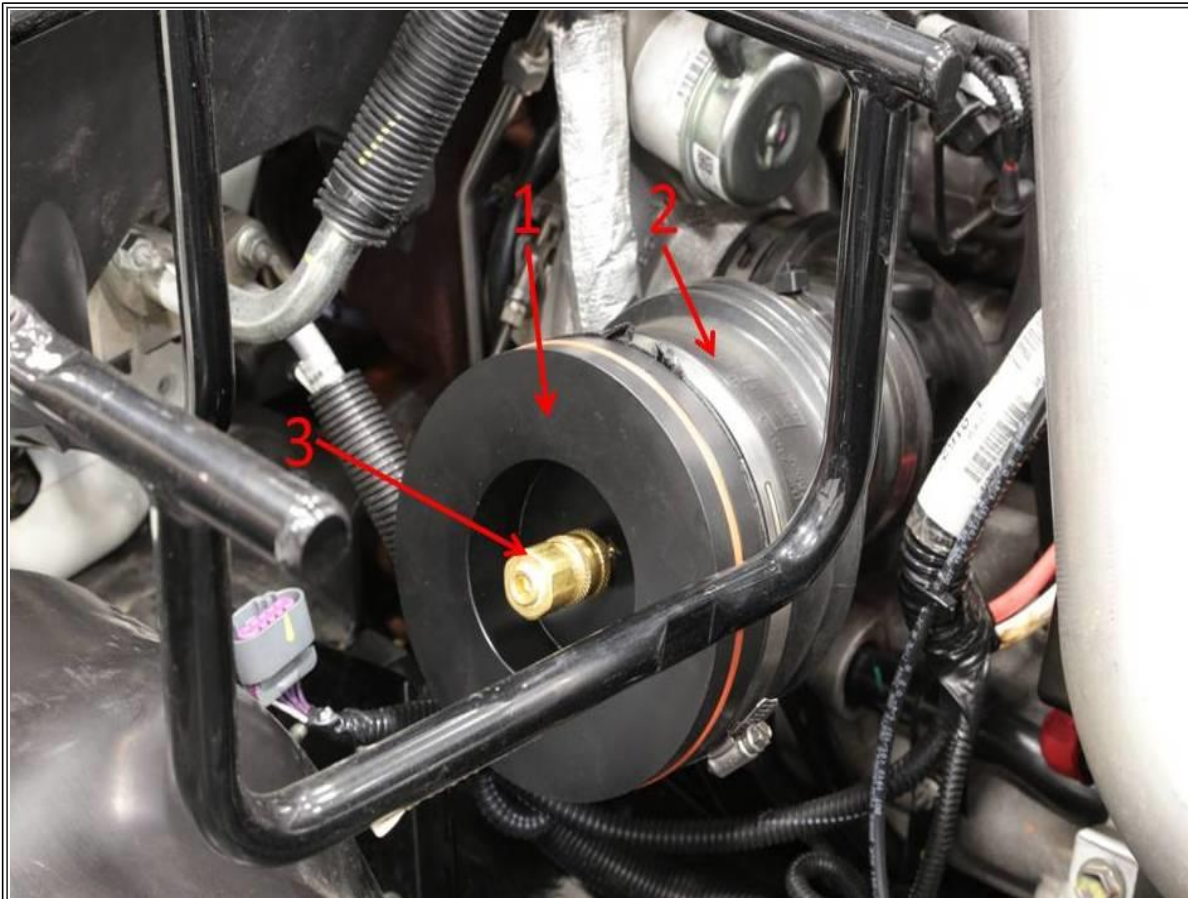


**Figure 3:** Plug installed on intake adapter

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

5. Remove DOC inlet temperature sensor and install temperature sensor port adapter
6. Connect Navistar Leak Locator supply line to temperature sensor port adapter

