



Operating Instructions



Box trailer
Cargo high-bed trailer
Van trailer





Your vehicle data

Vehicle model:	_____
Chassis no.:	_____
Total weight rating:	_____
Year of construction:	_____
Tyre size/manufacturer:	_____
Overrun device typePro- ducer / test mark:	_____
Drawbar / tow bar Manufacturer / test symbol:	_____
Axle type Manufacturer / test symbol:	_____
Wheel brake type Manufacturer / test symbol:	_____
Ball coupling type Manufacturer / test symbol:	_____
Key no. for lockable cou- pling:	_____





Table of contents

1	Important Information	1
1.1	Operating Instructions	1
1.2	Representation Conventions	1
1.3	Trailer Versions and Accessories	2
1.4	Third-Party Documentation	2
1.5	Trailer Approval	2
1.6	Driving Licence	2
2	Safety	3
2.1	Intended Use	3
2.2	Basic Safety Instructions	3
2.3	Labels	4
2.4	Disposal	6
3	Technical Data	7
3.1	Rating plate	7
4	Trailer Features	8
4.1	Electrical Connections	8
4.2	Towing Devices	9
4.3	Coupling	9
4.4	Breakaway Cable for Overrun Brake	12
4.5	Jockey wheel	12
4.6	Parking brake and wheel chocks	14
4.7	Rear prop stands	14
4.8	Load-Securing Components	17
4.9	Body	19
4.10	Drive-on Aids	20
5	Coupling	22
5.1	Nose Weight	22
5.2	Coupling	22
5.3	Parking the Trailer	23

6	Loading	24
6.1	Loading and Unloading the Trailer	24
6.2	Preparations	24
6.3	Weight Distribution	24
6.4	Securing the Load	25
6.5	Loading the Vehicle with Drive-on Aids	27
7	Driving	28
7.1	Pre-drive Checklist	28
7.2	Driving Precautions	28
7.3	Brakes	29
7.4	Reversing	30
7.5	Manoeuvring	30
8	Cleaning, Maintenance and Inspection	31
8.1	Care and Cleaning	31
8.2	Maintenance	32
8.3	Tyres and Changing Wheels	33
8.4	Inspection	34
9	Troubleshooting	41
10	Service	42
10.1	Information on Quality	42
10.2	Ordering Spare Parts and Accessories	43



1 Important Information

1 Important Information

Dear Customer,

These operating instructions are intended to help you use your "First-Class Trailer" optimally. Following these instructions will ensure that you can use your trailer safely for a long time.

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

1.1 Operating Instructions

- Please retain 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.
- 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.
-

1.2 Representation Conventions

1.2.1 Safety Notices and Warnings

In these operating instructions a three-level system is used to indicate different hazard severities.

⚠ WARNING

Indicates that death or serious bodily injury will probably 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:

i NOTE

Points out particularly important information about the trailer, handling of the vehicle or the respective part of the operating instructions.

TIP

Indicates a user tip.

1.2.2 Text Distinctions

The following text markings are used in these operating instructions:

A Version variants are indicated by the respective capital letters.

1.3 Trailer Versions and Accessories

All trailers are available in different versions. You can also retrofit your trailer with additional accessories (see "Spare Parts and Accessories").

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

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

1.4 Third-Party Documentation

If the trailer is fitted with purchased parts the corresponding operating instructions from the third-party manufacturers are supplied with the trailer documents.

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

1.5 Trailer Approval

Trailer approval is country-specific. Please find out how and where you can obtain approval for your trailer.

You must insure your trailer and obtain approval for road driving before you can drive on the roads.

1.5.1 Speed Limit of 100

The maximum allowable 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

1.5.2 Vehicle Inspection

The regulations for vehicle inspections are country-specific. Please find out

- when a vehicle inspection is required and
- where a vehicle inspection can be carried out for your vehicle.

1.6 Driving Licence

Depending on the country, a specific driving licence may be needed for towing a trailer. Please find out about the requirements in your country.



2 Safety

2 Safety

2.1 Intended Use

The trailer is designed to transport goods in the range of the corresponding gross weight rating (see "Technical Data"), and is intended to be used in combination with towing vehicles whose rear overhang (dimension from the centre of the rear axle to the ball coupling) is no more than 160 cm.

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

If you have any questions, contact your dealer.

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

The following uses are prohibited:

- transport of people
- transport of animals

2.2 Basic Safety Instructions

2.2.1 Inspections

- The delivery inspection must be carried out by the dealer and recorded in

the inspection schedule (see "Cleaning, Maintenance and Inspection").

- The wheel bolts must be inspected after the first 50 km using a torque wrench (see "Cleaning, Maintenance and Inspection").
- All further inspections must be carried out in accordance with the inspection schedule (see "Cleaning, Maintenance and Inspection").

2.2.2 People

- Trailers are not toys. Do not allow children to play unattended in the vicinity of a trailer. They may injure themselves when playing with the trailer.
- People working with or driving the trailer must have read and understood these operating instructions.

2.2.3 Trailer

- Never use a defective trailer. Defective trailers conceal 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 ramps or dirt please mount an easily visible rear lighting unit to mark the end of the trailer.

2.2.4 Load

- Do not exceed the total weight rating (see "Loading").
- Do not exceed the edge load capacity (see "Loading").
- The trailer must be loaded carefully and correctly. Incorrectly loaded trailers can easily start skidding. See "Loading" to find out how to load the trailer correctly.

2.2.5 Driving

- Before starting a journey you must complete the pre-drive checklist (see "Driving").
- Familiarise yourself with the driving and braking characteristics (see "Driving") of the trailer in difficult road and weather conditions, for example inclines, rough roads, storms, side wind and snow.
- 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.

2.2.6 Repair

Note the following for repairs:

- Repairs may only be carried out at approved authorised shops.
- Only genuine spare parts may be used for repair.

- Vehicle modifications and extensions are subject to the approval of

2.2.7 Environmental Conditions

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

2.3 Labels

The following labels are affixed to the trailer:

2.3.1 Hand Injuries



Fig. 1: "Hand injuries" label

This indicates that handling trailers may result in hand injuries with possibly permanent damage from crushing.

2 Safety

2.3.2 Read Operating Instructions



Fig. 2: "Read instructions" label

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

2.3.3 Replace Spring Clip

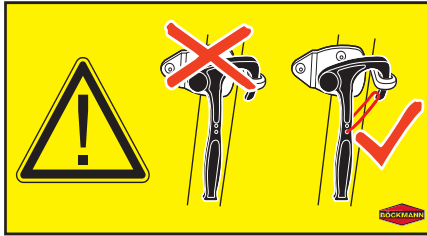


Fig. 3: "Lock using spring clip" label

This indicates that you may only use locks with spring clips.

