

ADDRESSEES	: Owners and operators of Van Hool coaches ABC Customer Care and Parts Source
VEHICLE MODEL	: Coaches with Detroit Diesel DD13 engine
MANUAL CHAPTER	: 2.30 Engine – exhaust system
BULLETIN TYPE	: Service information
DATE	: June 02 nd , 2020
SUBJECT	: Stress-free installation of flex pipe
TERMS & CONDITIONS	: This service bulletin does not entitle to any reimbursement.

INTRODUCTION:

This service bulletin gives step-by-step instructions on how to install the flex pipe properly. The flexible part of the flex pipe handles thermal expansion and engine vibration, and is prone to premature breakdown in case of incorrect installation.

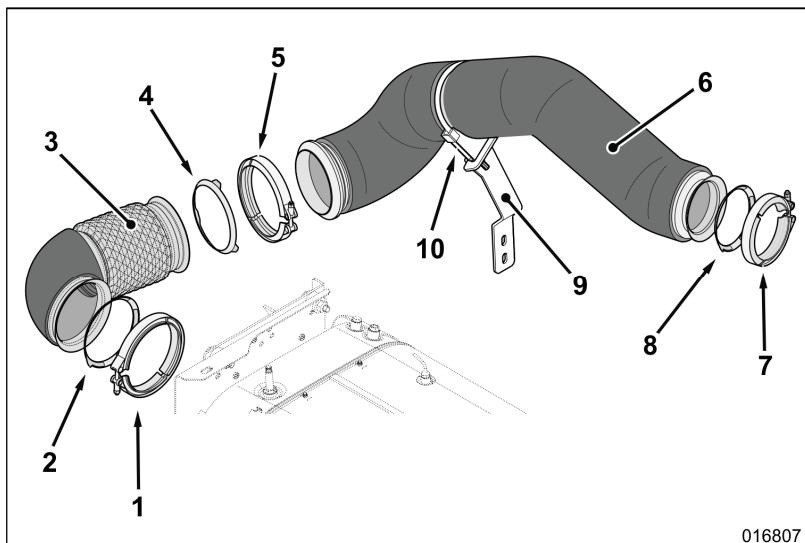


Figure 1: Exhaust tubing between turbocharger and DPF device

1. V-band clamp
2. Gasket
3. Flex pipe
4. Gasket
5. V-band clamp
6. Downpipe (attached to turbocharger)
7. V-band clamp
8. Gasket
9. Bracket for guillotine clamp
10. Guillotine clamp

JOB QUALIFICATION:

Job technician's qualifications/expertise: exhaust system, aftertreatment system.

SPECIAL TOOLS, EQUIPMENT OR SERVICES:

This job requires no special tools, equipment or services.

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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.

PROCEDURE:

Exhaust installation should be free of strain, twist or tension. Assemble parts for a loose fit and adjust them to ensure stress-free installation before tightening fasteners.

Step	Action
1	Thoroughly clean the mounting flanges of the exhaust aftertreatment device and the downpipe. Remove all remaining gasket with a scraper.
2	At the downpipe side: using a new gasket, attach the flex pipe to the downpipe with the V-band clamp. Make sure the V-band clamp sits snugly around the flanges but do not finally tighten the clamp nut yet!
3	<p data-bbox="323 972 646 1016"> WARNING!</p> <p data-bbox="323 1043 1436 1137">The weight of the aftertreatment device is about 100 kg (220 lbs). Support the exhaust aftertreatment device with a lifting device before slackening the fasteners of the mounting brackets.</p> <p data-bbox="323 1178 1444 1308">At the exhaust aftertreatment device: line up the flex pipe mounting flange with the exhaust aftertreatment device mounting flange. The mounting flanges must be parallel (refer to figure 2) and mate up to each other. It is also not allowed to compress the flexible part of the flex pipe for more than 2 mm (0.08 inch) during installation.</p> <div data-bbox="464 1335 1241 1899" style="border: 1px solid black; padding: 10px;"> <p data-bbox="1137 1861 1230 1888" style="text-align: right;">016805</p> </div> <p data-bbox="1273 1868 1369 1895" style="text-align: right;">Figure 2</p>

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NOTE: Prior to changing the exhaust aftertreatment device position, slacken the fastener of the exhaust tail pipe suspension point to prevent preload at this point (refer to figure 3).

If necessary, adjust the position of the exhaust aftertreatment device to obtain a stress and strain-free installation of the flex pipe. Use the slots provided in the mounting brackets of the exhaust aftertreatment device (refer to figures 4, 5 and 6). If necessary, you can also change the position of the downpipe attached to the turbocharger. If downpipe angle is changed, the gasket at the turbocharger must be replaced.

