

VDZ Lifting System - Manual



VDZ Hefsystemen B.V.
Lange Hofstedestraat 3
4116 EX Buren
The Netherlands

Tel: +31 (0)6 53 186 008
Fax: +31 (0)344 571 719
Email: info@vdzsystemen.nl
Chamber of Commerce: 57962111

Contents

Congratulations	3
IMPORTANT: READ MANUAL CAREFULLY	3
Introduction	3
CE Declaration	8
Components of a VDZ lifting system	10
CE plate of a VDZ lifting system with type specification	10
General comment on towing and lifting points	11
Overview photo of VDZ lifting system components	11
Instructions for mounting of systems with a screw thread, as used with Mercedes, Renault, M.A.N., DAF XF (all models) and Volvo models after 2013	12
Instructions for fitting bayonet systems, as used with Volvo FH, Volvo FM, DAF CF 85 and DAF XF 105 <-2013 Volvo	21
Fitting the cross bar	22
Attaching tow hooks or winch eyes	24
Hoisting with a crane	25
Winching with cables	27
Lifting and towing with a tow truck	30
Towing with a tow rod	34
Information on residual risks	36
Instructions on protective measures	36
Conditions for safe transport, transfer and storage (state mass)	37

Congratulations

VDZ Hefsystemen congratulates you on the purchase of your new lifting system, and wishes you success with its use in practice.

Your product has been designed and tested with great care, and is in continuous development to enable the lifting and towing of the newest lorries.

IMPORTANT: READ MANUAL CAREFULLY



It is extremely important for the safe use of your new lifting system that you carefully read through this manual and apply the tips and advice in practice!

Introduction

Lorry manufacturers are currently increasingly ensuring that lorries have built-in towing and lifting points. They also specify the correct use of connecting devices, and procedures for lifting and towing in order to prevent damage to the vehicle.

The VDZ lifting system makes correct use of the built-in towing and lifting points.

You can use the VDZ lifting system in various ways, such as:

1. hoisting with a crane
2. winching with cables
3. lifting and towing with a tow truck
4. towing with a tow rod

The VDZ lifting system simplifies the safe lifting of stranded lorries, removing the need for a recovery operator to work underneath the stranded vehicle.

A lot of time can be saved with the VDZ system, and the working conditions are considerably safer than with the systems commonly used in the past.



Hoisting with a crane



Winching with cables



Lifting and towing with a tow truck



Towing with a tow rod

CE Declaration



VDZ HEFSYSTEMEN B.V.

LANGE HOFSTEDESTRAAT 3 Tel: +31 (0)6 53 186 008
4116 EX BUREN Fax: +31 (0)344 571 719
NEDERLAND Email: info@vdzsystemen.nl

EG - Konformitätserklärung Maschinenrichtlinie 2006/42/EG Anhang II.1.A. E

EG - Declaration of conformity Machine Directive 2006/42/EG Annex II.1.A.

EG - Verklaring van overeenstemming Machinerichtlijn 2006/42/EG) Bijlage II.1.A.

Hiermit erklären wir, dass die
Nachfolgens bezeichneten Produkte:

We hereby declare that the following
products:

Hiermee verklaren wij dat de volgende
producten:

VDZ A50 Key 55 mm
VDZ A08 Key 75 mm
VDZ A11 Set threaded hook
VDZ A10 Set Scania all models
VDZ A12 Set winch eyes universal
VDZ P03 VO Set winch eyes
VDZ P06 Set Volvo FH, FM
VDZ P07 Set Mercedes/Renault/M.A.N.
VDZ P10 Set Daf CF 85
VDZ P13 Set Daf XF 105 <- 2013
VDZ P24 Set Daf XF 106 -> 2013
VDZ P25 Set Volvo FH -> 2013

and the cross head lifting fitments for the following recovering systems:

BRO/EMPL/FALKOM/BRECHTEL/OMARS/BRIMEC/BONYFACE/MILLER/VULCAN

aufgrund ihrer Konzipierung und
Bauart, sowie der von uns in Verkehr
gebrachten Ausführung, den
einschlägigen grundlegenden
Sicherheits- und
Gesundheitsanforderungen der
nachfolgende EG-Richtlinie:

2006/42/EG(II.1. A)

Bei einer nicht mit uns abgestimmten
Änderung der Maschine verliert diese
EG-Konformitätserklärung ihre
Gültigkeit.