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

2.3.4 Lubrication Points on the Coupling

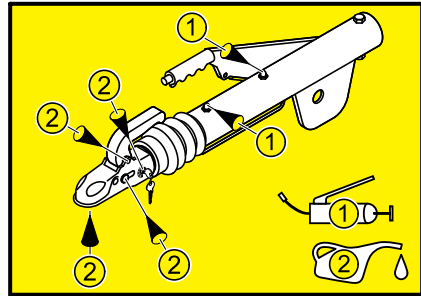


Fig. 4: "Lubrication points on coupling" label

This indicates the places where you must lubricate the coupling.

2.3.5 Edge Load Capacity

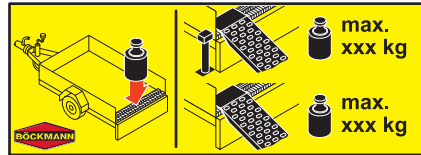


Fig. 5: "Load capacity on loading edge" label

This indicates the max. allowable load on the loading edge with and without a rear support leg.

2.3.6 Lashing Points on the Trailer

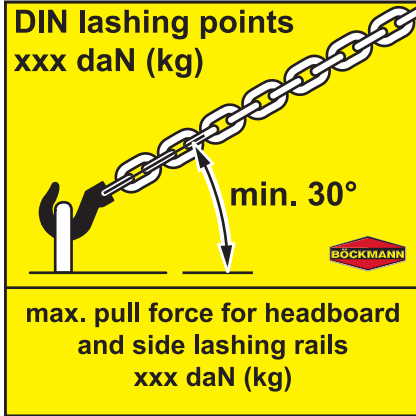


Fig. 6: "Lashing points on trailer" label

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

2.4 Disposal

The trailer owner must dispose of the trailer and all associated components in accordance with national disposal regulations.

Waste electrical and electronic equipment



Devices marked with this symbol are subject to the European Directive 2002/96/EG. All old electronic and electric devices must be disposed of separately from normal house waste. Ask your local authority how to properly dispose of old devices.

Batteries



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

Hydraulic oil

Hydraulic oil must be disposed of properly. Please observe local regulations.

Old tyres

Dispose of old tyres in accordance with local regulations.

3 Technical Data

3 Technical Data

The technical data for your trailer can be found in the following places:

- in the vehicle documents for your trailer
- on the trailer's rating plate
- in the type identification information for the trailer.

3.1 Rating plate

①	
②	XX XXXX XX XXXX XX
③	XXXXXXXXXXXXXXXXXXXX
	④ XXXX kg
1 -	⑤ XXXX kg
2 -	⑥ XXXX kg

Fig. 1: Rating plate

- 1 Manufacturer
- 2 General operator's licence (ABE) number for the approved trailer type
- 3 17-digit trailer identification number
- 4 Total weight rating
- 5 Total weight rating for axle 1
- 6 Total weight rating for axle 2 (if applicable)

4 Trailer Features

4.1 Electrical Connections

The following connectors are distinguished:

- 7-pin connector
- 13-pin connector.



NOTE

Please use an adapter if the socket of the towing vehicle does not match the trailer plug.

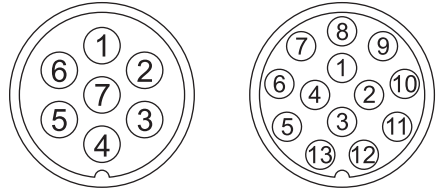


Fig. 1: Plug versions

Contact no.	Function	Connected load	Wire colour
1	Direction indicator left (flash light)	1.5 mm ²	yellow
2	Rear fog light	1.5 mm ²	blue
3 ^{a)}	Ground for contacts no. 1 to 8	2.5 mm ²	white
4	Direction indicator right (flash light)	1.5 mm ²	green
5	Right-hand tail lights, outline marker lights, limiting lights and plate light ^{b)}	1.5 mm ²	brown
6	Brake lights	1.5 mm ²	red
7	Left-hand tail lights, outline marker lights, limiting lights and plate light ^{b)}	1.5 mm ²	black
8	Reversing light	1,5 mm ²	grey ^{c)}
9	Power supply (continuous positive)	2.5 mm ²	brown/blue ^{c)}
10	The power supply is controlled via the ignition	2.5 mm ²	brown/red ^{c)}
11 ^{a)}	Ground for circuit from contact no. 10	2.5 mm ²	white/red ^{c)}

4 Trailer Features

Contact no.	Function	Connected load	Wire colour
12	Reserved for future applications	---	Not used
13 ^{a)}	Ground for circuit from contact no. 9	2.5 mm ²	black/white ^{c)}

- a) The three ground wires must not be connected to any functional electrical conductor on the trailer.
 b) The plate light must be connected in such a manner that no lamp of this device is connected with contacts no. 5 and 7.
 c) The colour assignment is determined by the manufacturer. Differences may occur.

4.2 Towing Devices

The following towing devices are distinguished:

- A-frame drawbar (A)
- straight drawbar (B)
- height-adjustable drawbar (C).

A A-frame drawbar

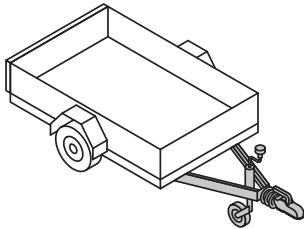


Fig. 2: A-frame drawbar

B Straight drawbar

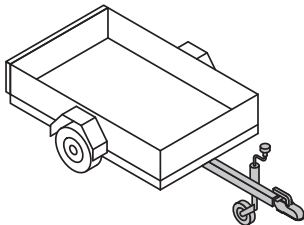


Fig. 3: Straight drawbar

C Height-adjustable drawbar

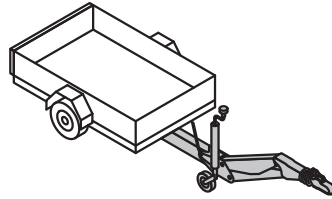


Fig. 4: Height-adjustable drawbar

i NOTE

See additional operating instructions and / or third-party documentation.

4.3 Coupling

The following couplings are distinguished:

- standard coupling version (A),
- anti-sway coupling (B) [accessory].

