

<b>ADDRESSEES</b>	: Owners and operators ABC Customer Care and Parts Source
<b>VEHICLE MODEL</b>	: All coaches
<b>MANUAL CHAPTER</b>	: 13.13 Compressed-air system – Valves
<b>BULLETIN TYPE</b>	: <b>Service information</b>
<b>DATE</b>	: November 19 <sup>th</sup> , 2021
<b>SUBJECT</b>	: <b>Introduction of new 4/2 solenoid valve in compressed-air circuit</b>
<b>TERMS &amp; CONDITIONS</b>	: This document does not entitle to any reimbursement

## INTRODUCTION:

Van Hool has switched over into production to a new type of 4/2 solenoid valve in the compressed-air system. As the previous Knorr-Bremse (Bosch) solenoid valve (VH11102170) is no longer made available as spare part, you will receive a Wabco solenoid valve (VH660526759) when ordering. Both valves are interchangeable, but some differences must be considered. Consult the information in this service bulletin for a proper installation.

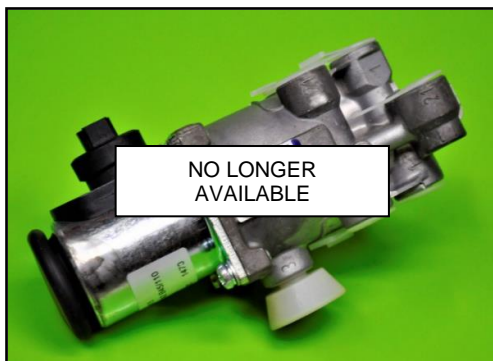


Figure 1: Knorr-Bremse 4/2 solenoid valve (VH11102170)

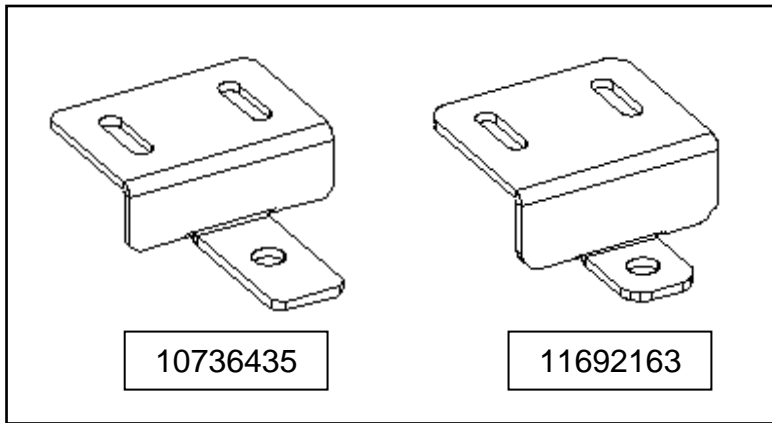


Figure 2: Wabco 4/2 solenoid valve (VH660526759)

## WHAT ARE THE DIFFERENCES?

- Location of exhaust port with respect to the mounting stud is different. In case of an installation on a grid, the existing mounting bracket VH10736435 must be replaced by mounting bracket VH11692163. If the valve is installed on a mounting slat, an additional 13/16 inch hole must be drilled in the slat so that the muffler of the exhaust port can pass.

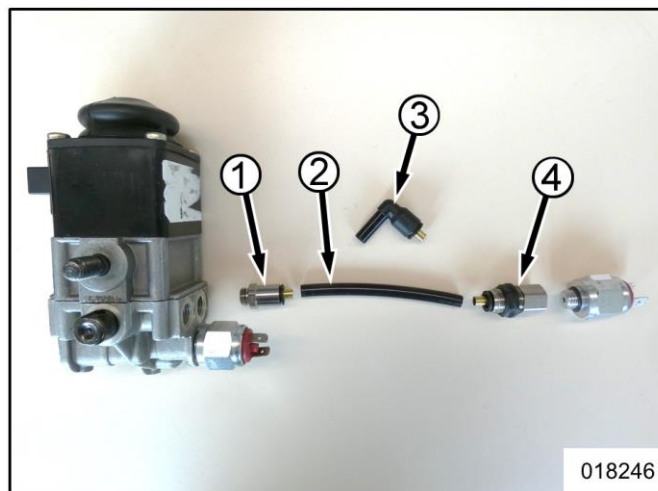
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**Figure 3: Mounting brackets (in case of a grid installation)**

- Ports are identical in size, but the distance between the hole centers is smaller. This makes that the installation of two pressure switches next to each other is impossible due to interference. Remedy this issue by making a connection between the pressure switch and the valve by using the parts from table 1.