Hersteller und
Dokumentationsbevollmächtigter:

VDZ Hefsystemen BV
Lange Hofstedestraat 3
4116 EX Buren
(NL)Buren, 31-07-2014

as a result of the manner in which the
product was designed, the type of
construction and the products which
as a result have been brought on to
the general market, comply with the
relevant basic health and safety
regulations of the following EC Council
Directive:

2006/42/EG(II.1. A)

This EC declaration of conformity shall
become null and void when parts are
subjected to any modification that has
not met our approval.

Manufacturer and attorney of
documents:

op basis van hun ontwerp en
constructie en de als zodanig op de
markt gebrachte resulterende
uitvoering, voldoen aan alle
toepasselijke bepalingen van de
Machinerichtlijn:

2006/42/EG(II.1. A)

Deze EG-verklaring van
overeenstemming vervalt zodra
onderdelen buiten ons medeweten
om worden gewijzigd.

Fabrikant en verantwoordelijke voor
documentatie:

J. van de Zand (DGA)

Components of a VDZ lifting system

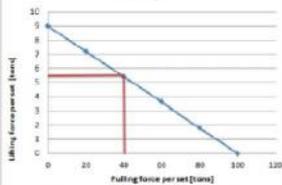
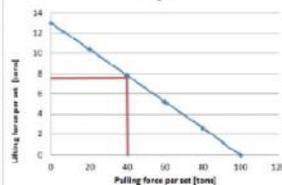
In its most complete form, the lifting system includes 24 components, making it suitable for all modern lorries.

A set of unique lifting brackets is included. These brackets are available for most modern tow truck recovery systems, such as Bro, Vulcan, Miller, EMPL, Omars, Brechtel, Falcom and Boniface.

The set also includes an adjustable cross bar for mounting between the towing points.

A handy storage rack, which can be built into the tow track, is available for the accessible and safe storage of all components of the VDZ lifting system. For more details, see the last section of this manual.

CE plate of a VDZ lifting system with type specification

				
Afsleep componenten / Salvage components / composants de récupération / Bergungs-Komponenten				
type / Typ		: VDZ-001		
serie nr. / serial no. / numéro en série / Serie Nummer		: 20141006		
jaar / year / année / Jahr		:		
Krachtgrafiek per aangegeven set / Force diagram per set indicated / diagramme des forces par set spécifié / Kräfterdiagramm pro angegebene Satz				
	P06 - P07 - P10 CF - P13 XF - A10		P24 - P25	
VDZ Hefsystemen B.V. – Lange Hofstedestraat 3 NL- 4116 EX Buren – The Netherlands		Tel. +31 (0)6 53 186 008 E-mail: info@vdzsystemen.nl		

General comment on towing and lifting points

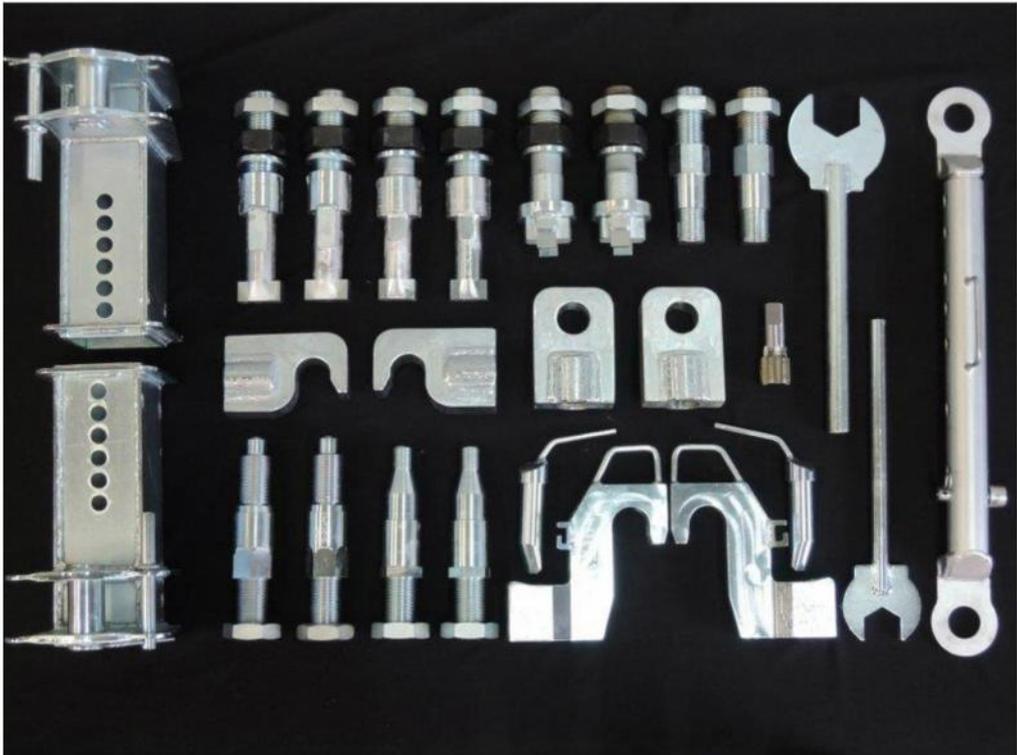
Important: It is important that the towing and lifting points of the stranded lorry are in good condition before the VDZ lifting system is attached. You should ensure that no components are broken, for example.