A Standard coupling version (also available lockable, A2)

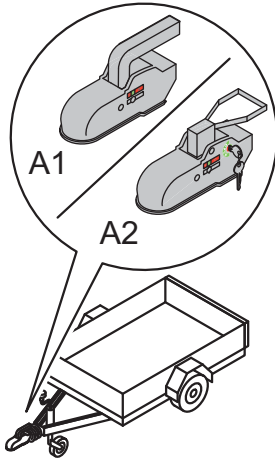


Fig. 5: Standard coupling version A1

B Anti-sway coupling and towing eyes



NOTE

See additional operating instructions and / or third-party documentation.

4.3.1 Indication of the coupling status with standard couplings

A distinction is made between two standard coupling variants as regards indication of the coupling statuses, (A) and (B).

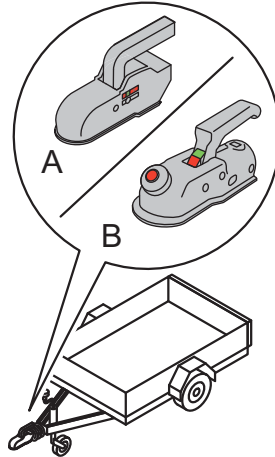


Fig. 6: Standard couplings

A Coupling statuses, variant I

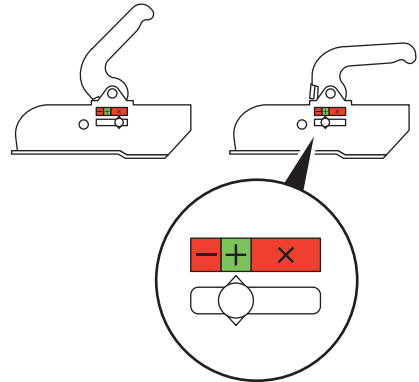


Fig. 7: Wear indicator

Check the wear indicator for the coupling.

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

If the wear indicator is in the "-" range, do not drive with the trailer.

4 Trailer Features

The indicator shows the following statuses:

- 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. Either the ball has not been fitted completely into the ball coupling or the ball coupling or ball is worn.

B Coupling statuses, variant II

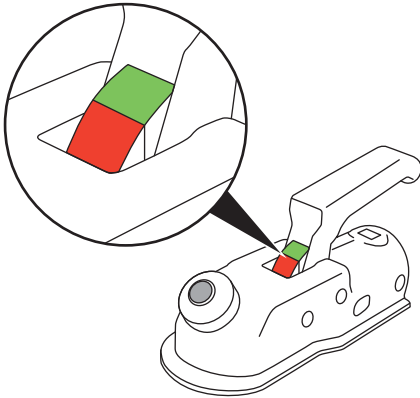


Fig. 8: Wear indicator

Check the wear indicator for the coupling.

In coupled status, the indicator must lie within the green range.

If the wear indicator only indicates the red range, do not drive with the trailer.

The indicator shows the following statuses:

- The **green** range indicates that the wear on the coupling and the towing

vehicle's coupling ball wear is in the permissible range.

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

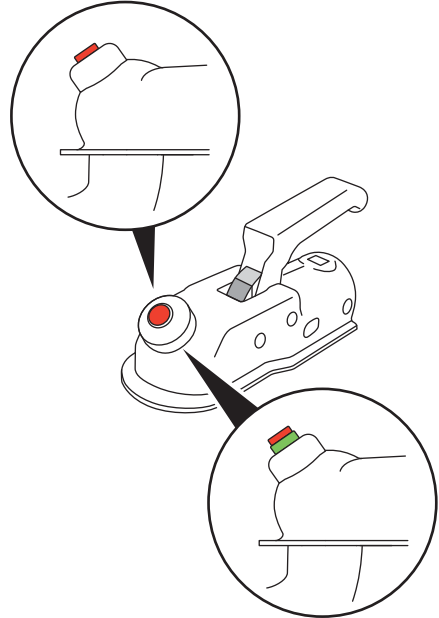


Fig. 9: Safety indicator

Check the coupling's safety indicator.

When coupled, the safety indicator's green cylinder must be visible.

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

Opening the coupling

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

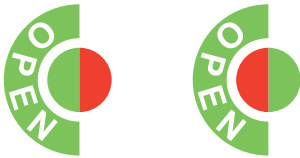


Fig. 10: Opened and closed coupling

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

Closing the coupling

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

4.4 Breakaway Cable for Over-run Brake



NOTE

Breakaway cables are only installed in braked trailers.

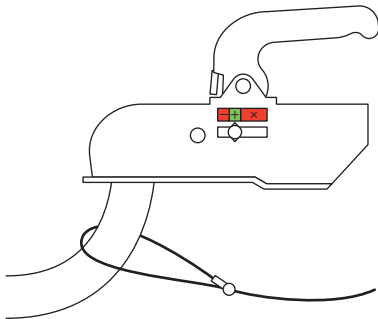


Fig. 11: Breakaway cable



NOTE

The loop of the breakaway cable must be large enough to ensure that even in extreme curves the cable is not pulled and hence the trailer's emergency brake is not activated.

Fitting the breakaway cable

1. Lay the breakaway cable over the tow bar on the towing vehicle.
2. Attach the clip to the breakaway cable.

4.5 Jockey wheel

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 are distinguished:

- basic version of jockey wheel (A)
- automatic jockey wheel
 - basic version (B)
 - with split pin (C).

4 Trailer Features

A Basic version of jockey wheel

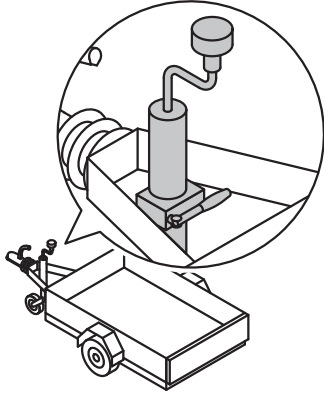


Fig. 12: Basic version of jockey wheel

B Automatic jockey wheel basic version

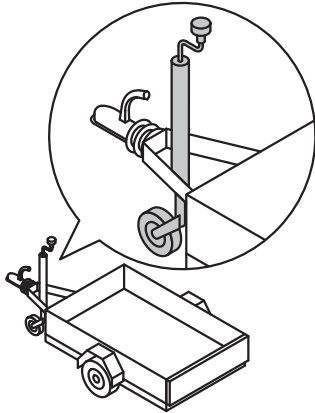


Fig. 13: Automatic jockey wheel

C Automatic jockey wheel with split pin

NOTE

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

Extending the jockey wheel

1. Only for the basic jockey wheel version: loosen the tommy screw and lower the jockey wheel.
2. Lower the jockey wheel using the hand crank.

