

Construction machine transporter

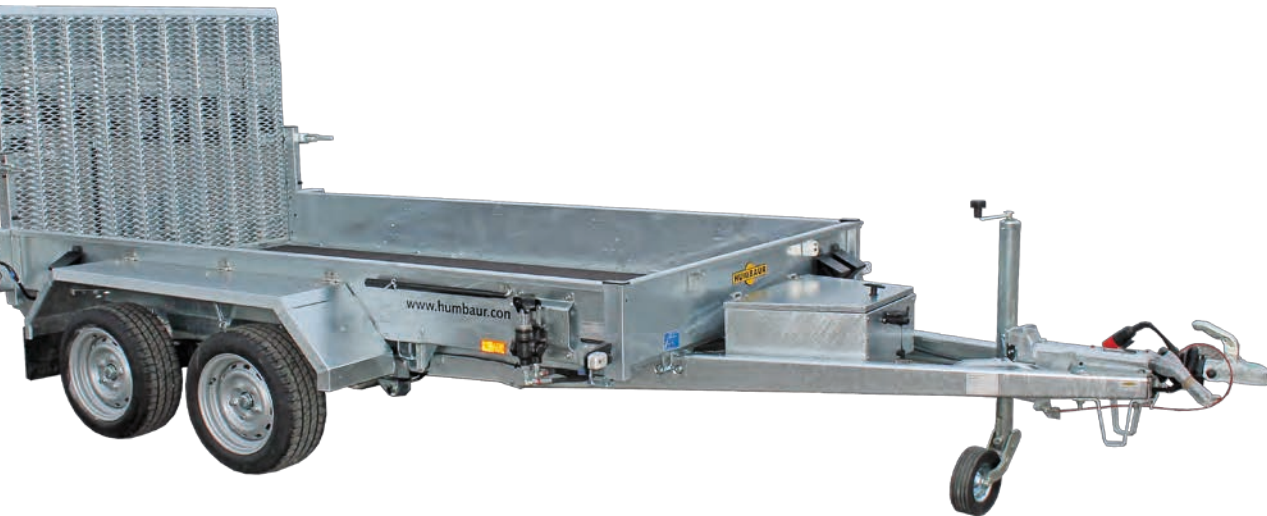
Operating Instructions

Part 2 - Senko
Senko with box body



MACHT'S MÖGLICH

en



8200 series

humbaur.com

Name and address of manufacturer:

Humbaur GmbH
Mercedesring 1
86368 Gersthofen
Germany

Tel. +49 821 24929-0
Fax +49 821 249-100

info@humbaur.com
www.humbaur.com

Name and address of dealer:

Name: _____

Address: _____

Telephone: _____



▶ Please enter the name of your dealer.

Notes on use / target group



PART 2 - "Senko" Original Operating Instruction Manual

The "Senko" operating instruction manual (Part 2) is intended for you as a user of a ready-to-run trailer.

It describes detailed steps for handling Senko trailers.

It contains all relevant details on safe operation, care / cleaning, maintenance / servicing, troubleshooting and decommissioning / disposal.

The specific operating instruction manual (Part 2) for your trailer is provided on the enclosed CD. You can also download it from **www.humbaur.com in the section: Download - Operating Instructions.**

PART 1 - "Trailers up to 3.5 to General Points"

For all other general information on trailers up to 3.5 to, see the operating instruction manual, "Trailers up to 3.5 to (General Points - Part 1)".

- PART 1 and PART 2 together form the complete documentation for your trailer, which you, as the user, should have at your disposal.



Read this operating instruction manual carefully and completely before using your trailer for the first time and observe all of the instructions, safety information and warnings. Comply with the steps for handling.

- Non-observance of any of the documentation can cause injuries to you and to other persons and can cause material damage.
- Non-observance may invalidate your guarantee entitlement.
- Keep this operating instruction manual in a safe place for the entire service life of your trailer.
- It forms part of the product and also serves as a CHECK LIST for the regular inspections of your trailer.
- We advise you to store the operating instruction manual in the driver's cab and to keep it on hand in case you need to consult it.
- It should be passed on to the new user / owner if you rent out or sell your trailer.




Furthermore, as a road user, you are obliged to observe all national regulations for driving a vehicle and trailer and to comply with your obligations as the owner of a commercial vehicle.


- This includes carrying out regular maintenance and care tasks and periodically subjecting your trailer to a full technical inspection.
- Observe any special stipulations that are specific to your country.

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1 Identification

►  Put a cross next to the type of trailer you have acquired.

►  Read the general operating instruction manual for trailers up to 3.5 to (PART 1).

Product name: SENKO (tandem kneeling trailer)

8200 Series:

2500

8241	253016	<input type="checkbox"/>
8244	253718	<input type="checkbox"/>

3000

8242	303016	<input type="checkbox"/>
8245	303718	<input type="checkbox"/>
8247	304019	<input type="checkbox"/>

3500

8243	353016	<input type="checkbox"/>
8246	353718	<input type="checkbox"/>
8248	354019	<input type="checkbox"/>

1.1 Confirmation of compliance



Humbaur GmbH hereby attests to the company's compliance with all relevant EU directives for the registration and safe use of SENKO trailers. You can request a detailed EU declaration of conformity from us separately.

2 Product description

The bolted SENKO has a sturdy construction. The robust structure of this series is achieved thanks to the self-supporting bolted frame/side wall design, which is made from 3 mm thick steel plate. All of the vehicle's components are fully hot-dip galvanised by immersion bath.

The load can be secured using the tie-down brackets, which are recessed into the floor frame profile. There will be 10 tie-down brackets (5 pairs) for a trailer with a box length of 3000 mm. There will be 12 tie-down brackets (6 pairs) for a trailer with a box length of 3750/3990 mm.

