



SERVICE BULLETIN

SB1363

ADDRESSEES	: Owners and operators of Van Hool coaches
VEHICLE MODEL	: All coaches
MANUAL CHAPTER	: 3.14 Drive-axle suspension – locating link
BULLETIN TYPE	: Product improvement
DATE	: August 25, 2016
SUBJECT	: Introduction of new central ball-joint for drive-axle locating links
TERMS & CONDITIONS	: This product improvement does not entitle to any reimbursement.

APPLICATION:

As from following units, Van Hool have improved the central ball-joint for the drive-axle locating links.

Model	VIN
CX35	49270
CX45 Cummins	49190
CX45 Detroit Diesel	49159
TX45 Cummins	41391
TX45 Detroit Diesel	41335
TD925US Cummins	42920
TD925US Detroit Diesel	42889
TDX25US Cummins	42919

DESCRIPTION:

The changes comprise:

- a new central ball-joint;
- a supplementary washer below the upper half of the central ball-joint;
- a supplementary washer above the lower half of the central ball-joint;
- supplementary shims between the leaf-spring clamping plates (as compensation for the supplementary washers).

Tests have shown that these changes increase the life span of the locating link spring leaf. This Service Bulletin gives step-by-step instructions to incorporate this modification on coaches prior to the units mentioned in the table above.

JOB QUALIFICATION:





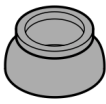

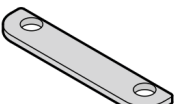




The task has to be carried out by an experienced automotive technician, trained in wheel suspensions.

SPECIAL TOOLS, EQUIPMENT OR SERVICES:

This job requires no special tools, equipment or services.

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COMPONENTS AND PRODUCTS:

Parts of retrofit kit VH11510569					
 660251260 (4x)	 660207210 (4x)	 660251321 (1x)	 660630990 (1x)	 634301630 (2x)	 11501351 (1x)
 11490082 (2x) 012737		 11483672 (2x)	 614306230 (1x)	 614307720 (1x)	 660207214 (1x)
VH reference	Description				Quantity*
634301630	Cup-shaped rubber				2
11501351	Ball-joint upper half				1
614306230	Ball-joint lower half				1
11483672	Washer 98x30.5x3 mm				2
660251321	Screw M16x1.5x85 mm				1
660630990	Special washer M16				1
614307720	Spacer 44x8 mm				1
660207214	Locknut M16x1.5 mm				1
11490082	Shim (thickness 6 mm)				2
660251260	Screw M16x1.5 (length 90 mm)				4
660207210	Locknut M16x1.5 mm				4

*Quantity suited for one locating link

PREPARATIONS:

- Park the vehicle over a flat inspection pit, with the front wheels in the straight-ahead position. Apply the parking brake. Stop the engine. Switch off all systems and turn off the battery isolation switch on the dashboard.
- Install a "DO NOT OPERATE" warning message on the steering wheel.
- Put chocks in front of and behind the front-axle wheels.
- Read the entire procedure before starting to work.



WARNING!

Observe safe shop practices at all times.



WARNING!

The locating link is made of high-strength steel and should not be damaged as any damage to this heavily stressed part will cause early failure. Avoid hitting it with a hammer while removing or installing. Never weld, sand or drill holes in locating links. Protect the locating link against sparks during welding works.



WARNING!

Never support the vehicle with hydraulic jacks only; always place chassis stands or support blocks before working under a jacked-up vehicle.

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PROCEDURE:

Step	Action
1	Depressurise the suspension air-bags as described in: <ul style="list-style-type: none"> • "STEP 1A IN DETAIL" for vehicles with classic air suspension; • "STEP 1B IN DETAIL" for vehicles with electronically controlled air suspension (ELC).
2	Remove the central fixation of the locating link as described further on in "STEP 2 IN DETAIL".
3	Install the new central ball joint as described further on in "STEP 3 IN DETAIL".
4	Repeat steps 2 and 3 for the other locating link.
5	Secure the central fixation of the locating links as described further on in "STEP 5 IN DETAIL".
6	Reconnect the leveling valves and adjust the suspension ride height as explained in the maintenance manual of your vehicle.

