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Coding Information

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Title: Open Crankcase Breather

Applies To: 2010 + MaxxForce DT, 9 & 10 Engines

CHANGE LOG

2015/12/10 - Corrected Coding for Fleets
 2015/12/1 - Corrected kit part numbers for 2010 emissions engines
 2015/11/19 - Updated ESN ranges for I-367 parts kit, changed note for I-367 Standard Torque
 2015/11/09 - Author updated, formatting/grammar revisions, consolidated PDF, removed "performance" diagnostics (added links to manuals)
 2015/09/03 - added note in step 4 about breather kit details
 2015/08/25 - Fixed some formatting issues.
 2015/07/27 - Added Australia, Mexico, New Zealand, Russia, and Puerto Rico to country coding.

DESCRIPTION

When an applicable truck (see note below) suffers from turbocharger coking or Crankcase Oil Separator (CCOS) failure, retrofit to an open breather equipped CCOS. The following provides guidelines and part numbers necessary for the conversion.

NOTE:

2013 HDOBD "Standard Torque" (215 and 230 HP) engines **CANNOT** be converted to open breather. In the event of a failure, replace only the CCOS unit.

SYMPTOMS/DIAGNOSTICS

All information available through the diagnostic manuals is current and robust. Follow them for all symptom and/or diagnostic information.

[2010 MaxxForce DT, 9, and 10](#) - [Low Power Symptom Diag](#) - [Oil in the Intake Diag](#)
[2013 MaxxForce DT, 9, and 10 \(HD OBD\)](#) - [Low Power Symptom Diag](#) - [Oil in the Intake Diag](#)

SPECIAL TOOLS / SOFTWARE

No tools necessary for this document.

SERVICE PARTS INFORMATION

See "diagnostics" below for proper kit.

Kit Num.	Kit Description	Part Number	Qty	Notes
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2010_1	Kit, Open Breather Conversion	2512556C91	1	
2010_2	Kit, Open Breather Conversion	2512557C91	1	
2010_3	Kit, Open Breather Conversion	2512558C91	1	
2010_4	Kit, Open Breather Conversion	2512559C91	1	
2013_1	Kit, Open Breather Conversion	2513484C92	1	
2013_2	Kit, Open Breather Conversion	2513485C91	1	
2013_3	Kit, Open Breather Conversion	2513486C91	1	
2013_4	Kit, Open Breather Conversion	2513487C91	1	

Additional Parts (for reference, only replace/use if necessary)

Kit Description	Part Number	Qty	Notes
Kit, Turbo Super Cartridge (HP)	2512354C91	1	In event of failed turbo
Kit, Low Pressure Turbocharger	1889487C93	1	"Standard" Torque (w/o LP CAC)
Kit, Low Pressure Turbocharger	1889489C94	1	"High" Torque (w/LP CAC)
Kit, Turbo Compressor Cleaning	7091592C91	1	
Fluid, Cleaning (5 gal)	2512460C1	1	CAC Cleaning
Tube Assy, Turbo Oil Supply	1885590C93	1	Replace ANYTIME tube is removed
Seal, LP Turbo	1881990C1	1	WITHOUT LP CAC
Seal, Crossover Tube	1858048C2	1	With LP CAC

SERVICE KIT "DIAGNOSTICS"

Step	Action	Decision
1	Engine Type: Is the engine a 2010 or 2013 (OBD) build? Alternatively, find and review the (7 digit) Engine Serial Number (ESN). NOTE: In ServiceMaxx, Engine Type will be either "MaxxForce DT/9/10 (2010-2012)" or "MaxxForce DT/9/10 (2013+)."	2010: ESN between 3300001 and 3335658 OR between 3400000 and 3499999. Go to Step 3.
		2013 OBD: ESN between 3336436 and 3339999 OR between 3500000 and 3529999. Go to Step 2
Step	Action	Decision

2	Determine which kit is necessary for conversion:	ESN between 3500000 and 3518458 Kit 2013_1
	Depending on the build period of the engine, it will require one of four kits. Early build engines require an ECM, Engine Harness and CCOS speed sensor. Some engines have the required pins in the ECM, and thus require only the harness and CCOS speed. The last two require only breather conversion components (ie, were built with updated ECM/harness).	ESN between 3518459 and 3519972 Kit 2013_2
	Reference ESN; which kit is required?	ESN between 3519973 and 3520987 Kit 2013_3
		ESN between 3520988 and 3526177 or 3336436 and 3339999 : Kit 2013_4
Step	Action	Decision
3	Determine if the engine has a baffled valve cover: Remove the breather hose from the valve cover and visually inspect for baffle plate. Reference Figure 1 below. Is the valve cover baffled?	Step 4