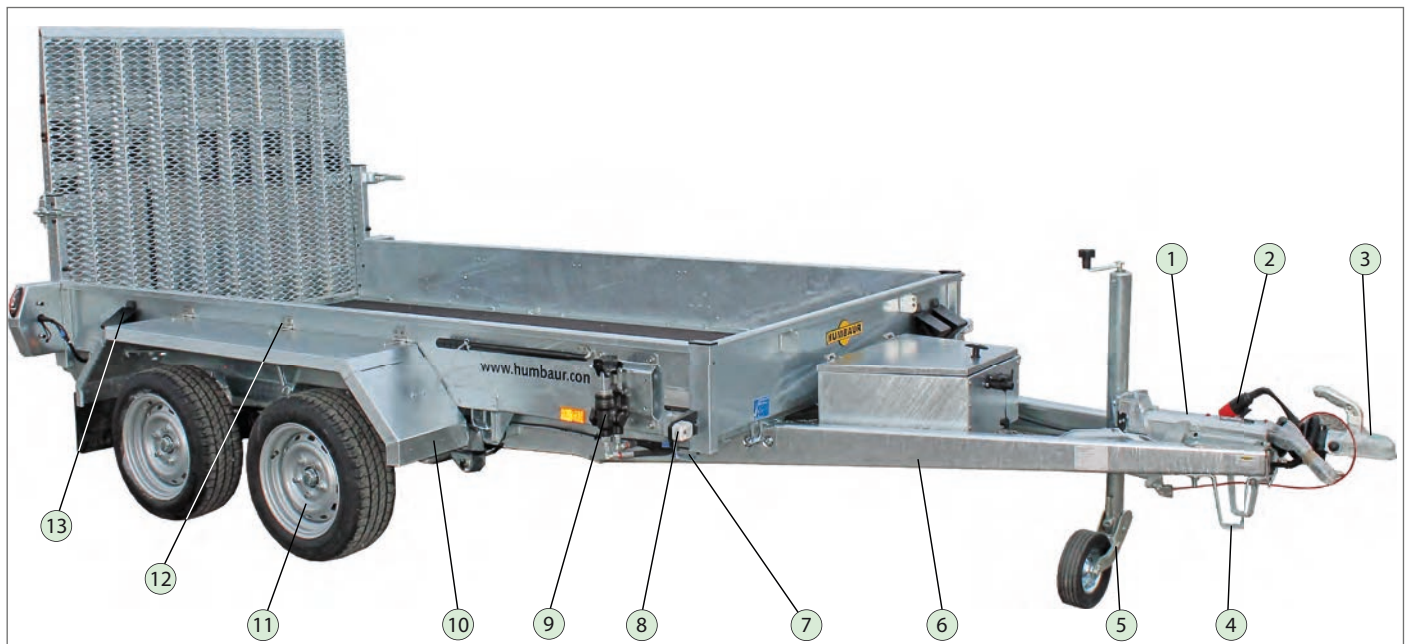
The pull force force per tie-down bracket - checked by Dekra - is 1000 daN (kg).

The torsion spring axles are lowered hydraulically and enable a low drive-up angle of 7°, since the cargo bed can be lowered almost to ground level. This makes it possible to transport construction machinery with a low chassis clearance. Lowering is carried out hydraulically using a hand pump. The SENKO can be fitted with an optional electric pump. The mudguards open and close automatically during the lowering procedure.

The ramp wall, which is approx. 1250 mm high, has a special anti-slip perforated pattern on the driving side. The movement of the ramp wall is aided by gas struts. The ramp wall is secured with full-length hinges. The high stability of the ramp wall means that the SENKO is easy to load and unload.

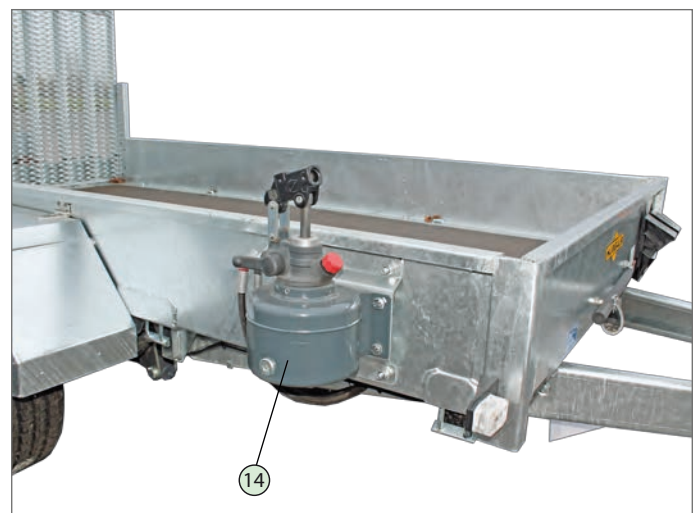
The SENKO is also available with a box body. The box body can be provided with a ramp wall and a double wing door with an internal ramp front edge.

The various parts of the SENKO trailer are named in the following illustrations.

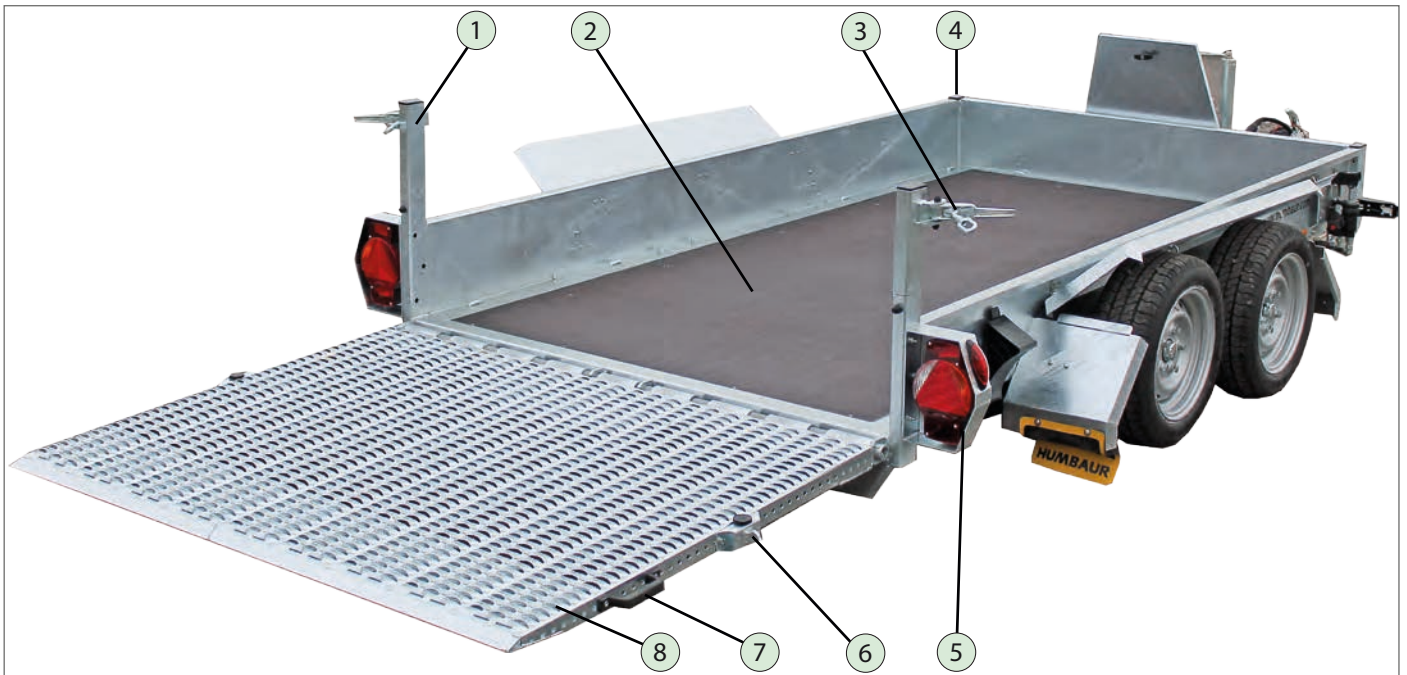


SENKO - with electrical hydraulic system (option)

1. Overrun hitch with hand brake lever, brake linkage and spring lever
2. Electrical plug
3. Ball coupling with breakaway cable
4. Drawbar supports
5. Jockey wheel
6. V drawbar
7. Tie-down bracket, recessed
8. Front reflector / white reflector or front position lamp
9. Manual emergency pump
10. Mudguard
11. Wheel (tyre)
12. Mudguard hinge
13. Wheel chock
14. Manual pump

