



SERVICE BULLETIN

SB1333

ADDRESSEES	: ABC Customer Care and Parts Source Owners and operators of coaches listed under "Application"
VEHICLE MODEL	: CX45
MANUAL SECTION	: 8.14 Climate control – refrigerant system
BULLETIN TYPE	: Field change campaign
DATE	: May 30 th , 2016
SUBJECT	: To change refrigerant compressor discharge hose
TERMS & CONDITIONS	: Refer to the warranty section further in this Bulletin.

APPLICATION:

Model	VIN
CX45 with Detroit Diesel	48200→48249, 48268→48270, 48272→48281, 48283→48287, 48289→48295, 48297→48306, 48309→48314, 48317→48321, 48323→48336, 48341→48344, 48346→48379, 48381, 48383→48384, 48400→48444, 48455→48484, 48500→48519, 48530→48549, 48560→48579, 48590→48599, 48625→48644, 48655→48674, 48685→48704, 48715→48734, 48745→48764, 48875→48894, 48910→48924, 48950→48965
CX45 with Cummins	48250→48267, 48271, 48282, 48288, 48296, 48307, 48308, 48315, 48316, 48322, 48337→48340, 48345, 48385→48399, 48445→48499, 48520→48529, 48550→48559, 48580→48589, 48600→48624, 48645→48654, 48675→48684, 48705→48714, 48735→48744, 48765→48774, 48895→48909, 48925→48949, 48975→48982

DESCRIPTION:

- Field reports have determined that there is a frequent failure of the refrigerant compressor discharge hose.
- To address this issue, Van Hool is conducting a Field Change Program, the terms and conditions of which are explained further on under "Warranty".
- Owners and operators of the affected units should follow the procedure below to change the refrigerant compressor discharge hose.
- The procedures in this Bulletin provide the necessary fitting instructions.

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MATERIAL:

Glue for both versions

VH Reference	Description	Qty
11289321	Adhesive	1

For vehicles with Detroit Diesel engine- Figure 1

VH Reference	Description	Qty.
11485476	Refrigerant compressor discharge hose (with O-ring included)	1
11133042	Gasket	3
660063803	Protection rubber	1
660063811	Protection rubber	1



Figure 1

For vehicles with Cummins engine- Figure 2

VH Reference	Description	Qty.
11485478	Refrigerant compressor discharge hose (with O-ring included)	1
11133042	Gasket	1
632803132	Gasket	3



Figure 2

Continued on next page.

PROCEDURE:

If you do not have the expertise to perform this procedure, do not hesitate to go to your nearest ABC Customer Care & parts Source dealership.

1. General:

- This job should be executed by an experienced automotive HVAC technician.
- For more information on HVAC procedures refer to the maintenance manual of the vehicle.

2. Special tools, equipment or services:

All-in one A/C station

3.

4. Preparations:

- Park the coach on a level surface with the front wheels straight.
- Apply the parking brake and shut down the engine.
- Switch off all systems and turn off the battery master switch.
- Open the engine compartment doors
- Put a "DO NOT OPERATE" tag on the steering wheel.
- Read the entire procedure before beginning to work.



WARNING!

When working in the engine compartment, turn the starter motor inhibitor switch to "starter motor disabled" for the steps, which do not require engine operation. Observe safe shop practices at all times.

5. General installation instructions

A flexible metal hose assembly is a durable component, which minimizes vibration to be transmitted from the compressor to the piping. However, improper storage, handling, and installation can easily damage it. The flexibility in the hose is provided by thin wall tubing, much thinner than that used for straight tubing of the same nominal dimension. Storage or handling conditions, which may crush, dent, permanently deform, or damage the hose or the braid must be avoided.

Correct handling consists of:

- Do not twist or bend assemblies prior to the installation.
- Do not allow the braid to be broken, pulled out of position, or otherwise damaged.

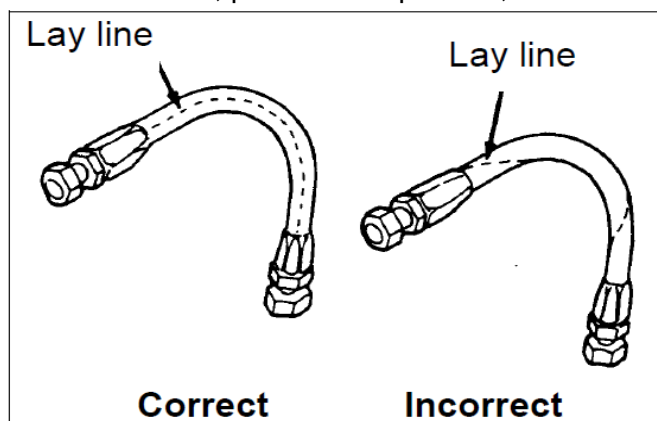


Figure 3

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6. To remove refrigerant from A/C compressor discharge hose:

Step	Action
5.1	Connect the manifold gauge set to the compressor service valves.
5.2	Front seat the compressor suction service valve.
5.3	Start the engine and operate the compressor.
5.4	Continue to operate the compressor, observing the pressure gauge, until the low pressure switch disengages (31.9 psig) the compressor clutch.
5.5	Shut-down the engine.
5.6	Front seat the compressor discharge service valve.
5.7	Connect the center hose of the manifold gauge set to a recovery station or an evacuating cylinder.
5.8	Turn the high pressure cock of the manifold gauge set counterclockwise. The refrigerant in the line between the compressor and the check valve is now evacuated to the recovery station or evacuating cylinder.
5.9	<p>Turn the high pressure cock of the manifold gauge set clockwise to the fully closed position when the indicator on the high pressure gauge drops to 0.</p> <p>Refrigerant line at high pressure side can now be safely removed.</p> <div data-bbox="359 810 448 898" data-label="Image"> </div> <p>WARNING!</p> <p>The line between the check valve and liquid receiver tank is still pressurized. Before removing components from this section of the system, refrigerant must be reclaimed.</p>

7. To remove/install refrigerant compressor discharge hose on vehicles with Detroit Diesel engine

Step	Action
6.1	<p>Remove the old discharge hose.</p> <div data-bbox="357 1240 1015 1718" data-label="Image"> </div> <p>Figure 4</p>

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<p>6.2</p>	<p>Reposition the toilet tank dump valve (refer to figure 5):</p> <ol style="list-style-type: none"> Untighten both hose clamps (1) and remove bolt (2) together with its lock washer from the small bracket as well. Turn the toilet dump valve a quarter turn counterclockwise. Tighten both hose clamps (1) and secure the small bracket to the toilet tank dump valve again. Glue rubber protection 660063811 with adhesive 11289321 from the kit on the edge of the small bracket to avoid possible direct contact with the hose (refer to figure 6). <div data-bbox="395 517 919 904" data-label="Image"> </div> <div data-bbox="392 909 847 967" data-label="Caption"> <p>Figure 5: Current position of toilet tank dump valve</p> </div> <div data-bbox="935 517 1321 904" data-label="Image"> </div> <div data-bbox="933 916 1425 974" data-label="Caption"> <p>Figure 6: New position of toilet tank dump valve with rubber protection installed</p> </div>
<p>6.3</p>	<p>Connect the new discharge hose as follows (refer to Figure 7):</p> <ol style="list-style-type: none"> Secure the hose provided with a new O-ring (2) to the service valve of the refrigerant compressor with screws (3). Tighten the screws only by hand at this stage. Secure coupling nut (1) of the hose to the vehicle piping. Ensure that the hose is not twisted during tightening of coupling nut (1) and that it does not interfere with other parts of the vehicle. Tighten coupling nut (1) with a suitable wrench, while holding the pipe fitting on its position by a second wrench, to a torque of 155-184 Nm (115-136 ft.lbf). Finally turn the coupling nut $\frac{1}{4}$ (90°) further. Tighten both screws (3) with a torque of 42 ± 6 Nm (30 ± 4 ft.lbf). Glue rubber protection 660063803 with adhesive 11289321 from the kit to avoid possible direct contact (refer to Figure 8). <div data-bbox="357 1480 772 1980" data-label="Image"> </div> <div data-bbox="355 1982 458 2013" data-label="Caption"> <p>Figure 7</p> </div> <div data-bbox="791 1480 1418 1980" data-label="Image"> </div> <div data-bbox="788 1982 1361 2011" data-label="Caption"> <p>Figure 8: Add rubber protection to avoid contact.</p> </div>

