

# Operating Instructions.



Original operating instructions for  
tippers, construction machinery  
trailers and vehicle transporters.

[www.boeckmann.com](http://www.boeckmann.com)



**FIRST CLASS TRANSPORT**





## Your vehicle data

|                                                   |       |
|---------------------------------------------------|-------|
| Vehicle model:                                    | <hr/> |
| Chassis no.:                                      | <hr/> |
| Admissible total weight:                          | <hr/> |
| Unladen weight:                                   | <hr/> |
| Year of construction/<br>first registration:      | <hr/> |
| Tyre size/manufacturer:                           | <hr/> |
| Overrun brake system<br>Manufacturer/test symbol: | <hr/> |
| Drawbar/tow bar<br>Manufacturer/test mark:        | <hr/> |
| Axle type<br>Manufacturer/test mark:              | <hr/> |
| Wheel brake type<br>Manufacturer/test mark:       | <hr/> |
| Ball coupling type<br>Manufacturer/test mark:     | <hr/> |

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## 1 Important Information

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Dear reader,

These operating instructions are intended to help you use your “First-Class Trailer” in an optimum way. Following these instructions will ensure that you can use your trailer safely for a long time and avoid possible dangers.

This trailer has been developed and designed according to the state-of-the-art and has been thoroughly tested to ensure perfect functioning prior to despatch.

### 1.1 Operating instructions

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- Please read the operating instructions completely before using the trailer for the first time.
- Disregard of these operating instructions may lead to injuries or damage to the trailer.
- Böckmann accepts no liability for damage resulting from failure to observe these operating instructions.
- Please keep these operating instructions for future reference. If you sell or lend your trailer to a third party, please always give the operating instructions to the new user.

## 1.2 Markings and notices used in this document

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### 1.2.1 Warnings

---

In these operating instructions, we use a four-level system to indicate different degrees of danger.

#### **⚠ DANGER**

Indicates that death or serious bodily injury will occur if the specified precautionary measures are not taken.

---

#### **⚠ WARNING**

Indicates that death or serious bodily injury can occur if the specified precautionary measures are not taken.

---

#### **⚠ CAUTION**

Indicates that minor to moderate bodily injury will occur if the specified precautionary measures are not taken.

---

#### **NOTICE**

Indicates that material damage will occur if the specified precautionary measures are not taken.

---

The following markings are also used:

**NOTE**

Points out particularly important information about the trailer, handling of the towing vehicle or a usage tip.

---

### 1.2.2 Text markings

The following text markings are used in these operating instructions:

**A Version variants are indicated by the respective capital letters.**

---

## 1.3 Versions and accessories

The trailers are available in different versions. You can also retrofit your trailer with additional accessories (See section *10.2 Spare parts and accessories*, page 79).

Due to the large number of versions and accessory parts, not all trailer versions are described or illustrated.

Familiarise yourself with the version, options and accessories of your trailer to identify the corresponding variants in these operating instructions that apply to your trailer.

---

## 1.4 Third-party documentation

If your trailer is fitted with accessories, you will receive the corresponding operating instructions from the third-party manufacturers in addition to these operating instructions.

Please heed the information regarding safe operation, maintenance and care of the accessories in the corresponding operating instructions.

---

## 1.5 Registration

The legal requirements for the registration of trailers vary from country to country. Please find out how and where you can register your trailer.

---

### 1.5.1 Speed limit of 100

The maximum permissible speed for towing the trailer is 80 kph. If certain requirements are met, the speed limit can be raised to 100 kph by the approval authority.

**NOTE**

You will find detailed information on the requirements on our website:

[www.boeckmann.com](http://www.boeckmann.com)



### **1.5.2 General inspection**

---

The regulations for general inspections vary from country to country. Please find out:

- When a general inspection is required
- Where a general inspection can be carried out for your trailer

### **1.6 Driving licence**

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In some countries, a specific driving licence may be required to tow trailers. Please enquire about the legal regulations applying in the respective country.

## 2 Safety

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### 2.1 Intended use

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The trailer is designed to transport goods in the range of the corresponding gross weight rating (See section 3 *Technical Data*, page 17), and is intended to be used in combination with towing vehicles whose rear overhang (distance from the centre of the rear axle to the trailer coupling) is not longer than 160 cm.

If the towing vehicle's rear overhang exceeds the length of 160 cm, a trailer with a reinforced frame or a height-adjustable drawbar must be used.

If you have any questions, contact your dealer.

Any other use is considered to be improper use. Böckmann accepts no liability for damage resulting from improper use.

The following uses are prohibited:

- Transport of people
- Transport of animals
- Transport of dry bulk goods with a vehicle transporter
- Use of the trailer bed as a lifting device
- Driving with the bed tipped.

### 2.2 Inspection

---

- The handover inspection must be carried out by the dealer and recorded in the proof of inspection (See section 8.5.3 *Proof of inspection*, page 72).
- The wheel bolts must be checked after the first 50 km using a torque wrench (See section 8.4.4 *Wheel bolts*, page 67).
- All further inspections must be carried out in accordance with the inspection schedule (See section 8.5.2 *Inspection schedule*, page 69).
- Inspections may only be carried out at Böckmann-approved specialist dealers.  
For further information, please visit [www.boeckmann.com](http://www.boeckmann.com).

### 2.3 People

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- Trailers are not toys. Do not allow children to play unattended near a trailer. Children could be injured when playing with the trailer.
- People working with or driving the trailer must have read and understood these operating instructions.

## 2.4 Personal protection equipment

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- Personal protection equipment is not required for normal operation of the trailer. However, you should make sure that you are wearing suitable clothes for the weather conditions when working on the trailer.
- Wear safety boots when extending and retracting the drive-on ramps and when opening and closing the bed. You could otherwise injure yourself severely.
- Wear gloves to protect your hands when opening and closing flaps, when using winches or if you are working with hydraulic oil.
- Wear protective glasses when changing the hydraulic oil. You will find further information on handling the hydraulic oil on the safety data sheets.

## 2.5 Trailer

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- Never use a defective trailer as it conceals unforeseeable risks.
- The rear lights of the trailer must be visible at all times. If the rear lights are covered by a protruding load, open flaps or dirt, please mount a clearly visible rear lighting unit to mark the end of the trailer.
- Ensure that the safety of traffic is not impaired during loading and unloading. Use additional signaling equipment like signs and barriers to guarantee safety.

## 2.6 Load

---

- Do not exceed the admissible total weight (See section 3 *Technical Data*, page 17).
- Do not exceed the admissible edge load capacity of the drive-on ramps. You will find information on the admissible edge load capacity on the drive-on ramps.
- The trailer must be loaded carefully and correctly. Incorrectly loaded trailers can easily start skidding (See section 6 *Loading*, page 53).

## 2.7 Driving

---

- Before starting any journey, use the “Pre-drive checklist” (See section 7.2 *Pre-drive checklist*, page 61) to check whether your trailer is ready to drive.
- Familiarise yourself with the driving and braking characteristics (See section 7.3 *Driving tips*, page 62) of the trailer in difficult road and weather conditions, for example, storms, side winds, snow, inclines and rough roads.
- Your driving behaviour and speed must always be adapted to the given road and weather conditions.
- At all times during the journey, you must be able to see the road behind you through the two exterior mirrors.

## 2.8 Tipping operation

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- During the tipping operation, you must generally stay close to the emergency stop button so you can press it immediately in case of an emergency.

## 2.9 Repairs

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- Repairs may only be carried out at Böckmann-approved specialist dealers.
- When repairs are carried out, only genuine Böckmann spare parts can guarantee the safety of the trailer.
- Trailer modifications and extensions are subject to the approval of Böckmann.

## 2.10 Environmental conditions

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- Protect the trailer and accessories from adverse weather conditions such as rain, snow and hail.
- Snow must be cleared from the trailer.
- Ensure adequate lighting when working on the trailer at dusk or in the dark.

## 2.11 Emergency stop button

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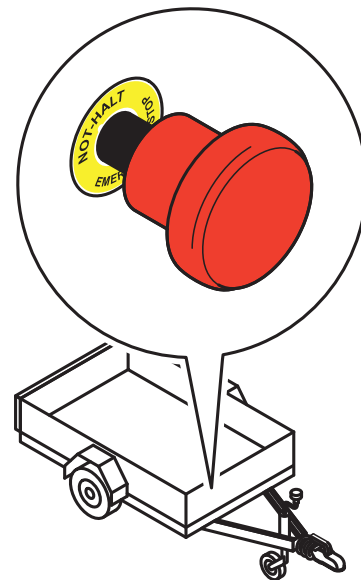


Fig. 1: Emergency stop button

- The emergency stop button enables you to disconnect the trailer from the power supply in dangerous situations.

## 2.12 Labels

The following stickers are affixed to the trailer:

### 2.12.1 Read operating instructions



Fig. 2: Read operating instructions

This indicates that you should read the operating instructions before using the trailer.

### 2.12.2 Jacking points

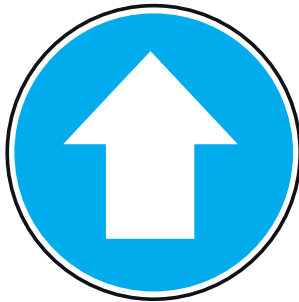


Fig. 3: Jacking points

Indicates the points on the trailer where a jack may be fitted.

Only fit the jack at the marked points. Otherwise the trailer can collapse.

### 2.12.3 Hand injuries



Fig. 4: Hand injuries

This indicates that hand injuries with permanent damage from crushing can occur when you are handling trailers.

### 2.12.4 Risk of collapsing



Fig. 5: Standing or sitting on the trailer while driving is forbidden

This indicates that standing/sitting on the trailer while travelling is prohibited.

### 2.12.5 Raised bed



Fig. 6: Standing under or behind a raised bed is prohibited.

This indicates that standing under a raised bed or within range of a sliding load is prohibited.

### 2.12.6 Spring-loaded locking device

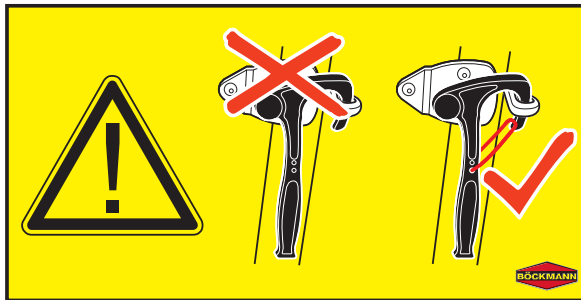


Fig. 7: Spring-loaded locking device

This indicates that you may use only latches with perfectly functioning spring clips.

If the spring clip is missing from a latch, you must immediately replace the spring clip.

### 2.12.7 Total height of tipped trailer

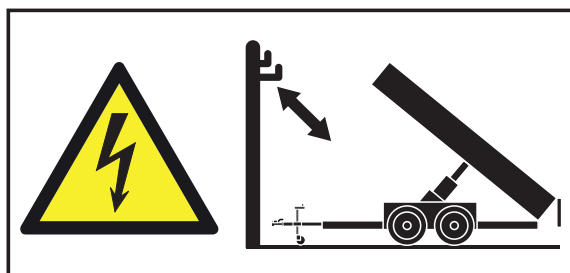


Fig. 8: Risk of electric shock

Indicates that the permitted total height of 4 m can be exceeded during the tipping operation.

An electric shock can result due to contact between parts of the trailer and high-voltage lines.

If you tip the trailer under bridges, in underpasses or inside buildings, the permitted total height may also be exceeded.

### 2.12.8 Safety support for the raised bed

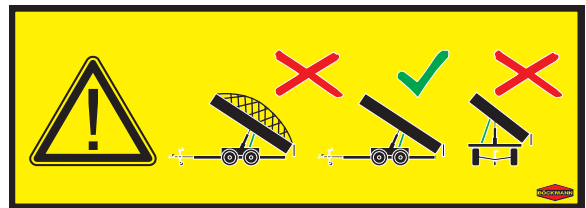


Fig. 9: Using the safety support

Indicates the situations in which the trailer's own safety support may be used for the raised bed.

Use the trailer's own safety support only when the bed is unladen and tilted backwards.

### 2.12.9 Edge load capacity

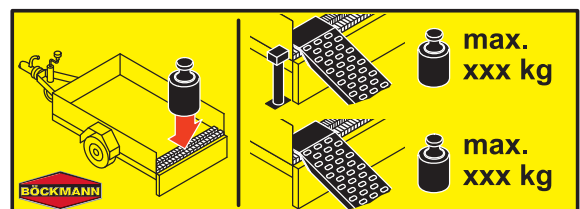


Fig. 10: Edge load capacity

This indicates the maximum permissible load on the loading edge with and without a rear support leg.

### 2.12.10 Lashing points on the trailer



Fig. 11: Lashing points on the trailer

This indicates the lashing capacity of each lashing point on the trailer.

### 2.12.11 Releasing and tipping the bed

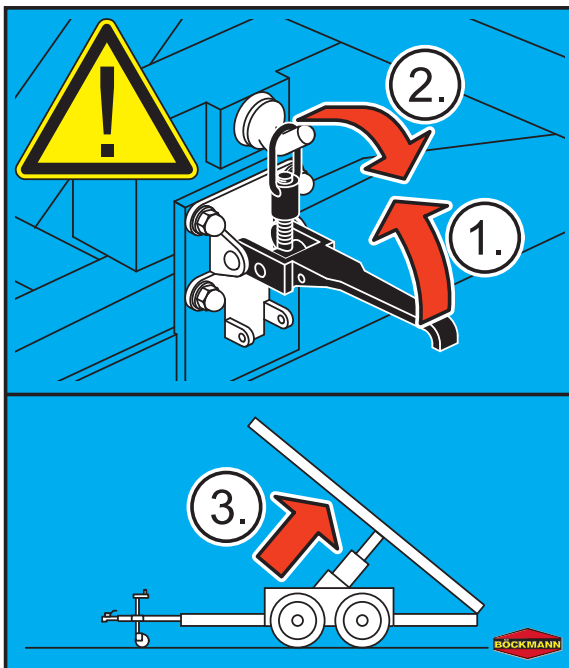


Fig. 12: Operating tipping mechanism

This label shows the steps needed to operate a tipping bed properly:

1. Lift the hand lever on the eccentric fastener.
2. Take the latch loop off the eccentric fastener.
3. Tip the bed.

### 2.12.12 Connecting an external hydraulic system

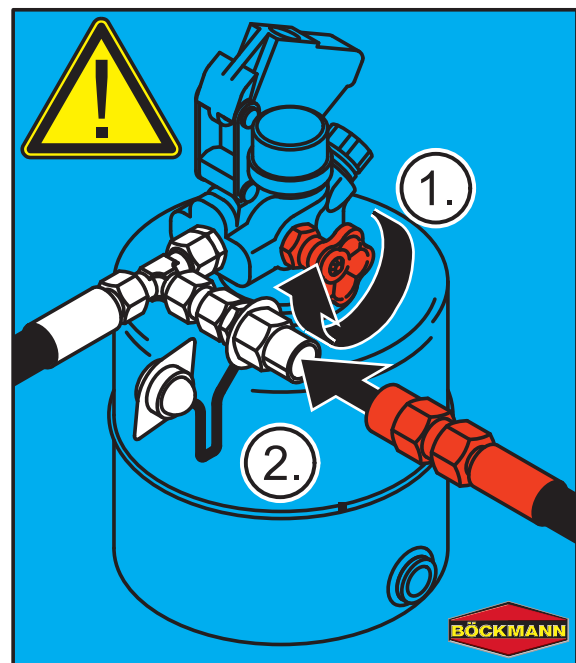


Fig. 13: External hydraulic system

This label on the tipper shows the steps needed to connect an external hydraulic control system to a hydraulic pump:

The bed must be fully lowered.

1. Turn the hand wheel clockwise all the way.
2. Connect a hydraulic hose to the hauler connection on the hydraulic pump to connect the hydraulic pump to an external hydraulic control system.

## 2.13 Disposal

---

The trailer owner is obliged to dispose of the trailer and all associated components in accordance with local disposal regulations. This concerns in particular:

- Electrical waste
- Batteries
- Hydraulic oil
- Old tyres

### Electrical waste



Devices marked with this symbol are subject to the European Directive 2012/19/EU. Old electronic and electric devices must be disposed of separately from normal house waste.

### Batteries



Batteries may contain toxic heavy metals and must be treated as hazardous waste. Dispose of old batteries at the appropriate collection point.

### 3 Technical Data

You will find the technical data for your trailer in the following places:

- In the vehicle documents for your trailer
- On both type plates on the trailer

#### 3.1 Type plate

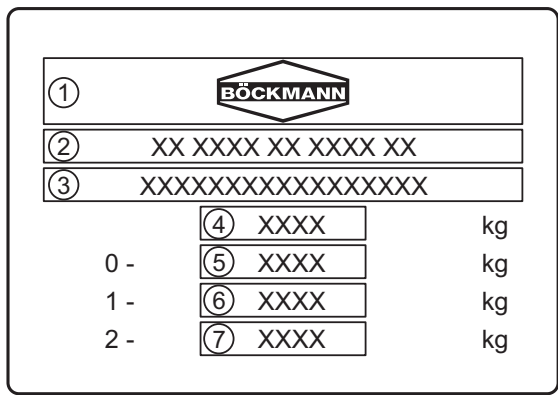


Fig. 1: Type plate

- 1 Manufacturer
- 2 Type approval number
- 3 17-digit trailer identification number
- 4 Admissible total weight
- 5 Maximum support load
- 6 Admissible total weight for axle 1
- 7 Admissible total weight for axle 2

#### 3.2 Type plate with CE marking

|   |                                                                                    |                                                                                     |
|---|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| ① |  |  |
| ② |                                                                                    | Xxxxx XXXXXXXXXXXXXXXX XXXX<br>XXXXXX XX<br>XXXXXX XXXXX                            |
| ③ |                                                                                    | XXXXXXXX                                                                            |
| ④ |                                                                                    | XXXX                                                                                |
| ⑤ |                                                                                    | Xxxx XXXXXXXXXXXXXXXX                                                               |
| ⑥ |                                                                                    | XXXX                                                                                |
| ⑦ |                                                                                    | Xxxx XXXXXXXXXXXXXXXX                                                               |
| ⑧ |                                                                                    | XXX xxx                                                                             |

Fig. 2: Type plate with CE marking

- 1 CE marking
- 2 Manufacturer
- 3 Design
- 4 Type/designation
- 5 Machine no.
- 6 Year of construction:
- 7 Serial number
- 8 Operating pressure

## 4 Features

### 4.1 Electrical connections

The following connectors are used:

- 7-pin connector
- 13-pin connector



#### NOTE

Please use an adapter if the socket on the towing vehicle is not compatible with the trailer plug.