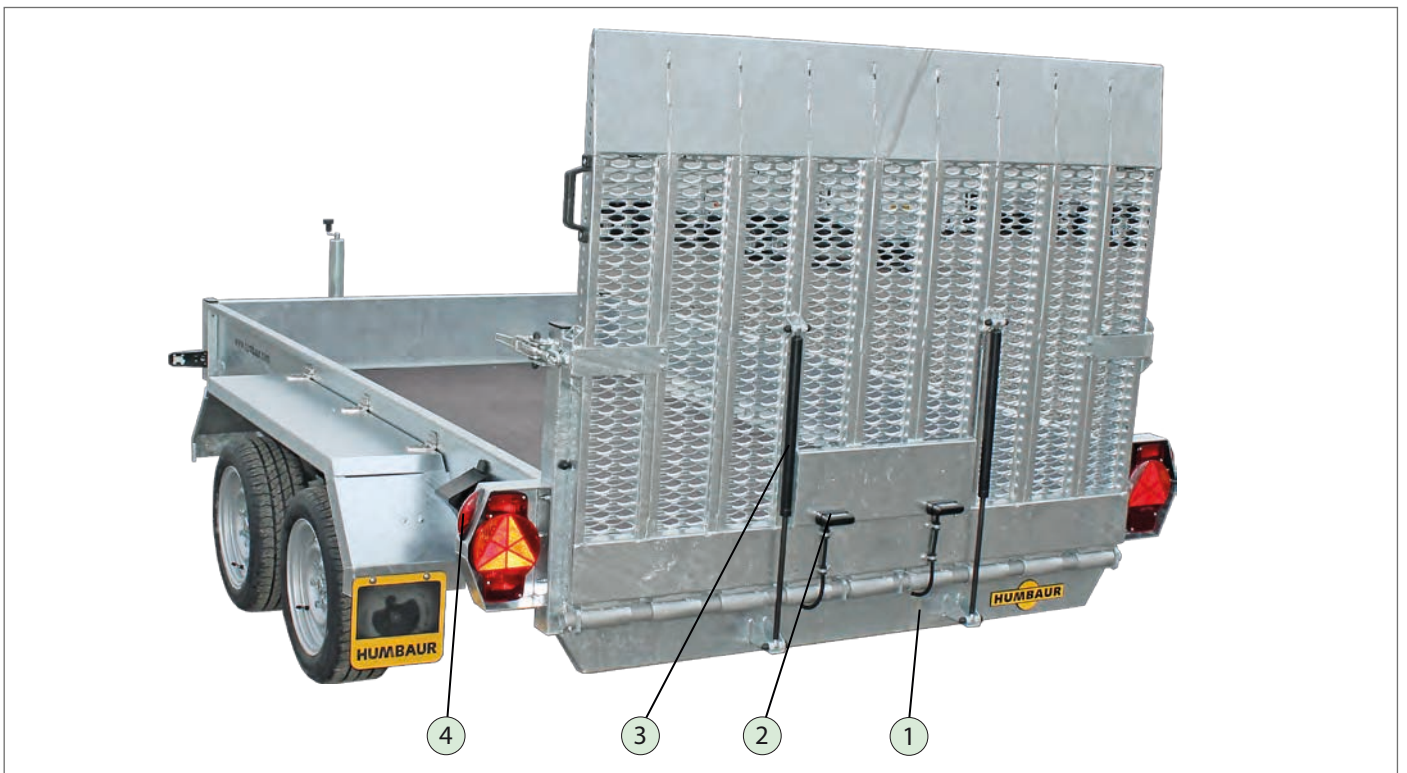


SENKO - with manual pump (standard)



SENKO - from rear, lowered

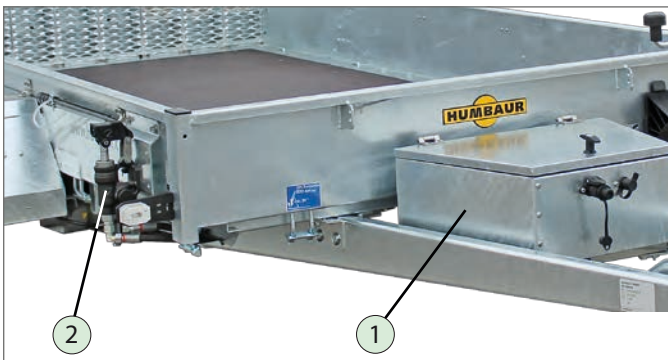
1. Stanchion (rear)
2. Cargo bed / loading platform
3. Ramp wall lock
4. Stanchion (front)
5. Tail light, combined with triangular reflector, direction indicator, brake light, rear fog light, possibly reversing light
6. Ramp wall hook
7. Ramp wall handle
8. Loading aid (ramp wall)



SENKO - rear

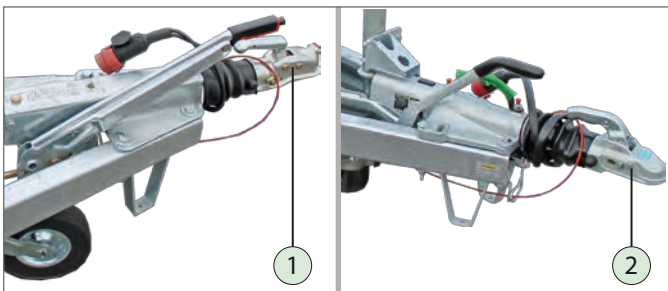
1. Underride protection
2. Number plate light
3. Gas strut
4. Rear position lamp

Optional features



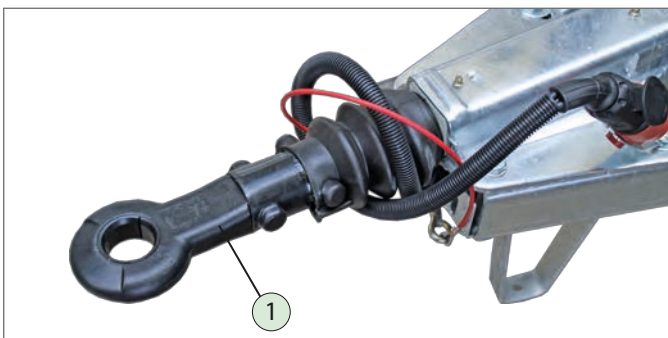
SENKO - with electric pump and emergency hand pump

1. Electrics box
2. Manual emergency pump



SENKO - V-shaped draw bar (ball coupling)

1. Manufacturer Knott
2. Manufacturer AL-KO



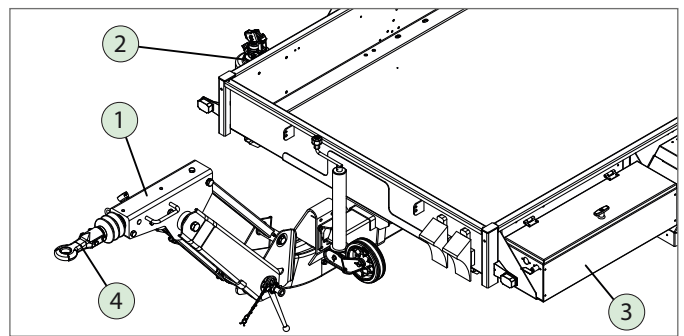
SENKO - V-shaped drawbar (towing ring)