Retracting the jockey wheel

1. Raise the jockey wheel as far as possible using the hand crank.
2. Secure the jockey wheel:
 - For the basic jockey wheel version: slide the jockey wheel up as far as possible and tighten the tommy screw.

4.6 Parking brake and wheel chocks



NOTE

Parking brakes and wheel chocks can only be found on braked trailers.

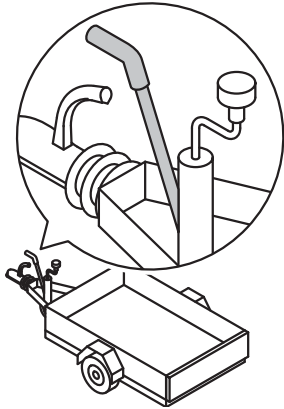


Fig. 14: Parking brake with spring energy accumulator

CAUTION

Sticking and frozen brake pads

Personal injury through delayed braking action

- The trailer should not be secured by means of the parking brake in frost conditions or when not in use for long periods.
- Secure the trailer using wheel chocks.

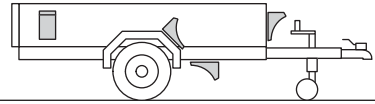


Fig. 15: Positions of the wheel chocks

WARNING

Delayed braking action with the spring energy accumulator

Pinching of body parts, material damage

When the parking brake is applied, the trailer is secured against rolling. After applying the parking brake, the trailer can still be moved 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 power is applied.

Applying the parking brake

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

Releasing the parking brake

- Push the hand lever down.

4.7 Rear prop stands

The following rear prop stands are distinguished:

- adjustable support leg
 - basic version (A)
 - reinforced version (B)
- fold-out support leg (LINNEPE support leg) (C)
- telescopic crank-down support leg (D).

4 Trailer Features

A Basic version of adjustable support leg

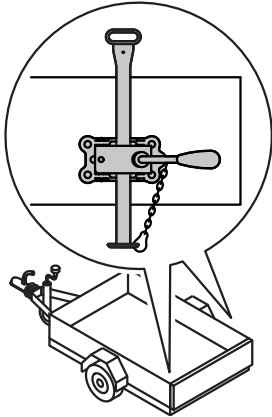


Fig. 16: Basic version of adjustable support leg

Extending the rear support leg

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

Retracting the rear support leg

1. Loosen the tommy screw of the support leg and slide the support leg up until it is completely retracted.
2. Tighten the tommy screw and secure with the safety chain.

B Reinforced version of adjustable support leg

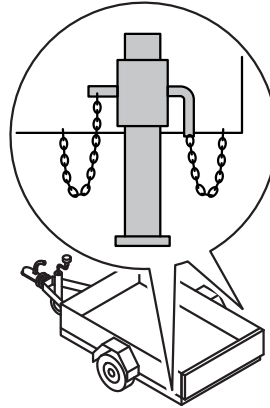


Fig. 17: Reinforced version of adjustable support leg

Extending the rear support leg

1. Pull out the split pin.
2. Pull out the bolt and slide the support leg down until it is firmly touching the ground.
3. Fasten the bolt into the corresponding bolt hole and secure with the split pin.

Retracting the rear support leg

1. Pull out the split pin.
2. Pull out the bolt and slide the support leg up until it is completely retracted.
3. Fasten the bolt into the corresponding bolt hole and secure with the split pin.

C Fold-out support leg

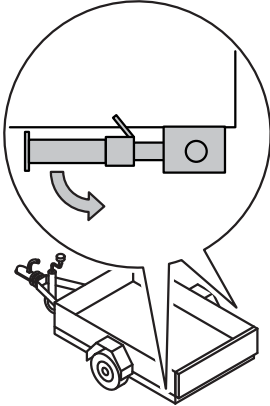


Fig. 18: Fold-out support leg (LINNEPE support leg)

Extending the rear 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.

Retracting the rear 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

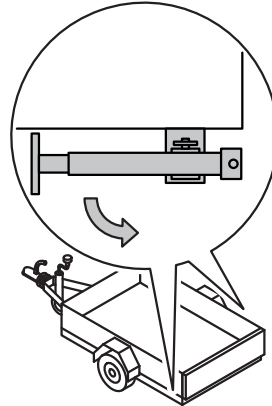


Fig. 19: Telescopic crank-down support leg

Extending the rear 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 the leg is firmly touching the ground.
3. Detach the hand crank and store safely.

Retracting the rear support leg

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

4 Trailer Features

4.8 Load-Securing Components

The following load-securing components are distinguished:

- components for lashing heavy loads
- components for lashing light loads
- components for preventing loads from slipping.

4.8.1 Components for Lashing Heavy Loads

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

- fixed lashing shackles (A)
- recessed hinged ring (B)
- lashing points integrated into or mounted on the side wall (C).

A Fixed lashing shackles

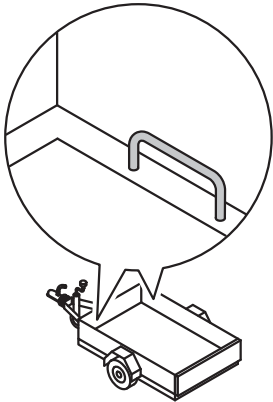


Fig. 20: Fixed lashing shackles

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

B Recessed hinged rings

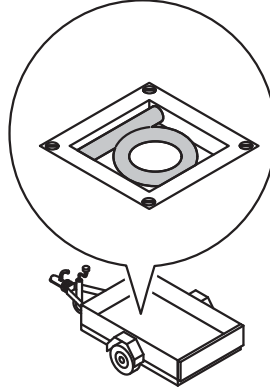


Fig. 21: Recessed hinged rings

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

C Lashing points integrated into or mounted on the side wall

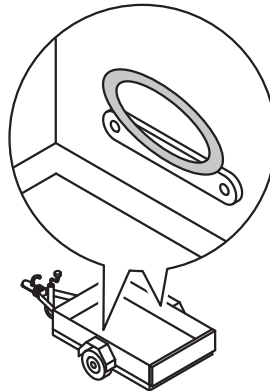


Fig. 22: Example: lashing eyes

Lashing options are mounted on the insides of the side walls or let into the side walls.

4.8.2 Components for Lashing Light Loads

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

- side wall lashing rail (A)
- ladder rack (B).