Important:

Check that towing and lifting points are in good condition before use!

Overview photo of VDZ lifting system components



Overview of complete set

Instructions for mounting of systems with a screw thread, as used with Mercedes, Renault, M.A.N., DAF XF (all models) and Volvo models after 2013.

The standard towing points of lorries from the above manufacturers have an internal screw thread. The VDZ lifting system therefore includes tow rods that can be screwed into these towing points. In practice, it is often found that, especially with older lorries, the screw thread can be rusty and/or dirty. VDZ Hefsystemen B.V. therefore advises the use of a screw tap to cut a clean thread.



Tap



Apply oil

	<p>Tip: Apply a few drops of oil, and use a screw tap to cut a clean thread</p>
---	--

	<p>Hazard: Components of VDZ lifting systems may have sharp edges, for example at the screw thread. These edges can cause injury. Always wear gloves!</p>
---	--



Attaching threaded tow rod

	<p>Tip: Attach the tow rod firmly, using the correct spanner.</p>
---	--



Tightening the tow rod

There are two different VDZ open-ended spanners, with widths of 55mm and 75mm.



VDZ open-ended spanner

Instructions for fitting bayonet systems, as used with Volvo FH, Volvo FM, DAF CF 85 and DAF XF 105 <-2013

The standard towing points of lorries from the above manufacturers have a keyhole-shaped opening.



Keyhole-shaped opening

The VDZ lifting system therefore includes tow rods with a cam, which are positioned by inserting them in the opening and rotating them by a quarter turn.

The position of the cam is very important, so the tow rods are marked with an indicator line.

These tow rods have a movable cam ring that fits exactly into the keyhole-shaped opening of the standard towing point of the lorry.

The tow rods can be securely attached with the use of a hexagonal half nut and a washer.



Set of tow rods with cam and movable cam ring



Important:

Volvo lorries have two different models of keyhole-shaped opening. The tow bars for Volvo lorries therefore have a special cam ring that is suitable for both models. For further details, see the section on Volvo lorries.



Fitting tow rod with cam



Indicator line in horizontal position



Important:

The correct position is with the indicator line horizontal.

It is important that the lifting and towing forces are correctly transferred to the chassis of the lorry. The special cam ring must therefore be fitted into the keyhole-shaped opening correctly, and the half bolt then firmly tightened.



Tip:

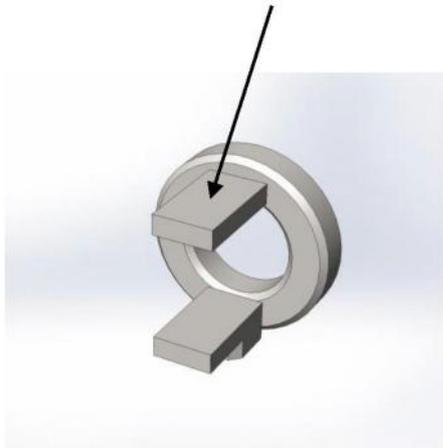
Attach the tow rod firmly, using the correct spanner.