1. Towing ring (Ø 40 mm)



SENKO - HV-shaped drawbar (ball coupling)

1. Ball coupling
2. Towing ring (Ø 40 mm)



SENKO - HV-shaped drawbar with electrical hydraulics

1. Height-adjustable drawbar
2. Manual pump (mounted on the side)
3. Electrics box (mounted on the side)
4. Towing ring (Ø 40 mm)



SENKO - box body with ramp wall

1. Box body
2. Handle
3. Electrics box
4. Manual emergency pump



SENKO - box body with double wing door

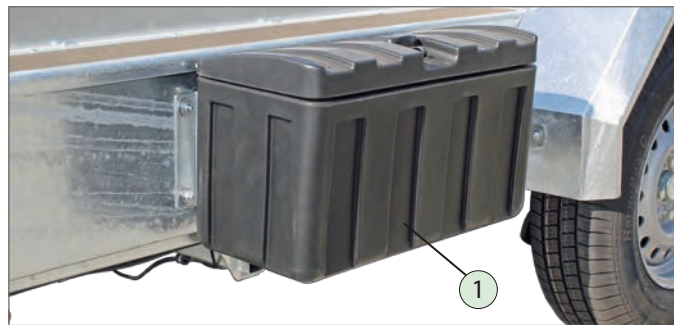
1. Double wing door
2. Ramp front edge

Accessories / special solutions



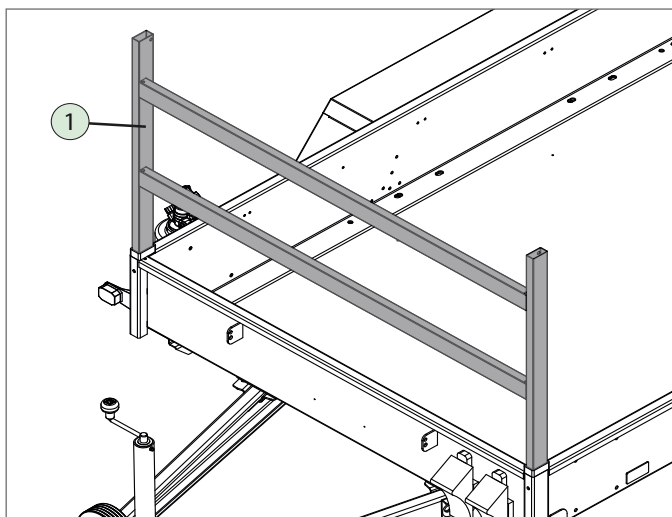
SENKO - with tarpaulin

1. Tarpaulin/hoops



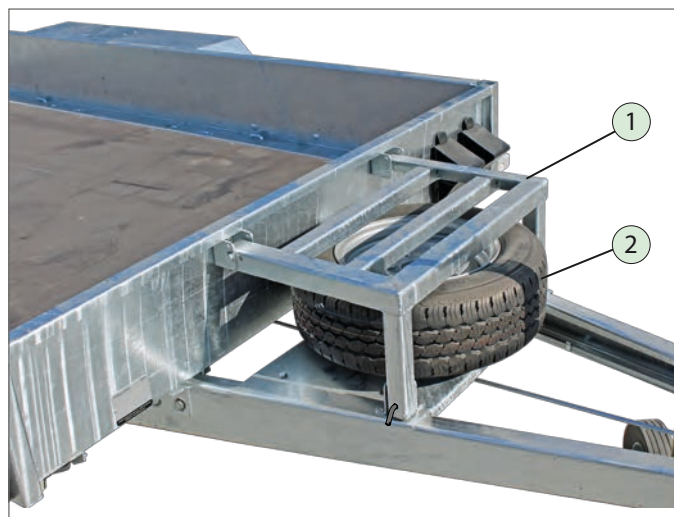
SENKO - toolbox

1. Toolbox



SENKO - with H-frame

1. H-frame



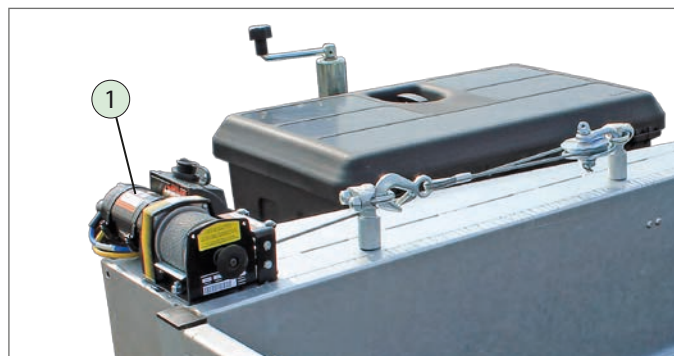
SENKO - excavator shovel storage / spare wheel holder

1. Frame
2. Spare wheel with holder



SENKO - with cable winch

1. Cable winch, manual



SENKO - with cable winch

1. Cable winch, electric

3 Intended use

- The loading / unloading and transporting of construction machinery with a low chassis clearance and of other construction materials.
- The lowering cargo bed is actuated using a hand pump or an electro-hydraulic pump.
- Transporting of goods, with the exception of hazardous goods, e.g. explosive, chemical or liquid materials.
- Transporting fixed loads.
- Transporting loose loads.
- The loading ramps should only be used by plastic caterpillar tracks or rubber wheels.

4 Foreseeable misuse

- Driving with an incompletely raised and secured ramp wall
- Driving with a lowered cargo bed
- Driving with insufficient load securing.
- Driving with unsecured cable winch.
- Loading the trailer whilst the ramp wall is not completely lowered
- Transporting of persons or animals.
- Driving onto the loading aids with vehicles exerting high point loads, e.g. vehicles with small wheels such as fork lifts, mobile lifting platforms, etc.
- Driving onto the loading ramps with steel-tracked vehicles.
- Transporting objects / people on the excavator shovel holder.
- Driving with double wing door not locked.
- Non-observance of the safety instructions in the operating instruction manual, "Trailers up to 3.5 to" (Part 1).

5 General Safety Instructions


VORSICHT




Folding loading aids!

The loading aids may suddenly fold down after unlocking - risk of impact!
This can result in feet being crushed.

- ▶ Stand to the side when unlocking the loading aids.
- ▶ Hold the loading aids with one hand from the side.
- ▶ Allow the ramp wall to fall to the floor if the gas struts are defective.
Never try to stop it.

- ▶  Keep your feet away from the area around the loading aid.

- ▶  Keep persons away from the area around the loading aids during tilting.

- ▶ Use  .



Observe the other general safety recommendations in the operating instruction manual, "Trailers up to 3.5 to" (General Points - Part 1).