A Side lashing rails

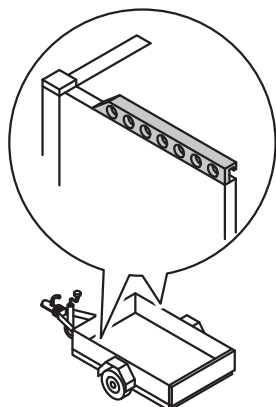


Fig. 23: Side lashing rails

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

B Ladder rack

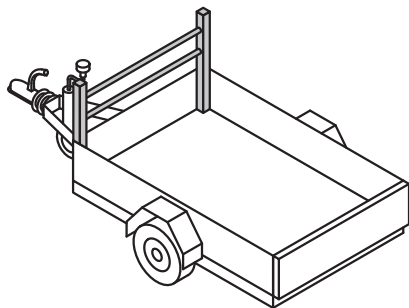


Fig. 24: Ladder rack

The ladder rack is especially suitable for securing high loads such as ladders or similar items that protrude over the trailer edge.

4.8.3 Components for Preventing Loads from Slipping

A Anchor track with load bars

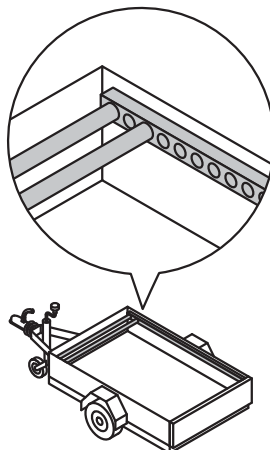


Fig. 25: Anchor track with load bars

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

4 Trailer Features

B Rail let into the floor

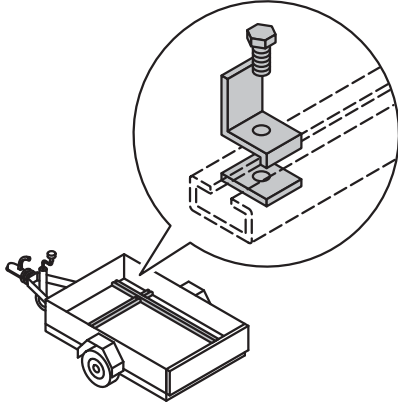


Fig. 26: Rail, let into the floor

Lash the fastening equipment within one rail. Do not lash from one rail to the other.



NOTE

Note the manufacturer's declaration.

4.9 Body

The following add-on body parts are distinguished:

- side wall extension (A)
- box extension (B)
- aluminium cover (C)
- canvas cover with frames (D)
- mesh extension (E).

A Side wall extension

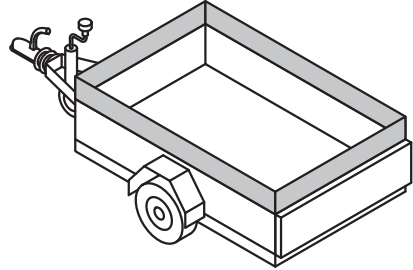


Fig. 27: Side wall extension

B Box extension

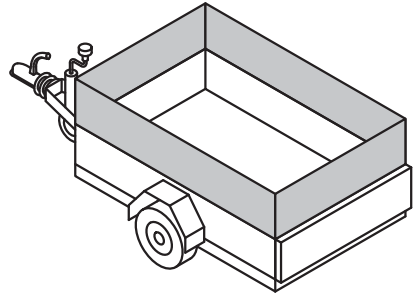


Fig. 28: Box extension

C Aluminium cover

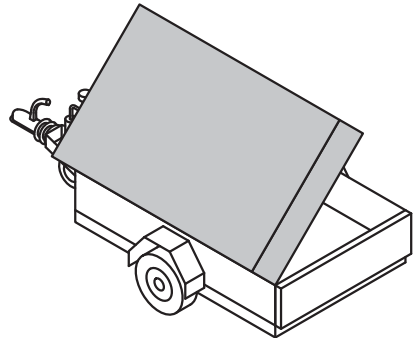


Fig. 29: Aluminium cover

The aluminium cover can be locked to prevent unauthorised access.

D Canvas cover with frames

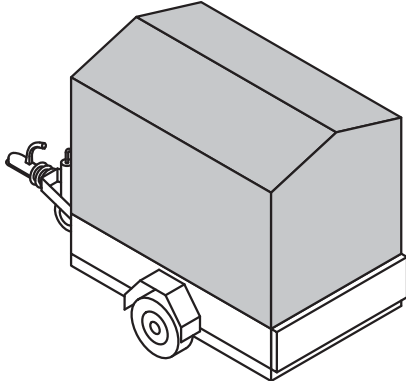


Fig. 30: Canvas cover with frame

The frame is only inserted into the corner posts and is not firmly mounted.

E Mesh extension

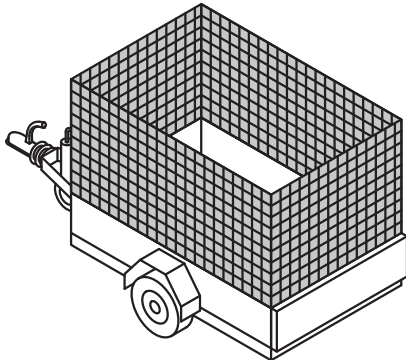


Fig. 31: Mesh extension

The mesh extension is especially suitable for securing goods which can be blown away easily. The mesh extension is only inserted into the corner posts and is not firmly mounted.

4.10 Drive-on Aids

4.10.1 Drive-on rails

NOTE

Use the drive-on rails solely to load vehicles or loads such as construction machinery from the ground to the bed.

The following drive-on rails are distinguished:

- Drive-on rails
 - slide-in (A)
 - fastened to side wall (B)
- motorcycle loading rail (C).

A Slide-in drive-on rails

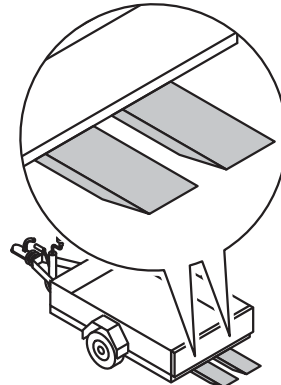


Fig. 32: Slide-in drive-on rails

Attaching the drive-on rails

1. Pull the drive-on rails out of the rail storage position.
2. Open the tailgate.

4 Trailer Features

- Hook the drive-on rails with the securing rail into the anti-slip fitting on the bed.

Detaching the drive-on rails

- Remove the drive-on rails.
- Store the drive-on rails in the rail storage position and secure.