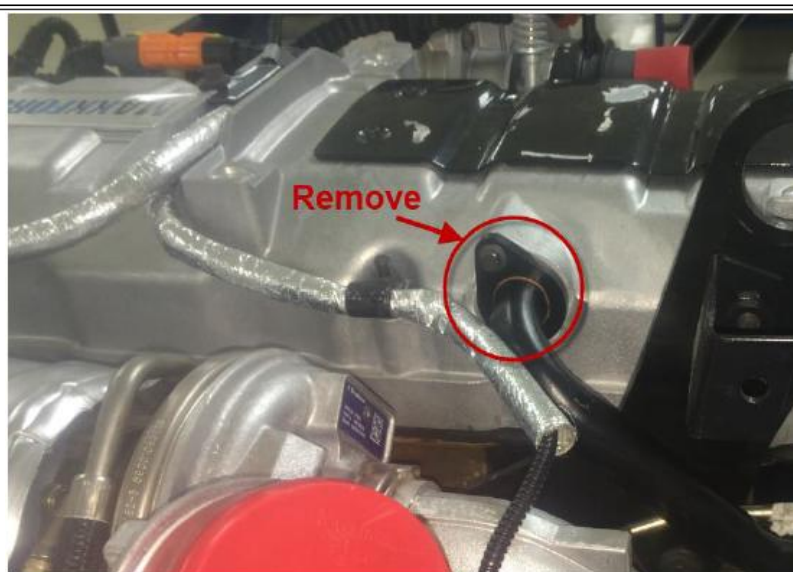


Figure 1: Valve cover baffling vs non-baffled

Item 1: No baffle

Item 2: Stamped steel baffle

Step	Action	Decision
4	Determine if the engine has the latest CCOS:	Step 3: No (non-baffled valve cover) Step 4: No ("old" CCOS)

Inspect the oil separator for the etched part number.

Is the part number 7092631C91 or greater (see Figure 2)?

Kit 2010_4

Step 3: No (non-baffled v/c)

Step 4: Yes ("new" CCOS)

Kit 2010_3

Step 3: Yes (baffled v/c)

Step 4: No ("old" CCOS)

Kit 2010_2

Step 3: Yes (baffled v/c)

Step 4: Yes ("new" CCOS)

Kit 2010_1


Figure 2: CCOS Part Number

WARRANTY INFORMATION

Warranty Claim Coding:

Group:	12000 - Engine
Noun:	215 - Filter, Oil Separator, Crankcase Vent

Standard Repair Times:

Due to the variety of chassis/engine configurations, please reference the SRT link for the correct repair times and elemental step document.

Step	Repair	Model	Engine	SRT
	Valve Cover Replacement	All	All	Valve Cover and/or Gasket, R&R or Replace
	CCOS Replacement	All	All	Crankcase Breather, Replace
	ECM Replacement	All	All	ECM, I-6 Engines, Replace
	Engine Harness Replacement	All	All	Engine Harness, Replace
	ECM Reprogram	All	All	ECM-Engine, Reprogram

NOTE: Follow diagnostics or repair procedures for all applicable SRTs. For example, if Low Power lead to Turbocharger and CAC cleaning, reference the symptom based diagnostics action plan.

OTHER RESOURCES

[Master Service Information Site](#)

[IK1200938 - HP Turbo Center Section Replacement Procedure](#)

[IK1201238 - LP Turbo Center Section Replacement Procedure](#)

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Feedback Information

Viewed: 21138

Helpful: 127

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Staff ID	Client ID	Comments	Created Date
U00JFG2		You received the following feedback From: U00JFG2 - John Gislason Email Address: SMTP:{John.Gislason@Navistar.com} John.Gislason@Navistar.com Feedback: The steps for EPA'10 and EPA'13 appear to be comingled causing confusion. If you have an early EPA'13 engine you are directed to 2013_1 kit in step #3, but steps 4 and beyond indicate if you have a baffle and updated CCOS to use kit 2010_1; so which is it?	1/4/2016 10:57:43 AM

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