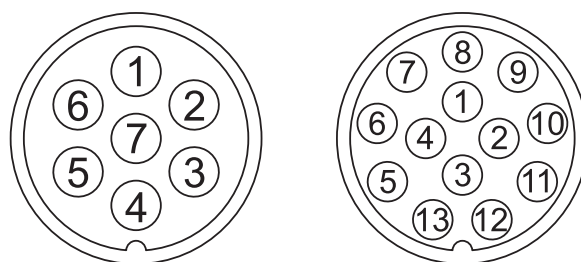


Fig. 1: Connector types

| Contact no.      | Function                                                                                    | Connected consumers | Wire colour              |
|------------------|---------------------------------------------------------------------------------------------|---------------------|--------------------------|
| 1                | Left-hand direction indicator (turn signal)                                                 | 1.5 mm <sup>2</sup> | yellow                   |
| 2                | Rear fog light                                                                              | 1.5 mm <sup>2</sup> | blue                     |
| 3 <sup>a)</sup>  | Earth for contact nos. 1 to 8                                                               | 2.5 mm <sup>2</sup> | white                    |
| 4                | Right-hand direction indicator (turn signal)                                                | 1.5 mm <sup>2</sup> | green                    |
| 5                | Right-hand rear light, clearance light, position light and number plate light <sup>b)</sup> | 1.5 mm <sup>2</sup> | brown                    |
| 6                | Brake lights                                                                                | 1.5 mm <sup>2</sup> | red                      |
| 7                | Left-hand rear light, clearance light, position light and number plate light <sup>b)</sup>  | 1.5 mm <sup>2</sup> | black                    |
| 8                | Reversing light                                                                             | 1.5 mm <sup>2</sup> | grey <sup>c)</sup>       |
| 9                | Power supply (permanent positive)                                                           | 2.5 mm <sup>2</sup> | brown/blue <sup>c)</sup> |
| 10               | The power supply is controlled via the ignition switch.                                     | 2.5 mm <sup>2</sup> | brown/red <sup>c)</sup>  |
| 11 <sup>a)</sup> | Earth for circuit from contact no. 10                                                       | 2.5 mm <sup>2</sup> | white/red <sup>c)</sup>  |

| Contact no.      | Function                             | Connected consumers | Wire colour               |
|------------------|--------------------------------------|---------------------|---------------------------|
| 12               | Reserved for future applications     | ---                 | Not used                  |
| 13 <sup>a)</sup> | Earth for circuit from contact no. 9 | 2.5 mm <sup>2</sup> | black/white <sup>c)</sup> |

a) The three earth wires must not be connected to any functional electrical conductor on the trailer.

b) The number plate light must be connected in such a way that none of its bulbs are connected to contact nos. 5 and 7.

c) The colour assignments vary from manufacturer to manufacturer and may not be the same. Differences may occur.

## 4.2 Towing devices

The following towing devices can be used:

- A-frame drawbar (A)
- Straight drawbar (B)
- Height-adjustable drawbar (C)

### A A-frame drawbar

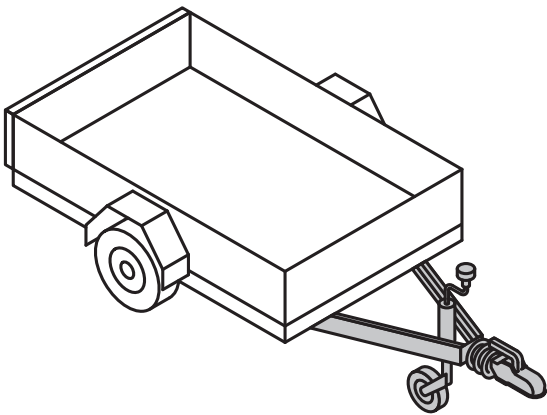


Fig. 2: A-frame drawbar

### B Straight drawbar

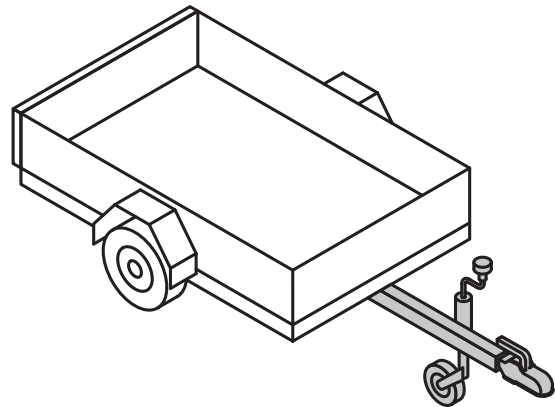


Fig. 3: Straight drawbar

### C Height-adjustable drawbar

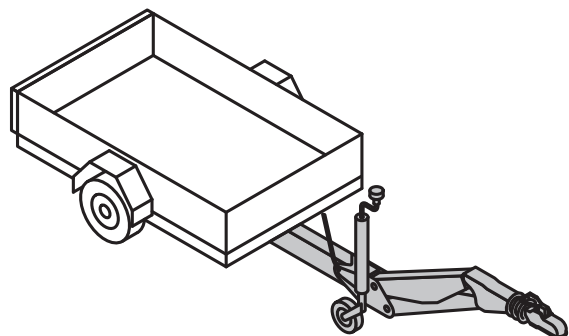


Fig. 4: Height-adjustable drawbar



#### NOTE

See additional operating instructions.

## 4.3 Couplings

The following couplings are used:

- Standard coupling version (A)
- Anti-skid coupling (B) [accessory]

### A Standard coupling version

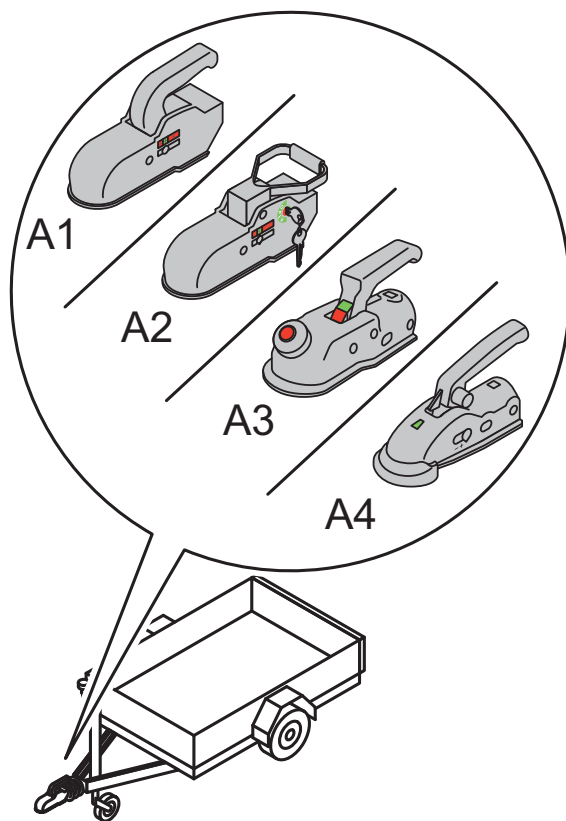


Fig. 5: Standard coupling versions A1, A2 (with lock), A3 and A4

#### 4.3.1 Coupling A1/A2

##### Coupling state

The **x** range indicates that the coupling is completely open.

The **+** range indicates that the coupling is seated correctly on the ball head.

The **–** range indicates that the coupling is not properly closed. The ball has not engaged in the coupling.

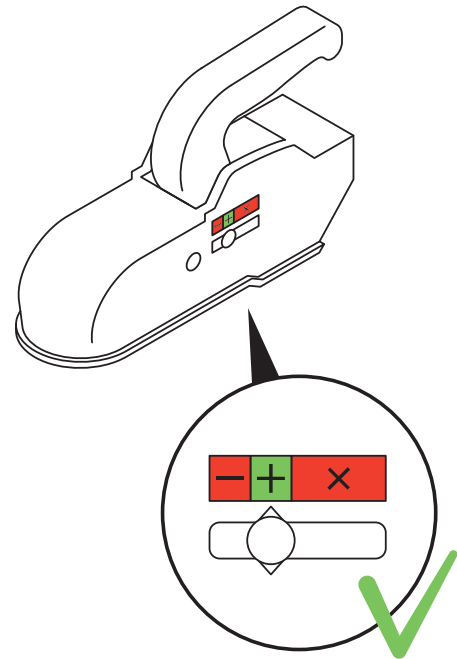


Fig. 6: Safety and wear indicator for coupling A1

In coupled state, the indicator must lie within the **+** range.

Do not drive with the trailer if the safety indicator is within the **x** or **–** range.

##### Wear indicator

The **–** range indicates that the coupling is not properly closed. The coupling or the ball is worn.

In coupled state, the indicator must lie within the **+** range.

Do not drive with the trailer if wear indicator is within the **–** range.

### 4.3.2 Coupling A3

#### Coupling state

The **green** cylinder indicates that the coupling is seated correctly on the ball.

The **red** cylinder indicates that the coupling is completely open or is not properly closed.

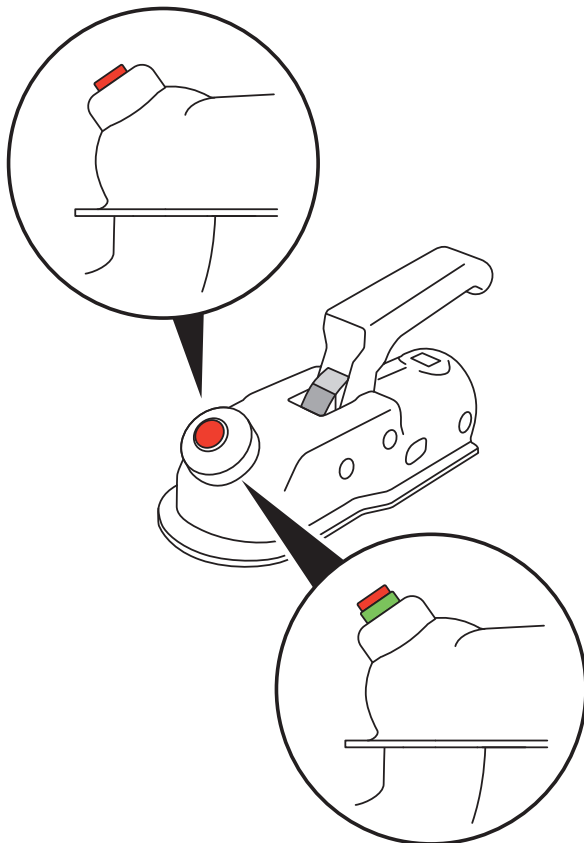


Fig. 7: Safety indicator for coupling A3

When coupled, the **green** cylinder on the safety indicator must be visible.

If the safety indicator only displays the **red** cylinder, do not drive with the trailer.

#### Wear indicator

The **green** range on the lever indicates that the wear on the coupling and on the ball on the towing vehicle is within the permissible range.

The **red** range on the lever indicates that the coupling or the ball on the towing vehicle is worn and needs to be renewed.

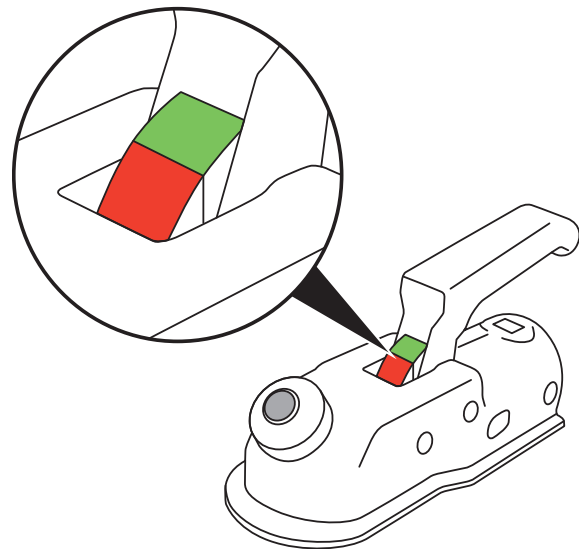


Fig. 8: Wear indicator for coupling A3

In coupled state, the indicator must lie within the **green** range.

Do not drive with the trailer if the wear indicator only displays the **red** range.

### 4.3.3 Coupling A4

#### Coupling state

The protruding **green** pin indicates that the coupling is seated correctly on the ball.

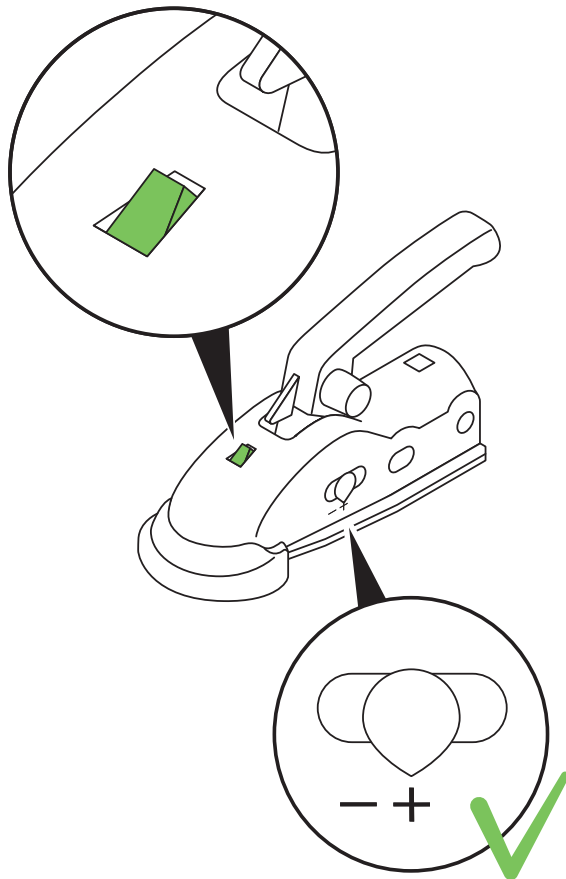


Fig. 9: Safety and wear indicator for coupling A4

When coupled, the **green** pin on the safety indicator must be visible.

Do not drive with the trailer if the pin on the safety indicator is not protruding.

#### Wear indicator

The **+** range indicates that the wear on the coupling and on the ball on the towing vehicle is within the permissible range.

The **-** range indicates that the coupling or the ball on the towing vehicle is worn.

#### B Anti-skid coupling

##### NOTE

See additional operating instructions.

#### Opening the coupling

1. Only for locking coupling: insert key and turn until green semicircle is next to "OPEN".

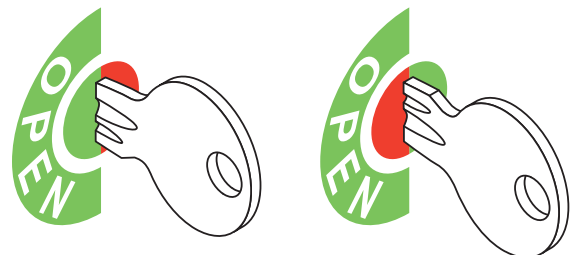


Fig. 10: Opened and closed coupling

2. Press and hold down the release button on the safety catch.
3. Pull the handle upward.

### Closing the coupling

1. Push the handle down.
2. Only for coupling with lock: insert key and turn until red semicircle is next to "OPEN".

## 4.4 Breakaway cable for overrun brake

---

You have the following two options for securing the breakaway cable:

- Secure it to the eye or bore hole (A)
- Secure it to the trailer coupling (B)

### NOTE

Breakaway cables are only installed on braked trailers.

---

### DANGER

#### Risk of accidents

Triggering unintentional emergency braking

- The breakaway cable needs to have enough slack so that unintentional emergency braking does not occur in tight corners.
- 

### NOTE

Each country has its own regulations for securing the breakaway cable. Before going on trips abroad, please find out how the breakaway cable should be secured. Automobile clubs and experts will be able to help.

Böckmann recommends securing the breakaway cable to the trailer coupling or the towing vehicle body by means of an eye or an existing bore hole. In some countries, this method of securing the breakaway cable is required by law when you drive with a trailer.

If the towing vehicle does not have an eye or a bore hole, you can fit the breakaway cable as a loop over the trailer coupling for journeys in Germany.

### NOTE

Secondary couplings are required in some countries. Before going on trips abroad, please find out whether you require a secondary coupling for your trailer. Automobile clubs and experts will be able to help.

---

### A Securing the breakaway cable to an eye or bore hole

1. Thread the breakaway cable through an eye or a bore hole on the trailer coupling or the towing vehicle.
2. Lay the breakaway cable over the trailer coupling.
3. Attach the spring hook to the breakaway cable.
4. Pull the loop tight so that the breakaway cable cannot bounce off the trailer coupling while you drive.