B Aluminium drive-on rails fastened to side walls

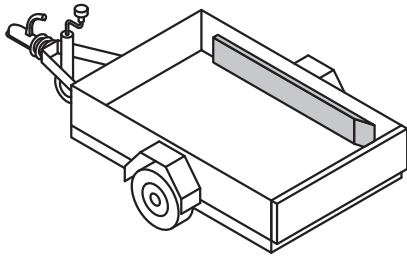


Fig. 33: Drive-on rail fastened to side wall

Attaching the drive-on rails

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

Detaching the drive-on rails

- Remove the drive-on rails and store in the brackets on the side walls.

C Motorcycle loading rail

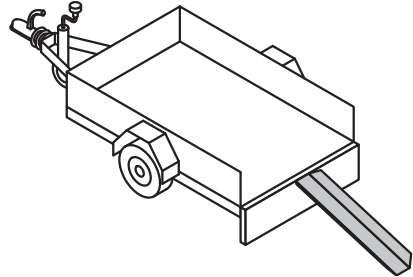


Fig. 34: Motorcycle loading rail

NOTE

See version B: Aluminium drive-on rails fastened to side walls.

5 Coupling

5.1 Nose Weight

The nose weight is defined as the weight on the towing device of the towing vehicle when a trailer is coupled.

- Ensure that:
 - the nose weight is at least 4% of the actual laden weight of the trailer. However, it need not be more than 25 kg.
 - the maximum nose weight for the towing vehicle is not exceeded.

The nose weight specifications are located with the towing vehicle:

- on a label in the rear area,
- in field 13 of part I (vehicle registration certificate) of the approval certificate.

⚠ WARNING

Danger of Skidding

Bodily injury or material damage

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

5.2 Coupling

Coupling must be done in a safe and well-lit location.

The ground or support surface 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.

5.2.1 Hitching the Trailer

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

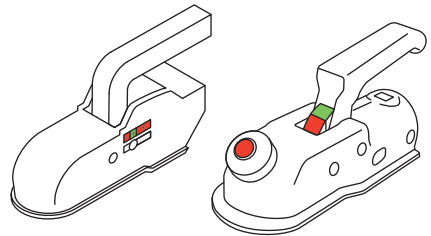


Fig. 1: Coupling status display

The coupling's firm seating is indicated by the coupling statuses. **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. Coupling must be repeated.

Additionally check correct seating by pulling forcefully on the coupling.

4. Plug the trailer connector into the socket of the towing vehicle.
5. For braked trailers attach the breakaway cable.
6. Retract the jockey wheel (if supplied).



5 Coupling

5.2.2 Unhitching the Trailer

1. Pull up the parking brake to prevent the trailer rolling away.
2. Place wheel chocks in front of the tyres.
3. For braked trailers remove the break-away cable from the tow bar of the towing vehicle.
4. Lower the jockey wheel to unload the coupling.
5. Pull the plug out of the socket.
6. Open the coupling.
7. Lift the coupling up off the tow bar of the towing vehicle.

NOTE

If possible tilt a trailer with an open box slightly when parking. This will allow rain-water to drain off the bed.

5.3 Parking the Trailer

NOTE

For the trailer to be stable the ground or support surface should be firm, level and flat.

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

- lower the jockey wheel after unhitching,
- place the wheel chocks in front of the tyres,
- place the rear prop stands (if supplied) in position.

6 Loading

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 or support surface 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. Pull up the parking brake.
2. Place wheel chocks (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 and similar parts) such that the load can be positioned in the middle near the axis.
2. Make sure all attachment parts, ramps, mesh partitions, canvases etc. are completely mounted and secured.
3. Place the rear support leg (if supplied) in position.

4. Make sure that the triangular reflectors 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

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.
- All parts must be secured to prevent them slipping (see "Securing the Load").
- The minimum and maximum nose weight specifications must be complied with (see "Coupling").

Correctly loaded trailer:

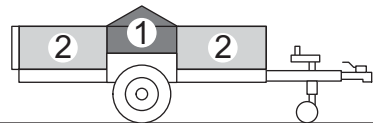


Fig. 1: Zones for load distribution

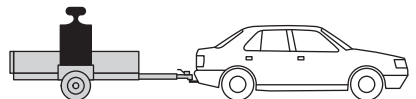


Fig. 2: Example of correct load distribution

6 Loading

6.3.2 Incorrect Load Distribution

NOTICE

Incorrect load distribution

Material damage

- For measures for distributing the load correctly please see "Correct Load Distribution".

Incorrectly loaded trailer:

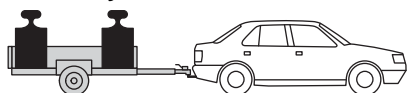


Fig. 3: Incorrect load distribution example A

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

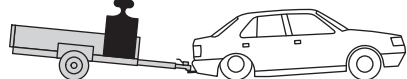


Fig. 4: Incorrect load distribution example B

In example B the load is concentrated at the front of the trailer, making the nose weight on the tow bar of the towing vehicle too high. The rear of the towing vehicle is pulled down.

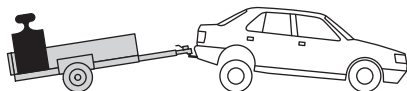


Fig. 5: Incorrect load distribution example C

In example C the load is concentrated at the rear of the trailer, making the leverage force on the tow bar of the towing vehicle too high. The rear of the towing vehicle is pulled up. The nose weight is too low.

6.4 Securing the Load

- Securing the load:

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

The load can be secured in different ways depending on the trailer type. In the "Features" section you can find out about the various possibilities for securing loads on your trailer.

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

⚠ CAUTION

Inadequately secured load

Bodily injury or material damage

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

i 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

⚠ CAUTION

Inadequately secured slipping load

Bodily injury or material damage

- 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 with ratchets or similar objects.

6.4.2 Securing Dry Bulk Cargo

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

- web
- canvas cover.

⚠ CAUTION

Damaged canvases or webs

Bodily injury or material damage

- For loose loads such as dry bulk goods or leaves use load-securing means such as canvas covers, webs or similar items to prevent the load being lost or blown away.
- Check whether the canvas, web etc. is damaged.

- Lay the web or canvas over the trailer and fasten completely.

The following fastening types are distinguished:

- fastening rope (A)
- fastening eyelets (B).

A Fastening rope

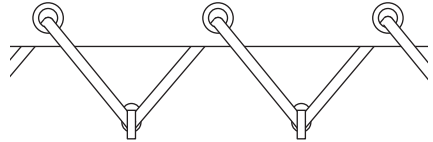


Fig. 6: Threaded fastening rope

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

B Fastening eyelets



Fig. 7: Secured fastening eyelets

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



6 Loading

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.