<b>Table 1: Parts for connecting pressure switch to valve to prevent interference between pressure switches</b>		
<b>VH reference</b>	<b>Denomination</b>	<b>Number in figure</b>
10748034	Fitting (for valve side)	1
10750002	Fitting (for pressure switch side)	4
10748052	Elbow fitting (if necessary)	3
11559129-0100	Plastic compressed-air line (length: 4 inch)	2



**Figure 4**

*Continued on next page.*

- Location and numbering (see table 2) of the ports are different. This means that the compressed-air lines mostly need to be extended. Refer to table 3 for possible compressed-air line extension parts.

Table 2: Ports numbering	
Port ... on Knorr-Bremse valve ..	corresponds with port ... on Wabco valve
1 (top)	11
1 (bottom)	12
21 (top)	21
21 (bottom)	24
21 (side)	5
22 (top)	22
22 (bottom)	23
3	3

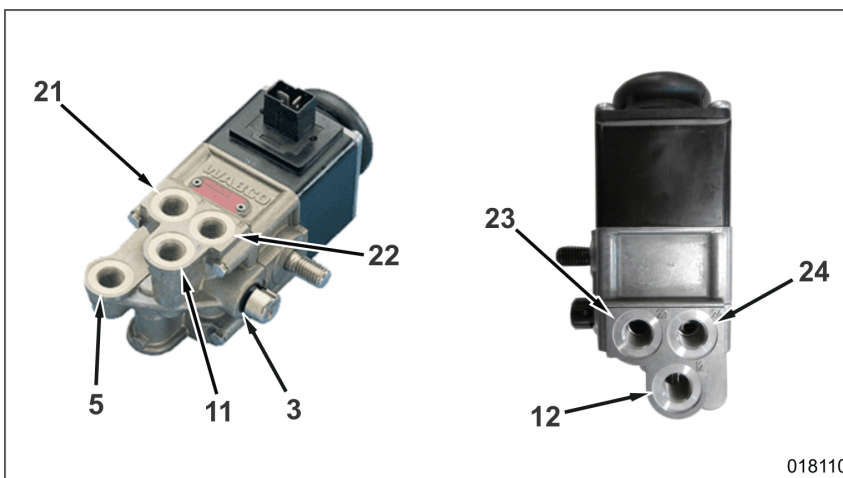


Figure 5: Ports numbering on Wabco valve

Table 3: Parts for compressed-air line extension (only if necessary)			
Plastic compressed-air line (color: black)		Raufoss-fitting	
Diameter	VH-reference for 50 cm (20 inch)	Housing	Nipple
6	11559128-0500	11301120	11301067
8	11559129-0500	11301120	11301068
1/4"	660516004-0500	11301120	11410266

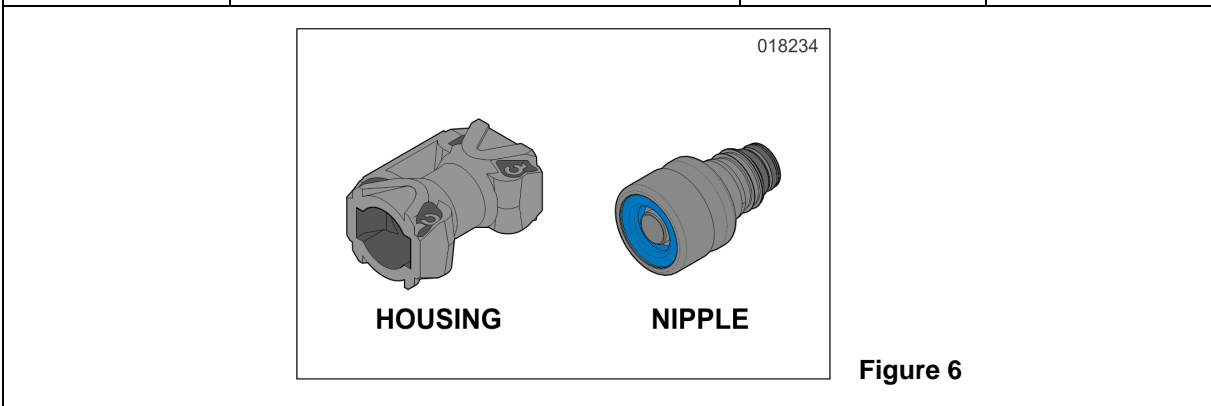


Figure 6

*\*To extend a compressed-air line: two housings and 4 nipples are needed*

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- For installations in the front entrance: to improve the alignment of the rubber of the new valve with respect to the panel opening, cut a piece of the bracket as illustrated in figure 8.