WARNUNG



Trailer flicking up!

If the cargo bed is not fully lowered, the trailer can flick up during loading/unloading.

- ▶ Pump the cargo bed down fully for loading/unloading until the underride guard rests on the floor.

- ▶  Keep persons away from the area around the underride protection during lowering.



Mudguards folding up!

You could fall if you step onto the mudguards during the lowering process and during automatic movement.

- ▶ Never step on the mudguards.



Mudguards folding into place!

As the cargo bed is being raised, the mudguards automatically fold into place. There is a danger of getting trapped.

- ▶ Keep your hands away from the mudguards as they fold into place.

- ▶ Use  .


6 Loading and Unloading

6.1 Load distribution



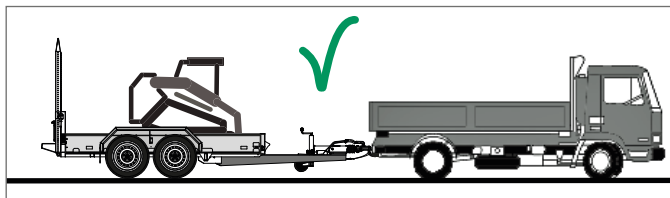
Negative / insufficient drawbar load! Maximum permissible drawbar load exceeded!

A negative / insufficient drawbar load or exceeding the maximum permissible drawbar load may result in accidents.

- ▶ Distribute the weight evenly across the trailer.
- ▶ Do not fall short of the minimum drawbar load of the trailer (for trailers up to 750 kg gross weight, this is: 4% of the towed load or 25 kg).
- ▶ Do not exceed the maximum permissible drawbar load of the towing vehicle and the trailer coupling.
- ▶ Where possible, make use of the maximum permissible drawbar load (see COC papers, Section 19).
- ▶  Observe the information on the maximum permissible drawbar load in your vehicle papers and the trailer coupling.
- ▶ Do not exceed the maximum permissible drawbar load of the trailer. Observe the information on the maximum permissible drawbar load in the COC papers, Section 19.

 VORSICHT		 CAUTION
Überschreitung der zul. Stützlast! Kann zu Unfällen führen-Schleudergefahr. ▶ Min. 4 % der Anhängerlast einhalten, mehr als 25 kg nicht notwendig. ▶ Zul. Stützlast des Zugfahrzeugs beachten!	620.00404	Exceeding the permissible vertical load! Can lead to accidents-risk of skidding. ▶ Min. 4 % of the trailer load to comply, more than 25 kg are not necessary. ▶ Perm. Note vertical load of the vehicle!

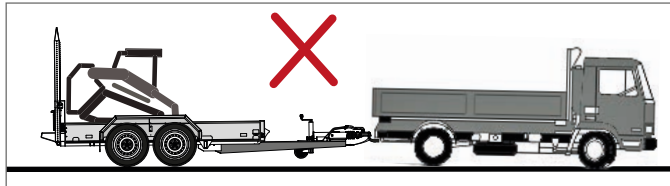
Correct load distribution



Construction vehicle loaded correctly

The trailer and the towing vehicle are stable with all wheels on the ground.

Incorrect load distribution

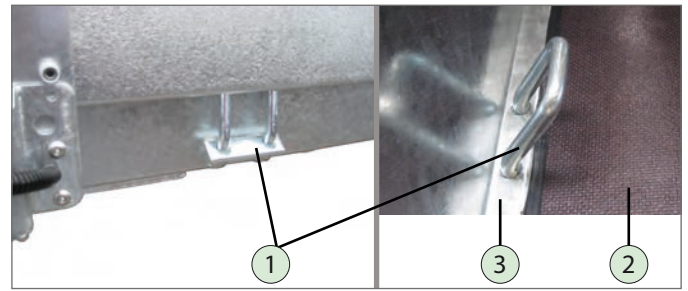


Construction vehicle loaded incorrectly

The trailer tilts backwards; the towing vehicle tilts forwards = the drawbar load is too low or is negative.

The rear axle on the tandem trailer and the front axle of the towing vehicle are excessively loaded.

6.2 Load securing

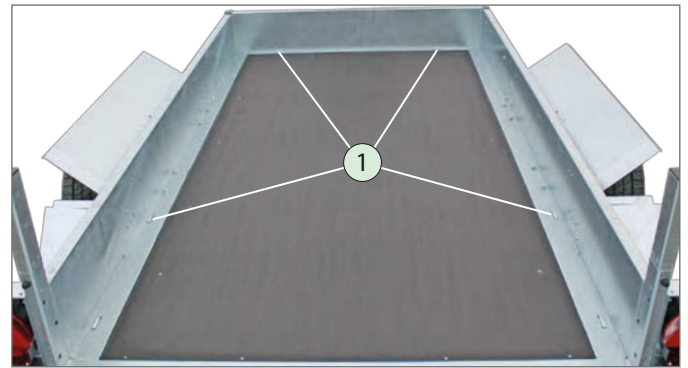


Lashing bracket from outside

Lashing bracket from inside

1. Lashing bracket (can be lowered)
2. Loading platform
3. Frame profile

- ▶ Tie-down the load using the lowering lashing brackets which are integrated into the cargo bed.
- ▶ Observe the maximum permitted lashing force per lashing bracket.



Tie-down points - arrangement on cargo bed

1. Tie-down points:

for **SENKO xx30xx**; 4x per drop side

for **SENKO xx37xx**;

SENKO xx40xx; 5x per drop side

in addition:

2x front

- ▶ Take note of the sticker providing information about the maximum tie-down forces on the trailer.



Tying down construction site vehicles

- ▶ Tie down the load (construction machine), using the tie-down brackets.
- ▶ Make use of anti-skid mats where necessary.
- ▶ Do not exceed the maximum permissible tie-down forces per tie-down point.



Example of "force-fitting load securing" / mini excavator

1. Ties (e.g. chains, ropes, tension belts)
2. Tie-down point on mini-excavator



Example of accident (mini-excavator was not tied down)

Securing a combined load

- ▶ Ideally, secure the load with a combination of form-fitting and force-fitting:
 - Force-fitted by: Direct tie-down of the load.
 - Form-fitted by: Supporting the various components of the load against each other, against the drop sides and against the cargo bed extensions, without spaces in-between.

Tying down loads

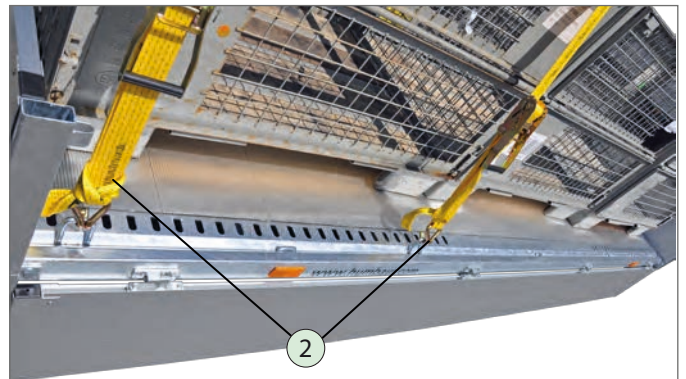


Example of "force-fitting load securing"

1. Loading unit (load)
2. Tie-down strap (tie-down equipment)



Example of "form-fitting load securing"



Example of "tie-down"

- ▶ Tie down the load units in a force-fitting way, using tie-down equipment.
- ▶ Where possible, secure the load units in both a form-fitting and force-fitting way.