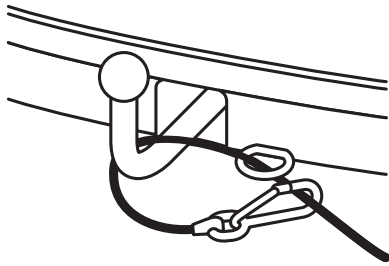


Fig. 11: Securing the breakaway cable to an eye

### B Securing the breakaway cable to the trailer coupling

1. Lay the breakaway cable over the trailer coupling.
2. Attach the spring hook to the breakaway cable.
3. Pull the loop tight so that the breakaway cable cannot bounce off the trailer coupling while you drive.

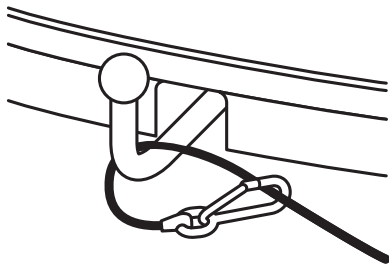


Fig. 12: Securing the breakaway cable to the trailer coupling

## 4.5 Jockey wheel

### NOTE

The trailer must be equipped with a jockey wheel for nose weights of 50 kg and higher.

A jockey wheel can be retrofitted.

### NOTICE

#### Incorrectly loaded jockey wheel

The jockey wheel is only intended to provide support. Do not manoeuvre a loaded trailer if the jockey wheel is lowered.

The following jockey wheels can be used:

- Basic version of jockey wheel (A)
- Automatic jockey wheel basic version (B)
- Automatic jockey wheel with split pin (C)

#### A Basic version of jockey wheel

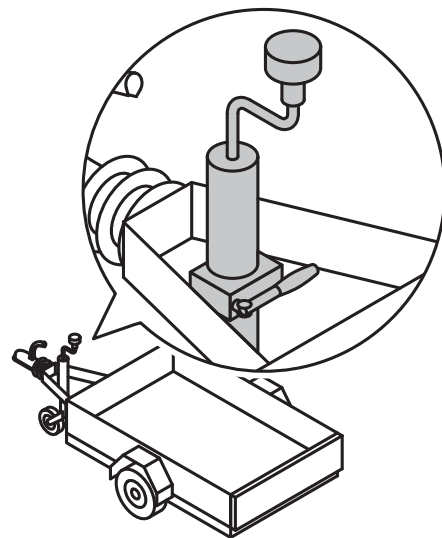


Fig. 13: Basic version of jockey wheel

#### Crank up the jockey wheel

1. Loosen the tommy screw.
2. Raise the jockey wheel using the hand crank.
3. Fold the wheel in.
4. Push the jockey wheel up as far as possible and tighten the tommy screw.

### Crank down the jockey wheel

1. Loosen the tommy screw.
2. Lower the jockey wheel using the hand crank.  
The wheel folds out automatically.
3. Tighten the tommy screw.

### B Automatic jockey wheel basic version

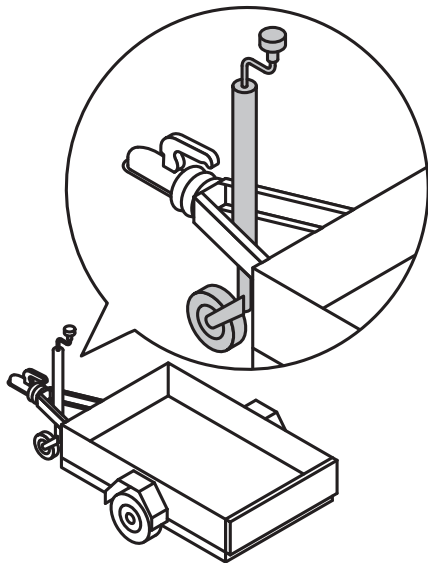


Fig. 14: Automatic jockey wheel

### Crank up the jockey wheel

1. Raise the jockey wheel slightly using the hand crank.  
Use your foot to hold the wheel in position between the drawbar beams so that it does not turn with the crank.
2. Raise the jockey wheel as far as possible until the wheel automatically folds in. Make sure that the wheel moves freely between the drawbar and brake cable.

### Crank down the jockey wheel

1. Lower the jockey wheel slightly using the hand crank.  
The wheel folds down automatically. Use your foot to hold the wheel in position between the drawbar beams so that it does not turn with the crank.
2. Continue to lower the wheel until it stands firmly on the ground.

### C Automatic jockey wheel with split pin

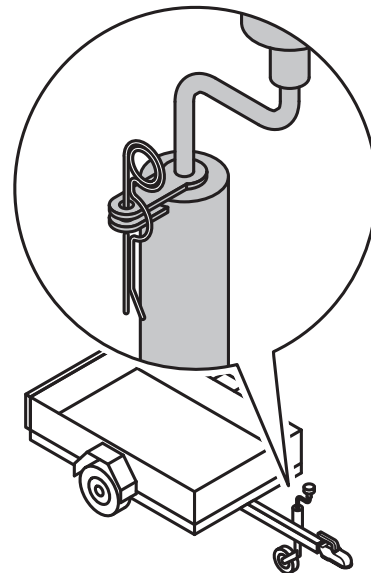


Fig. 15: Automatic jockey wheel with split pin

#### NOTE

This jockey wheel is built exactly like version B, but is additionally secured with a split pin.

## 4.6 Parking brake and brake wedges

### NOTE

Parking brakes can only be found on braked trailers.

The following parking brakes can be used:

- Parking brake with spring energy accumulator (A)
- Parking brake with button and toothed segment (B)

### CAUTION

#### Sticking and frozen brake pads

Risk of injury to people due to delayed braking action.

- Do not apply the parking brake in frosty conditions or when the trailer is not used for long periods.

#### Using brake wedges

1. Park the trailer in the required position and apply the parking brake.
2. Secure the trailer using brake wedges.

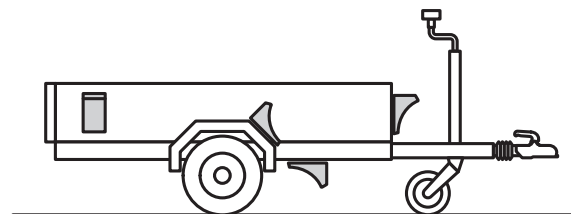


Fig. 16: Positions of the brake wedges

3. Release the parking brake again.

### A Parking brake with spring energy accumulator

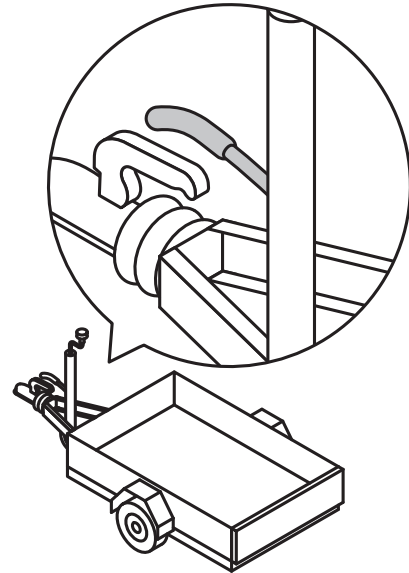


Fig. 17: Parking brake with spring energy accumulator

### WARNING

#### Delayed braking action with the spring energy accumulator

Pinching of body parts, material damage

When you apply the parking brake, the trailer is secured against rolling. Once you have applied the parking brake, you will still be able to push the trailer backwards approx. 25 cm. Only then does the full braking effect come into play. The forwards braking effect is immediately effective.

- Ensure that the full braking effect is applied.

#### Applying the parking brake

- Pull the hand lever up until the braking effect is applied.

#### Releasing the parking brake

- Push the hand lever down.

### B Parking brake with button and toothed segment

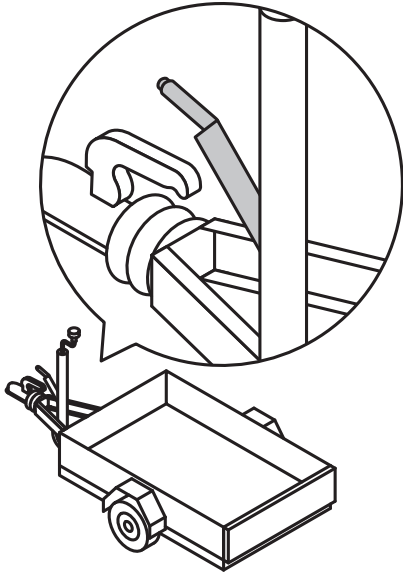


Fig. 18: Parking brake with button and toothed segment

#### Applying the parking brake

- Pull the hand lever up until the braking effect is applied.

#### Releasing the parking brake

- Pull the hand lever up a bit further while simultaneously pressing the button to enable the hand lever to be lowered towards the front.

### 4.7 Rear prop stands

The following rear prop stands can be used:

- Basic version of adjustable support leg (A)
- Reinforced version of adjustable support leg (B)
- Fold-out support leg (LINNEPE support leg) (C)

- Telescopic crank-down support leg with retaining pin (D)
- Telescopic crank-down support leg with locking knob (E)

### A Basic version of adjustable support leg

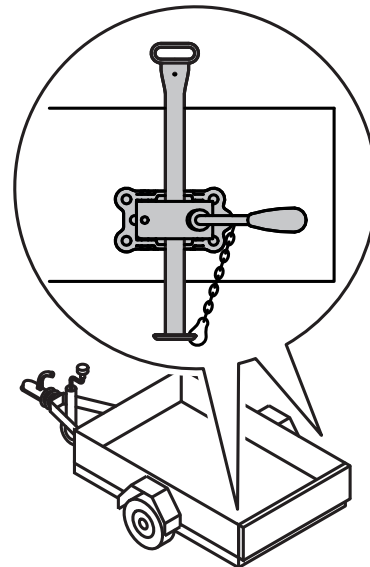


Fig. 19: Basic version of adjustable support leg

#### Extending the adjustable support leg

1. Unhook the safety chain.
2. Loosen the tommy screw and pull the support leg down until it is firmly touching the ground.
3. Tighten the tommy screw.

#### Retracting the adjustable support leg

1. Loosen the tommy screw and push the support leg up until it is fully retracted.
2. Tighten the tommy screw.
3. Secure the safety chain.

### B Reinforced version of adjustable support leg

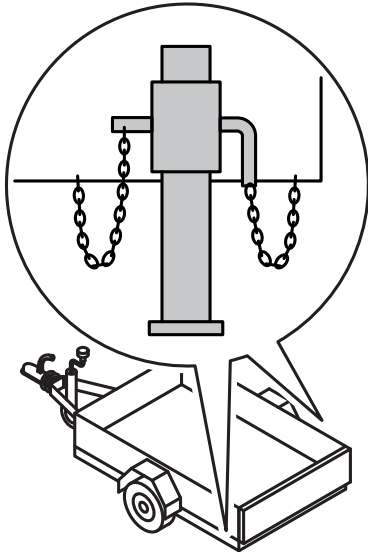


Fig. 20: Reinforced version of adjustable support leg

#### Extending the adjustable support leg

1. Unhook the safety chain.
2. Pull out the bolt and slide the support leg down until it is firmly touching the ground.
3. Insert the bolt into the corresponding bolt hole and secure with the safety chain.

#### Retracting the adjustable support leg

1. Unhook the safety chain.
2. Pull out the bolt and slide the support leg up until it is completely retracted.
3. Insert the bolt into the corresponding bolt hole and secure with the safety chain.

### C Fold-out support leg

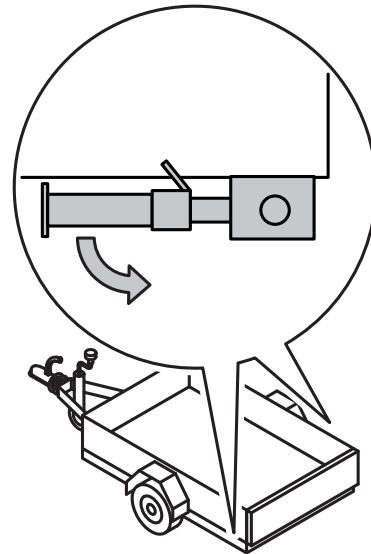


Fig. 21: Fold-out support leg (LINNEPE support leg)

#### Folding out support leg

1. Press and hold the lever on the support leg.
2. Swing the support leg down and then slide out until it is firmly touching the ground.

#### Folding in support leg

1. Press and hold the lever on the support leg.
2. Slide the support leg up until it contacts the stop and then swing up.

### D Telescopic crank-down support leg with retaining pin

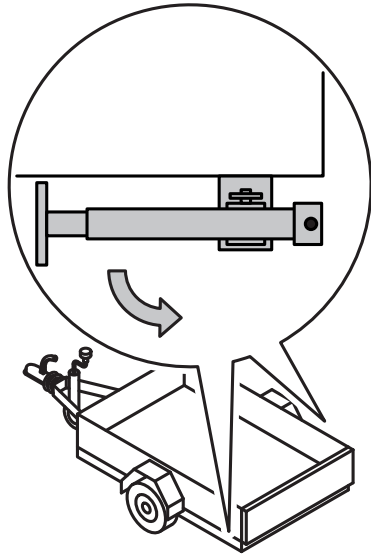


Fig. 22: Telescopic crank-down support leg with retaining pin

#### NOTE

Only use the telescopic crank-down support leg for static support.

The telescopic crank-down support legs are not suitable for lifting and lowering loads (no dynamic loading).

### Folding out the telescopic crank-down support leg

1. Pull out the retaining pin, swing the support leg down and secure with the retaining pin.
2. Attach the hand crank to the support leg and crank until it is firmly touching the ground.
3. Detach the hand crank and store safely.

### Folding in the telescopic crank-down support leg

1. Attach the hand crank to the support leg and crank until it is completely raised.
2. Swing the support leg up and secure with the retaining pin.
3. Detach the hand crank and store safely.

### E Telescopic crank-down support leg with locking knob

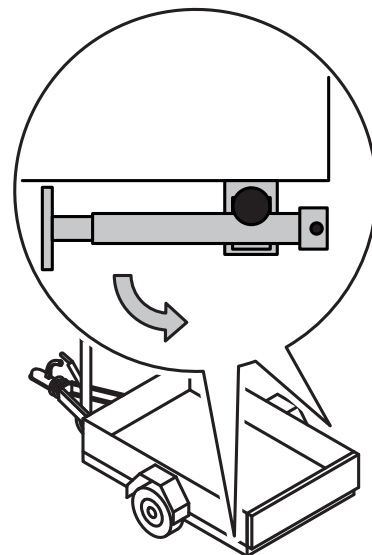


Fig. 23: Telescopic crank-down support leg with locking knob

#### NOTE

Only use the telescopic crank-down support leg for static support.

The telescopic crank-down support legs are not suitable for lifting and lowering loads (no dynamic loading).

### Folding out the telescopic crank-down support leg

1. Pull the locking knob, swing the support leg down and let go of the locking knob.
2. Attach the hand crank to the support leg and crank until it is firmly touching the ground.
3. Detach the hand crank and store safely.

### Folding in the telescopic crank-down support leg

1. Attach the hand crank to the support leg and crank until it is completely raised.
2. Swing the support leg up and secure with the locking knob.
3. Detach the hand crank and store safely.

## 4.8 Load-securing components

The following components are used to secure loads:

- Components for lashing light loads
- Components for lashing heavy loads
- Components for preventing loads from slipping

### 4.8.1 Components for lashing light loads

The following components are available for lashing light loads up to 150 kg (daN):

- Side wall lashing rail (A)
- Ladder rack (B)

### A Side lashing rails

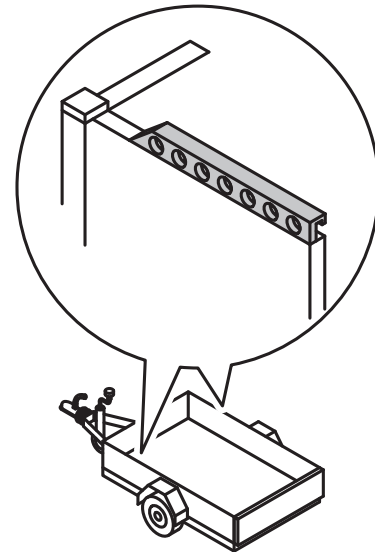


Fig. 24: Side lashing rails

The side wall lashing rail is especially suitable for lashing at specific points.

### B Ladder rack

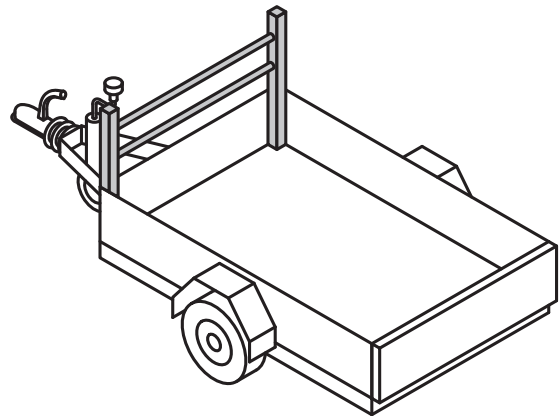


Fig. 25: Ladder rack

The ladder rack is especially suitable for securing tall loads, for example, ladders or similar items that protrude over the trailer edge.