6.5 Loading the Vehicle with Drive-on Aids

⚠ CAUTION

Edge load capacity exceeded

Crushing of body parts, material damage

- Observe the edge loading capacity of the drive-on aids.

i NOTE

Even for two-wheeled vehicles use drive-on aids for safe loading.

6.5.1 Loading the Vehicle

1. Attach the drive-on aids.
2. Load the vehicle, switch to first gear (or to "P" for automatic transmissions) and apply the handbrake.
3. Secure the vehicle to prevent it slipping.
4. Stow the drive-on aids.

6.5.2 Unloading the Vehicle

i NOTE

Before loosening the lashing straps make sure the handbrake of the vehicle to be 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 to be 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 to be unloaded during the entire process.

1. Attach the drive-on aids.
2. Remove the lashing straps and stow.
3. Drive the vehicle to be unloaded slowly in a straight line off the transporter.
Avoid making jerky steering motions.

7 Driving

7.1 Pre-drive Checklist

Component	Check
Ball coupling	Correctly engaged and secured?
Breakaway cable	Positioned over tow bar of towing vehicle?
Manual parking brake	Released?
Connector	Firmly connected and secured?
Jockey wheel	Fully raised and secured?
Side walls, ramps, doors etc.	Closed and secured?
Canvas cover	In place?
Tyres	Filled with the correct air pressure?
Wheel chocks	Removed and stored safely?
Rear prop stands	Raised and secured? Crank removed and stored safely?
Lighting system	Undamaged and working?
Drive-on rails	Stored and secured?
Load	Weight correctly distributed? Secured against slipping?

7.2 Driving Precautions

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

7.2.1 General Driving Precautions

- The stability of the vehicle-trailer combination decreases with increasing speed. Adapt your speed to the given road and weather conditions to ensure that you can stop the vehicle

and trailer without problems at any time.

- Slow down while driving a loaded trailer on an incline to ensure that you can stop the vehicle and trailer without problems at any time.
- Note that the turning radius of long trailers is unusually large.
- Note that long trailers follow the vehicle in a smaller radius when turning.



7 Driving

- If protruding or overhanging loads cover the lights you must attach an additional easily visible lighting unit.
- Trailer snaking may result if the tyre pressure is too low. Before making a trip check the air pressure in all tyres on the trailer. If necessary, adapt the tyre pressure to the weight of the load.

7.2.2 Tips for Driving in Rain, Frost and Snow

- Note that on icy and slippery roads the driving and braking characteristics are poorer because the tyres have less traction.
- Before making a trip remove any water, snow or ice from the roof of the trailer to avoid endangering other drivers.

7.2.3 Tips for Driving in Side Wind

- Side wind can cause the trailer to snake or tip over.
Side wind gusts often occur suddenly and unexpectedly, e.g. on rough terrain or bridges, when you are changing lanes or passing etc.
Slow down immediately if you notice a side wind.

7.2.4 Tips for Handling Snaking

- If the vehicle-trailer combination starts snaking carefully take your foot off the gas pedal and counter-steer gently. Do not speed up.

Do not make any hectic or abrupt steering motions.

Stop 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 nose weight. For this reason please ensure correct load distribution, nose weight and lashing of the load.

7.3 Brakes

⚠ WARNING

Non-functioning brake system

Bodily injury or material damage

A poorly functioning or non-functioning brake system cannot promptly stop the trailer.

- Before each journey a brake test must be carried out with the trailer.
- Brake early.

⚠ WARNING

Braking distance too short

Bodily injury or material damage

The braking distance of the trailer increases with increasing load.

- Note that the ABS system of the towing vehicle does not control the overrun mechanism of the trailer.
- The driver of the towing vehicle must initiate braking early.

i NOTE

For trailers with overrun brakes full braking may cause the overrun brake to block the wheels. brake the trailer first brake gently to avoid blocking the wheels. Then brake hard.

TIP

Inexperienced drivers should first practise braking on suitable terrain.

7.3.1 Checking the Brake System

The trailer's brake system must be checked regularly.

- Check whether:
 - the guides, Bowden cables or yokes are damaged,
 - other components are restricting the Bowden cables,
 - the joints on the yokes and the rods are free-moving, but secure,
 - the exteriors of the dust seals or gaskets are damaged.
- Ensure that any defects are repaired promptly.

i NOTE

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

7.4 Reversing

⚠ WARNING

Blind spot

Running over people or objects

- 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.
- Instructors must maintain a safe distance to the trailer and must always be visible in the exterior mirrors when the trailer is being reversed.

7.5 Manoeuvring

i NOTE

The trailer can be more easily manoeuvred if the air pressure in the tyres is not too low. If the trailer is difficult to manoeuvre check the tyre pressure (see "Tyre inflation pressure" table).

8 Cleaning, Maintenance and Inspection

8 Cleaning, Maintenance and Inspection

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

NOTE

Late or skipped 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.

Salt and acids

Avoid contact with salt, acids and caustic agents. After driving in road salt conditions or after transporting fertilisers or other acid-containing substances immediately clean the trailer inside and out with water.

White rust

White rust forms on zinc surfaces which are corroded by prolonged wetness or

exposed 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 layer.

Brush off areas with heavy white rust formation using a nylon or wire 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.

Rear lights and lighting elements

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

Rims, wheel guards and mudflaps

Clean regularly.

8.2 Maintenance

Maintenance work should only be carried out by suitably qualified personnel.

Ensure that maintenance intervals are maintained. The maintenance intervals are given in the following table.

Maintenance schedule

Vehicle part	Interval	Maintenance work
Tyres	Before every long journey	<p>Check tyre pressures (see "Tyre inflation pressure" table)</p> <p>Check the tyre tread depth and exchange the tyres if necessary (note wear marks in the tyres' contact surfaces)</p> <p>Check wheel bolts and tighten if necessary (see "Tightening torques" table)</p>
Brake, bowden cables	Every 5000 km or annually	Lubricate lubrication points
Parking brake	Every 5000 km or annually	Lubricate lubrication points
Height-adjustable draw-bar	See third-party documentation	
coupling	Regularly	Clean
	Every 5000 km or annually	Lubricate lubrication points
Antirock coupling	See third-party documentation	

Lubricant

Use a multipurpose grease in accordance with DIN 51625 KTA 3K for lubrication.



8 Cleaning, Maintenance and Inspection

8.3 Tyres and Changing Wheels

⚠ WARNING

Incorrectly repaired tyres

Bodily injury or material damage

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

8.3.1 Tread Depth

The tread depth of the tyres must not be less than 1.6 mm.