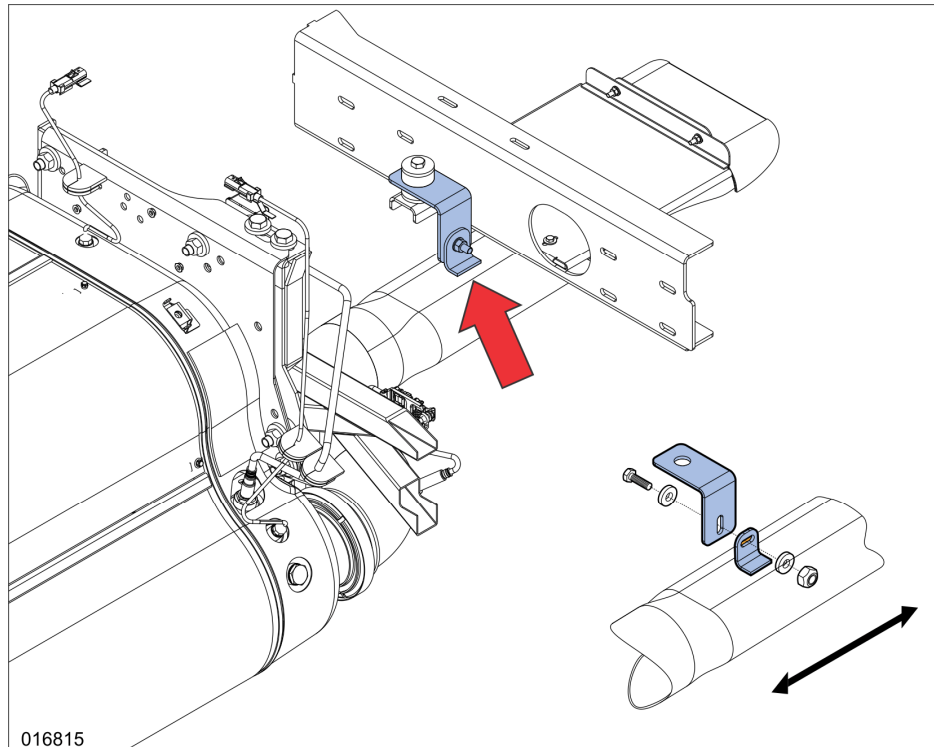


Figure 3: Exhaust tailpipe suspension point

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Insert a new gasket between the exhaust compensator to exhaust aftertreatment device connection. Secure the exhaust compensator with the V-band clamp. Tighten all fasteners to the torque specified:

- **V-band clamp:** tighten the nuts to 13 ± 1 Nm (9 ± 1 ft.lbf).
- **Guillotine clamp of downpipe:** tighten the U-clamp nuts to 25 Nm (18 ft.lbf).
- **Exhaust aftertreatment device mounting bracket fasteners:** tighten the nuts to 42 ± 6 Nm (31 ± 4 ft.lbf).

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Tighten the fastener of the exhaust tail pipe suspension point (figure 3). Make sure that there is some clearance between the top of the pipe and the crossmember located above.

End of procedure.

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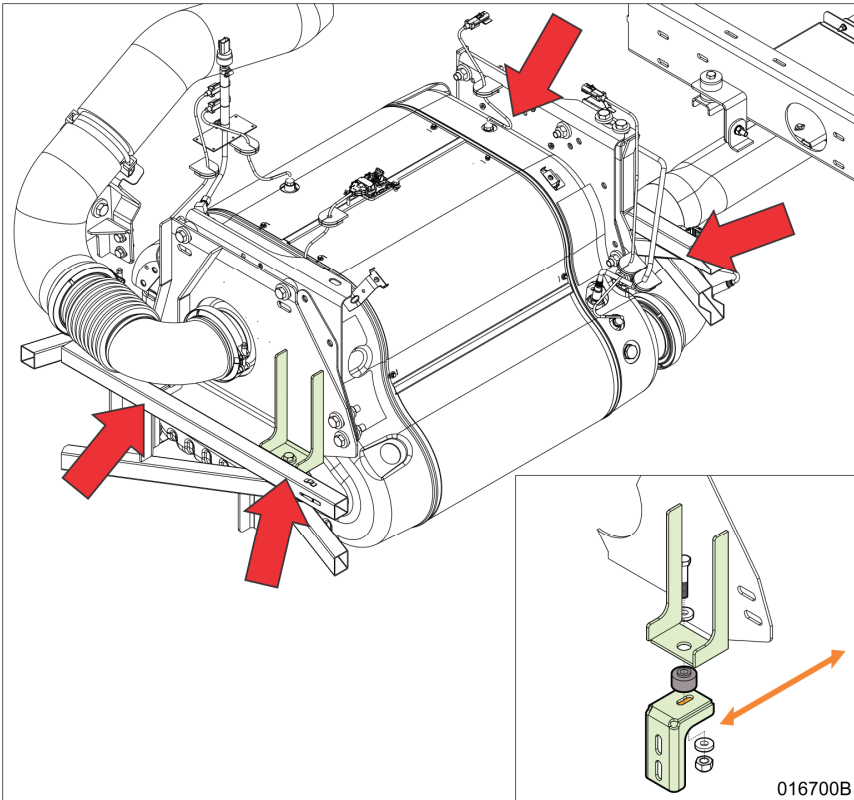


