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Coding Information

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Title: Hydrocarbon Injector & Housing Cleaning Procedure (AFI Plugging)

Applies To: EPA 2010 MaxxForce DT, 9, 10, 11, 13, 15

DESCRIPTION

Standard Operating Cleaning Procedure of the exhaust brake housing and HC Injector, for proper Aftertreatment System operation.

SYMPTOMS

- Frequent regens
- Inability to regen
- Plugged aftertreatment fuel injector port

POSSIBLE DIAGNOSTIC TROUBLE CODES

I-6 Diagnostic Codes			
SPN	FMI	MODULE	DESCRIPTION
3556	0	ECM	AFT Fuel Pressure 2 excessively high (Restricted injection)

BB Diagnostic Codes			
SPN	FMI	MODULE	DESCRIPTION
3556	0	ECM	AFT Fuel Pressure 2 excessively high (Restricted injection)
3556	7	ECM	AFT Fuel Injector not responding as expected

PARTS INFORMATION

Replace the below gasket and bolts when servicing the HC Injector [aftertreatment fuel injector (AFI) and doser injector].

Part #	Description	Qty.
3018016C1	GASKET HYDROCARBON INJECTOR	1
3006707C1	BOLT, HEX FLANGE M8 X 45 B16	2

The old gasket (p/n **3005521C1**) has been reworked and replaced with p/n **3018016C1**. The new style gasket will have the raised center portion of the gasket removed (Figure 1).

Figure 1 - Gasket Changes



BACKGROUND

A plugged HC injector port will result in improper or frequent aftertreatment regenerations (regens). If the AFI port is plugged, use this procedure and Navistar's Engine Diagnostic Manual (Found on the **Service Portal>Publications>Master Service Information**) for additional reference.

SUPERCEDES PREVIOUS GUIDENCE ON AFI CLEANING

PROCEDURE

CAUTION:

To prevent component damage, the hydrocarbon / aftertreatment fuel injector nozzle should not be removed from the main housing for any reason.

1. Remove the HC Injector per Navistar's Engine Service Manual. (The MaxxForce 11, 13 Engine Service Manual reflects a new AFI R&R procedure as of 10/18/13.)
2. Discard the gasket and two M8 x 45 bolts.

CAUTION:

To prevent component damage, cleaning of the hydrocarbon / aftertreatment fuel injector using cleaners or solvents is **NOT** recommended. It is not a regular maintenance procedure. Do not blast the injector with compressed air. Do not pull or otherwise manipulate the injector nozzle tip.

3. Install plastic plug on fuel and coolant openings of AFI
4. Perform visual inspection of the AFI. Visual Checks: If damage is present, replace the AFI.
 - a. Correct AFI gasket is installed. (See figure 1)
 - b. AFI body and fittings free of cracks and other damage.
 - c. AFI tip free of cracks and other damage.
5. Use ZTSE4301 (Brass Brush) to clean any carbon buildup that may be present at the tip of the AFI.
6. If carbon buildup is present: Carefully remove carbon from the HCI / AFI port on the exhaust back pressure valve housing with a chisel or other appropriate tool. Remove debris with a shop vac.

Note: Any remaining chunks of carbon debris may damage the aftertreatment system or cause plugging of the PDOC / DOC / DPF.

7. Install the original HC Injector with new gasket and new bolts per Engine Service Manual.
9. Use ServiceMaxx to perform On Board Filter Cleanliness Test (OBFCT).
 - a. If test is successful/complete and original complaint is resolved, release the unit into service.
 - b. MF DT, 9 or 10: If test is unsuccessful/incomplete or original complaint is not resolved, follow *PERFORMANCE DIAGNOSTICS* in diagnostic manual.
 - c. MF 11, 13 or 15: If test is unsuccessful/incomplete or original complaint is not resolved, follow *PERFORMANCE DIAGNOSTICS* in diagnostic manual.

Below are photos of a partially plugged port (fig 1), a completely plugged doser (fig 2) and a clear port (fig 3).

Figure 2 – Partially plugged AFI port



Figure 3 – Fully plugged AFI port

**Figure 4 – Clear AFI port**

12 - AFTERTREATMENT FUEL INJECTOR (AFI), CLEAN - SRT			
Hours	Code	Model	Engine
0.2	A12-7559L-20	Models, ALL	All Engines

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