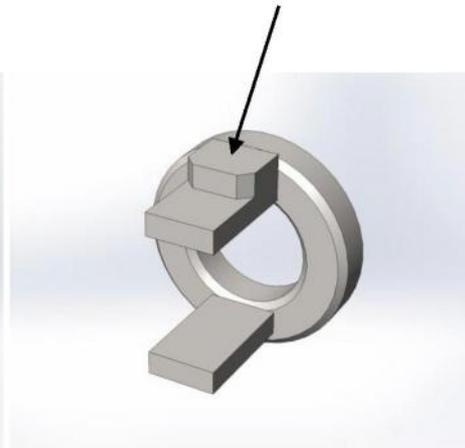
Tightening the nut of the tow rod

Volvo

Volvo lorries of types FH and FM manufactured before 2002 have a different keyhole-shaped opening than Volvo lorries manufactured from 2002 to 2013. For models before 2002, the cam ring is used with the flat side upwards, while for models after 2002 the cam ring is used with the cam (with cutaway) upwards.



Models before 2002



Models from 2002 to 2013

Fitting the cross bar

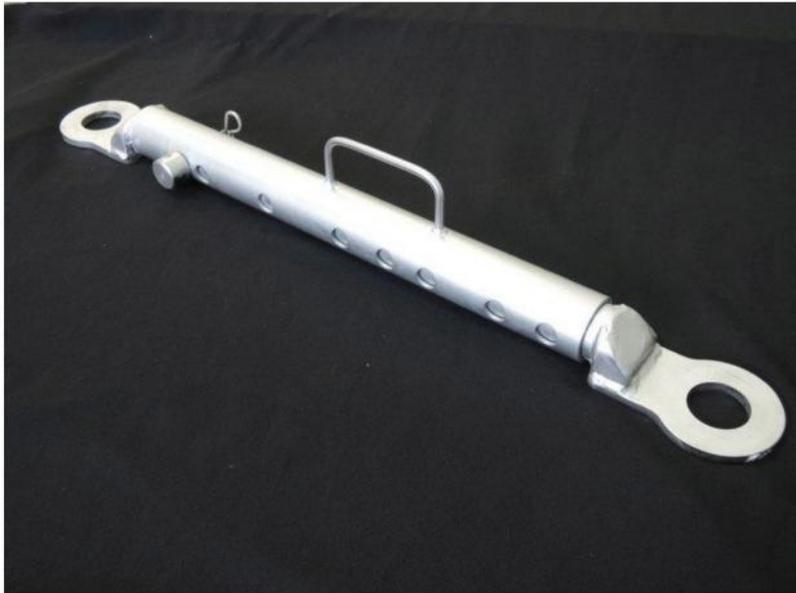
After the tow rods are in position, the cross bar can be fitted. The cross bar is an adjustable connecting rod with which the two tow rods are linked together in a stable way, so that the lifting and towing forces are properly distributed and damage is prevented.



Important:

Always use the cross bar to prevent damage to the lorry.

Attach the cross bar directly to the nuts of the tow rods, and firmly attach the cross bar with the two half nuts. Fit the locking pin in the correct opening, and position the spring clip so that the locking pin cannot work loose.



Cross bar

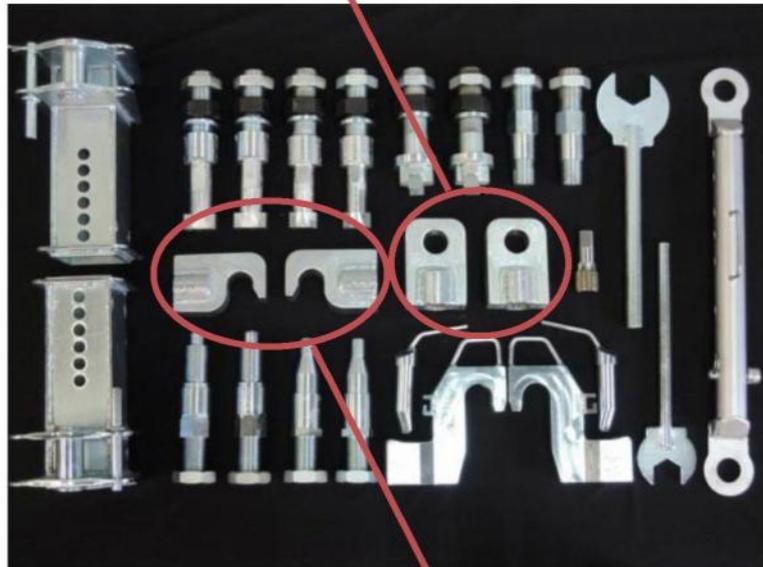


Cross bar in position

After the procedures described above are carried out, the mounted system is ready for the placement of tow hooks or winch eyes.