### 4.8.2 Components for lashing heavy loads

The following components are available for securely lashing loads up to a weight of 400 kg (daN):

- Fixed lashing shackles (A)
- Recessed hinged rings (B)
- Fixed rings (vehicle transporter) (C)
- Lashing points integrated into or mounted on the side wall (D).
- Lashing points integrated into the outer frame (E)
- Rail integrated into the outer frame (F)

#### A Fixed lashing shackles

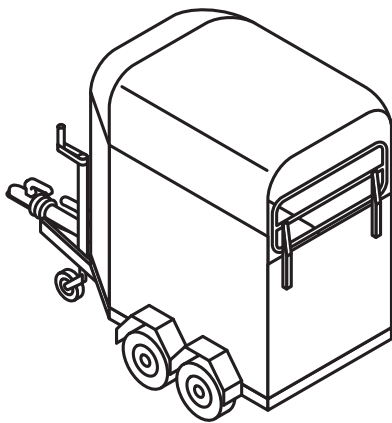


Fig. 26: Fixed lashing shackles

The fixed lashing shackles are positioned on the sides of the bed.

#### B Recessed hinged rings

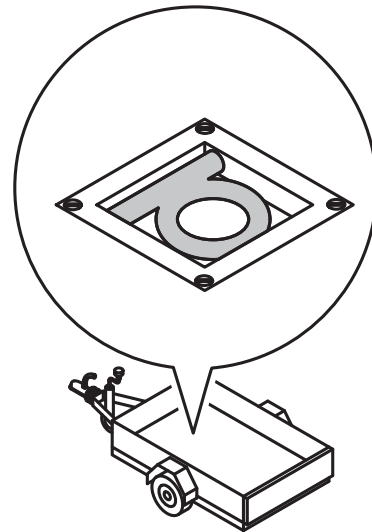


Fig. 27: Lashing shackles

The recessed hinged rings are positioned along the edges of the bed.

#### C Eye nut

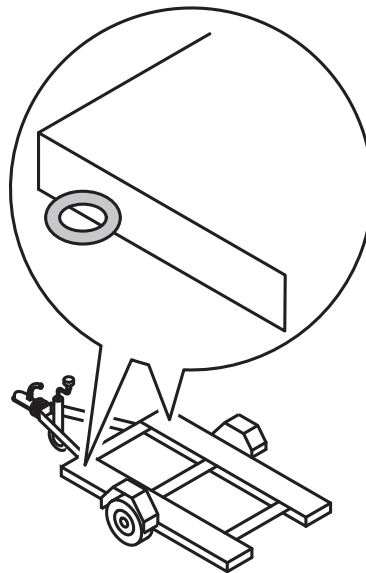


Fig. 28: Eye nut

These fixed rings are only fitted to vehicle transporters.

#### D Lashing points integrated into or mounted on the side wall

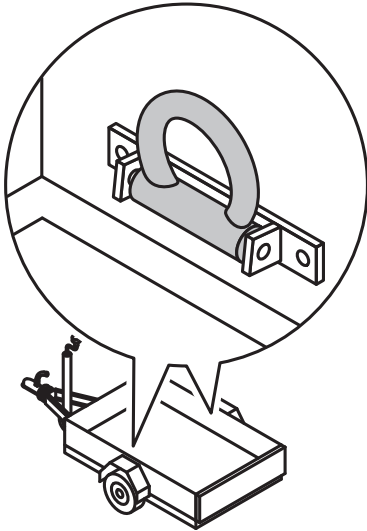


Fig. 29: Example: lashing eyes

Lashing facilities are mounted on the insides of the side walls or integrated into the side walls.

#### E Lashing points integrated into the outer frame

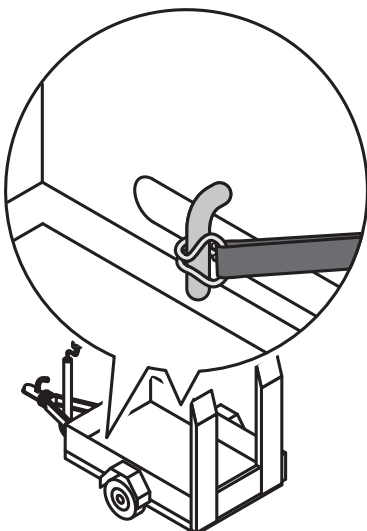


Fig. 30: Lashing points on outer frame

Lashing options are integrated into the outer frame.

#### F Rail integrated into the outer frame

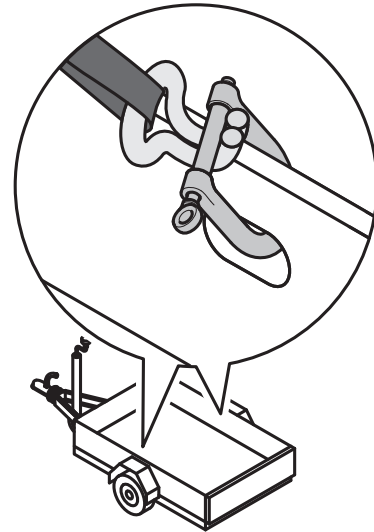


Fig. 31: Rail integrated into outer frame

This lashing point may only be used in conjunction with a shackle that has a load capacity of at least 800 daN.

#### 4.8.3 Components for preventing loads from slipping

The following components are used to secure the load against sliding:

- Anchor track with load bars (A)
- Safety catch (vehicle transporter) (B)

### A Anchor track with load restraint bars

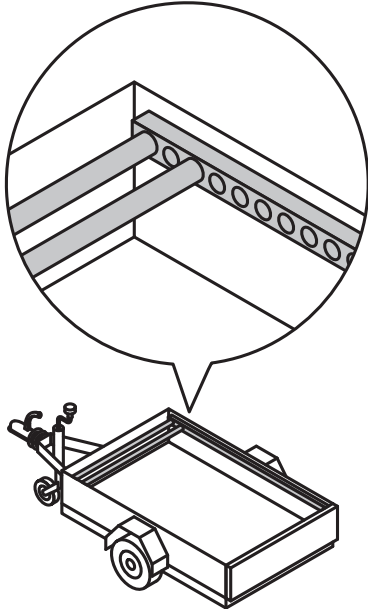


Fig. 32: Anchor track with load restraint bars

Secure the load from slipping by wedging it between two load restraint bars.

### B Safety catches

The safety catch is an additional load-securing component that can only be used for vehicle transporters.

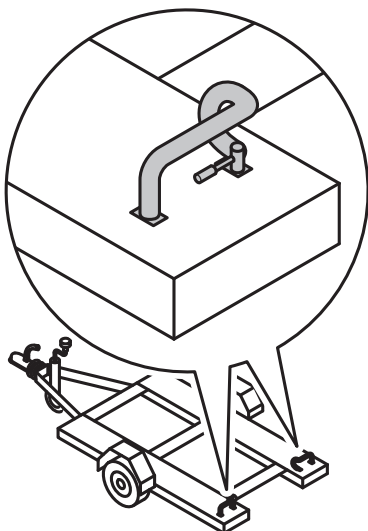


Fig. 33: Safety catches

### Installing the safety catch

1. Insert the rigid end of the safety catch into a hole on the wheel stand rail.
2. Insert the end with the lever into the parallel hole.
3. Rotate the lever horizontally to secure the safety catch in place.

### Removing the safety catch

1. Rotate the lever and hold; pull the end of the safety catch out of the hole on the wheel stand rail.
2. Pull the rigid end out of the hole.

## 4.9 Bodies

The following add-on body parts can be used:

- Side wall extension (A)
- Box extension (B)
- Canvas cover with frame (C)
- Mesh extension (D).

### A Side wall extension

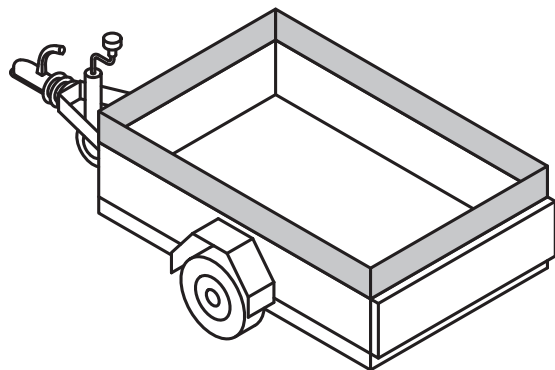


Fig. 34: Side wall extension

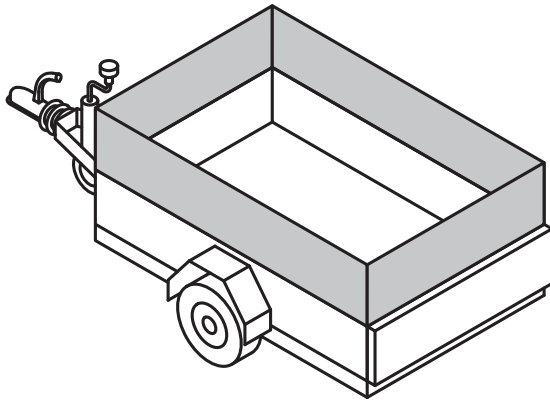
**B Box extension**

Fig. 35: Box extension

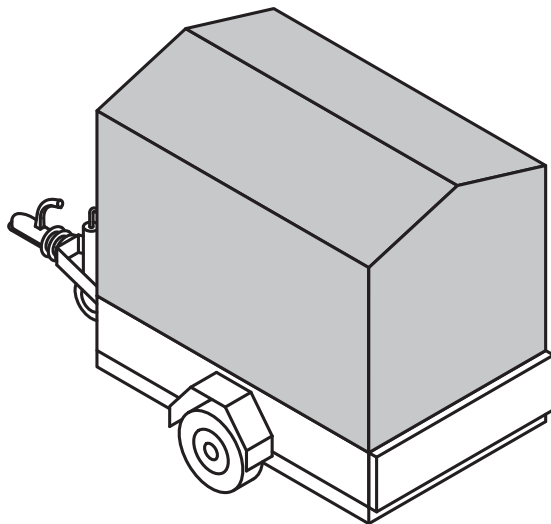
**C Canvas cover with frames**

Fig. 36: Canvas cover with frames

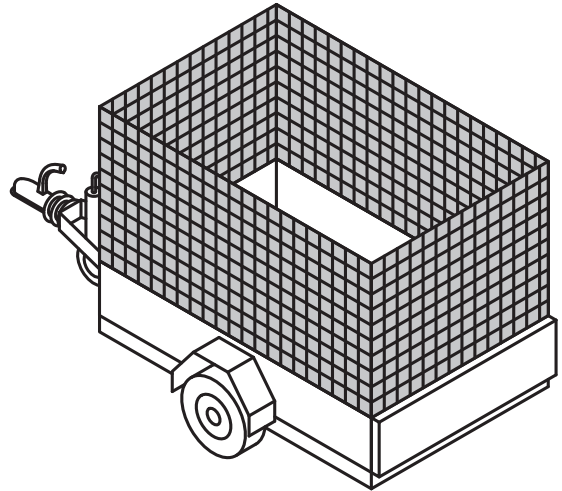
**D Mesh extension**

Fig. 37: Mesh extension

The mesh extension is especially suitable for securing goods that can be blown away easily.

**NOTE**

See additional operating instructions.

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## 4.10 Drive-on aids

The following drive-on aids can be used:

- Drive-on ramps
- Loading ramps

### 4.10.1 Drive-on ramps

#### NOTE

Use the drive-on ramps solely to load vehicles or construction machinery from the ground onto the bed.

The following drive-on ramps can be used:

- Stowable drive-on ramps (A)
- Slide-in drive-on ramps (B)
- Drive-on ramps secured to side wall (C)
- Drop-down drive-on ramps (D)

#### A Stowable drive-on ramps

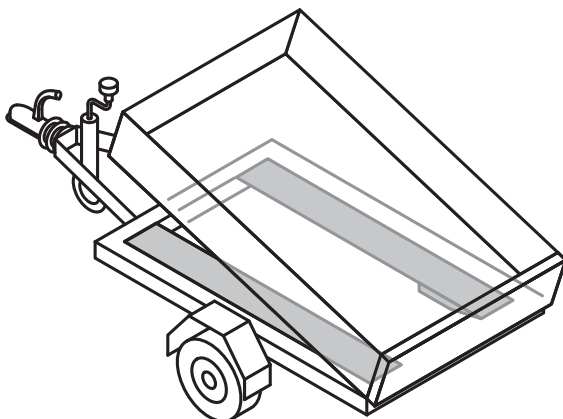


Fig. 38: Stowable drive-on ramps

#### WARNING

#### Risk of crushing injury when removing and inserting

- Only remove the drive-on ramps from the front area and never enter the space under the raised bed.

#### NOTE

The drive-on ramps are set or secured in the lower bridge so that they have to be lifted slightly at the front when removed.

The drive-on ramps need to be stowed away and secured when a machine is transported.

#### Attaching the drive-on rails

1. Tip the bed to the rear.
2. Set up the safety support for additional securing of the upper bridge. While doing so, ensure that the safety support is in perfect condition.
3. Pull the drive-on ramps towards the front and remove them.
4. Fold in the safety support.
5. Lower the bed.
6. Open the tailgate.
7. Hook the drive-on ramps with the securing rail into the anti-slip fitting on the bed.

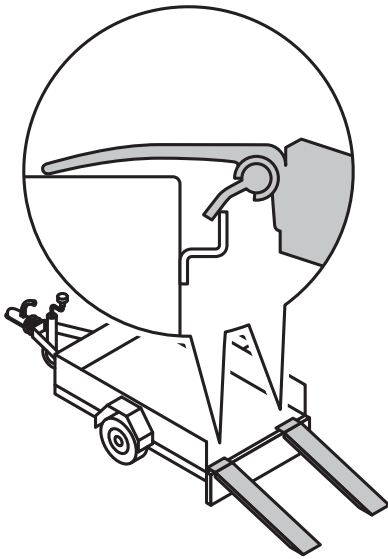


Fig. 39: Attaching the securing rail variant A

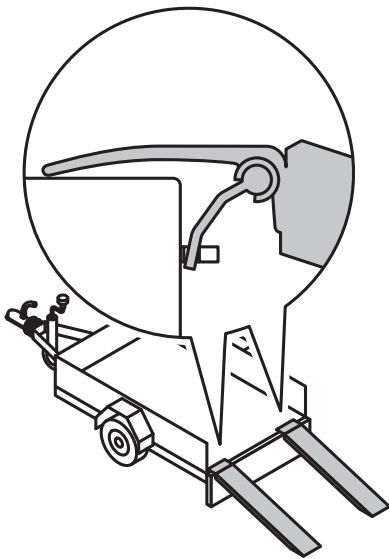


Fig. 40: Attaching the securing rail variant B

### Detaching the drive-on ramps

1. Detach the drive-on ramps and put them down briefly.
2. Close the tailgate.
3. Tip the bed to the rear.

4. Set up the safety support for additional securing of the upper bridge. While doing so, ensure that the safety support is in perfect condition.
5. Insert the drive-on ramps from the front or side.
6. Fold in the safety support.
7. Lower the bed.

### B Slide-in drive-on ramps

#### Example of tipper

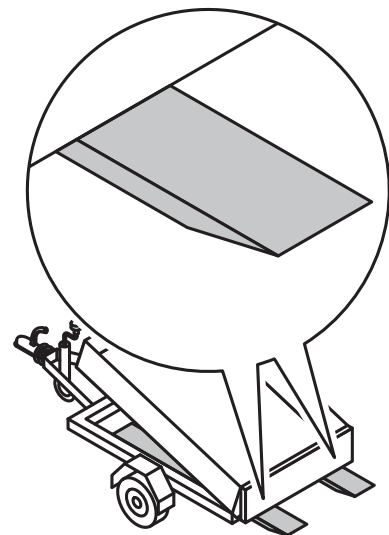


Fig. 41: Slide-in drive-on rails (example: tipper)

### Attaching the drive-on rails

1. If present, unlock the ramps from the storage position and pull out the drive-on ramps.
2. Open the tailgate.
3. Hook the drive-on ramps with the securing rail into the anti-slip fitting on the bed.

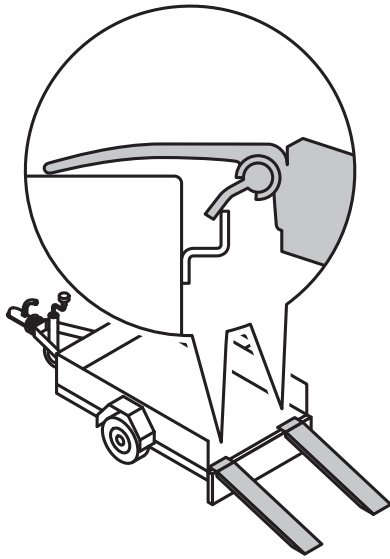


Fig. 42: Attaching the securing rail variant A

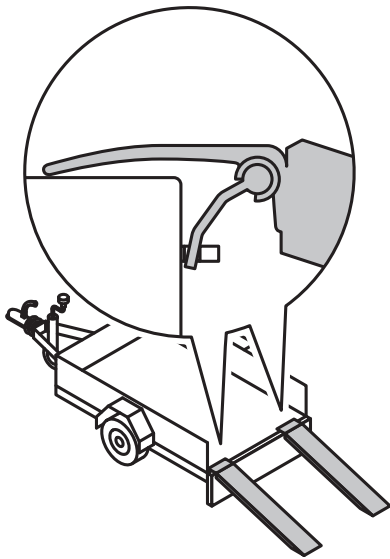


Fig. 43: Attaching the securing rail variant B

### Detaching the drive-on ramps

1. Detach the drive-on ramps and put them down briefly.
2. Close the tailgate.

3. Stow away the drive-on ramps in the storage position.
4. Lock the ramps in the storage position.

### Example of vehicle transporter

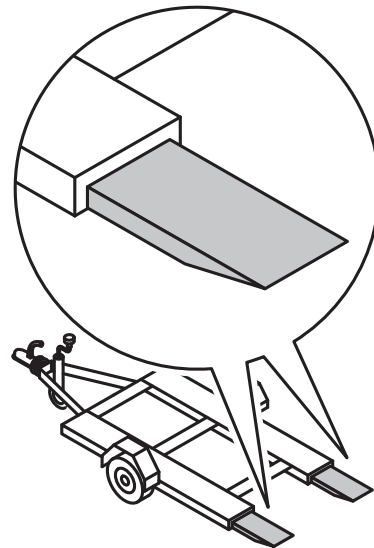


Fig. 44: Slide-in drive-on rails (example: vehicle transporter)

### Attaching the drive-on rails

1. Release the side clamps securing the drive-on ramps or unlock the ramps from the storage position and pull them out.
2. Pull the drive-on ramps out of the storage position until the angled ends are completely on the ground.

