

Authorized Field Change

AFC G-06914

Date: December, 2006

Subject File: Engine

Subject: Replace Existing Breather System with a Closed Breather System

Model: CF 500

Start Date: 08/03/2004 End Date: 08/22/2006

Model: CF 600

Start Date: 08/03/2004 End Date: 08/22/2006

DESCRIPTION

Replace breather assembly to eliminate freezing problems.

Table 1 AFC 06914 — Cold Weather States and All Canadian Units

Alaska	Kansas	Montana	Rhode Island
Colorado	Kentucky	Nebraska	South Dakota
Connecticut	Maine	New Hampshire	Utah
Delaware	Maryland	New Jersey	Vermont
Idaho	Massachusetts	New York	West Virginia
Illinois	Michigan	North Dakota	Wisconsin
Indiana	Minnesota	Ohio	Wyoming
Iowa	Missouri	Pennsylvania	

PARTS INFORMATION

Table 2

Part number	Description	Quantity
1878227C91 (2005)	Closed Breather Kit	1 kit per vehicle
1878251C91 (2006)	Closed Breather Kit	1 kit per vehicle

Please note that only one kit is needed per engine. If you have a 2005 engine, you need kit number 1878227C91. If you have a 2006 engine, you need kit number 1878251C91.

SERVICE PROCEDURE



WARNING – To prevent personal injury or death, make sure the transmission is in neutral or park, parking brake is set, and wheels are blocked before doing diagnostic or service procedures on engine or vehicle. Read all safety instructions in the "Safety Information" section of the service manual for this engine.



WARNING – To prevent personal injury or death, make sure the engine has cooled down sufficiently before attempting to remove any components.

CAUTION – When routing tubing, do not crimp the tubing, run the tubing too close to moving parts, or let the tubing come closer than 2"– 4" of a hot engine surface.

There are several types of breather systems installed on the International VT 275 diesel engines. Use one of the following removal procedures depending on the type of breather system currently on the engine.

- . Open breather system.
- . Impactor system.
- . Impactor system with FAQ 347051 modification.

REMOVE - OPEN BREATHER SYSTEM

1. Remove the button head wire tie (Figure 1, Item 6) from behind the air cleaner bracket.
2. Remove the standard wire ties from the ladder clip (Figure 1, Item 3) on the valve cover and the frame rail (Figure 1, Item 7).

REMOVE - OPEN BREATHER SYSTEM (CONT.)

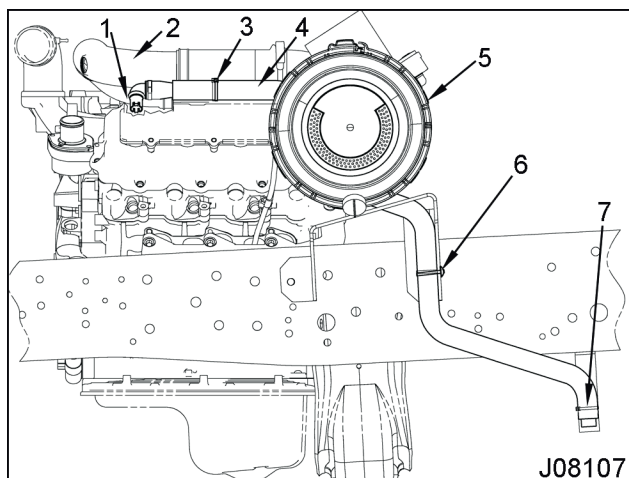


Figure 1 Crankcase Ventilation Hose Assembly

1. Crankcase breather outlet
2. Air inlet duct assembly
3. Wire tie (standard) attached to ladder clip
4. Crankcase ventilation hose assembly
5. Air cleaner assembly
6. Wire tie (button head)
7. Wire tie (standard)