Attaching tow hooks or winch eyes

Winch eyes are used for lifting or winching.



Tow hooks are used for lifting and towing with a tow truck.

Hoisting with a crane

To hoist a stranded lorry with a crane, winch eyes with beams and bow shackles are used. It is very important that the winch eyes are fully screwed onto the screw thread but NOT fully tightened! The eyes then can slightly adjust to the angle made by the beams. Only in this way can the forces be transferred correctly.



Tip:

Use beams and bow shackles when lifting.



Lifting with beams and winch eyes



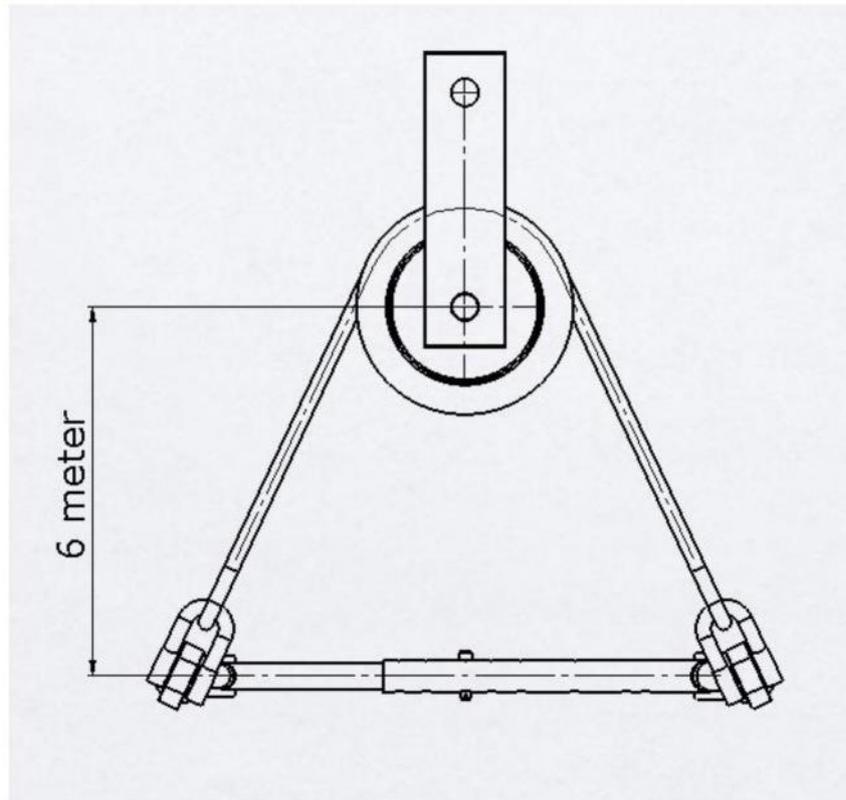
Important when hoisting:

Screw the winch eyes as far as possible onto the screw thread, but do NOT fully tighten them!



Important when hoisting with the use of a pulley block:

If you make use of a pulley block, make sure that the distance of the pulley block to the winch eyes is approximately 6 metres! See diagram below.



Hoisting with pulley block

Winching with cables

If you are going to winch a stranded lorry with cables, then you use winch eyes. However, cables often become twisted, and tend to untwist under heavy loads. It is therefore very important that the winch eyes are NOT fully tightened! They can then adjust themselves to the correct position during the winching. The winch eyes should however be screwed as far as possible onto the screw thread.



Important when winching:

Screw the winch eyes as far as possible onto the screw thread, but do NOT fully tighten them!