### Removing the drive-on ramps

1. Push the drive-on ramps into the storage position.
2. Fasten the side clamps or lock the ramps in the storage position.

### C Drive-on ramp secured to side wall

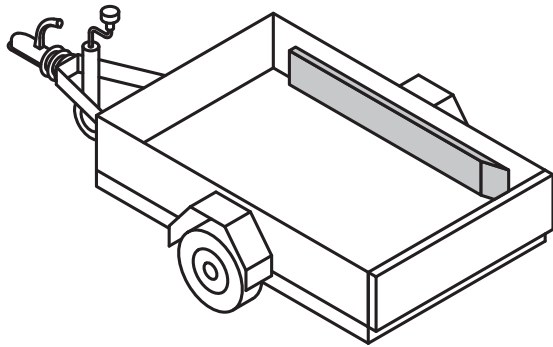


Fig. 45: Drive-on ramp fastened to side wall

### Setting up drive-on ramps

1. Open the tailgate.
2. Take the drive-on ramps out of the brackets on the side walls.
3. Hook the drive-on ramps with the securing rail into the anti-slip fitting on the bed.



#### NOTE

The motorcycle drive-on ramp is also secured to the side wall.

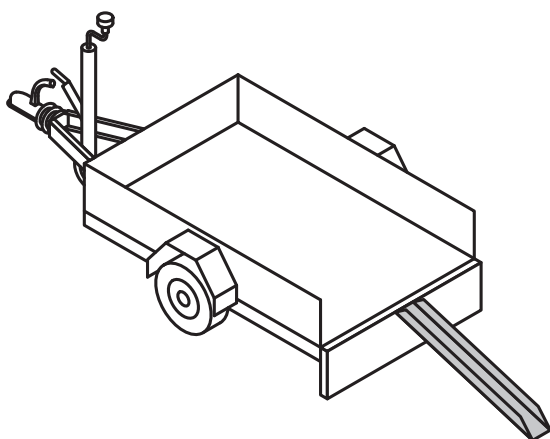


Fig. 46: Motorcycle loading rail

### Detaching the drive-on ramps

1. Remove the drive-on ramps and store in the brackets on the side walls.
2. Close the tailgate.

### D Drop-down drive-on ramps

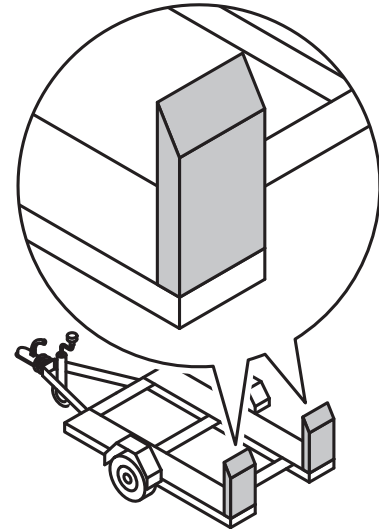


Fig. 47: Drop-down drive-on ramps (example of machinery transporter)

### Folding down the drive-on rails

1. Tip the bed.
2. Release the clamps securing the drive-on rails one at a time and lower each drive-on rail to the ground or support surface individually.
3. Make sure the drive-on rails are firmly on the ground or support surface.

### Folding up the drive-on rails

- Fold up the drive-on rails one at a time and secure with the clamps.

### 4.10.2 Loading ramps

The following loading ramps can be used:

- Basic version of loading ramp (A)
- Two-section loading ramp (B)

#### A Basic version of loading ramp

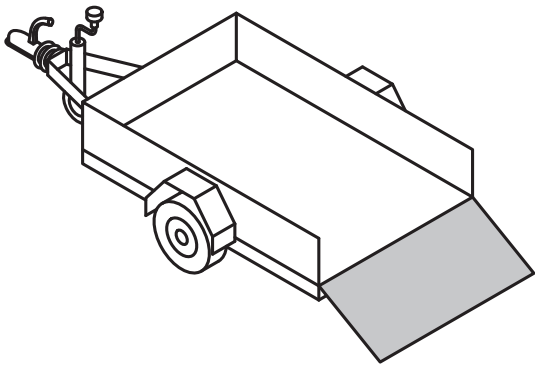


Fig. 48: Basic version of loading ramp

#### B Two-section loading ramp

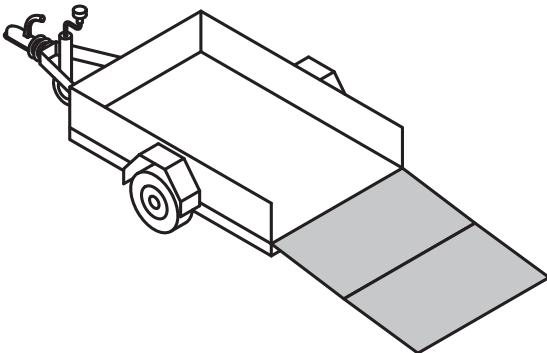


Fig. 49: Two-section loading ramp

The two ramp sections are connected to each other with hinges.

#### Folding down the loading ramp

1. Release the side clamps securing the loading ramp.

2. Swing down the loading ramp, fold out the second half and slowly lower to the ground or support surface.
3. Make sure the loading ramp is firmly on the ground or support surface.

#### Folding up the loading ramp

1. Fold in the second half and then fold up the whole loading ramp.
2. Fasten the side clamps to secure the loading ramp.

### 4.11 Swinging flap

#### ⚠ WARNING

#### Uncontrollably falling load

- Only open the swinging flap on tipper if the upper bridge is in non-tipped state.

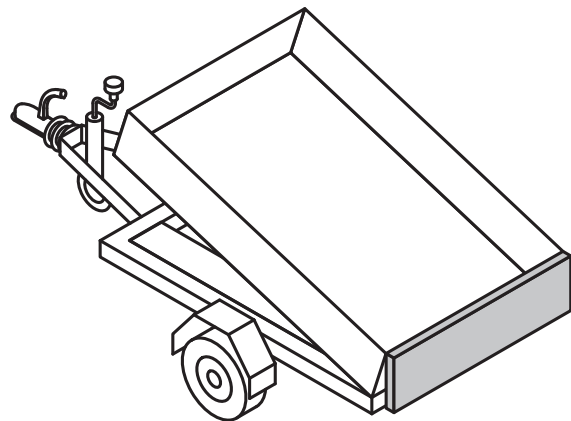


Fig. 50: Swinging flap on the tipper

Some tippers have swinging flaps that can be opened at the top and at the bottom.

- Open the swinging flap **at the bottom** to unload dry bulk cargo.
- Always open the swinging flap at the **top** if the vehicle is used in combination with a box extension or a mesh extension.

The swinging flap also needs to be opened **at the top** to load machines. Always make sure that the swinging flap can move freely enough. In particular, note how far the suspension will be compressed when the trailer is loaded. If the spacing from the ground is too small, the swinging flap will have to be detached for tipping and to load machines.

## 4.12 Loading aids

### NOTE

A winch can be used as a loading aid for loading vehicles and machinery.

### WARNING

#### Risk of injury to hands

- Always wear gloves when using winches.

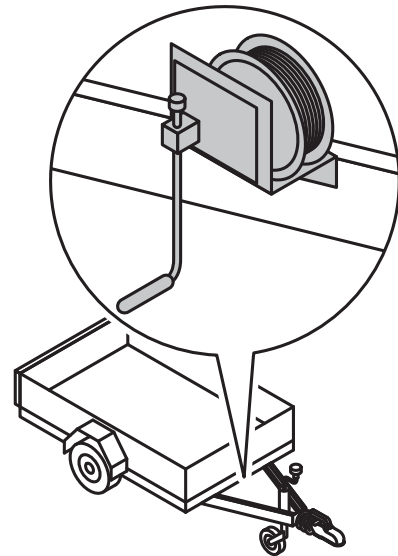


Fig. 51: Winch

## 4.13 Hydraulic pumps for tippers

The following hydraulic pumps are used:

- Manual hydraulic hand pump
  - Basic version (A)
  - With hauler connection (B) [accessory]
- Electrohydraulic pump incl. emergency hand pump
  - Basic version (C)
  - With permanently installed charger (D) [accessory]
  - With radio remote control (E) [accessory]
  - With permanently installed charger and remote control (F) [accessory]
  - With hauler connection (G) [accessory]

**A Basic version of manual hydraulic hand pump**

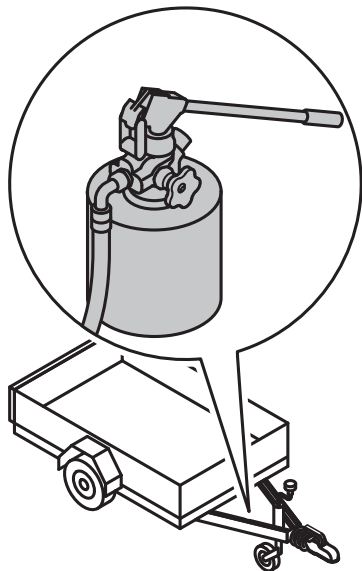


Fig. 52: Basic version of manual hydraulic hand pump

**B Manual hydraulic hand pump with hauler connection [accessory]**

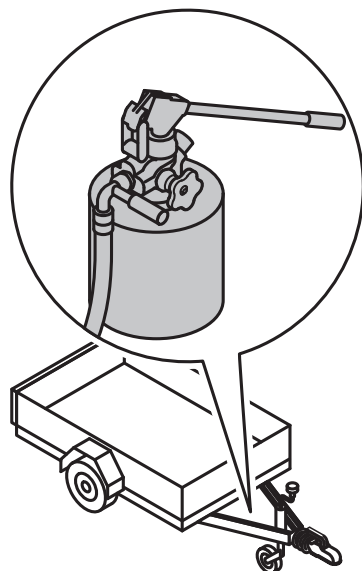


Fig. 53: Manual hydraulic hand pump with hauler connection [accessory]

**C Basic version of electrohydraulic pump incl. emergency hand pump**

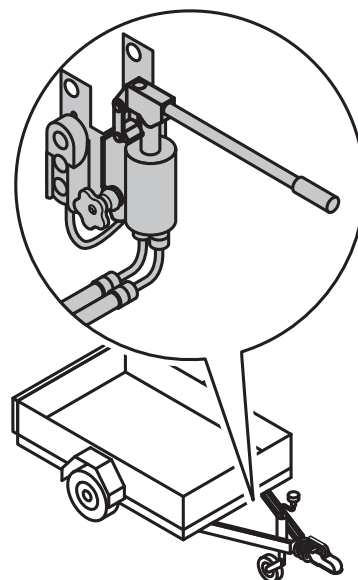


Fig. 54: Basic version of electrohydraulic pump incl. emergency hand pump

**D Electrohydraulic pump incl. emergency hand pump with permanently installed charger [accessory]**

**i NOTE**

See additional operating instructions.

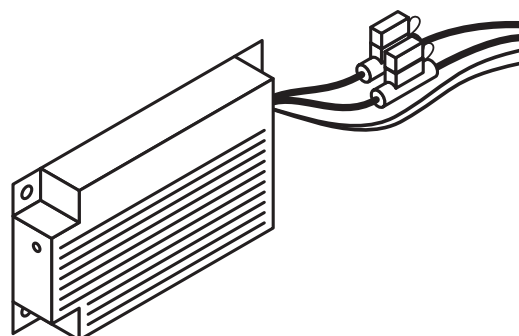


Fig. 55: Permanently installed charger

This device is used to charge the re-chargeable battery for the electrohydrau-

lic pump. Power is supplied via the towing vehicle.

The permanently installed charger is located in the same housing as the electrohydraulic pump.

A 13-pin socket on the towing vehicle with complete pole assignment is required for operation of the permanently installed charger (See section 4.1 *Electrical connections*, page 18).

The permanently installed charger is switched on and off via the ignition of the towing vehicle. If the power supply of the towing vehicle drops to 11.8 volts, it switches off.

The indicator light on the front face of the permanently installed charger is illuminated while the rechargeable battery is being charged.

If the rechargeable battery voltage falls below 10.5 volts for 5 seconds, an acoustic signal will sound for one minute.

The hydraulic pump can then no longer be activated. The hydraulic pump can only be activated again once the rechargeable battery voltage rises above 12 volts again through charging.

**i** NOTE

Do not press the emergency stop button during charging as the rechargeable battery will otherwise not be charged.

**E Electrohydraulic pump incl. emergency hand pump with remote control [accessory]**

**i** NOTE

See additional operating instructions.



Fig. 56: Remote control for electrohydraulic pumps

The electrohydraulic pump is equipped with a remote control connected with a cable as standard.

The radio remote control is used for remote operation of the electrohydraulic pump.

### **⚠ WARNING**

#### **Risk of accidents**

Caution should be taken with the remote control.

- Never leave the trailer unattended during the whole tipping process despite control with the remote control.

#### **F Electrohydraulic pump incl. emergency hand pump with hauler connection [accessory]**

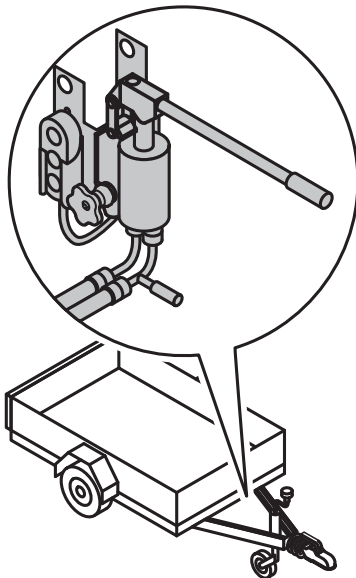


Fig. 57: Electrohydraulic pump incl. emergency hand pump with hauler connection [accessory]

#### **G Hauler connection [accessory]**



#### **NOTE**

It is possible to tip the trailer only with one hauler connection.

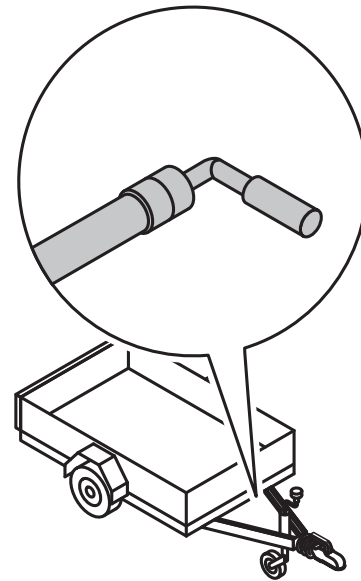


Fig. 58: Hauler connection

This involves connecting the towing vehicle to the trailer hydraulic system using the enclosed connecting hose and controlling the raising and lowering operations via the towing vehicle control unit (See section 4.13.4 *Using the hauler connection*, page 48).

#### **4.13.1 Using the manual hydraulic hand pump**

### **⚠ CAUTION**

#### **Cargo that moves**

- Make sure that no people are present within range of the moving load.

**⚠ CAUTION****Tipper swinging up**

Risk of injury to persons and of material damage

The trailer can topple over if the centre of gravity shifts.

- On the model DK4121, extend the rear prop stands before the tipping process.

**NOTICE****External hydraulic system**

Incorrect handling can damage the oil reservoir or cause hydraulic oil to leak from the overflow.

- Lower the pumped up upper bridge only with the pump with which you pumped it up.
- When using an external hydraulic system, ensure that the pressure relief valve for the hand pump is always closed.

**Lifting**

1. Open the eccentric fastener at the front of the trailer.
2. Open the tailgate or side wall.
3. On three-sided tippers, remove the split pins and the locking pins from the pivoting bearings on the two sides being raised and insert them into the two other pivoting bearings.
4. Close the pressure relief valve.
5. Take the pump lever out of the bracket and insert it into the lever mount.

6. Move the pump lever up and down to raise the lifting cylinder.

When tipping to the rear, pump until the lifting cylinder is fully extended or, when tipping to the side, until the stopping rope is tensioned so that the shut-off valve is actuated.

You must stop pumping as soon as the shut-off valve has been actuated to the side or the maximum cylinder position to the rear has been reached.

7. Take the pump lever out of the lever mount and secure in the bracket.

**Lowering**

1. Open the pressure relief valve to relieve the pressure.
2. Ensure that the lifting cylinder is completely lowered.
3. Close the pressure relief valve.
4. On three-sided tippers, insert the locking pins together with the split pins into the two rear pivoting bearings (in tipping position to the rear).
5. Close the tailgate or side wall.
6. Close the eccentric fastener at the front of the trailer.

#### 4.13.2 Operating electrohydraulic pump incl. emergency hand pump with cable remote control

##### ⚠ CAUTION

##### Cargo that moves

- Make sure that no people are present within range of the moving load.

##### ⚠ CAUTION

##### Tipper swinging up

The trailer can topple over if the centre of gravity shifts.

- On the model DK4121, extend the rear prop stands before the tipping process.

##### NOTICE

##### External hydraulic system

Incorrect handling can damage the oil reservoir or cause hydraulic oil to leak from the overflow.

