



Countries:	AUSTRALIA, CANADA, UNITED STATES, MEXICO, PUERTO RICO	Document ID:	IK1201090
Availability:	ISIS, FleetISIS	Revision:	4
Major System:	ENGINES	Created:	3/11/2014
Current Language:	English	Last Modified:	6/25/2014
Other Languages:	NONE	Author:	Aaron Wenthold
Viewed:	1444		

[Less Info](#)

Hide Details

Coding Information

Copy Link	Copy Relative Link	Bookmark	Add to Favorites	Print	Provide Feedback	Helpful	Not Helpful
		View My Bookmarks				5	0

Title: 2010 - 2013 11/13L Coolant in the Intake
Applies To: EPA 2010 MaxxForce 11/13 and N13 Engines

CHANGE LOG

2014/06/24 - Link HT EGR cooler leak to iKNOW (HT core removal)
 2014/06/02 - Deleted Special Requirments section. Added Warranty coding for LPCAC and HP turbo air inlet duct.
 2014/05/14 - Link LT EGR cooler leak to new iKNows (LT core removal)
 2014/04/11 - Launch to field

DESCRIPTION

This document is supplement to [IK1201066 \(Coolant Consumption and/or SPN-111 FMI-1\)](#) for coolant in the intake.

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 Low Pressure Charge Air Cooler (LPCAC)

Step	Action	Decision
1	Inspect for coolant or white coolant residue in ETV Housing or CAC pipe:	ETV Housing/EGR Cooler outlet tubes: Go to step 2

• 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?	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:	HT EGR Cooler: Replace HT EGR Cooler core, see IK1201113 , then go to step 4.
	Which Section of the EGR Cooler is leaking?	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. 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.	HP Turbo Air inlet duct: Go to step 6 LPCAC: Go to step 7

Where is coolant or coolant residue present?	
--	--



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

<u>Step</u>	<u>Action</u>	<u>Decision</u>
<u>6</u>	<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>

<u>Step</u>	<u>Action</u>	<u>Decision</u>
<u>7</u>	<u>Pressure test LPCAC:</u> - - - • <u>Remove LPCAC following the Engine Service Manual. Using ZTSE6042 pressure test the LPCAC on bench.</u> - - - <u>Is the LPCAC leaking?</u>	<u>Yes: Replace the LPCAC following the procedure in the Engine Service Manual. Repair complete.</u> -
		<u>No: Restore the engine to operational condition and retest cooling system. Repair complete.</u>

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/Lamda 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:

EGR Cooler

Group:	12000
Noun:	892 EGR Cooler

LPCAC

Group:	12000
Noun:	570 Intercooler

HP Turbo Air Inlet Duct

Group:	12000
Noun:	685 Interstage Charge Air Cooler - Coolant Manifold/pipes/connections

[Warranty Coding Manual CTS-1025](#)

STANDARD REPAIR TIME(S):

[Standard Repair Time Manual](#)

12 - EGR COOLER				
Hours	Code	Model	Engine	Qualifier 1
7.9	N12-3892U-34	WorkStar	[MAXXFORCE 11/13]	Replace Low Temp or Both Coolers
7.4	Q12-3892U-34	TranStar	[MAXXFORCE 11/13]	Replace Low Temp or Both Coolers
7.6	R12-3892U-34	ProStar	[MAXXFORCE 11/13]	Replace Low Temp or Both Coolers

12 - EGR LOW TEMPERATURE COOLER CORE, REPLACE

Hours	Code	Model	Engine	Qualifier 1	Qualifier 2
2.1	N12-6892U-40	WorkStar	MAXXFORCE 11/13	With 2010 Emission Engines	
2.1	Q12-6892U-40	TranStar	MAXXFORCE 11/13	With 2010 Emission Engines	
1.7	R12-6892U-40	ProStar	MAXXFORCE 11/13	With 2010 Emission Engines	122 BBC
1.8	R12-6892U-41	ProStar	MAXXFORCE 11/13	With 2010 Emission Engines	113 BBC
2.1	TC12-6892U-40	CAT CT660	MAXXFORCE 11/13	With 2010 Emission Engines	

OTHER RESOURCES

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

 Hide Details
Feedback Information

Viewed: 1443

Helpful: 5

Not Helpful: 0

No Feedback Found