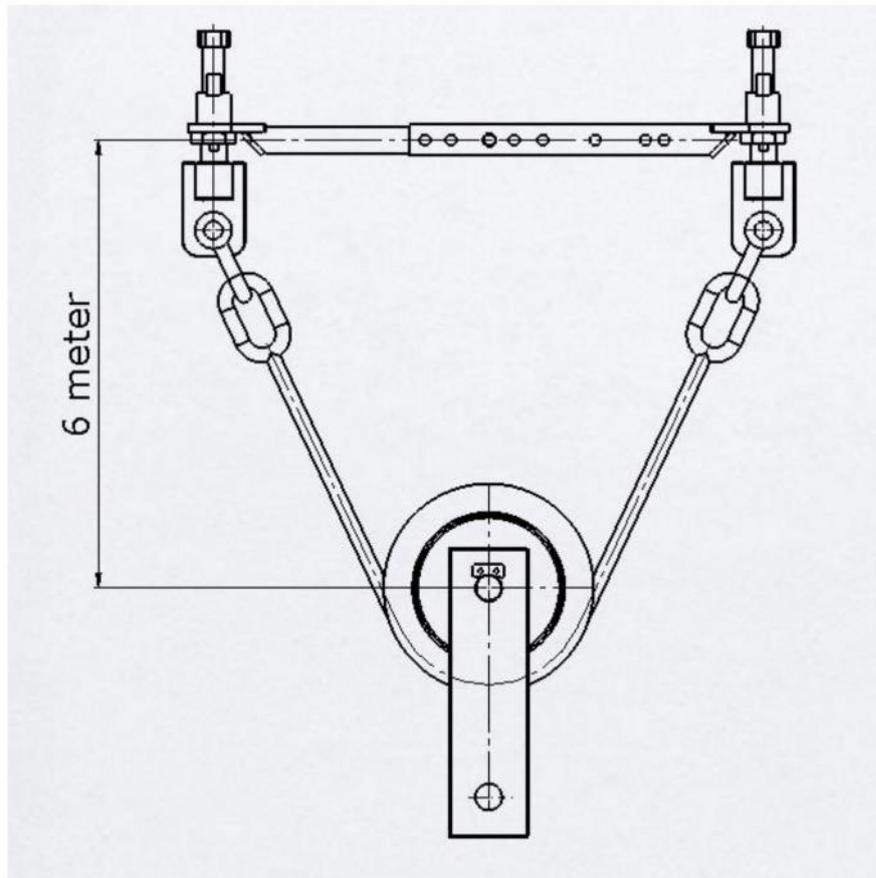


Winching with cables and winch eyes



Important when winching with the use of a pulley block:

If you make use of a pulley block, make sure that the distance from the pulley block to the winch eyes is approximately 6 metres! See diagram below.



Winching with pulley block

Lifting and towing with a tow truck

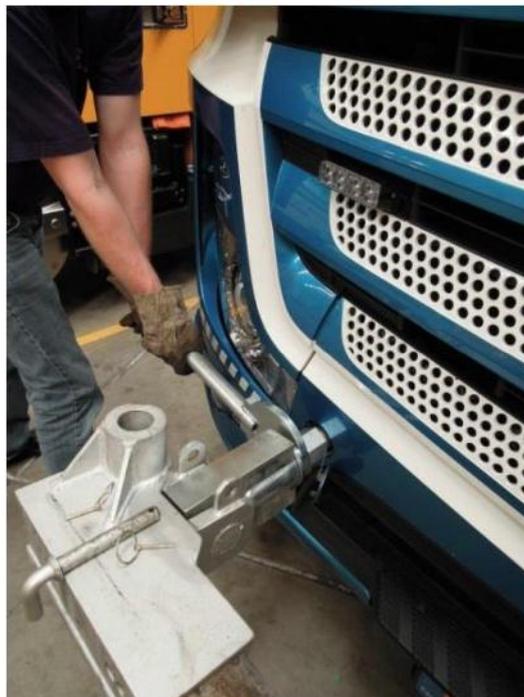
To lift and tow a stranded lorry with a tow truck you use towing hooks and lifting brackets that fit onto the cross head of your tow truck. These brackets are available for most modern recovery systems, such as Bro, Vulcan, Miller, EMPL, Omars, Brechtel, Falcom and Boniface.

First screw both towing hooks onto the tow rods, using the half nut, so that they can be tightened later. Do not tighten the nut immediately!



VDZ lifting bracket with locking pin and spring clip

We advise coupling the tow truck at this stage, so that the tow hooks can adjust themselves slightly and fit correctly onto the pin of the lifting brackets. Then fully tighten the half nut, as shown below.