- Lower the pumped up upper bridge only with the pump with which you pumped it up.
- When using an external hydraulic system, ensure that the pressure relief valve for the hand pump is always closed.

##### NOTE

The electrohydraulic pump must be operated via the cable remote control.

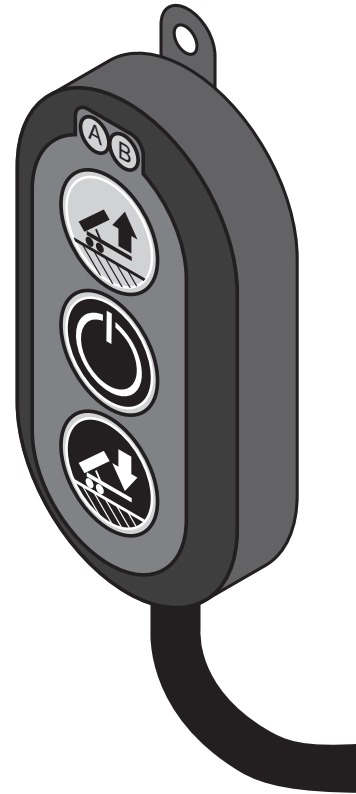


Fig. 59: Cable remote control

The left-hand LED (A) lights up **green** when the cable remote control is switched on and the electrohydraulic pump is ready to pump up.

The left-hand LED (A) lights up **white** when the cable remote control is switched on, but the electrohydraulic pump is not ready to pump up.

The right-hand LED (B) lights up **green** when the rechargeable battery for the electrohydraulic pump is charged up sufficiently.

### Lifting

1. Open the eccentric fastener at the front of the trailer.
2. Open the tailgate or side wall.
3. On three-sided tippers, remove the split pins and the locking pins from the pivoting bearings on the two sides being raised and insert them into the two other pivoting bearings.
4. Close the pressure relief valve.
5. Make sure that the emergency stop button is not pressed and the cable remote control connector is plugged in.
6. Take the cable remote control out of the bracket on the trailer and switch it on.

7. Press and hold down the raise button to extend the lifting cylinder. The pumping operation stops automatically when the maximum position is reached.

When tipping to the rear, pump until the lifting cylinder is fully extended or, when tipping to the side, until the stopping rope is tensioned so that the shut-off valve is actuated.

You must stop pumping as soon as the shut-off valve has been actuated to the side or the maximum cylinder position to the rear has been reached.

8. Secure the cable remote control in the bracket on the trailer.

### Lowering

1. Make sure that the emergency stop button is not pressed and plug in the cable remote control connector.
2. Take the cable remote control out of the bracket on the trailer and switch it on.
3. Press and hold down the lower button to retract the lifting cylinder.
4. Ensure that the lifting cylinder is completely retracted.
5. Secure the cable remote control in the bracket on the trailer.
6. On three-sided tippers, insert the locking pins together with the split pins into the two rear pivoting bearings (in tipping position to the rear).
7. Close the tailgate or side wall.
8. Close the eccentric fastener at the front of the trailer.
9. Remove the cable remote control completely and stow it away safely to prevent unauthorised operation.

#### 4.13.3 Operating the electrohydraulic pump incl. emergency hand pump with remote control

---

#### **⚠ CAUTION**

---

##### **Cargo that moves**

- Make sure that no people are present within range of the moving load.
-

### ⚠ CAUTION

#### Tipper swinging up

The trailer can topple over if the centre of gravity shifts.

- On the model DK4121, extend the rear prop stands before the tipping process.

### NOTICE

#### External hydraulic system

Incorrect handling can damage the oil reservoir or cause hydraulic oil to leak from the overflow.

- Lower the pumped up upper bridge only with the pump with which you pumped it up.
- When using an external hydraulic system, ensure that the pressure relief valve for the hand pump is always closed.

### NOTE

The electrohydraulic pump can be operated via the cable remote control or the radio remote control.

If the radio remote control is not used for a while, it switches off automatically. Press the

**POWER** button on the cable remote control twice and then the **On/Off** button on the radio remote control to switch on the radio remote control.



Fig. 60: Remote control for electrohydraulic pumps

#### Lifting

1. Open the eccentric fastener at the front of the trailer.
2. Open the tailgate or side wall.
3. On three-sided tippers, remove the split pins and the locking pins from the pivoting bearings on the two sides being raised and insert them into the two other pivoting bearings.
4. Close the pressure relief valve.
5. Make sure that the emergency stop button is not pressed and the cable remote control connector is plugged in.
6. Press the **POWER** button on the cable remote control twice and then the **On/Off** button on the radio remote control to switch on the radio remote control.

7. Press and hold down the **Up** button to extend the lifting cylinder. The pumping operation stops automatically when the maximum position is reached.

You must stop pumping as soon as the shut-off valve has been actuated to the side or the maximum cylinder position to the rear has been reached.

8. Stow the radio remote control away safely after the raising operation.

### Lowering

1. Make sure that the emergency stop button is not pressed and the cable remote control connector is plugged in.
2. Press the **POWER** button on the cable remote control twice and then the **On/Off** button on the radio remote control to switch on the radio remote control.
3. Press and hold down the **Down** button to retract the lifting cylinder.
4. Ensure that the lifting cylinder is completely retracted.
5. On three-sided tippers, insert the locking pins together with the split pins into the two rear pivoting bearings (in tipping position to the rear).
6. Close the tailgate or side wall.
7. Close the eccentric fastener at the front of the trailer.
8. Stow the radio remote control away safely after the lowering operation.
9. Remove the cable remote control completely and stow it away safely to prevent unauthorised operation.

### 4.13.4 Using the hauler connection

#### **⚠ WARNING**

##### **Leaking hydraulic oil**

The system is highly pressurised. Leaking oil can cause serious injuries.

- Before detaching the hoses, make sure that the system has been depressurised.

#### **⚠ CAUTION**

##### **Cargo that moves**

- Make sure that no people are present within range of the moving load.

#### **⚠ CAUTION**

##### **Tipper swinging up**

The trailer can topple over if the centre of gravity shifts.

- On the model DK4121, extend the rear prop stands before the tipping process.

#### **NOTICE**

##### **External hydraulic system**

Incorrect handling can damage the oil reservoir or cause hydraulic oil to leak from the overflow.

- Lower the pumped up upper bridge only with the pump with which you pumped it up.

- When using an external hydraulic system, ensure that the pressure relief valve for the hand pump is always closed.
- Pay attention to the maximum hydraulic pressure of the towing vehicle when using an external hydraulic system. Excessively high pressure can lead to serious injuries and cause the tipper to be in an unsafe state. The maximum pressure on the trailer may not exceed 200 bar (see cylinder label).

**NOTE**

See the towing vehicle operating instructions for information on how to operate the control unit.

**Lifting**

1. Open the eccentric fastener at the front of the trailer.
2. Open the tailgate or side wall.
3. On three-sided tippers, remove the split pins and the locking pins from the pivoting bearings on the two sides being raised and insert them into the two other pivoting bearings.
4. Close the pressure relief valve.
5. Connect the towing vehicle to the trailer hydraulic system using the enclosed connecting hose.
6. Start the lifting operation via the control unit of the towing vehicle.
7. When tipping to the rear, pump until the lifting cylinder is fully extended or, when tipping to the side, until the stopping rope is tensioned so that the shut-off valve is actuated.  
You must stop pumping as soon as the shut-off valve has been actuated to the side or the maximum cylinder position to the rear has been reached.

**Lowering**

1. Start the lowering operation via the control unit of the towing vehicle.
2. Ensure that the lifting cylinder is completely retracted.
3. Detach the connecting hose after the lowering operation and stow it securely.
4. On three-sided tippers, insert the locking pins together with the split pins into the two rear pivoting bearings (in tipping position to the rear).
5. Close the tailgate or side wall.
6. Close the eccentric fastener at the front of the trailer.

## 4.14 Hydraulic pump for vehicle transporter

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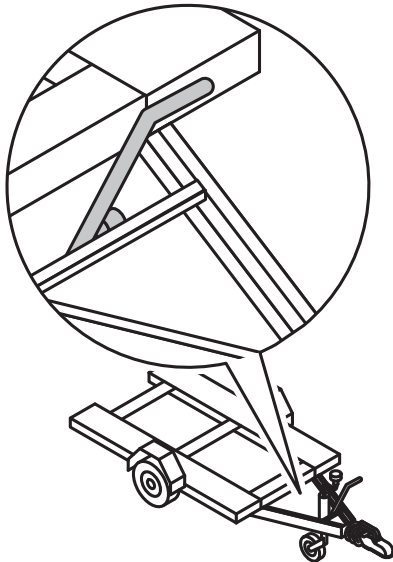


Fig. 61: Lever for hydraulic pump

### 4.14.1 Operating the hydraulic pump

---

#### **CAUTION**

##### **Cargo that moves**

- Make sure that no people are present within range of the moving load.
- 

#### **NOTICE**

##### **External hydraulic system**

Incorrect handling can damage the oil reservoir or cause hydraulic oil to leak from the overflow.

- Lower the pumped up upper bridge only with the pump with which you pumped it up.
  - When using an external hydraulic system, ensure that the pressure relief valve for the hand pump is always closed.
- 

### **Lifting**

1. Open the eccentric fastener at the front of the trailer.
2. Close the pressure relief valve.
3. Take the pump lever out of the bracket and insert it into the lever mount.
4. Move the pump lever up and down to raise the lifting cylinder.
5. Keep pumping until the running surfaces at the rear are firmly seated.
6. Take the pump lever out of the lever mount and secure in the bracket.

### **Lowering**

1. Open the pressure relief valve to relieve the pressure.
2. Ensure that the lifting cylinder is completely lowered.
3. Close the pressure relief valve.
4. Close the eccentric fastener at the front of the trailer.

## 5 Coupling

---

The trailer must be coupled in a safe and well-lit location.

The ground must be firm, strong and level.

Traffic must not be restricted. Drivers and other people must not be hindered or endangered.

Before hitching or unhitching secure the towing vehicle to prevent it rolling away.

### 5.1 Support load

---

The support load is the force acting on the trailer coupling of the towing vehicle.

- Ensure that the minimum support load is at least 4% of the actual laden weight of the trailer (sum of unladen weight of trailer and load weight). However, it does not need to be more than 25 kg.
- Ensure that the maximum admissible support load for the towing vehicle is not exceeded.

The support load specifications are located on the towing vehicle:

- On a sticker at the rear of the vehicle
- On the vehicle registration document (e.g. field 13 of registration certificate part I in Germany)

### WARNING

---

#### Danger of skidding

- Do not overload the trailer at the rear.
- The load at the front of the trailer should be slightly higher than at the rear.

#### 5.1.1 Hitching the trailer

---

1. Open the coupling completely.
2. Hitch the trailer.
3. Check that the coupling is firmly seated.

The coupling statuses indicate whether the coupling is firmly seated. **Green** or a **+** symbol indicate that the coupling is firmly seated.

The colour **red** or a **–** symbol indicate that the coupling is not correctly engaged and secured. You must repeat the trailer hitching procedure.

Additionally check correct seating by pulling forcefully on the coupling.

4. Plug the trailer connector into the socket on the towing vehicle.
5. Attach the breakaway cable.
6. Crank up the jockey wheel.

### 5.1.2 Trailer unhitching

---

1. If possible, secure the trailer to prevent it rolling away:
  - Pull up the parking brake.
  - Place the brake wedges in front of the tyres.
2. For braked trailers, remove the breakaway cable from the trailer coupling of the towing vehicle.
3. If installed, lower the jockey wheel to relieve the load on the coupling.
4. Pull the connector out of the socket.
5. Open the coupling.
6. Lift the coupling off the trailer coupling on the towing vehicle.

#### NOTE

If possible, park the trailer tilted slightly and with the box open. This will allow rainwater to drain off the bed.

Press the emergency stop button if the trailer is parked and not in use. This prevents the battery discharging in standby mode.

---

### 5.2 Parking the trailer

---

#### NOTE

The ground or support surface should be firm, level and flat so that the trailer is stable.

Do not park the trailer under or near to high-voltage lines.

---

To park the trailer safely, you must do the following (depending on the model):

- Place the brake wedges (if supplied) in front of the tyres.
- Fit the rear prop stands (if supplied).
- If no brake wedges or rear prop stands are available, carefully lower the trailer onto the reinforced support bar.



## 6 Loading

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### 6.1 Loading and unloading the trailer

---

For loading and unloading, the trailer must be coupled to a towing vehicle. If necessary, the rear end of the trailer must be supported.

The ground must be firm, strong and level. Loading must be done in a safe and well-lit location.

Traffic must not be restricted. Drivers and other people must not be hindered or endangered.

Additionally secure the trailer to prevent it rolling away:

1. Apply the parking brake unless indicated otherwise on the towing vehicle.
2. Tipper: only tip when the parking brake is released and the trailer is coupled.
3. Place brake wedges (if supplied) in front of the tyres.

### 6.2 Preparations

---

1. Completely mount all required attachment parts before loading the trailer. Install parts which divide the load area (e.g. mesh partitions) so that the load can be positioned in the middle near the axle.

2. Check that all attachment parts, ramps, partitions, canvases etc. are completely mounted and secured, and that no loose parts are in the trailer.
3. Fit the rear prop stands (if supplied).
4. Make sure that the rear lights are not hidden if the tailgate has to be folded down for the loading process. Remove ramps with hinges which are not secured (e.g. with locking pins).

### 6.3 Weight distribution

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#### 6.3.1 Correct load distribution

---

- The load must be uniformly distributed and form-fitting.
- The weight must be concentrated at the axle(s).
- Load the cargo in such a way that the centre of gravity is as low as possible.
- The load must not protrude over the side wall.
- Loose parts must be secured to prevent them slipping (See section 6.4 *Securing the load*, page 54).
- The minimum and maximum support load specifications must be complied with (See section 5.1 *Support load*, page 51).

### Correctly loaded trailer:

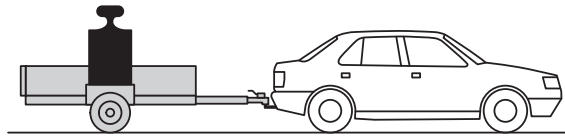


Fig. 1: Example of correct load distribution

### 6.3.2 Incorrect load distribution

#### NOTICE

#### Incorrect load distribution

- Take measures to distribute the load correctly (See section 6.3.1 *Correct load distribution*, page 53).

### Incorrectly loaded trailer:

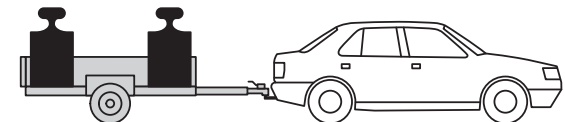


Fig. 2: Example A

In example A, the weight of the load is not on the axle.

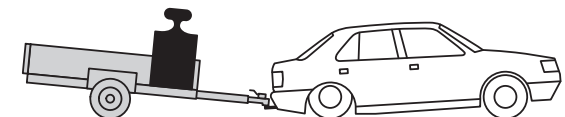


Fig. 3: Example B

In example B, the load is concentrated at the front of the trailer, making the support load on the trailer coupling of the towing vehicle too high. The rear of the towing vehicle is pushed down.

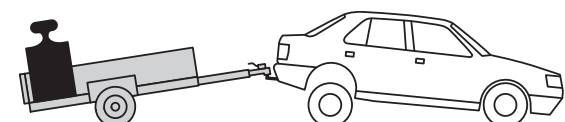


Fig. 4: Example C

In example C, the load is concentrated at the rear of the trailer, making the leverage force acting on the trailer coupling of the towing vehicle too high. The rear of the towing vehicle is pulled up. The support load is too low. Trailer snaking may result as the support load is too low.

### 6.4 Securing the load

- Secure the load in such a way that it will not slip or become unfastened even in extreme driving situations (e.g. full braking, swerving or similar actions).

The load can be secured in different ways depending on the trailer type (See section 4.8 *Load-securing components*, page 30).

- Close and latch all side walls, ramps and doors.

#### CAUTION

#### Inadequately secured load

- Check whether the canvas cover and frame provide adequate support for the load.
- Distribute the load on the trailer in such a way that the load cannot slip.

#### NOTE

Prior to transporting heavy objects with small support bases check with your dealer or the manufacturer to find out whether the trailer bed is suitable for such transport.

### 6.4.1 Lashing the load

#### ⚠ CAUTION

##### Inadequately secured slipping load

- Do not use damaged lashing straps.
- Only use certified lashing straps and the lashing points designated for them.

#### Lashing the load

- Always lash the load firmly and securely.
- Lash the load diagonally where possible. Tighten lashing straps, for example, with a ratchet.

### 6.4.2 Securing dry bulk cargo

To secure dry bulk cargo, use the following load-securing means:

- Net
- Canvas cover

#### ⚠ CAUTION

##### Damaged canvases or nets

- For loose loads such as dry bulk goods or leaves use load-securing means, for example, canvas covers or nets to prevent the load being lost or blown away.
- Check whether the load-securing means are undamaged.
- Lay the net or canvas over the trailer and fasten completely.

The following fastening types can be used:

- Fastening rope (A)
- Fastening eyelets (B)

#### A Fastening rope

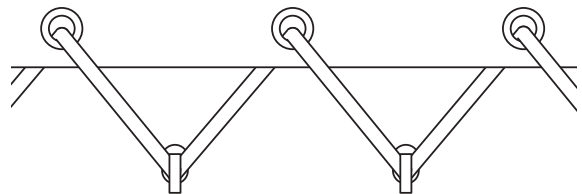


Fig. 5: Threaded fastening rope

- Thread the fastening rope under all lashing hooks on the exteriors of the side walls.