STEP 1A IN DETAIL: To depressurise the air bags on vehicles with classic air suspension

Step	Action
1A.1	Deplete the compressed-air tank of the auxiliaries by means of the drain valve on the auxiliaries tank. For the exact location of the compressed-air tanks, refer to chapter 13.17 of the maintenance manual.
1A.2	Let the air escape from the suspension air-bags as follows: <ol style="list-style-type: none"> Disconnect the leveling valve connecting rod from the its lower attachment bracket. Lower the body by pulling the rod downward, which will cause the air spring to deflate. Repeat this for all three air-suspension leveling valves. <div data-bbox="395 1247 957 1693" data-label="Image"> </div> <p>Figure 1: Leveling valve</p> <ol style="list-style-type: none"> 1. Valve actuating lever 2. Connecting rod between valve and axle


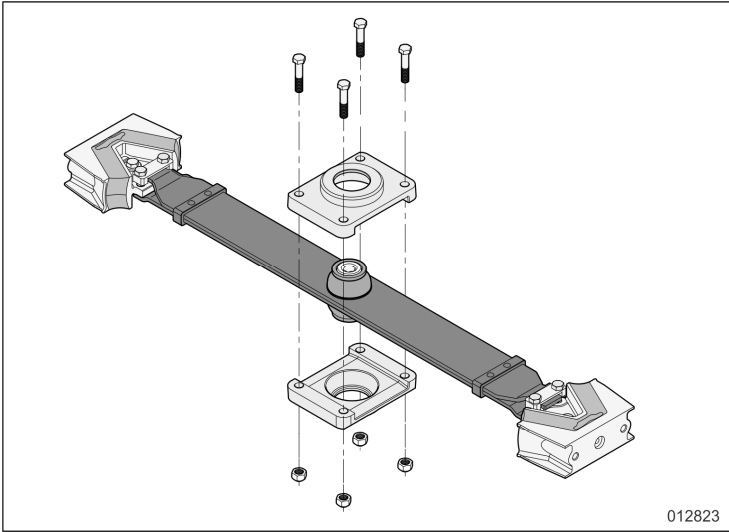
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STEP 1B IN DETAIL: To depressurise the air bags on vehicles with electronically controlled air suspension (ELC)

Step	Action
1B.1	Put the air suspension in the lowering position by means of the dashboard switch.
1B.2	<p>Switch on the security that prevents the vehicle ignition from being switched on (voluntarily or involuntarily) while you are working underneath the vehicle:</p> <ol style="list-style-type: none"> Switch off vehicle ignition. Press the safety switch and provide it with a key lock (refer to figures 2 and 3). The vehicle ignition can now no longer be switched on. <div data-bbox="379 555 892 927" data-label="Image"> </div> <p data-bbox="916 837 1417 920">Figure 2: Safety switch on the control panel in the engine compartment (photo shows control panel of a TD925/TDX25)</p> <div data-bbox="379 958 1323 1379" data-label="Image"> </div> <p data-bbox="379 1391 480 1420">Figure 3:</p> <ol style="list-style-type: none"> Normal running position "Vehicle ignition switch-on unable" position

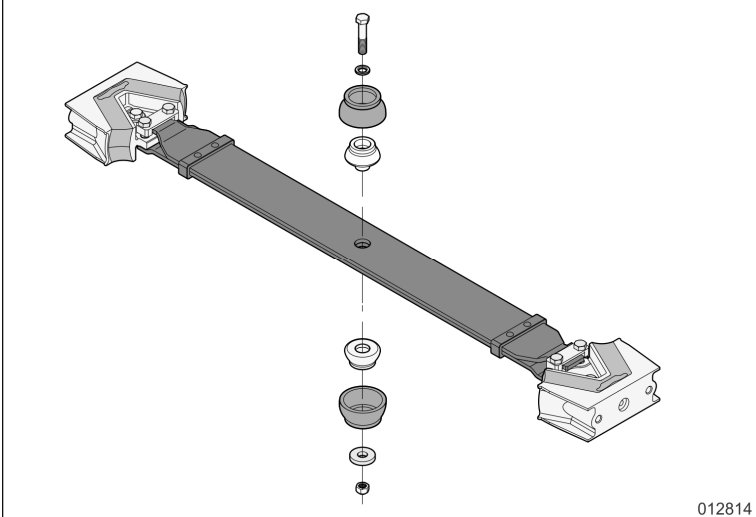
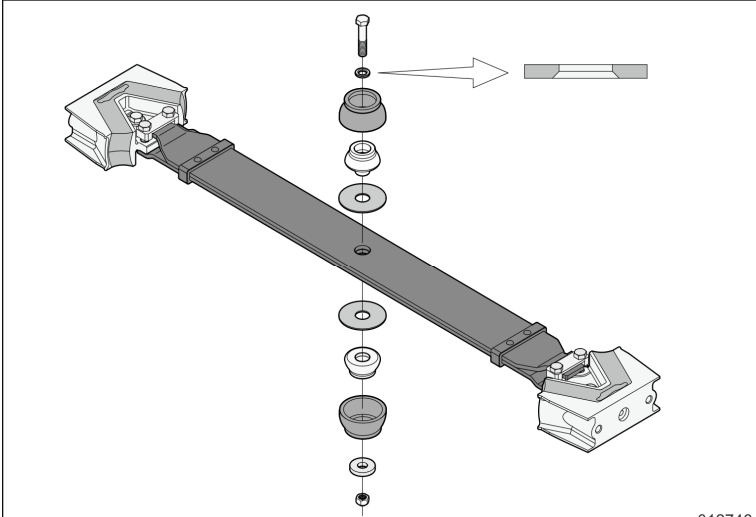
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STEP 2 IN DETAIL: To remove central fixation of locating link