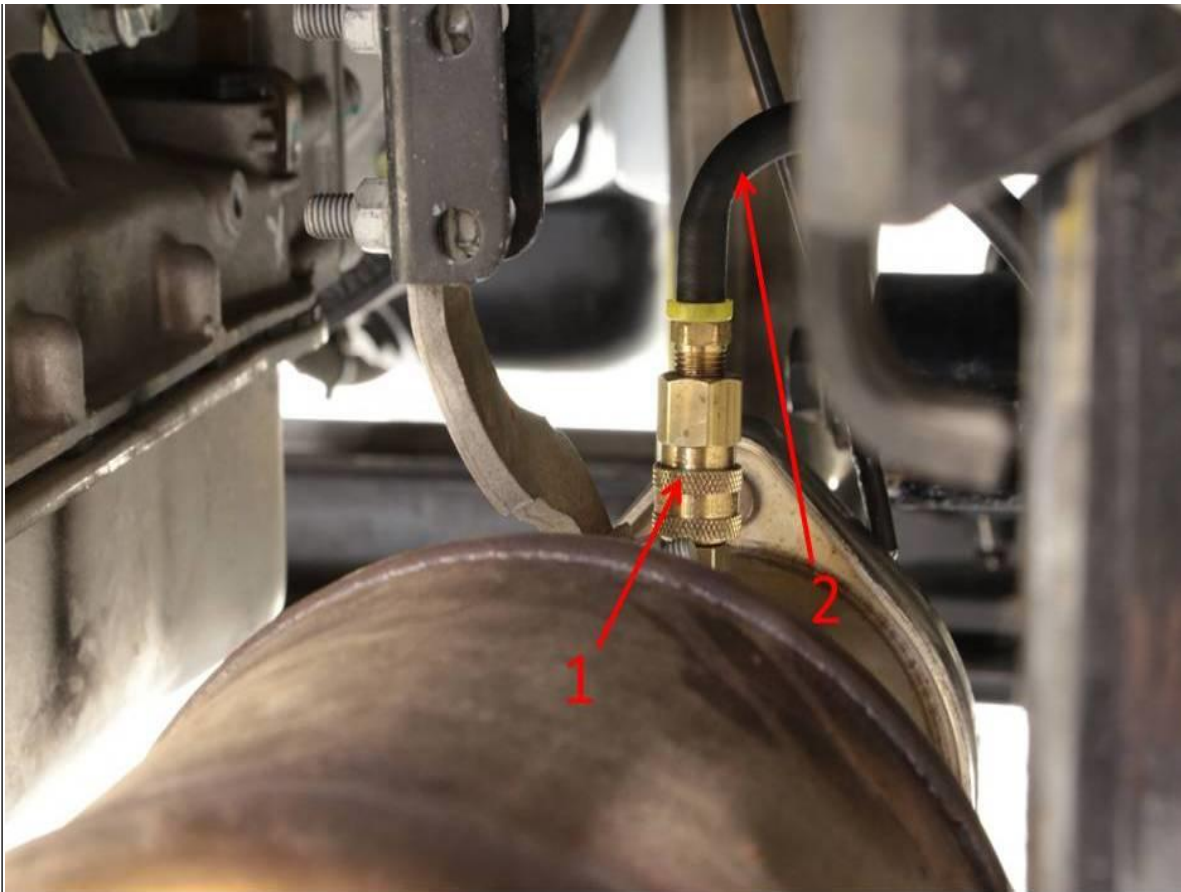


**Figure 4:** Temperature sensor port adapter installed

**Item 1:** Temperature sensor port adapter  
**Item 2:** Navistar Leak Locator supply line

7. Remove exhaust diffuser
8. Remove DPF outlet temperature sensor

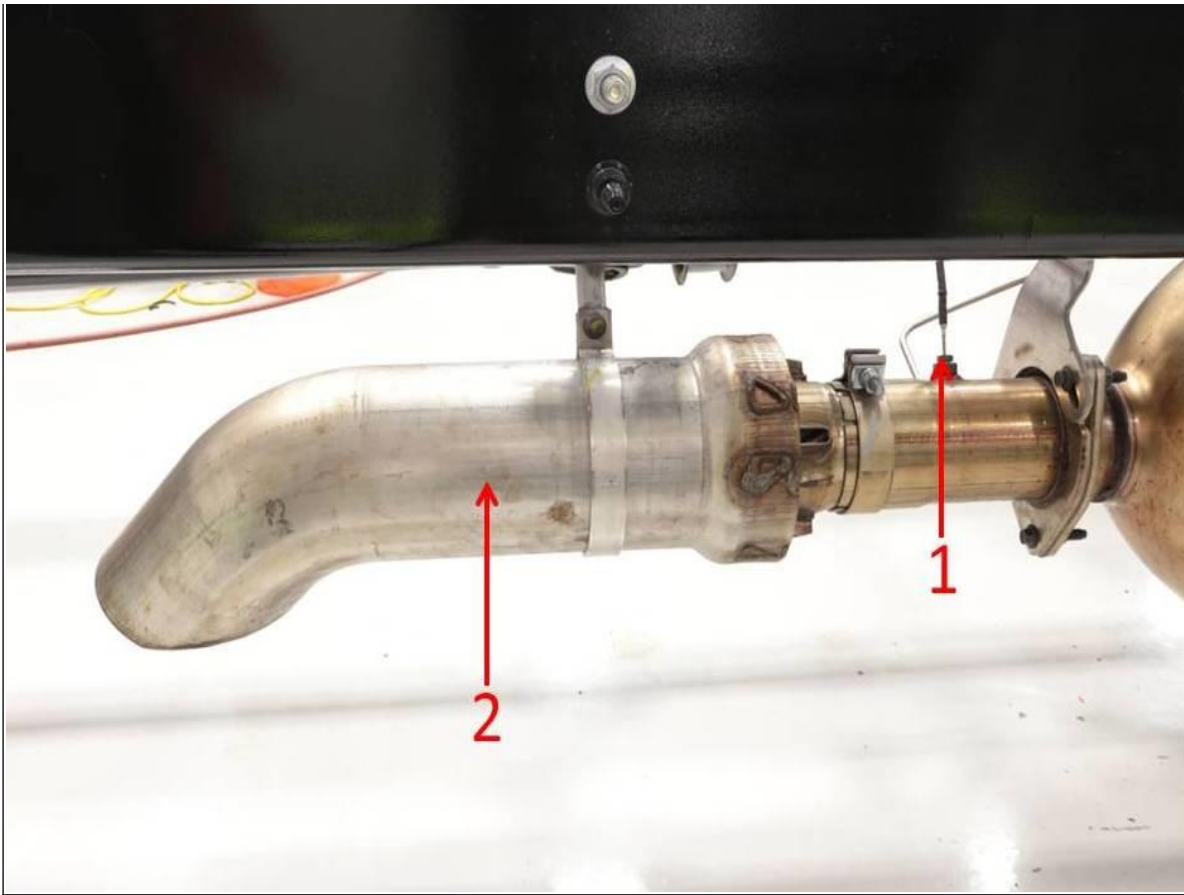


**Figure 5:** Tail pipe

**Item 1:** DPF (Diesel Particulate Filter) outlet temperature

**Item 2:** Exhaust diffuser

9. Install power smoke adapter 2.9in into end of tail pipe and inflate

10. Install block-off coupler onto Navistar Leak Locator supply line

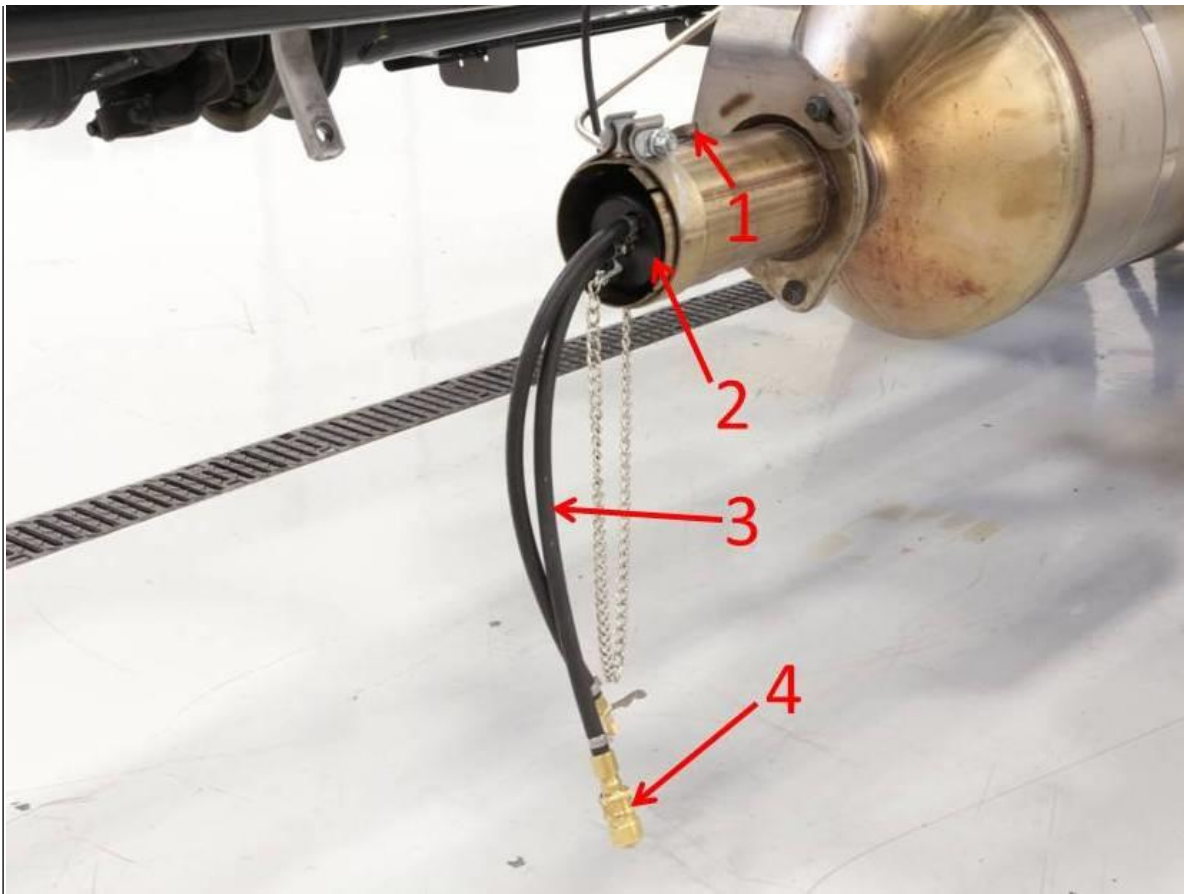


**Figure 6:** Power smoke adapter (2.9inch) in Tailpipe

- Item 1:** DPF outlet temperature sensor removed  
**Item 2:** Power smoke adapter (2.9 inch) inserted into tail pipe  
**Item 3:** Navistar Leak Locator supply line  
**Item 4:** Block-off coupler



## **WARNING:**

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

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

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## **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.

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## **STANDARD REPAIR TIMES:**

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

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## **OTHER RESOURCES**

### [Master Service Information](#)

|  Hide Details |           | Feedback Information                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                       |
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|                                                                                                | DYYRFMG   | You received the following feedback From: dyyrfmg - Rich Michels Email Address: richm@bendbroadband.com Job Classification: SE008, Service Technician Dealer: BRATTAIN INT'L. TRUCKS I Feedback: I wish I had this tool in the shop right now,,,,, I'm working a 2010 DT that has 10"H2o of crankcase blow by. I'd like to put a couple of PSI of smoke in a cylinder and see it leak past the rings, then retest it with new rings installed on the pistons. Or use it to put smoke into the intake or exhaust manifolds, to test for leaking valve guide seals. Plus, when I was testing the blow-by, I isolated the turbo drains from the crankcase and discovered the turbo's where contributing 3" H2o to the crankcase pressure. A smoke test to each of the turbo drains would help pin-point to where that pressure is coming from. Rich Michels | 10/9/2014 10:26:24 PM |

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