#### B Fastening eyelets



Fig. 6: Secured fastening eyelets

1. Press the fastening eyelets down over the twist-lock fasteners.
2. Turn the twist-lock fastener 90° to secure the fastening eyelet.

### 6.4.3 Attachments and high body parts

For all attachments and high trailers, the load must be secured particularly well to prevent it slipping, unfastening and falling.

Parts which can only be transported on end or in stacks must be additionally secured.

### 6.4.4 Lashing Vehicles

#### **⚠ WARNING**

##### **People in the vehicle**

Crushing of body parts

- No one is allowed to ride in the loaded vehicle.

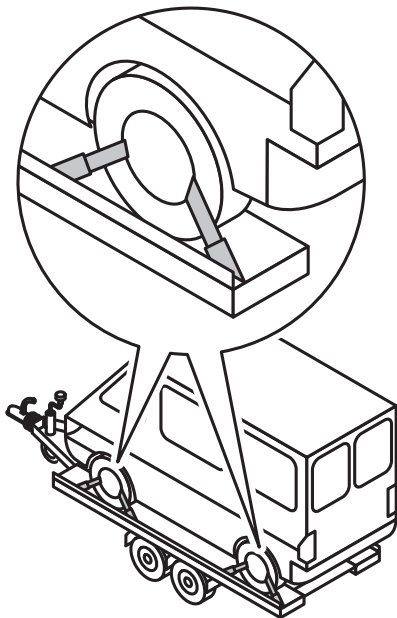


Fig. 7: Correctly lashed vehicle

#### **⚠ WARNING**

##### **Inadequately secured load**

- Do not secure any loads to axles, towing eyes or similar parts.
  - Lashing straps may only be fastened to wheels.
  - Do not fasten lashing straps with claw hooks to aluminium rims.
- 
- To secure the loaded vehicle in place, secure all wheels/axles using lashing straps.

### 6.4.5 Securing Vehicles with Safety Catches

In addition to the lashing straps, the safety catches may be used to secure the vehicle in place on the bed.

- Install the rear safety catches after the vehicle has been driven onto the transporter and parked.

Position the safety catches as follows:

- Install them at the front so that the vehicle is approximately centred above the axle once loaded.
- Install them at the rear so that the loaded vehicle cannot roll back.

## 6.5 Loading cargo during the tipping procedure

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### **⚠ WARNING**

#### **Falling bed**

Crushing of body parts

- Never enter the space under the raised bed.
- 

### **⚠ WARNING**

#### **Moving parts**

Crushing of body parts

- Stay out of the movement area of the bed.
- 

### **i NOTE**

The bed does not have to be tipped when loading the cargo.

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### 6.5.1 Tipping the bed

---

### **i NOTE**

The bed may only be tipped when the parking brake is released and the trailer is coupled (to a towing vehicle with applied handbrake).

---

1. Open the eccentric fastener at the front of the trailer.
2. Open the tailgate or side wall.

3. Remove the split pins and the locking pins from the pivoting bearings on the two sides being raised and insert them into the two other pivoting bearings.
4. For hydraulic pumps with hand wheels check whether the pressure relief valve is closed.
5. Tip the bed using the hydraulic pump. When tipping to the rear, pump until the lifting cylinder is fully extended or, when tipping to the side, until the stopping rope is tensioned so that the shut-off valve is actuated.  
You must stop pumping as soon as the shut-off valve has been actuated to the side or the maximum cylinder stroke to the rear has been reached.

### 6.5.2 Lowering the bed

---

1. Open the pressure relief valve or lower the bed using the remote control.
2. Insert the locking pin into the two rear pivoting bearings and secure them against accidental release with the split pins.
3. Close the opened walls and secure against accidental opening.
4. Close the eccentric fastener at the front of the trailer.

### 6.5.3 Special points to consider when loading dry bulk goods

---

When loading dry bulk goods please also observe the following instructions:

- Distribute the dry bulk goods uniformly over the surface of the bed.
- Protect dry bulk material particularly from being blown away or lost.
- Before unloading the dry bulk cargo open the bottom of the tailgate.
- During tipping, the dry bulk cargo may accidentally slide down suddenly. For this reason, tip the bed carefully and slowly. When unloading only tip the bed until the material flows slowly and uniformly.
- Dry bulk can cause dust formation and obscure visibility to an extent depending on the material. To minimise dust formation ensure a low material flow during unloading. Interrupt unloading temporarily if necessary.
- Bulk goods may stick to the bed (e.g. moist soil). The bulk goods must not be loosened by abruptly moving off and braking with the bed raised.  
The bed must be unloaded by hand if the load is sticking to it.

### 6.6 Loading vehicle with drive-on ramps

---

#### CAUTION

##### Edge load capacity exceeded

Collapse and buckling of the drive-on ramps, vehicle tipping over

- The maximum edge loading capacity of the drive-on ramps.

#### NOTE

The bed on machinery transporters and vehicle transporters may be tipped to load vehicles. The bed on tippers may not be tipped.

#### NOTE

Use drive-on ramps for safe loading of two-wheeled vehicles.

#### 6.6.1 Loading the vehicle

---

1. Tip the bed.
2. Setting up the drive-on ramps (See section 4.10 *Drive-on aids*, page 35).
3. Load the vehicle, select first gear (or "P" for automatic transmissions) and apply the handbrake.
4. Secure the vehicle to prevent it slipping (See section 6.4 *Securing the load*, page 54).



5. Remove and stow away the drive-on ramps (See section *4.10 Drive-on aids*, page 35).
6. Lower the bed and secure with locking pins and split pins.

### 6.6.2 Unloading the vehicle

---

#### NOTE

Before loosening the lashing straps make sure the handbrake of the vehicle being unloaded is applied.

Before the handbrake of the vehicle to be unloaded can be released there must be a person behind the wheel of the vehicle being unloaded to steer it during unloading.

Even if you use a cable winch or other aids during unloading there must still be a driver behind the wheel of the vehicle being unloaded during the entire process.

---

1. Tip the bed.
2. Setting up the drive-on ramps (See section *4.10 Drive-on aids*, page 35).
3. Remove the lashing straps and stow them away.
4. Drive the vehicle being unloaded slowly in a straight line off the transporter.  
Avoid making jerky steering motions.
5. Remove and stow away the drive-on ramps (See section *4.10 Drive-on aids*, page 35).
6. Lower the bed and secure with locking pins and split pins.

## 7 Driving

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### 7.1 Before setting out on a journey

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- Trailer snaking may result if the tyre pressure is too low. Before setting out on a journey, check the inflation pressure of all tyres on the trailer. If necessary, adapt the tyre pressure to the weight of the load.
- Before setting out on a journey, remove any water, snow or ice from the roof of the trailer to avoid endangering other road users.
- Before each journey, you must carry out a brake test using the trailer without load.



## 7.2 Pre-drive checklist

| Check                                                                                                                                                                         |                          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| 1. Has the bed been lowered and secured?                                                                                                                                      | <input type="checkbox"/> |
| 2. Has the cable remote control been inserted into the bracket and the cable wound up?                                                                                        | <input type="checkbox"/> |
| 3. Is the canvas cover closed?                                                                                                                                                | <input type="checkbox"/> |
| 4. Is the load weight correctly distributed?                                                                                                                                  | <input type="checkbox"/> |
| 5. Has the load in the trailer been secured against slipping and have all loose objects been removed?                                                                         | <input type="checkbox"/> |
| 6. Have all loose objects been removed from the fenders?                                                                                                                      | <input type="checkbox"/> |
| 7. Have all side walls, ramps and doors been closed and locked?                                                                                                               | <input type="checkbox"/> |
| 8. Is the coupling correctly engaged and secured?                                                                                                                             | <input type="checkbox"/> |
| 9. Has the breakaway cable been attached as required by law?                                                                                                                  | <input type="checkbox"/> |
| 10. Has the parking brake been released?                                                                                                                                      | <input type="checkbox"/> |
| 11. Has the connector been firmly connected and secured?                                                                                                                      | <input type="checkbox"/> |
| 12. Has the jockey wheel been fully raised and secured?                                                                                                                       | <input type="checkbox"/> |
| 13. Have the brake wedges been removed and stowed away safely?                                                                                                                | <input type="checkbox"/> |
| 14. Have the tyres been inflated to the correct pressure?                                                                                                                     | <input type="checkbox"/> |
| 15. Have the rear prop stands been raised and secured?<br>Has the crank been removed and stored safely?                                                                       | <input type="checkbox"/> |
| 16. Have the drive-on ramps been safely stowed away and secured?                                                                                                              | <input type="checkbox"/> |
| 17. Is the lighting system free from damage and working?<br>Are the marker and position lights undamaged?                                                                     | <input type="checkbox"/> |
| 18. Has the brake system been connected and has a brake test been carried out?                                                                                                | <input type="checkbox"/> |
| 19. Only on the tipper: have the locking pins including the split pins been inserted into the rear pivoting bearings and has the eccentric fastener at the front been closed? | <input type="checkbox"/> |
| 20. Has the pump lever been stowed away correctly?                                                                                                                            | <input type="checkbox"/> |

## 7.3 Driving tips

---

Please read the following information carefully so that you are prepared for different driving conditions.

### 7.3.1 General driving tips

---

- It is forbidden to drive with the trailer while the upper bridge is tilted. The trailer could topple over as the centre of gravity will have shifted greatly.
- While driving, the front eccentric fastener must be closed to secure the upper bridge and the locking pins together with the split pins must be inserted in the two rear pivoting bearings.
- The stability of the vehicle-trailer combination decreases as the speed increases. Adapt your speed to the given road and weather conditions to ensure that you can stop the vehicle and trailer without problems at all times.
- Slow down when towing a loaded trailer down an incline to ensure that you can stop the vehicle and trailer without problems at all times.
- Please note that the turning circle is larger than usual when you drive with a trailer.
- Please note that trailers follow the vehicle in a smaller radius when turning.
- If protruding or overhanging loads cover the lights, you must attach an additional clearly visible lighting unit.

- Please note that the vertical load transferred from the trailer onto the towing vehicle can affect the steerability of the vehicle.
- Narrow vehicles can have poor road holding depending on the loading. There is a risk of toppling if the centre of gravity is too high. Always adapt the loading to the trailer type. Keep the centre of gravity low by distributing the cargo so it is flat.

### 7.3.2 Driving tips rain, frost and snow

---

- Please note that, on icy and slippery roads, both the driving and braking characteristics are poorer because the tyres have less traction.

### 7.3.3 Tips for driving in side winds

---

- Side winds can cause the trailer to snake or tip over.  
Side wind gusts often occur suddenly and unexpectedly, e.g. as the countryside changes, on bridges, when overtaking lorries etc.  
Slow down immediately if you notice a side wind.  
Do not tip the trailer if there are strong side winds.



#### 7.3.4 Tips for handling snaking

---

- If the vehicle-trailer combination starts snaking, carefully take your foot off the accelerator pedal and counter-steer gently.

Do not make any hectic or sudden steering motions.

Pull over as soon as the vehicle and trailer have stabilised. The most frequent causes of snaking are, apart from incorrect driving behaviour and excessive speed, incorrect load distribution or insufficient support load. For this reason, please ensure correct load distribution, support load and securing of the load.

One further cause of trailer snaking could be the tyre pressure being too low. Therefore check the tyre pressure.

#### 7.4 Brakes

---

The wheels can lock during full braking. To brake the trailer, first brake gently so the wheels do not lock. Then brake hard.

Inexperienced drivers should first practise braking without a load on suitable terrain.

The braking distance of the trailer increases as the load increases.

- Note that the ABS system in the towing vehicle does not control the overrun mechanism of the trailer.
- Initiate braking manoeuvres early.

#### 7.5 Reversing

---

- Have an experienced person teach you how to reverse safely to ensure you will not endanger other drivers.
- Make sure no one is between the towing vehicle and the trailer while reversing.
- The persons guiding you must maintain a safe distance from the trailer and must always be visible in the exterior mirrors when the trailer is being reversed.

#### 7.6 Manoeuvring

---

The trailer is easier to manoeuvre if the tyre pressure is not too low. If the trailer is difficult to manoeuvre, check the tyre pressure (See *Tyre inflation pressure*, page 68).

## 8 Cleaning, Maintenance and Inspection

---

Cleaning, maintenance and inspection of the trailer are essential for driving safety as well as for retaining the value of your trailer and the validity of your warranty.

### NOTE

Late or missed inspections or maintenance and cleaning work may result in damage to the trailer and consequent injury. This also voids the warranty.

---

### 8.1 Care and cleaning

---

You may carry out cleaning work yourself.

### NOTE

All parts and surfaces must be checked for dirt and, if necessary, cleaned before and after use.

Also, long-term dirt accumulation leads to reduced driving safety and value of the trailer.

Do not use any cleaning agents containing solvents for cleaning. Instead only use water and a neutral detergent with a pH value between 5 and 8.

---

### **Pressure washer**

Do not use a pressure washer to clean the trailer. The high-pressure water jet may cause damage to the trailer. Use a garden hose instead.

### **Salt and acids**

Avoid contact with salt, acids and caustic agents. After driving on roads where salt has been spread or after transporting fertilisers or other acidic substances, immediately clean the trailer inside and out with water.

### **White rust**

White rust forms on zinc surfaces that are corroded by prolonged exposure to water and to chlorides such as those found in road salt. White rust is not a galvanisation quality defect. A thin surface layer of white rust does not damage the galvanised coating.

Brush off areas with heavy white rust formation using a nylon or brass brush and, if necessary, galvanise again.

### **Paint damage**

Repair immediately before rust is able to form.

### **Damage to galvanised layer**

Immediately galvanise again with a standard commercial zinc spray.

### **Canvas covers**

Canvases are easy-care products. Clean with soap and water.



### Wood surfaces

Treat regularly with a commercial wood care product.

Treat damaged areas with wood protection paint.

Protect from prolonged wetness.

### Rubber floor

The rubber floor is glued on and sealed around the edges along the side walls with a sealant. Objects with sharp edges can damage the rubber floor. Check the sealant regularly for damage and renew if necessary.

### Maintenance schedule

| Vehicle part              | Interval                              | Maintenance work                                                                                   |
|---------------------------|---------------------------------------|----------------------------------------------------------------------------------------------------|
| Tyres                     | Before every long journey             | Check tyre pressure (See section 8.4.5 <i>Tyre pressure</i> , page 68)                             |
|                           |                                       | Check the tyre tread depth and exchange the tyres if necessary (note wear marks in the tyre tread) |
|                           |                                       | Check wheel bolts and tighten if necessary (See section 8.4.4 <i>Wheel bolts</i> , page 67)        |
| Brake, Bowden cables      | Every 5,000 km or annually            | Lubricate lubrication points                                                                       |
| Parking brake             | Every 5,000 km or annually            | Lubricate lubrication points                                                                       |
| Height-adjustable drawbar | See additional operating instructions |                                                                                                    |

### Rear lights and lighting elements

Rear lights and lighting elements must always be intact, unobstructed and clean. Wash or clean regularly.

### Wheel rims, wheel housings and fenders

Clean regularly.

## 8.2 Maintenance

Maintenance work should only be carried out by suitably qualified personnel. Ensure that maintenance intervals are observed. The maintenance intervals are given in the following table.

| Vehicle part          | Interval                              | Maintenance work                                                                     |
|-----------------------|---------------------------------------|--------------------------------------------------------------------------------------|
| Coupling              | Regularly                             | Clean                                                                                |
|                       | Every 5,000 km or annually            | Lubricate lubrication points                                                         |
| Anti-skid coupling    | See additional operating instructions |                                                                                      |
| Electrohydraulic pump | Regularly                             | Recharge battery using charger                                                       |
|                       |                                       | Visual check for damage to battery pole covers and cables, insulate where necessary. |
| Safety support        | Before any use                        | Visual check for damage on complete safety support                                   |
| Upper bridge mounting | Before any use                        | Visual check for damage on connection and support                                    |

### Lubricants

Use a multipurpose grease in accordance with DIN 51825 KTA 3K for lubrication.

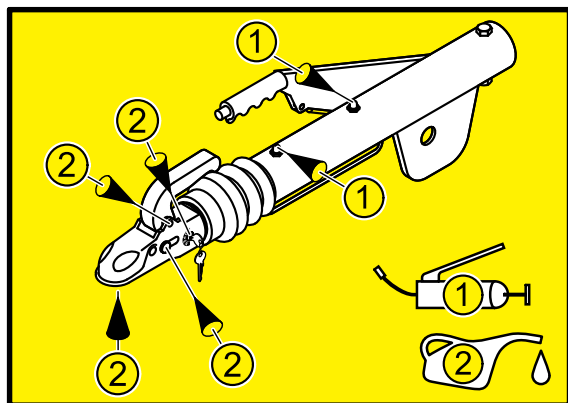


Fig. 1: Lubrication points on the coupling

### 8.3 Brake system

The trailer's brake system must be checked regularly.

- Apply the parking brake and check whether the Bowden cables move freely.
- Ensure that any defects are repaired promptly.

If the brake pads need to be renewed, make sure the wheel bearings are also checked for wear and damage.

## 8.4 Tyres and changing wheels

### **⚠ WARNING**

#### **Incorrectly repaired tyres**

- Only trained and qualified personnel may repair the tyres.
- Do not repair tyres yourself.

#### 8.4.1 Tread depth

According to the German Road Traffic Licensing Regulations (StVZO) the tread depth of the tyres must not be less than 1.6 mm.

#### 8.4.2 Wheel bearings

The wheel bearings are maintenance-free. The wheel bearings must be checked for play if they are subjected to heavy usage.