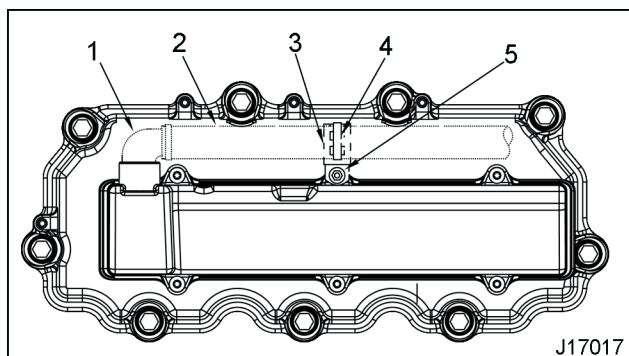


Figure 2 Crankcase Ventilation Hose Assembly Mounting

1. Elbow
 2. Crankcase ventilation hose assembly
 3. Ladder clip
 4. Wire tie
 5. M6 hex nut and M6 x 43 x 15 stud bolt
3. Remove the M6 hex nut from the upper center breather M6 x 43 x 15 stud bolt (Figure 2, Item 5). Remove and discard ladder clip (Figure 2, Item 3).
 4. Remove the crankcase ventilation hose assembly (Figure 2, Item 2) by turning the elbow (Figure 2, Item 1) 90 degrees and pulling the crankcase ventilation hose assembly elbow out of the crankcase breather outlet. Remove the crankcase ventilation hose assembly from the engine.

REMOVE - OPEN BREATHER SYSTEM (CONT.)

5. Remove the Mass Air Flow (MAF) sensor clamp from the air inlet duct assembly (Figure 1, Item 2). Disconnect boost control tubing. Remove and discard the air inlet duct assembly.