6.3 Load securing using the body & accessories

6.3.1 Tarpaulin cover



The frame and tarpaulin cover is inserted into the stanchions of the SENKO trailer and secured all round the drop sides.

The tarpaulin cover can be opened at the back and sides for easy loading / unloading.



You will find the safety-related information about handling the frame and tarpaulin cover in the operating instruction manual on "Trailers up to 3.5 to" General - Part 1.



Tarpaulin cover, secured

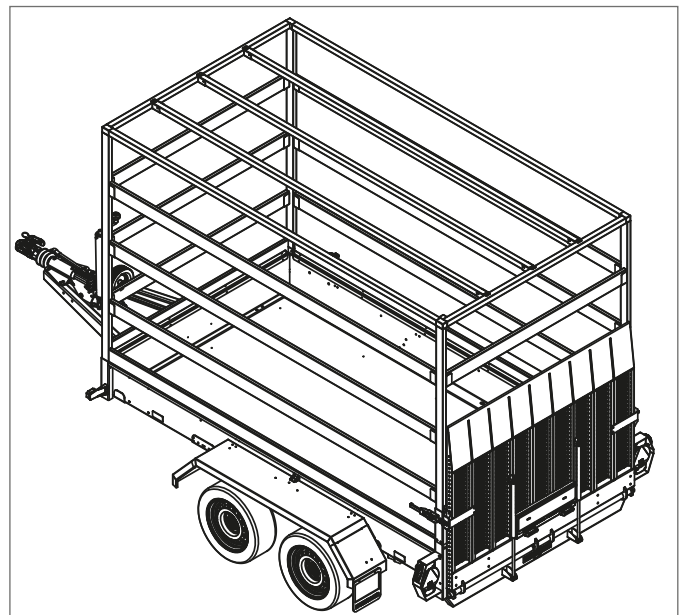


Instructions for operating the tarpaulin cover / frame are given in the operating instruction manual, "Trailers up to 3.5 to" General Points - Part 1.



Closed tarpaulin cover

1. Tensioning rope
2. Hook
3. Tarpaulin cover
4. Buckle

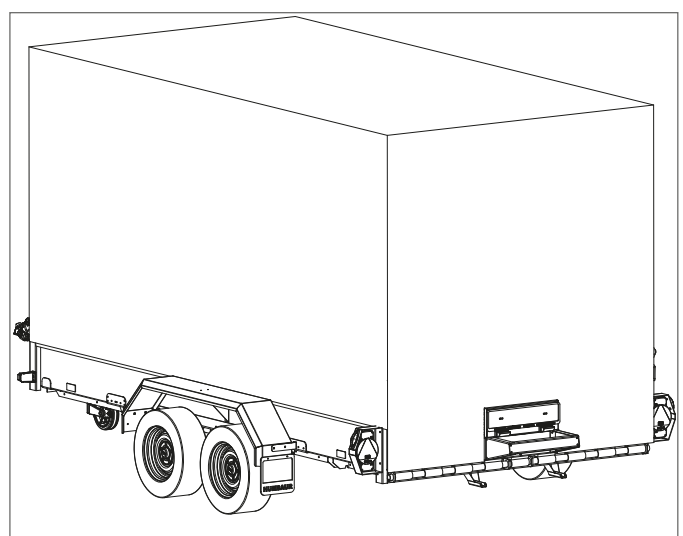


Frame



Tarpaulin cover opened / frame

5. Rear tarpaulin section
6. Frame
7. Frame slat



Tarpaulin cover with ramp wall

- ▶ Close the ramp wall before you close the tarpaulin cover.

6.3.2 Box body with ramp wall

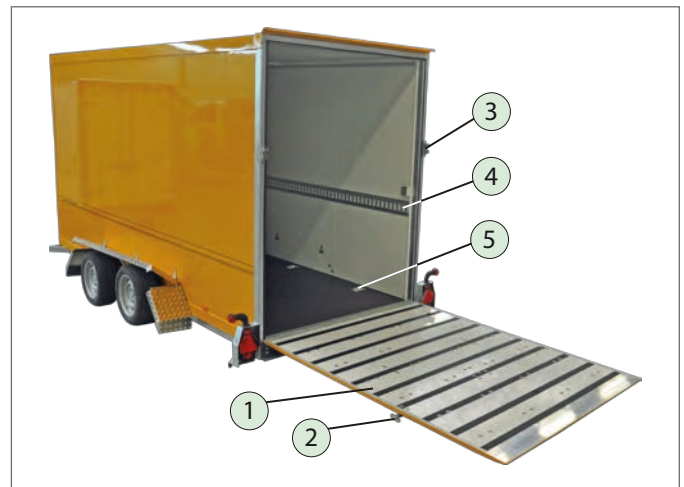


You will find the safety-related information about handling the box body in the operating instruction manual on "Trailers up to 3.5 t - General - Part 1".



Box body front

1. Box body
2. Handle
3. Electrics box
4. Manual emergency pump



Ramp wall folded up

1. Ramp wall
2. Holding pin
3. Bolt for espagnolette lock
4. Anchor rail
5. Tie-down point



Box body rear

1. Rain guard
2. Ramp wall
3. Bolt for espagnolette lock
4. Espagnolette lock
5. Gas struts
6. Tail light
7. Underride protection

6.3.3 Box body with double wing door



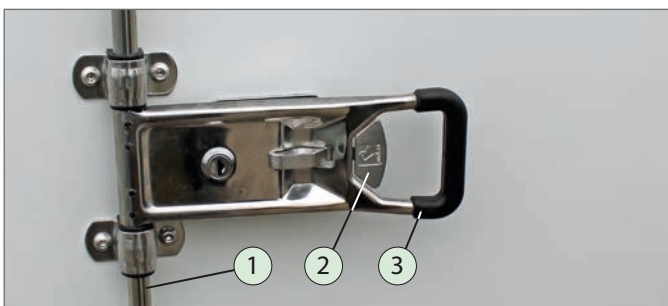
SENKO - box body with double wing door

1. Double wing door
2. Ramp front edge



Rear view

1. Espagnolette
2. Bolt for espagnolette lock
3. Door holder



Espagnolette lock

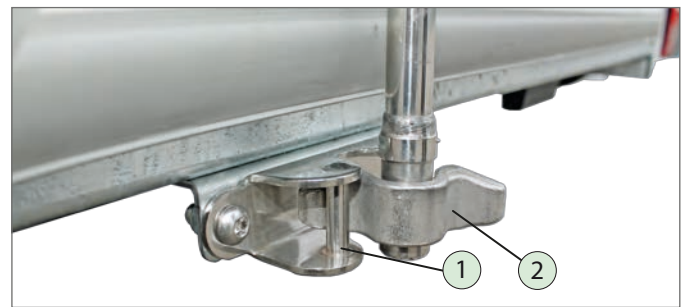
1. Espagnolette
2. Snap-lock
3. Handle

Opening



Opening the espagnolette lock

- ▶ Engage the snap lock.
 - ▶ Pull the handle.
- The lock is released.