Tightening the half nut after coupling

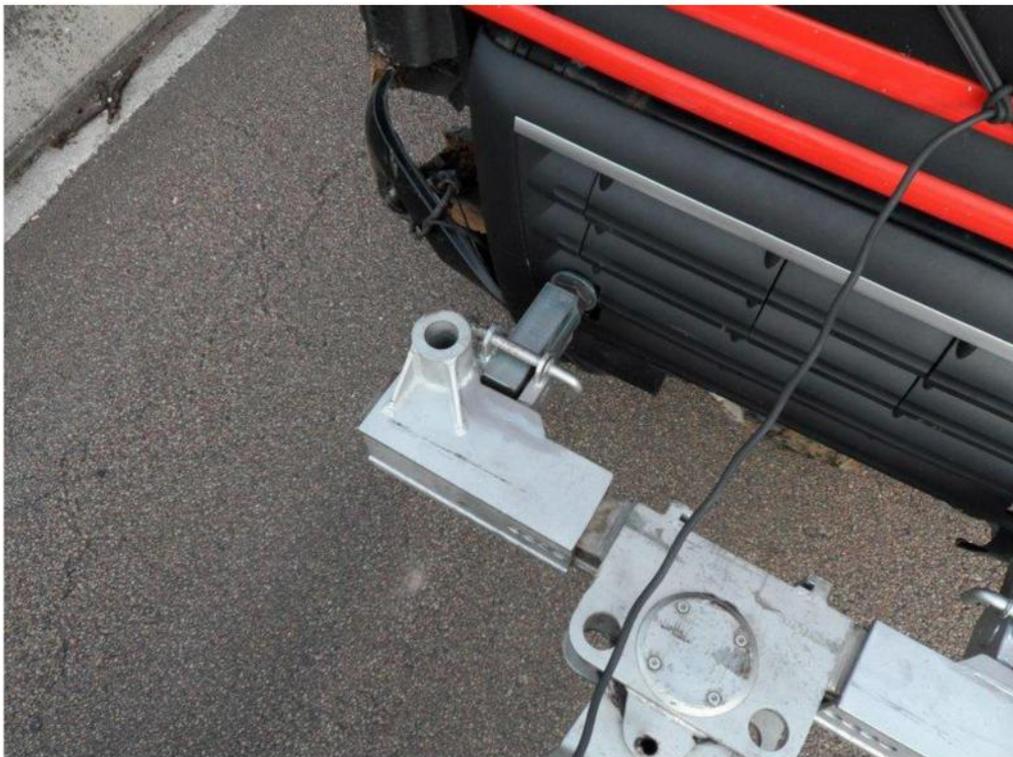
If required, one or both lifting brackets can be bolted onto the lifting system to prevent shifting during use. For this purpose the lifting brackets have a row of holes for the placement of locking pins.



Tip:

One or both lifting brackets can be bolted to the lifting system of the tow truck.

The photo below shows a fully mounted system.



Tow hook coupled to lifting bracket, with locking pin in place

It is very important to always place the supplied locking pins on the upper side. This prevents the tow hooks from becoming detached from the lifting brackets due to an upward movement.



Important:

It is very important to always place the supplied locking pins on the upper side, to prevent the tow hooks from becoming detached from the lifting brackets due to an upward movement.

Towing with a tow rod

A special tow rod coupling is available for towing a lorry with a tow rod. This can be screwed onto one of the tow rods and firmly attached with the supplied half nut.



Tow rod coupling



Important:

Attach the tow rod coupling firmly with the use of a half nut.



Attached tow rod coupling and tow rod

Information on residual risks

We wish to draw your attention to the following residual risks that may occur in practice when working with VDZ lifting components.

- Threaded pins as used with Mercedes, Renault, M.A.N., all DAF XF models and Volvo models after 2013: if these are not fully tightened, the thread will not be able to absorb the force applied.
- If the cross bar is not fitted: this will cause unnecessary distortion of the chassis of the vehicle to be recovered.
- Winching: if working with a badly twisted winching cable, there is a possibility that the winch eye will unscrew from the screw thread when the cable is put under tension.
- Lifting and towing with a tow truck: if the tow hooks are not firmly tightened, this will cause extreme wear.
- Winching: the use of a pulley block is strongly recommended, so that the forces are evenly distributed over both tow rods.
- General: avoid sudden loading; this can cause serious damage to the system.

Instructions on protective measures

VDZ Lifting Systems advises you to wear good quality personal protection equipment during all recovery operations, particularly work boots with steel toecaps and gloves. Some components are heavy and sharp, and can easily cause personal injury in the event of falling or impact.



Tip:

Wear personal protection equipment to prevent personal injury as far as possible.

Conditions for safe transport, transfer and storage (state mass)

A handy storage rack, which can be built into the tow track, is available for the accessible and safe storage of all components of the VDZ lifting system.



Storage rack in tow truck