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Title: Big Bore Coolant in the Exhaust

Applies To: 2010 MaxxForce 11/13 and N13 Engines

CHANGE LOG

2014/09/22 - Changed step 1 to reference TL2900004 instead of the Engine Service Manual. Also, modified format. Added HT EGR Cooler core kit to parts table. Added HT and LT EGR Cooler Core SRTs.
2014/07/10 - Fixed hyperlink to IK1201066
2014/06/24 - Link HT EGR cooler leak to new iKNow (HT core removal)
2014/05/14 - Link LT EGR cooler leak to new iKNows (LT core removal)
2014/04/11 - Launch to field
2014/06/02 - Deleted the Special Requirments, Modified the title and format.

DESCRIPTION

This document is a supplement to IK1201066 (Coolant Consumption and/or SPN-111 FMI-1) and guides the user through diagnostics of coolant in the exhaust.

SYMPTOMS

Coolant leaks to the exhaust may be detected externally or internally. See the following list of symptoms for identification of coolant leaks to the exhaust.

- Coolant smell in exhaust
- Coolant leaking from exhaust
- White smoke

SPECIAL TOOLS

Tool Description	Tool Number	Comments	
Plastic Plug / Cap Kit	ZTSE4891	Used for sealing components during repairs	
Radiator Pressure Testing Kit	ZTSE2384		
Coolant Cap Pressure Testing Kit	09-040-01	Perform with warm engine	
Coolant Management Tool	KL5007NAV	Cooling system drain and vacuum fill	
EGR Cooler Leak Detection Test Kit	KL20060NAV	HT and LT EGRC Pressure Tester "New" procedure tests with valve installed	
EGR Cooler Alignment Tool	12-892-01	If replacing an HT or LT EGRC section	
EGR Cooler Lifting Bracket	12-892-03	If removing EGR Cooler	
LT EGR Cooler Core Tool	12-892-04	If LT EGR Cooler is leaking internally	
Kit, Charge Air Cooler Test	ZTSE6042	LPCAC Pressure Test Tool	

OVERVIEW

GOVERNMENT REGULATION: Engine fluids (oil, fuel, and coolant) may be a hazard to human health and the environment. Handle all fluids and other contaminated materials (e.g., filters rags) in accordance with applicable regulations. Recycle or dispose of engine fluids, filters, and other contaminated materials according to applicable regulations.

WARNING:

To prevent personal injury or death, make sure the engine has cooled before removing components.

WARNING:

To prevent personal injury or death, do not let engine fluids stay on your skin. Clean skin and nails using hand cleaner and wash with soap and water. Wash or discard clothing and rags contaminated with engine fluids.

NOTE

Follow the oxygen sensor diagnostic procedure found in IK1201065 for any failure that results in coolant in the exhaust system. The coolant has potential to contaminate the sensor.

Possible Causes

Failed EGR Cooler

DIAGNOSTIC PROCEDURE

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Step	Action	Decision
1	**Pressure test Low Temp (LT) and High Temp (HT) EGR cooler, on engine.** • **Using KL20060 NAV EGR Cooler Leak Detection Test Kit, pressure test the EGR Cooler following the instructions in TL2900004.** **Is there a leak present in either of the EGR Cooler sections?**	**Yes: Go to step 2** **No: Restore the engine to operational condition and retest cooling system**

Step	Action	Decision
2	**Verify which section of the EGR Cooler is leaking.** **Which Section of the EGR Cooler is leaking?**	**HT EGR Cooler: Replace HT EGR Cooler core, see IK1201113, then go to step 3.** **LT EGR Cooler: Replace LT EGR Cooler core, see IK1201100. Repair complete.** **Both LT and HT: Follow the individual instructions above. Neither procedure interferes with the other, so there's no set order of repair.**

Step	Action	Decision
3		**Repair Complete**

	Change the engine oil, filter and soot centrifuge oil filter (if equipped).	

SERVICE PARTS INFORMATION

Kit Description	Part Number	Quantity Required	Ordering Instructions
HT EGR Cooler	3014254C94	1	Order from Navistar
LT EGR Cooler	3015862C92	1	Order from Navistar
Kit, Low Temp Core	2513209C91	1	Order from Navistar
Kit, High Temp Core	2513445C91	1	Order from Navistar
Oxygen/Lambda Sensor (O_2S)	3006233C1	1 (If necessary)	Order from Navistar
Oil Filter Kit	3007498C93	1	Order from Navistar
Soot centrifuge oil filter Kit	2606467C92	1	Order from Navistar

WARRANTY INFORMATION

Warranty Claim Coding:

Group:	**12000**
Noun:	892 EGR Cooler

Warranty Coding Manual CTS-1025

STANDARD REPAIR TIME(s)

Standard Repair Time Manual

LT EGR Cooler Core, Replace

Hours	Code	Model	Engine	Qualifier 1
1.7	FA12-7892U-20	9900i	|MaxxForce 11/13 2010 Emissions|	122 BBC
2.1	N12-7892U	Workstar	|MaxxForce 11/13 2010 Emissions|	
2.1	Q12-7892U	Transtar	|MaxxForce 11/13 2010 Emissions|	

1.8	R12-7892U	Prostar	|MaxxForce 11/13 2010 Emissions|	113 BBC
1.7	R12-7892U-20	Prostar	|MaxxForce 11/13 2010 Emissions|	122 BBC
1.7	S12-7892U-20	Lonestar	|MaxxForce 11/13 2010 Emissions|	122 BBC
2.1	T12-7892U	5000	|MaxxForce 11/13 2010 Emissions|	

HT EGR Cooler Core, Replace

Hours	Code	Model	Engine
3.4	FA12-8892U	9900i	|MaxxForce 11/13 2010 Emissions|
3.1	N12-8892U	Workstar	|MaxxForce 11/13 2010 Emissions|
3.1	Q12-8892U	Transtar	|MaxxForce 11/13 2010 Emissions|
3.4	R12-8892U	Prostar	|MaxxForce 11/13 2010 Emissions|
3.4	S12-8892U	Lonstar	|MaxxForce 11/13 2010 Emissions|
3.1	T12-8892U	5000	|MaxxForce 11/13 2010 Emissions|
3.1	TC12-8892U	CAT CT660	|MaxxForce 11/13 2010 Emissions|

Engine Oil and Filter Change

12 - ENGINE OIL AND FILTER CHANGE

Hours	Code	Model	Engine	Qualifier 1
0.6	A12-1889U	WorkStar	|MAXXFORCE 11/13|	With 2010 Emission Engines

NOTE: Oil Change is included in EGR Cooler service plan SRT.

OTHER RESOURCES:

2010 - 2013 11 & 13L Coolant Loss and SPN-111 FMI-1

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