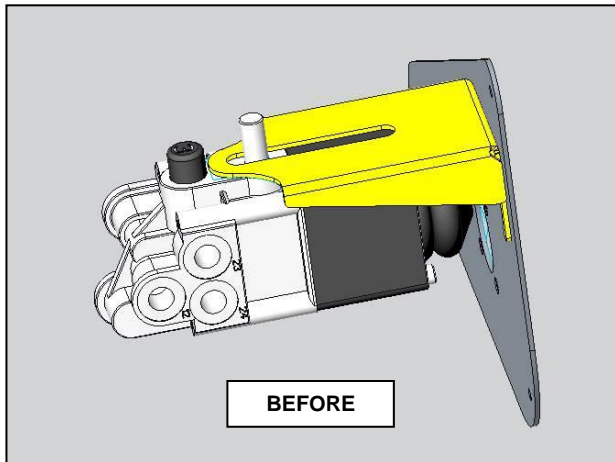


Figure 7

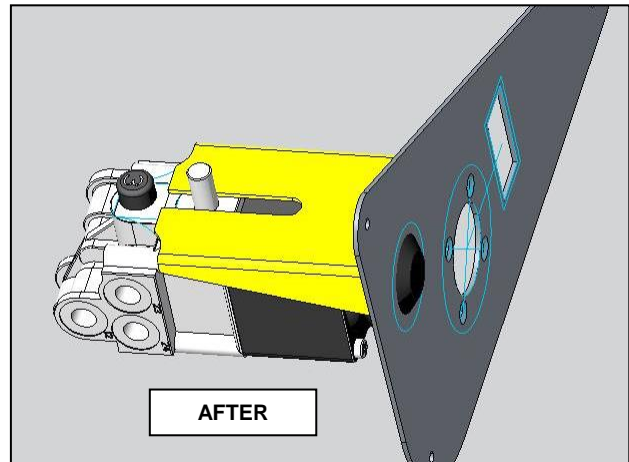


Figure 8

## PNEUMATICS

### A. General safety rules and installation recommendations

To avoid personal injury when working on or around the air system and its components, the following precautions should be taken:

- If lines need to be disconnected, make sure to completely de-pressurize the system affected.
- Unless you are certain that all system air pressure has been vented, never connect or disconnect a pressurized line. It may whip, as air escapes. Also, never remove a component or open a line unless you are certain that all system air pressure has been vented.
- Switch off all systems and turn off the battery master switch.



### **CAUTION!**

Avoid deformation of the air lines. Adjust them to the correct length!

### B. Raufoss fitting installation: to enter nipple into fitting housing



### **CAUTION!**

Never force the nipple into the housing with an obviously angled position.

Enter the nipple in a straight position in the housing during press-in operation. Push the nipple far enough into the housing until you hear two 'clicks'.

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**C. Raufoss fitting installation: to connect air line to nipple**



**CAUTION!**

Never insert a damaged or dirty tube end into the fitting!

Cut the air line at 90°. A maximum deviation of 10° is allowed. Secure the air line cutting process to avoid scratches, burrs, ovality or dirt.

Step	Action
1	<p>Insert the air line into the fitting by pushing and turning it simultaneously.</p> <div data-bbox="592 618 1082 824" data-label="Image"> </div> <p data-bbox="1110 797 1214 831">Figure 9</p>
2	<p>Push the air line far enough until it has passed the main seal O-ring into the fitting to avoid slipping out. The connection is sealed now.</p> <div data-bbox="783 943 1058 1178" data-label="Image"> </div> <p data-bbox="1110 1151 1190 1184">Figure</p> <p data-bbox="352 1218 1433 1397">If the air line is not fully assembled, a local slot in the blue cone element will give space for a displacement of the environmental seal O-ring. When pressurized this will give a clear whistle sound. The air line can be re-pushed under pressure. When the whistle sound is gone, the air line is fully assembled.</p> <div data-bbox="834 1442 1038 1603" data-label="Image"> </div> <p data-bbox="683 1637 1158 1671">Figure 11: Local slot in the blue cone</p>

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## **DISCLAIMER:**

The procedures contained herein are not exclusive. Van Hool cannot possibly know, evaluate, or advise the transportation industry of all conceivable ways in which a procedure may be undertaken or of the possible consequences of each such procedure. Other procedures may be as good, or better, depending upon the particular circumstances involved. Each carrier who uses the procedures herein must first satisfy itself thoroughly that neither the safety of its employees or agents, nor the safety or usefulness of any products, will be jeopardized by any procedure selected.

## **INFORMATION HANDLING:**

Important additions and modifications regarding technical information not yet included in the manual will be communicated through Service Bulletin.

## **VAN HOOL CUSTOMER PORTAL:**

Consult the customer portal regularly for the latest service documentation. In addition to 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](http://www.vanhool.be), but 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.