



Countries: AUSTRALIA, CANADA, COLOMBIA, UNITED STATES, MEXICO, PUERTO RICO
Availability: ISIS, Fleet/ISIS
Major System: ENGINES
Current Language: English
Other Languages: NONE
Viewed: 393

Document ID: IK1201090
Revision: 0
Created: 3/11/2014
Last Modified: 4/11/2014
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Coding Information

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Title: 2010 - 2013 11/13 Liter Coolant in the Intake**Applies To:** 2010 MaxxForce 11/13

CHANGE LOG

If this iKNOW Article is being revised, please type in the text box what has changed in the article. The change log is meant for Dealers to be able to see what has updated/changed in the article.

Initial Launch - 04/2014

DESCRIPTION

Provide repair advice for 2010 - 2013 11/13 Liter vehicles that exhibit Coolant in the Intake, after following [IK1201066 2010 MaxxForce 11 & 13L Coolant Consumption and SPN-111 FMI-1](#)

SYMPTOMS

Visible coolant and/or white coolant residue in intake piping.

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	
Kit, Charge Air Cooler Test	ZTSE6042	LPCAC Pressure Test Tool	

COOLANT IN INTAKE DIAGNOSTIC PROCEDURE



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.

POSSIBLE CAUSES

Failed EGR Cooler
Failed High Pressure Turbocharger air inlet duct
Failed LPCAC

Step	Action	Decision
1	Inspect for coolant or white coolant residue in ETV Housing or CAC pipe: Disconnect CAC pipe from Engine Throttle Valve housing. Inspect for wet coolant coming out of the EGR Cooler outlet tubes and inspect for white coolant residue in the CAC pipe. NOTE: There may only be white coolant residue in the CAC pipe and the HPCAC if the HP turbocharger air inlet duct or the LPCAC are causing the coolant consumption concern. Where is coolant or coolant residue present?	ETV Housing/EGR Cooler outlet tubes: Go to step 2
		CAC Pipe/HPCAC: Go to step 5
Step	Action	Decision
2	Pressure test Low Temp (LT) and High Temp (HT) EGR cooler, in vehicle, following procedures in the Engine Service Manual: Using KL 20060 NAV - EGR Cooler Leak Detection Test Kit, pressure test EGR cooler following the procedure in the Engine Service Manual. Is there a leak present in either of the EGR Cooler sections?	Yes: Go to step 3
		No: Restore the engine to operational condition and retest cooling system.

Step	Action	Decision
3	Verify which section of the EGR Cooler is leaking: Which Section of the EGR Cooler is leaking?	HT EGR Cooler: Replace HT EGR Cooler, then go to step 4.
		LT EGR Cooler: Replace LT EGR Cooler, then go to step 4.
		Both LT and HT: Replace both the LT and HT EGR Cooler sections, then go to step 4.

Step	Action	Decision
4	Change the engine oil, filter and soot centrifuge oil filter (if equipped):	Repair Complete

Step	Action	Decision
5	Inspect for coolant or coolant residue in HP turbocharger air inlet duct and LPCAC: Remove HP turbocharger center section with HP turbocharger air inlet duct. See service manual for procedure. Where is coolant or coolant residue present?	HP Turbo Air inlet duct: Go to step 6
		LPCAC: Go to step 7



Figure 1: Porous HP turbocharger air inlet duct leaking coolant into the intake.

Step	Action	Decision
6	<u>Visually inspect HP turbocharger air inlet duct for signs of coolant and/or coolant residue.</u> - - - - <u>Inspect for coolant seeping through the casting (porosity).</u> <u>Figure 1 shows a porous HP turbocharger air inlet duct leaking coolant into the intake.</u> - - - <u>Is the HP turbocharger air inlet duct leaking?</u>	<u>Yes: Replace HP turbocharger air inlet duct following the procedure in the Engine Service Manual. Repair complete.</u> -
		<u>No: Go to step 7</u>

Step	Action	Decision
7	Pressure test LPCAC: - - - - - - Is the LPCAC leaking?	Yes: Replace the LPCAC following the procedure in the Engine Service Manual. Repair complete. - No: Restore the engine to operational condition and retest cooling system. Repair complete.

SERVICE PART(s) INFORMATION

Kit Description	Part Number	Quantity Required	Ordering Instructions
HT EGR Cooler	3014254C95	1	Order from Navistar
LT EGR Cooler	3015862C94	1	Order from Navistar
Oxygen/Lambda Sensor (O ₂ S)	3006233C1	1	Order from Navistar
Engine oil 15W40 CJ4 Gallon	2598508C1	Varies	Obtain locally
Oil Filter Kit	3007498C93	1	Order from Navistar
Soot Centrifuge Filter Kit	2606467C92	1	Order from Navistar
HP turbocharger air inlet duct	3005313C*	1	Order from Navistar
LPCAC	3005756C1	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](#)

Step	Description	SRT Link	Hours
	12 - EGR COOLER PRESSURE TEST, IN VEHICLE (no cooler replacement)		
	MAXXFORCE 11/13 EPA 2010 7600	N12-6892U-22	3.9
	MAXXFORCE 11/13 EPA 2010 8600	Q12-6892U-22	3.6
	MAXXFORCE 11/13 EPA 2010 ProStar	R12-6892U-22	3.9
	12 - EGR COOLER PRESSURE TEST, IN VEHICLE (Add-on for Cooler replacement)		
	MAXXFORCE 11/13 EPA 2010 7600 EGR Cooler, Pressure Test w/ Cooler Replacement	N12-6892U-1	0.8
	MAXXFORCE 11/13 EPA 2010 7600 Low Temperature or High Temperature Cooler, Replace	N12-6892U-3	0.5
	MAXXFORCE 11/13 EPA 2010 8600 EGR Cooler, Pressure Test w/ Cooler Replacement	Q12-6892U-1	0.8
	12 - ENGINE OIL AND FILTER CHANGE	A12-1889U	0.6

	MAXXFORCE 11/13 EPA 2010		
	12 - CENTRIFUGE OIL FILTER CHANGE (If equipped) All engines	A12-4656A	0.3

Special Requirement(s):**EGR Cooler iApprove**

Cooling package components (radiators) require a photo attachment, per [WPL 10-010G](#)

OTHER RESOURCES

[IK1201066 2010 MaxxForce 11 & 13L Coolant Consumption and SPN-111 FMI-1](#)

[RC1200004 2010 MaxxForce 11/13 EGR Cooler Resource Center](#)

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