Figure 4: Front/rear adjustment of exhaust aftertreatment device using the orange colored slotted hole in the four mounting brackets (two at the front, two at the rear)

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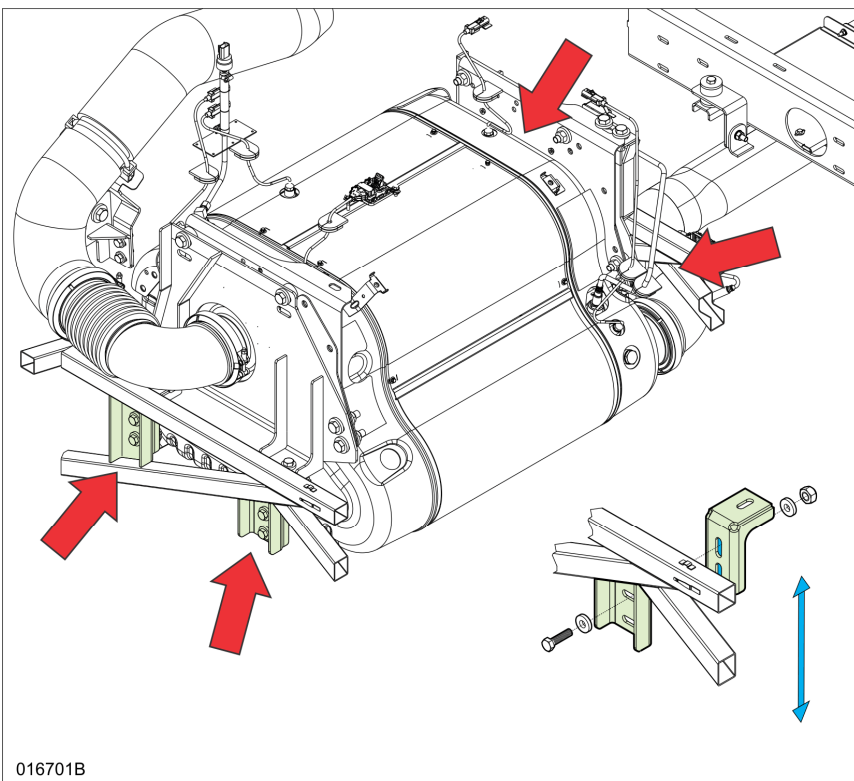


Figure 5: Up/down adjustment of exhaust aftertreatment device using the blue colored slotted holes in the four mounting brackets (two at the front, two at the rear)

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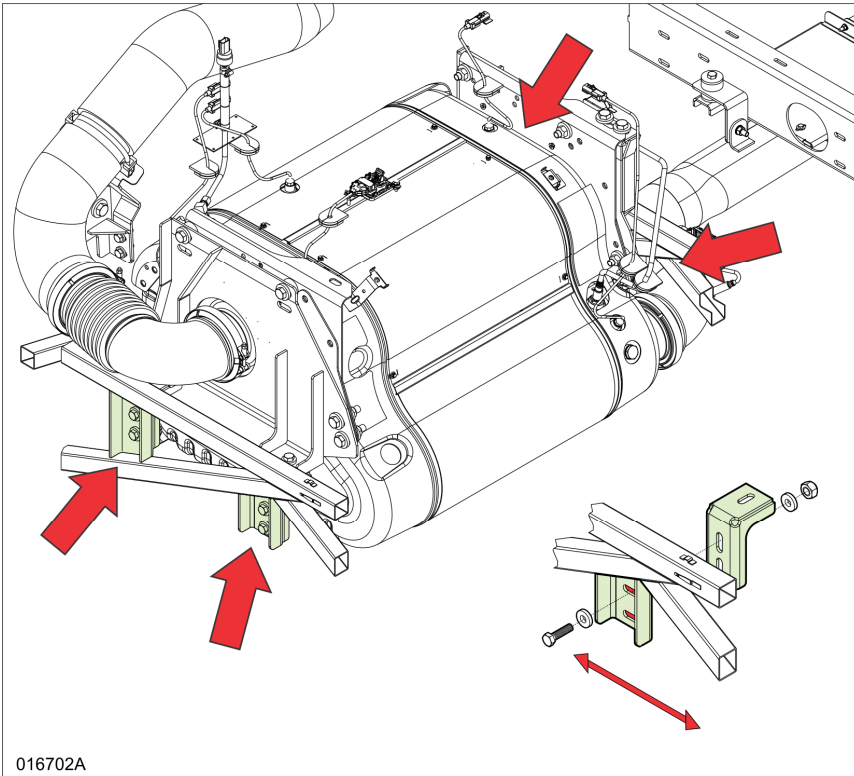


Figure 6: Left/right adjustment of exhaust aftertreatment device using the red colored slotted holes in the four mounting brackets (two at the front, two at the rear)

HELPDESK:

If there are any questions, please call ABC Customer Care & Parts Source toll-free for guidance on 1-877-427-7278. Listen for the prompts for warranty and select that option.

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 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.