REMOVE - IMPACTOR SYSTEM

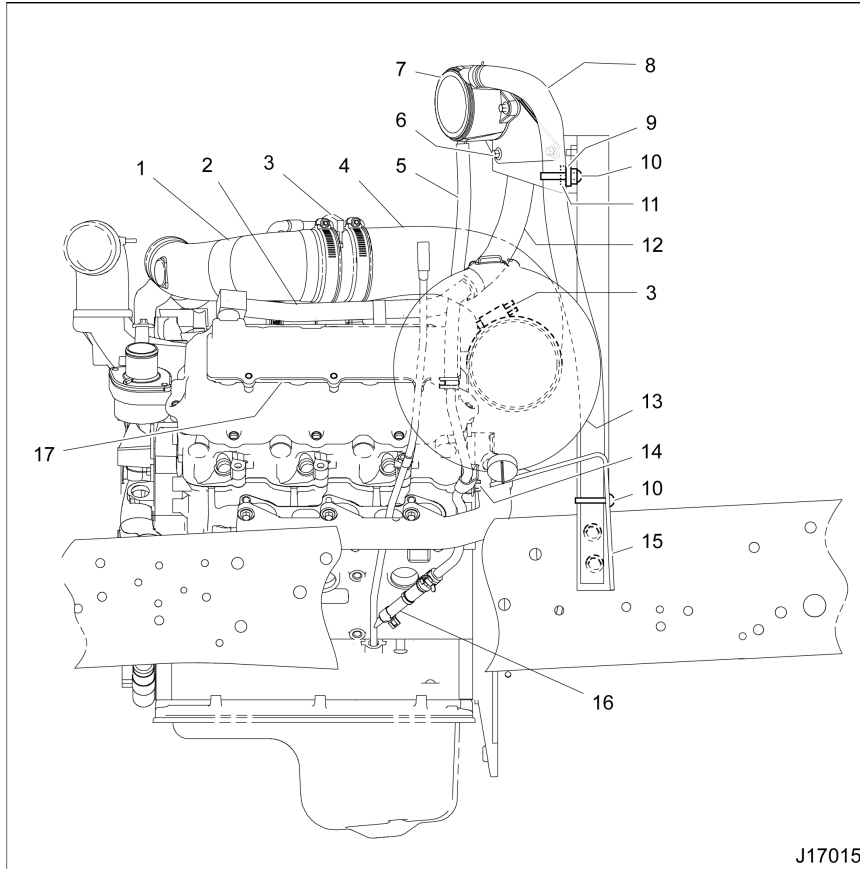


Figure 3 Impactor System

1. Air inlet duct assembly
2. Breather outlet steel tube
3. MAF sensor
4. Air cleaner duct
5. Oil drain hose
6. Impactor mounting bolts
7. Impactor
8. Road draft hose
9. Mounting device
10. Wire ties
11. Mounting device
12. Crankcase ventilation hose assembly
13. Air cleaner
14. Oil drain hose retaining bolt
15. Mounting bracket
16. Oil drain check valve and hoses
17. Breather cover

REMOVE - IMPACTOR SYSTEM (CONT.)

Refer to Figure 3 for Items in parentheses.

1. Remove and discard wire ties (Item 10) that hold the road draft hose to the air cleaner bracket and power steering reservoir bracket.
2. Disconnect air cleaner duct (Item 4) from the air inlet duct assembly (Item 1) by disconnecting the MAF sensor (Item 3) from the air inlet duct assembly (Item 1). Remove air cleaner (Item 13) and air cleaner duct (Item 4) as a unit.
3. Remove road draft hose (Item 8) from impactor (Item 7) discard the road draft hose.
4. Remove oil drain hose (Item 5) from impactor. Remove oil drain hose retaining bolt (Item 14) from rear of left cylinder head. Remove the upper portion of the oil drain steel tube, oil drain check valve and hoses (Item 16).

CAUTION – To prevent engine damage, install the components of the Tube Cap Kit. The kit consists of a hose clamp and tube cap.

5. Install the tube cap on the exposed tube end on the side of the oil level gauge tube. Secure cap to tube with the hose clamp.
6. Remove the crankcase ventilation hose assembly from the breather outlet steel tube (Item 2).
7. Remove two impactor mounting bolts (Item 6) from mounting bracket and lift the mounting bracket, impactor, and crankcase ventilation hose assembly out as an assembly.
8. Disconnect boost control tubing from air inlet duct assembly (Item 1). Remove and discard the air inlet duct assembly.



Figure 4 Breather Outlet

1. Breather outlet elbow
2. Breather upper center bolt
3. Breather upper back bolt
4. Steel tube sealing surface

CAUTION – To prevent possible engine damage, carefully remove the steel tube from the breather cover without cracking discharge opening in the breather outlet.

REMOVE - IMPACTOR SYSTEM (CONT.)

9. Remove breather cover M6 bolts. Remove breather cover and the steel tube as an assembly from the valve cover.
10. Carefully remove the breather outlet steel tube (Item 2) and the breather outlet elbow (Figure 4, Item 1) from the breather cover outlet by turning the breather outlet steel tube and breather outlet elbow 90 degrees and pulling the two parts apart. Discard the breather outlet steel tube and breather outlet elbow.

REMOVE - IMPACTOR SYSTEM WITH FAQ 347051 MODIFICATION

1. Remove and discard wire ties on the road draft hose.
2. Remove road draft hose from the steel tube on the valve cover. Discard the road draft hose.

CAUTION – To prevent possible engine damage, carefully remove the steel tube from the breather cover without cracking discharge opening in the breather outlet.

3. Remove breather cover M6 bolts. Remove breather and the steel tube as an assembly from the valve cover.
4. Carefully remove the breather outlet steel tube (Figure 3, Item 2) and breather outlet elbow (Figure 2, Item 1) from the breather outlet by turning the steel tube 90 degrees and pulling the two parts apart. Discard the steel tube.
5. Remove the air inlet duct assembly (Figure 3, Item 1) from the MAF sensor. Disconnect boost control tubing. Remove and discard the air inlet duct assembly.

INSTALL - CLOSED BREATHER SYSTEM

1. Install the breather cover (if removed) on the valve cover making sure O-rings are in place.
2. Install and tighten M6 fasteners to 11 N·m (96 lbf·in).
3. Install air cleaner (Figure 3, Item 13) and air cleaner duct (Figure 3, Item 4) unit.