Double wing door unlocked

1. Hook
 2. Securing pin
- ▶ Turn the handle, so that the lock hooks move out of the lock pins at the top / bottom.
- The double wing door is now unlocked.

HINWEIS

Unsecured double wing door!

The double wing door may crash open and damage the trailer - property damage!

- ▶ Secure the double wing door, using the door stops.



Folding open the double wing door

- ▶ Fold open the double wing door.

HINWEIS

Lowering with unsecured double wing door!

Parts of the double wing door may hit the floor and become deformed - property damage!

- ▶ Make sure that the double wing door is secured with the door stop before lowering.



Negative example - unsecured door stop



Securing the double wing door with the door stop

1. Locking sleeve
2. Locking lever

- ▶ Swivel the locking lever towards the locking sleeve.
- ▶ Guide the locking lever into the locking sleeve.
- ▶ Press the locking lever inwards and up to the limit stop.

The door holder is hooked in.

The double wing door is now secured.



Double wing door folded open and secured

Lower the chassis



Lowering the cargo bed

- ▶ Lower the cargo bed (see section: Lowering the cargo bed).
- ▶ Monitor the rear of the trailer during the lowering process.



Cargo bed lowered

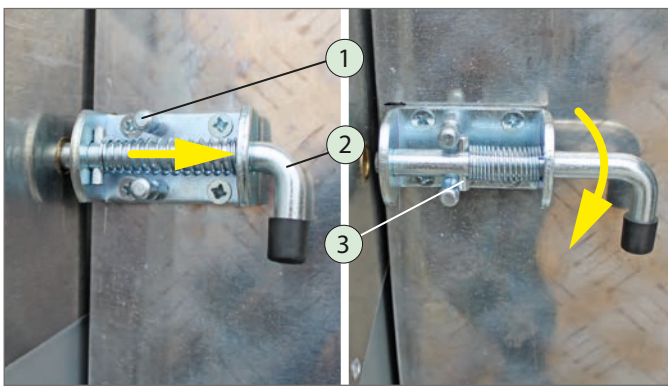
The chassis rests completely on the floor (rubber blocks).

Fold down the ramp front edge



Ramp front edge secured

1. Ramp front edge



Locking bolt open

unlocked

1. Plunger pins
2. Locking bolt
3. Securing pin

- ▶ Pull the locking bolt.
- ▶ Turn the locking bolt by 90° and lock it with the plunger pins. The ramp front edge is unlocked.



Fold down the ramp front edge

- ▶ Grip the upper edge of the ramp front edge.
- ▶ Lower the ramp front edge in a controlled manner.
 - Make sure that your hands / feet are not under the ramp front edge.

! VORSICHT



Falling ramp front edge!

There is a risk of crushing your feet / hands when lowering the ramp front edge!

- ▶ Keep your feet / hands away from the crush area.

- ▶ Use  .

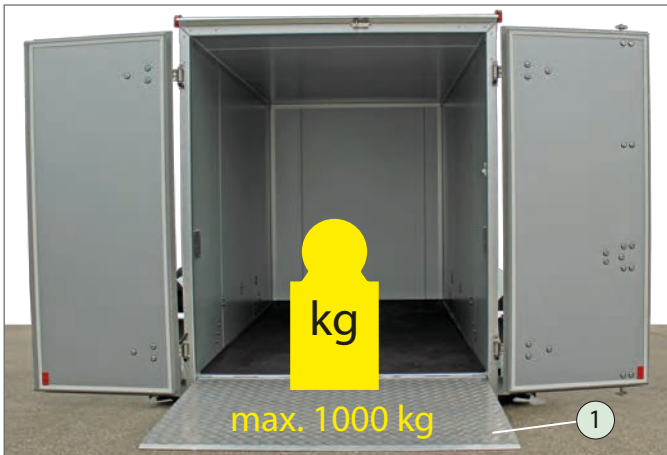


Crush area for ramp front edge



Ramp front edge folded down

Drive onto the ramp front edge



Ramp wall folded down

1. Ramp wall (max. 1000 kg loading capacity)


- ▶ Slowly and carefully drive over the ramp front edge and slowly push the vehicle / goods to be loaded upwards in a controlled manner.
- ▶ Ensure that the vehicle / goods to be loaded are in a direct line with the ramp front edge.

WARNUNG

Overloading the ramp front edge!

The ramp front edge may become deformed or break. The goods / vehicle to be loaded may tip over - risk of crushing!

- ▶ Evenly and slowly drive over the ramp front edge, for example with the lifting cart.
- ▶ If necessary, check the gross weight of the loading vehicle with the goods before starting.

 Make sure that the trailer is secured so that it cannot roll away.

<p> WARNUNG Unzureichende Beleuchtung beim Be- und Entladen! Erhöhe Unfallgefahr. ▶ Sichern Sie den Anhänger mit zusätzlichen Signaleinrichtungen.</p>		<p> WARNUNG Inadequate lighting during loading and unloading! Increased risk of accidents. ▶ Secure the trailer with additional signalling devices.</p>
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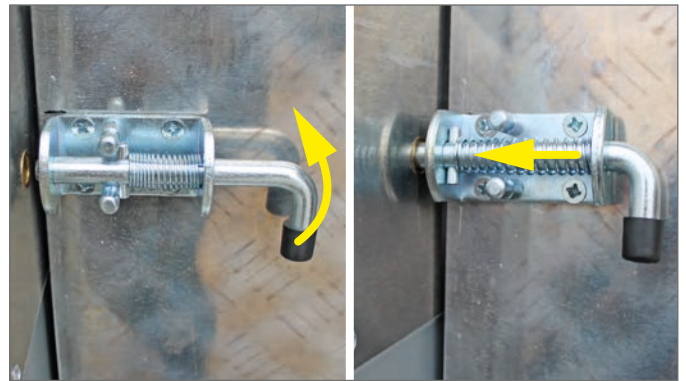
- ▶ Make sure that road traffic safety is not impaired when loading and unloading the trailer.
- ▶ If necessary, use additional signalling devices, e.g. signs, barriers.

Closing the ramp front edge



Folding up the ramp front edge

- ▶ Lift the ramp front edge into a vertical position.
- ▶ Ensure that both locking pins are open.



Closing the locking bolts

- ▶ Release the locking bolt and let it latch in place. The ramp front edge is now secured against folding down.