8. To remove/install refrigerant compressor discharge hose on vehicles with Cummins engine

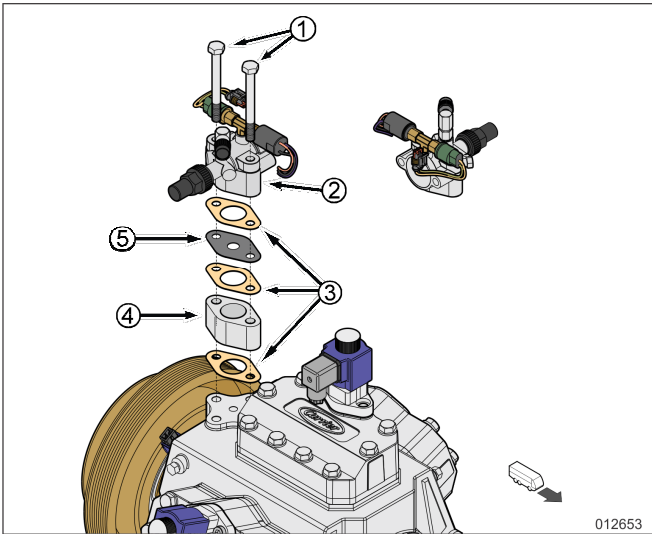
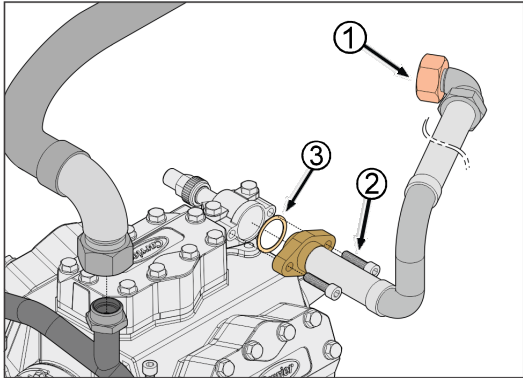
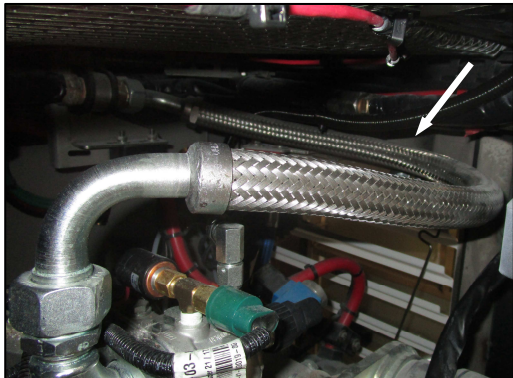
Step	Action
7.1	Remove the old discharge hose.
7.2	<p>Reposition the discharge service valve of the refrigerant compressor as follows (refer to Figure 9):</p> <ol style="list-style-type: none"> Unscrew both screws (1). Remove discharge service valve (2) together with gaskets (3) and spacer (4). Turn the discharge service valve a half turn. Fit the discharge service valve again to the refrigerant compressor with new gaskets 632803132 (3), spacer (4) and spacer (5). Tighten both screws (1) with a torque of 50 Nm (37 ft.lbf).  <p>012653</p>
7.3	<p>Connect the new discharge hose as follows (refer to Figure 10):</p> <ol style="list-style-type: none"> Secure the hose provided with a new O-ring (3) to the service valve of the refrigerant compressor with screws (2). Tighten the screws only by hand at this stage. Secure coupling nut (1) of the hose to the vehicle piping. Ensure that the hose is not twisted during tightening of coupling nut (1) and that it does not interfere with other parts of the vehicle (refer to Figure 11). Tighten coupling nut (1) with a suitable wrench while holding the pipe fitting on its position by a second wrench to a torque of 155-184 Nm (115-136 ft.lbf). Finally turn the coupling nut ¼ turn (90°) further. Tighten both screws (2) with a torque of 42 ± 6 Nm (30 ± 4 ft.lbf).  

Figure 10

Figure 11

Continued on next page

9. To finalize repair:

Step	Action
8.1	Evacuate the A/C compressor discharge hose.
8.2	Back seat the compressor suction and discharge service valves.
8.3	Check the refrigerant charge and add if necessary as indicated in the maintenance manual.
8.4	Run the system and check operation.
8.5	Check refrigerant lines for leaks. Correct as required.

End of procedure

WARRANTY:

1. Terms and conditions:

Van Hool will accept warranty claims for this repair as follows:

Parts: parts will be supplied through regular channels, free of charge.

Labor allowance: 0.75 hour for labor will be awarded per coach repaired.

Campaign expiration date: Service Bulletin issue date + 1 year.

2. Claim references:

- Causal part: 11332854 – 11419554 (Detroit)
11332854 – 11421011 (Cummins)
- Job code: O06045N

Claim submission: Contact ABC Customer Care Warranty Department for guidance.

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INFORMATION HANDLING:

Important supplements and modifications of technical information not yet included in the manual are communicated by means of Service Bulletins.

VAN HOOL CUSTOMER PORTAL:

Consult the Van Hool customer portal for the latest service documentation. Beside the maintenance manual, you will also find the operating manual and the spare parts catalogue of your vehicle on the customer portal. The customer portal is accessible through www.vanhool.be, and only with a code (password) from Van Hool. If you do not have a password yet, request it by using the link on the Van Hool website.