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Coding Information

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Title: Hydrocarbon Injector Housing Cleaning Procedure (AFI Plugging)

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

DESCRIPTION

Proper cleaning procedure of exhaust brake housing for proper Hydrocarbon (HC) Injector operation.

SYMPTOMS

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

POSSIBLE DIAGNOSTIC TROUBLE CODES

I6 Diagnostic Codes

SPN	FMI	MODULE	DESCRIPTION
3556	0	ECM	AFT Fuel Pressure 2 excessively high (Restricted injection)
3556	1	ECM	AFT Fuel Pressure 2 below desired (Possible system leak)
3471	1	ECM	Fuel Pressure 1 below desired (Low system pressure)
3471	7	ECM	AFT Fuel Doser Valve not responding as expected
3471	10	ECM	AFT Fuel Doser Valve abnormal rate of change

BB Diagnostic Codes

SPN	FMI	MODULE	DESCRIPTION
3556	0	ECM	AFT Fuel Pressure 2 excessively high (Restricted injection)
3556	1	ECM	AFT Fuel Pressure 2 below desired (Possible system leak)
3556	7	ECM	AFT Fuel Injector not responding as expected
3480	0	ECM	AFTFP1 too high while dosing
3480	1	ECM	AFTFP1 too low while dosing
3471	7	ECM	Incorrect dosing pressure, multiple events
3481	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 the Navistar Engine Diagnostic Manual (I6 MF DT, 9 & 10 [EGES 455](#); BB MF 11 & 13 [EGES 470](#); MF 15 [EGES 515](#)) for additional reference.

SUPERCEDES PREVIOUS GUIDENCE ON AFI CLEANING

PROCEDURE

Remove the HC Injector per the procedure in the Navistar Engine Service Manual (I6 MF DT, 9 & 10 [EGES 450](#); BB MF 11 & 13 [EGES 465](#); MF 15 [EGES 510](#)).

1. Remove fuel and coolant lines to the HC Injector.
2. Remove the HC Injector from the exhaust brake housing (for I6; MF 11 & 13 - exhaust back pressure assembly; MF 15 - turbocharger exhaust duct).

Note: The HC Injector needle at the tip of the valve is extremely sensitive to damage, set it aside in a safe location. IT WILL NOT BE CLEANED OR SERVICED

3. Discard the gasket and two M8 x 45 bolts.
4. Disconnect and remove clamp from the exhaust system from the exhaust brake housing assembly.

Note: Take measures to have sufficient space between the housing and exhaust system so debris can be removed.

5. Remove the carbon plugging with a chisel or other appropriate tool.
6. Remove the carbon debris from the exhaust brake housing (A shop vac can be used).

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 the Navistar Engine Service Manual.
8. Re-install the rest of the exhaust system.
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, refer to [IK1200738](#).
 - c. MF 11, 13 or 15: If test is unsuccessful/incomplete or original complaint is not resolved, refer to [IK1200425](#).

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



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