INSTALL - CLOSED BREATHER SYSTEM (CONT.)

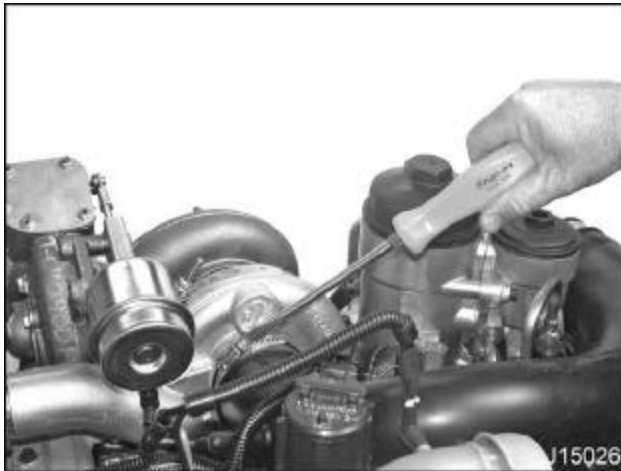


Figure 5 Tighten Hose Clamp

4. Install the air inlet breather hose duct assembly. Attach to the turbocharger inlet with hose clamp. Tighten hose clamp to 4 to 5 N·m (36 to 48 lbf·in).
5. Attach air inlet breather hose duct assembly to the MAF sensor (Figure 3, Item 3) with hose clamp. Tighten hose clamp to 4 to 5 N·m (36 to 48 lbf·in).



Figure 6 Connect Boost Control Tubing

1. Boost control tubing connection on turbocharger pneumatic actuator
 2. Boost control tubing connection on air inlet breather hose
6. Connect boost control tubing (Figure 6, Item 2).

INSTALL - CLOSED BREATHER SYSTEM (CONT.)



Figure 7 Install Mounting Bolt

7. Install the M6 x 16 bolt through the air inlet breather hose duct assembly mounting bracket to the intake manifold. Tighten the bolt to 13 N·m (115 lbf·in).

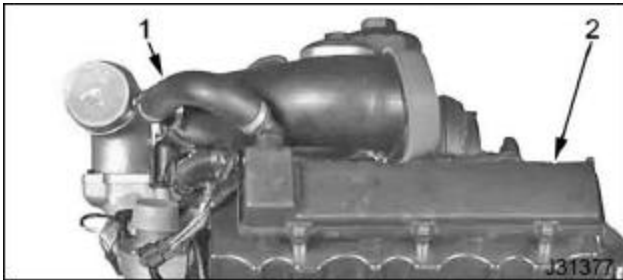


Figure 8 Crankcase Ventilation Hose Assembly

1. Crankcase ventilation hose assembly
 2. Breather cover
8. Snap the crankcase ventilation hose assembly elbow into the crankcase breather outlet.

Operation number must appear on all claims.

Table 3 Labor Information

Operation No.	Description	Time
A40-06914-1	Inspect only	0.2 Hr.
A40-06914-2	Repair	0.5 Hr.

ADMINISTRATIVE PROCEDURE

Expense is to be charged to Warranty. Claims are to be submitted in the normal manner, making reference to Authorized Field Change Number G-06914.

It is important that the coding be completed properly to assist in processing the warranty claim. Complete instructions will be found in the Warranty Manual, Section 7-1. Special attention should be given to Items 39 through 44.

To assure this important improvement is made in a timely manner, all claims for G-06914 activity must be submitted by December 31, 2007 or within the normal warranty period for the vehicle, if after December 31, 2007.

GROUP	NOUN	C	WARR.	TP	PAD
GROUP Enter number G—	NOUN Leave blank	C (CAUSE) Enter either 1, 2, 3. (see below)	WARRANTY (Warranty Code) Enter 40.	TYPE PART Enter P for type part causing failure.	PAD Enter 100
		1. Inspected (No repair required).			
		2. Inspected and repaired.			
		3. Defective part from parts stock.			

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