8.3.2 Wheel Bearings

The wheel bearings are maintenance-free. In severe loading conditions the wheel bearings must be checked for play.

8.3.3 Changing Wheels

⚠ WARNING

Rapidly lowering bed

Death by crushing, serious bodily injury

- Do not stand under the raised trailer.

Wheel changing 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.

The trailer must be secured with wheel chocks or similar aids to prevent it rolling away.

- After changing wheels tighten wheel nuts to the correct torque (see "Tightening torques" table).

8.3.4 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.

Tightening torque table

Rim type	Tightening torque
Steel	90 Nm to 100 Nm
Aluminium	110 Nm

8.3.5 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.

Regularly check the tyre pressure. The tyre inflation pressures are given in the following table.

Tyre inflation pressure

Tyre size		Tyre pressure at full load
18.5 x 8.50-6		3.4 bar
195/55	R10 C	6.25 bar
185/60	R12 C	6.4 bar
225/55	R12 C	5.3 bar
155	R 13	2.7 bar
185/70	R13	2.7 bar
195/50	R13 C	6.25 bar
185/65	R14	2.9 bar
195/70	R14	2.9 bar
185	R14 C	4.5 bar
195/65	R15	3.0 bar

8.4 Inspection

⚠ WARNING

Incorrect or missing inspection

Danger of death, material damage

- Inspections must be carried out by authorised specialist shops.
- Work on brake systems as well as on electrical and hydraulic systems must be carried out according to the respective manufacturer's specifications.

8 Cleaning, Maintenance and Inspection

8.4.1 Delivery Inspection

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
Wheels	Wheel Bolts	Check after 50 km (see "Wheel Bolts")
Overrun brake	coupling	Check after 100 km

8.4.2 First Inspection (at the latest 1000 km after delivery)

Vehicle part	Test criterion	Work to be performed
Overall trailer	Screwed connection	Check and tighten if necessary
	Corrosion protection, damage	Check and touch up if necessary
Tyres	Inflation pressure	Check and adjust if necessary
Wheel Bearings	Play	Check and renew if necessary
Brake system	Braking effect	Check and renew if necessary

8.4.3 Inspection Schedule

Vehicle part	Test criterion	Work to be performed
Brake system	Brake pads	Check and renew if necessary
	Brake mechanism	Check and repair if necessary
	Friction points of the brake mechanism	Grease
	Overrun mechanism	Lubricate, check brake fluid
	Brake	Adjust
Wheel Bearings	Seals	check and replace bearing if necessary
	Play	check and replace 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
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	Screwed connections	Check and replace if necessary
Lighting	Connectors, cables, lights	Check and repair if necessary
	Reflectors and rear lights	Check and renew if necessary
Floor	Damage	Check and renew if necessary
Rubber floor	Sealing	Check and renew if necessary
Information signs	Completeness and legibility	Check and renew if necessary
Accessories	Connections	Check and repair/renew if necessary

8 Cleaning, Maintenance and Inspection

8.4.4 Inspection Verification

	Stamp	Date	Signature
Delivery Inspection			
1000 km inspection (max. ½ year after delivery)			
5000 km inspection (max. ½ year after last inspection)			
10,000 km inspection (max. ½ year after last inspection)			
15,000 km inspection (max. ½ year after last inspection)			
20,000 km inspection (max. ½ year after last inspection)			



	Stamp	Date	Signature
25,000 km inspection (max. ½ year after last inspection)			
30,000 km inspection (max. ½ year after last inspection)			
35,000 km inspection (max. ½ year after last inspection)			
40,000 km inspection (max. ½ year after last inspection)			
45,000 km inspection (max. ½ year after last inspection)			
50,000 km inspection (max. ½ year after last inspection)			

8 Cleaning, Maintenance and Inspection

	Stamp	Date	Signature
55,000 km inspection (max. ½ year after last inspection)			
60,000 km inspection (max. ½ year after last inspection)			
65,000 km inspection (max. ½ year after last inspection)			
70,000 km inspection (max. ½ year after last inspection)			
75,000 km inspection (max. ½ year after last inspection)			
80,000 km inspection (max. ½ year after last inspection)			



	Stamp	Date	Signature
85,000 km inspection (max. ½ year after last inspection)			
90,000 km inspection (max. ½ year after last inspection)			
95,000 km inspection (max. ½ year after last inspection)			
100,000 km inspection (max. ½ year after last inspection)			

9 Troubleshooting

9 Troubleshooting

Failure	Possible cause	Remedy
Lighting does not work	Connector not properly inserted into socket of towing vehicle	Insert the plug all the way into the socket of the towing vehicle. Twist the 13-pin connector.
	Lamp defective	Replace lamp.
	Cable defective	Replace cable.
	Connector defective	Replace connector.
Side wall or rear ramp cannot be closed	Object blocking side wall or rear ramp	Open side wall or rear ramp, remove object and clean gap.
	Load protruding slightly over bed	Redistribute load on bed.
	Side wall or rear ramp warped	Please contact your dealer

10 Service

10.1 Information on Quality

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 tarpaulin covers or polyester and aluminium roofs.

Water ingress

Water may penetrate into the trailer through openings such as doors, ramps or windows.



NOTE

If your trailer is closed and parked for a long period make sure to ventilate the interior every now and again to prevent mildew from forming.

Minor scratches

In the manufacture of trailers care is taken to ensure that surfaces are not scratched. However, because the trailers are hand-built minor scratches can arise on the surfaces during assembly. These scratches do not affect the function or safety of the trailer and are not quality defects.

Polyester components

The polyester components are not 100% colour-fast; bleaching and/or colour changes may therefore occur. The individual components of a polyester construction may differ in colour and lustre. Fissures may also occur due to punctual strain on the components, e.g. hoof beats or sliding loads banging against the wall. Fissures are optical damages to the components. They do not affect the functioning or the safety of the vehicle.

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 according to the relative humidity and temperature of the surrounding air due to the natural properties of the material. This may cause warpage in wood parts. Wood grains and unevenness may appear on the surface.

Aluminium surfaces

Aluminium extrusions are anodised. The colours of individual extrusions 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.



10 Service

Galvanised metal surfaces

Before galvanised metal surfaces can provide effective protection against corrosion they must oxidise. This oxidation process may take some months. As long as the metal surface is still shiny silver the oxidation process is not yet completed.

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

10.2 Ordering Spare Parts and Accessories

- You can contact the dealer in your region.