#### 8.4.3 Changing wheels

### **⚠ WARNING**

#### **Falling trailer**

Risk of death by crushing and serious bodily injury

- Never enter the space under the raised trailer.

Wheels may only be changed in a safe and well-lit location. Traffic must not be restricted. Road users and other people must not be hindered or endangered.

The trailer must be secured with brake wedges or similar aids to prevent it rolling away.

When changing a wheel, you must observe the correct load index, speed index and size of the tyre.

- After changing wheels, tighten wheel nuts to the correct torque (See section 8.4.4 *Wheel bolts*, page 67).

#### 8.4.4 Wheel bolts

The tightness of the wheel bolts must be checked after the first 50 km. Also after a wheel change the wheel bolts must be checked after 50 km. The tightening torques for the wheel bolts are given in the following table.

**Table of tightening torques**

| Wheel rim type | Tightening torque |
|----------------|-------------------|
| Steel          | 90 Nm to 100 Nm   |
| Alloy          | 110 Nm            |

### 8.4.5 Tyre pressure

If the tyre pressure is too low or too high, it will have a negative effect on the handling of the vehicle-trailer combination, the fuel consumption and the life of the tyres.

Check the tyre pressure before each journey. The tyre inflation pressures recommended for the respective tyre sizes are given in the following table:

#### Tyre inflation pressure

| Tyre size    | Tyre pressure at full load |
|--------------|----------------------------|
| 155/80 R 13  | 3.4 bar                    |
| 225/55 R12 C | 5.3 bar                    |
| 195/70 R 14  | 3.4 bar                    |
| 195/65 R 15  | 3.0 bar                    |
| 195/55 R10 C | 6.25 bar                   |
| 195/50 R13 C | 6.5 bar                    |
| 185 R 14 C   | 4.5 bar                    |
| 185/70 R 13  | 3.0 bar                    |
| 185/65 R 14  | 2.9 bar                    |
| 185/60 R12 C | 6.5 bar                    |
| 18.5 x 8.50  | 3.4 bar                    |

### 8.5 Inspection

- Inspections may be carried out only by authorised specialist workshops.
- Work on brake systems as well as on electrical and hydraulic systems may be carried out only according to the respective manufacturer's specifications.
- Maintenance work may only be performed with sufficient light.
- Only perform inspection work under the tilted bed using the trailer-specific safety support or other supports. The trailer-specific safety support may only be used when the unladen bed is tilted backwards.

Make sure that the safety support is in perfect condition and has no signs of damage; otherwise, very serious injuries could occur.

### 8.5.1 Inspection before handover

| Vehicle part | Test criterion     | Work to be performed          |
|--------------|--------------------|-------------------------------|
| Brake system | Braking effect     | Check and adjust if necessary |
| Tyres        | Inflation pressure | Check and adjust if necessary |
| Lighting     | Lights             | Check and repair if necessary |

### 8.5.2 Inspection schedule

| Vehicle part     | Test criterion                    | Work to be performed                                |
|------------------|-----------------------------------|-----------------------------------------------------|
| Complete trailer | Screwed connection                | Check and tighten if necessary                      |
|                  | Corrosion protection, damage      | Check and repair if necessary                       |
| Brake system     | Brake pads                        | Check and renew if necessary                        |
|                  | Brake mechanism                   | Check and repair if necessary                       |
|                  | Sliding points on brake mechanism | Grease                                              |
|                  | Overrun mechanism                 | Lubricate, check brake fluid                        |
|                  | Brake                             | Adjust                                              |
|                  | Braking effect                    | Check                                               |
| Wheel bearings   | Seals                             | Check and renew complete bearing if necessary       |
|                  | Play                              | Check and renew complete bearing if necessary       |
| Axle             | Damage                            | Carry out visual inspection and repair if necessary |
|                  | Mount                             | Check and repair if necessary                       |
| Rims             | Damage                            | Check and renew if necessary                        |

| Vehicle part              | Test criterion                 | Work to be performed                                           |
|---------------------------|--------------------------------|----------------------------------------------------------------|
| Tyres                     | Damage                         | Check and renew if necessary                                   |
|                           | Excessive ageing               | Check and renew if necessary                                   |
|                           | Tread                          | Check and renew if necessary                                   |
|                           | Run-out                        | Check and balance if necessary                                 |
|                           | Inflation pressure             | Check and correct if necessary                                 |
| Drawbar/overrun mechanism | Screw connections              | Check and renew if necessary                                   |
|                           | Warpage                        | Check and repair if necessary                                  |
| Lighting                  | Connectors, cables, lights     | Check and repair if necessary                                  |
|                           | Rear lights                    | Check and renew if necessary                                   |
| Floor                     | Damage                         | Check and renew if necessary                                   |
| Rubber floor              | Sealing                        | Check and renew if necessary                                   |
| Windows                   | Gluing                         | Check and repair/renew if necessary                            |
| Information signs         | Completeness and legibility    | Check and renew if necessary                                   |
| Accessories               | Connections                    | Check and repair/renew if necessary                            |
| Hydraulic hoses           | Fissures                       | Check                                                          |
|                           | Manufacturing date information | Replace hoses that are older than five years                   |
| Hydraulic oil             | Check fluid level              | Pump the bridge up as far as possible                          |
| Plastic blocks            | Screws securely tightened      | Visual check for wear and damage, replace if worn as necessary |



| Vehicle part              | Test criterion                                   | Work to be performed           |
|---------------------------|--------------------------------------------------|--------------------------------|
| Battery box and electrics | Damage to cables and insulation corrugated tubes | Check, renew if necessary      |
|                           | Cover caps for battery poles                     | Check and renew if necessary   |
|                           | Cable screw connections                          | Check and tighten if necessary |
| Safety support            | Screw connections                                | Check                          |
|                           | Damage to complete safety support                | Visual check before any use    |
| Upper bridge mounting     | Screw connections (reverse tipper)               | Check                          |
|                           | Damage to connection and support                 | Visual check before any use    |

### 8.5.3 Proof of inspection

---

The inspections must be performed after a set number of kilometres driven (see table) or every six months at the latest.

|                            | Stamp | Date | Signature |
|----------------------------|-------|------|-----------|
| Inspection before handover |       |      |           |
| 1,000 km inspection        |       |      |           |
| 5,000 km inspection        |       |      |           |
| 10,000 km inspection       |       |      |           |
| 15,000 km inspection       |       |      |           |



|                      | Stamp | Date | Signature |
|----------------------|-------|------|-----------|
| 20,000 km inspection |       |      |           |
| 25,000 km inspection |       |      |           |
| 30,000 km inspection |       |      |           |
| 35,000 km inspection |       |      |           |
| 40,000 km inspection |       |      |           |
| 45,000 km inspection |       |      |           |



## 8 Cleaning, Maintenance and Inspection

|                      | Stamp | Date | Signature |
|----------------------|-------|------|-----------|
| 50,000 km inspection |       |      |           |
| 55,000 km inspection |       |      |           |
| 60,000 km inspection |       |      |           |
| 65,000 km inspection |       |      |           |
| 70,000 km inspection |       |      |           |
| 75,000 km inspection |       |      |           |



|                       | Stamp | Date | Signature |
|-----------------------|-------|------|-----------|
| 80,000 km inspection  |       |      |           |
| 85,000 km inspection  |       |      |           |
| 90,000 km inspection  |       |      |           |
| 95,000 km inspection  |       |      |           |
| 100,000 km inspection |       |      |           |

## 9 Troubleshooting

| Faults                                  | Possible cause                                                | Remedy                                                                                                                                                                                                               |
|-----------------------------------------|---------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Lights do not work                      | Connector not properly inserted into socket on towing vehicle | <ul style="list-style-type: none"> <li>Insert the 7-pin connector into the socket on the towing vehicle</li> <li>Insert the 13-pin connector into the socket on the towing vehicle and turn it 90 degrees</li> </ul> |
|                                         | Bulb defective                                                | Renew bulb                                                                                                                                                                                                           |
|                                         | Cable defective                                               | Renew cable                                                                                                                                                                                                          |
|                                         | Connector defective                                           | Replace connector                                                                                                                                                                                                    |
| Side wall or rear ramp cannot be closed | Object blocking side wall or rear ramp                        | Open the side wall or rear ramp, remove the object and clean the gap.                                                                                                                                                |
|                                         | Load protruding slightly over bed                             | Redistribute load on bed.                                                                                                                                                                                            |
|                                         | Side wall or rear ramp warped                                 | Please contact your dealer or Böckmann directly                                                                                                                                                                      |
| Bed cannot be pumped up                 | Pressure relief valve open                                    | Tighten the hand wheel hand-tight to close the pressure relief valve.                                                                                                                                                |
|                                         | Not enough hydraulic oil                                      | Top up hydraulic oil                                                                                                                                                                                                 |
|                                         | Leak                                                          | Contact the dealer                                                                                                                                                                                                   |
| Electrohydraulic pump not working       | Rechargeable battery is flat                                  | Completely recharge battery using charger.                                                                                                                                                                           |



| Faults                            | Possible cause                                                   | Remedy                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------------------------|------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                   | <p>Permanently installed charger (accessory) does not charge</p> | <p>Switch on the ignition of the towing vehicle.<br/>         Check the 13-pin connector for proper seating and damage.<br/>         If the indicator light still does not illuminate:<br/>         Check the pin assignment of the socket on the towing vehicle to ensure it is complete (See section 4.1 <i>Electrical connections</i>, page 18).<br/>         Check the fuses in the supply line to the device and replace if necessary with fuses of the same type.</p> |
| <p>Hydraulic pump not working</p> | <p>Emergency stop button has been pressed</p>                    | <p>Check the emergency stop button and pull out if necessary</p>                                                                                                                                                                                                                                                                                                                                                                                                            |

## 10 Service

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### 10.1 Information on quality

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The following are not defects:

- Moisture, humidity
- Water ingress
- Minor scratches
- Varying surface appearance

#### **Moisture, humidity**

The trailer is not thermally insulated. Condensation may therefore form under canvas covers, polyester roofs and aluminium roofs.

#### **Water ingress**

Water may enter the trailer through openings such as doors, ramps and windows.

#### NOTE

If you leave your trailer closed and parked for long periods, make sure to ventilate the interior every now and again to prevent mildew from forming.

If possible, park the trailer tilted slightly and with the box open. This will prevent rainwater from collecting on the bed over long periods.

---

#### **Minor scratches**

During the production of Böckmann trailers, care is taken to ensure that surfaces are not scratched. However, since the trailers are hand-built, minor scratches can arise on the surfaces during assembly. These scratches do not affect the functioning or safety of the trailer.

#### **Polyester components**

The polyester components are not 100% colour-fast. Bleaching and/or colour changes may therefore occur. The individual components of polyester constructions may differ in colour and gloss. Hairline cracks may also occur due to concentrated loading on components, e.g. from cargo sliding and hitting the wall. Hairline cracks are visible marks on the components, but do not affect the functioning or the safety of the trailer.

#### **10.1.1 Varying surface appearance**

---

##### **Wood surfaces**

All wood surfaces used are coated with phenolic resin or plastic. Both phenolic resin and plastic react to changing weather conditions. The colours may fade.



Plywood walls and floors expand and contract minimally depending on the relative humidity and temperature of the surrounding air. This is due to the natural properties of the material. Wooden parts may warp as a result. The wood grain and unevenness may become visible on the surface.

### **Aluminium surfaces**

Aluminium profiles are anodised. The colours of individual profiles may vary slightly. This colouring is a characteristic of the material and does not affect the use or safety of the trailer.

### **Rubber surfaces**

Due to their material properties, rubber surfaces may shrink slightly over time.

### **Galvanised metal surfaces**

Galvanised metal surfaces need to oxidise before they can provide effective protection against corrosion. This oxidation process may take several months. As long as the metal surface still has a shiny silver appearance, the oxidation process is not yet completed.

Galvanised parts are not resistant to certain aggressive chemical substances such as acids. Galvanised metal surfaces that come into contact with aggressive chemical substances (road salt or fertiliser) must be rinsed thoroughly with clean water immediately after the journey.

## **10.2 Spare parts and accessories**

---

There are two methods for ordering spare parts or accessories for your trailer:

- You can contact the Böckmann dealer in your region.  
You will find your nearest dealer via *"FIND A DEALER"* on our website [www.boeckmann.com](http://www.boeckmann.com)
- If there is no dealer in your area, you can contact Böckmann directly:  
Böckmann Fahrzeugwerke GmbH  
Siehefeld 5  
49688 Lastrup  
Germany  
Tel: +49 (0) 4472 895-210  
Fax: +49 (0) 4472 895-470  
Email: [etl@boeckmann.com](mailto:etl@boeckmann.com)

### **10.2.1 Reordering keys**

---

You can reorder keys for the following components:

- Lockable coupling
- Aluminium cover

When ordering, please specify the number engraved on the key.

The number is engraved on the key and the lock.

## 11 Declaration of conformity

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### EG-Konformitätserklärung nach Maschinenrichtlinie 2006/42/EG, Anhang II 1A

**Bauart:** Anhänger

**Typ:** 3-Seiten-Kipper

**Maschinen-Nr.:** WB0RDK1AA00000000 – 999999

WB0RDK2AA00000000 – 999999

ist entwickelt, konstruiert und gefertigt in Übereinstimmung mit den EG-Richtlinien

|                   |                                       |
|-------------------|---------------------------------------|
| <b>2006/42/EG</b> | <b>Maschinen</b>                      |
| <b>2014/68/EU</b> | <b>Druckgeräte – Art 4 Abs. 3</b>     |
| <b>2014/30/EU</b> | <b>Elektromagnet. Verträglichkeit</b> |

in alleiniger Verantwortung von

**Firma:** **BÖCKMANN Fahrzeugwerke GmbH**  
**SIEHEFELD 5**  
**49688 LASTRUP**

|                                               |              |                                                                           |
|-----------------------------------------------|--------------|---------------------------------------------------------------------------|
| Folgende harmonisierte Normen sind angewandt: | EN ISO 12100 | Sicherheit von Maschinen, Geräten und Anlagen                             |
|                                               | EN ISO 13857 | Sicherheit von Maschinen; Sicherheitsabstände obere und untere Gliedmaßen |
|                                               | EN 1853      | Landmaschinen – Anhänger – Sicherheit                                     |
|                                               | EN 4254-1    | Landmaschinen - Sicherheit - Teil 1: Generelle Anforderungen              |
|                                               | EN ISO 4413  | Sicherheit Hydraulik                                                      |
|                                               | EN 61000-6-2 | EMV Störfestigkeit                                                        |
|                                               | EN 61000-6-4 | EMV Störaussendung                                                        |
|                                               | EN ISO 13849 | Sicherheit von Steuerungen                                                |
|                                               | EN 60204-1   | Sicherheit E-Technik                                                      |
|                                               | EN 62745     | Anforderungen für kabellose Steuerungen an Maschinen                      |

Eine vollständige Liste der angewendeten Normen, Richtlinien und Spezifikationen liegt beim Hersteller vor. Eine Technische Dokumentation ist vollständig vorhanden. Die zur Maschine gehörende Betriebsanleitung liegt vor.

Dokumentationsbevollmächtigter: **Leiter Technik**  
**SIEHEFELD 5**  
**49688 LASTRUP**

Lastrup, den 10.12.2020

Ort, Datum



Unterschrift

Klaus Böckmann

Geschäftsführer



Wir, die Firma: Böckmann Fahrzeugwerke GmbH  
Siehefeld 5  
D-49688 Lastrup

erklären, dass das von uns in Verkehr gebrachte Erzeugnis

Produktart: Brückenhubeinheit  
Maschinenbezeichnung: BHEe (Brückenhubeinheit elektrisch angetrieben)  
BHEm (Brückenhubeinheit manuell angetrieben)  
----  
Handelsbezeichnung:  
Serien-Nr. Bereiche: WB0 DKA AAA 00 000000 bis .... 999999  
WB0 RKH AAA 00 000000 bis .... 999999  
WB0 RKT AAA 00 000000 bis .... 999999  
WB0 ATH AAA 00 000000 bis .... 999999  
WB0 KTH AAA 00 000000 bis .... 999999  
WB0 ATA AAA 00 000000 bis .....999999  
WB0 KOM AAA 00 000000 bis .....999999

hinsichtlich Konzipierung und Bau den grundlegenden Sicherheits- und Gesundheitsanforderungen der nachstehenden aufgeführten EG-Richtlinien entspricht:

Richtlinie 2006/42 EG (vom 17. Mai 2006)  
Maschinenrichtlinie  
Richtlinie 1999/5 EG (vom 9. März 1999)  
Telekommunikationsrichtlinie  
Richtlinie 2004/108 EG (vom 15. Dezember 2004)  
Richtlinie zur elektromagnetischen Verträglichkeit

Hierfür wurden nachstehende harmonisierte Normen angewandt, insbesondere:

DIN EN ISO 12100-01:2003  
Sicherheit von Maschinen - Grundsätzliche Terminologie, Methodologie  
DIN EN ISO 12100-02:2003  
Sicherheit von Maschinen - Technische Leitsätze  
DIN EN 982-06:2009  
Sicherheit von Maschinen - Sicherheitstechnische Anforderungen an fluidtechnische Anlagen und deren Bauteile  
DIN EN 349-09:2008  
Sicherheit von Maschinen - Mindestabstände zur Vermeidung des Quetschens von Körperteilen  
DIN EN ISO 14121-1:2007-12  
Sicherheit von Maschinen - Risikobeurteilung - Teil 1: Leitsätze

Dokumentationsbevollmächtigter: Leiter Technik, Arbeitsvorbereitung  
Siehefeld 5  
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Klaus Böckmann  
(Geschäftsführer)

Lastrup, 31.07.2012

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