Step	Action
2.1	<p> WARNING!</p> <p>Jack up the chassis to make sure the locating link is no longer under tension.</p> <p>Carefully jack up the vehicle chassis at the rear jacking points until the locating link is positioned horizontal.</p>
2.2	<p>Remove the four bolts securing the locating spring to the drive axle. Remove the upper clamping plate.</p> <div data-bbox="491 631 1224 1160"></div> <p>Figure 4</p>
2.3	<p>Carefully continue to jack up the chassis until the guide spring comes free from the drive axle.</p>
2.4	<p>Support the chassis with wooden blocks.</p>

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STEP 3 IN DETAIL: To install new central ball-joint

Step	Action
<p>3.1</p>	<p>Remove the old central ball-joint.</p> <p><i>NOTE: Inspect the spring for damage or cracks.</i></p> <div data-bbox="451 405 1211 920"><p>012814</p></div> <p>Figure 5</p>
<p>3.2</p>	<p>Install the new central ball-joint as indicated in the figure below. Tighten the bolt to a torque of 270 ± 40 Nm (200 ± 30 ft.lbf).</p> <p><i>NOTE: The small opening of the special washer should be at the bolt-head side (refer to figure).</i></p> <div data-bbox="451 1149 1211 1664"><p>012746</p></div> <p>Figure 6</p>

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STEP 5 IN DETAIL: To secure central fixation of locating links again

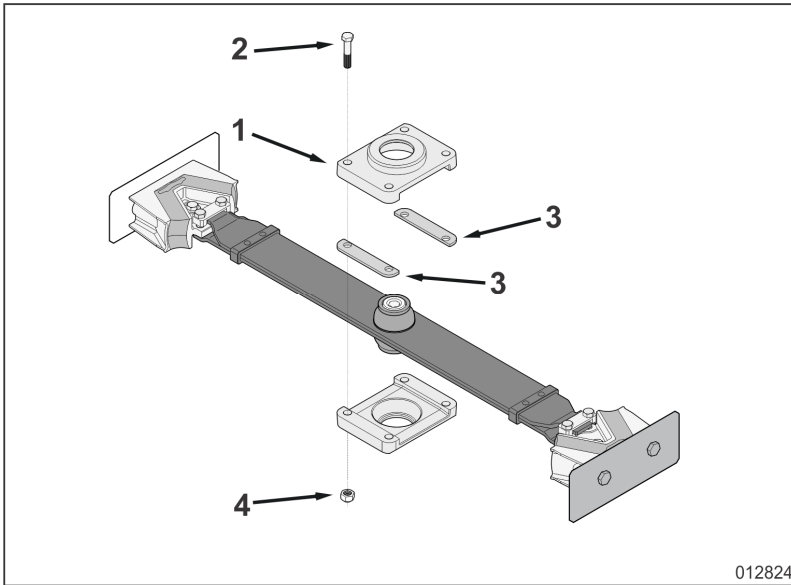


Figure 7

Step	Action
5.1	Remove the chassis support and lower the vehicle until the leaf spring of the locating links rests on the lower clamping plate.
5.2	Install the upper clamping plate (1) together with the shims (3).
5.3	Install the four screws (2) and tighten the nuts (4) to a torque of 190 ± 30 Nm (140 ± 20 ft.lbf).
5.4	Repeat steps 5.2 and 5.3 for the other locating link.
5.5	Continue to lower the vehicle.

End of procedure

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INFORMATION HANDLING:

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

VAN HOOL CUSTOMER PORTAL:

Consult the customer portal regularly 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.