Raise the cargo bed

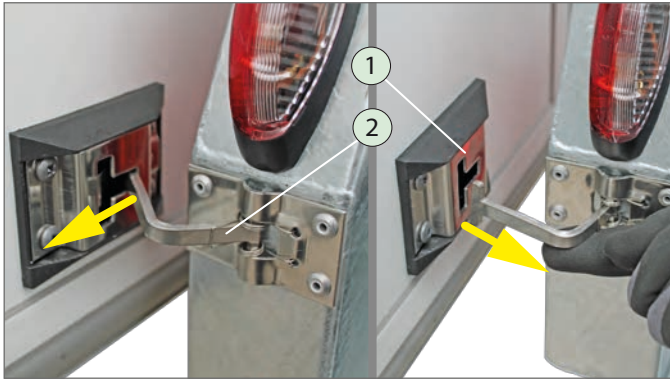


Lifting the cargo bed

- ▶ Lift the cargo bed (see section: Raise the cargo bed)

Monitor the rear of the trailer during the raising process.

Closing the double wing door



Unlocking the door holder

1. Locking sleeve
2. Locking lever

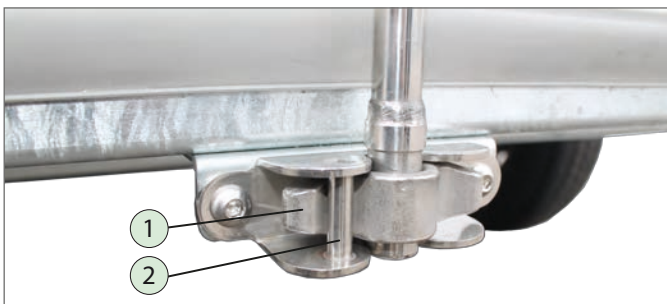
- ▶ Push the locking lever outwards.
- ▶ Slide the locking lever out of the locking sleeve.
- ▶ Release the locking lever.

The door holder is unlocked.



Closing the double wing door

- ▶ Close the double wing door.
- First close the left and then the right wing.



Bolt for espagnolette lock secured

1. Hook
2. Securing pin



Closing the espagnolette lock

- ▶ Push the handle shut, so that the hooks engage with the lock pins.

The lock is secured with a snap latch.

The double wing door is secured against inadvertent opening while driving.



Espagnolette lock secured and locked

- ▶ Also lock the lock with a key to prevent unauthorised access.

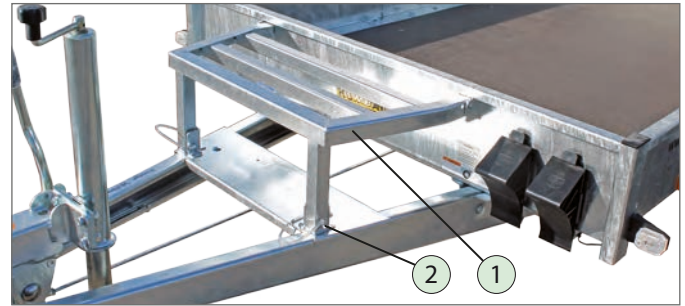


Double wing door secured and locked

6.3.4 Excavator shovel storage

Functional explanation

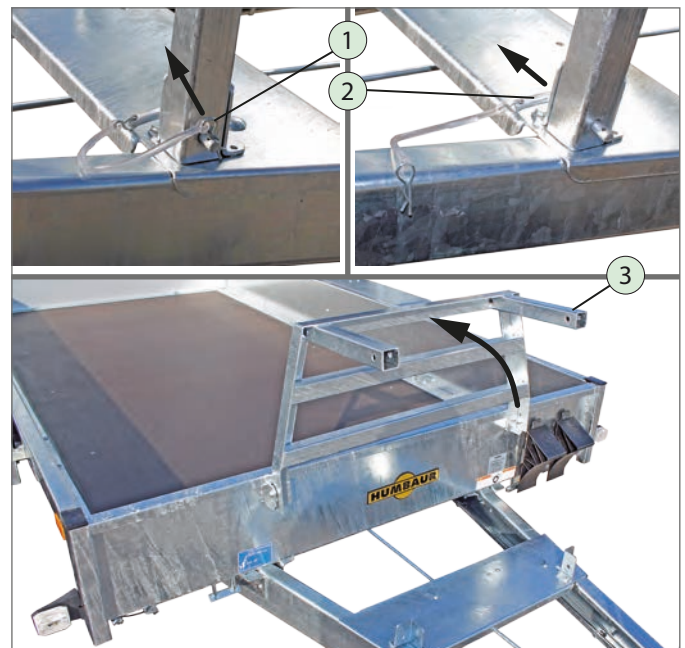
- The excavator shovel holder is only intended to hold an excavator shovel that is permanently connected to the construction machine.
- With standard V drawbars, the holder takes the form of a foldable frame.
- With height-adjustable drawbars, the holder takes the form of a fixed frame.
- The holder frame also serves as a bracket for the spare wheel on the V drawbar.



Excavator shovel holder (V drawbar - standard)

1. Frame (folding)
2. Securing bolt with cotter pin

Folding up



Holder frame, folded up

1. Cotter pin
 2. Securing pin
 3. Frame
- ▶ Remove the cotter pins on both sides.
 - ▶ Pull out the securing pins on both sides.
 - Keep them in a safe place.
 - ▶ Swing the holder frame upwards up to the limit stop.

VORSICHT



Operating the holder frame!

You may catch your hands / fingers while folding the holder frame down.

- ▶ Operate the holder frame carefully.
 - Hold it at the top with one hand.
 - Swing the holder frame down.



Climbing onto the holder frame!

You could slip and fall when stepping onto the holder frame.

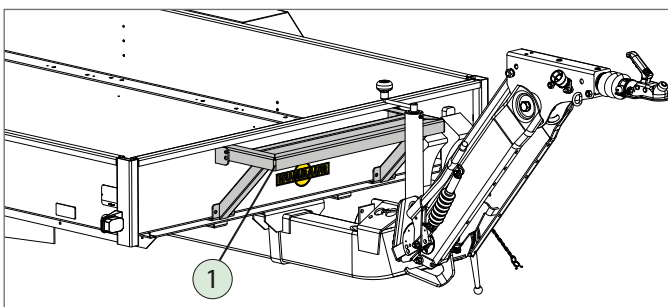
- ▶ Do not step onto the holder frame.
- ▶ Only step onto the cargo bed from the rear or carefully step over the drop sides.

HINWEIS

Overloading the excavator shovel holder!

The excavator shovel may become deformed. The maximum permissible drawbar load is exceeded.

- ▶ Do not place more than 100 kg load onto the excavator shovel holder.
- ▶ Carefully / slowly position the excavator shovel.



Excavator shovel holder (HV drawbar)

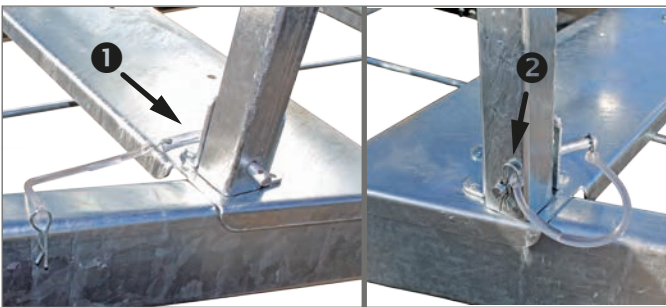
1. Frame (fixed)

Folding down



Holder frame, folded down

- ▶ Swing the holder frame down.

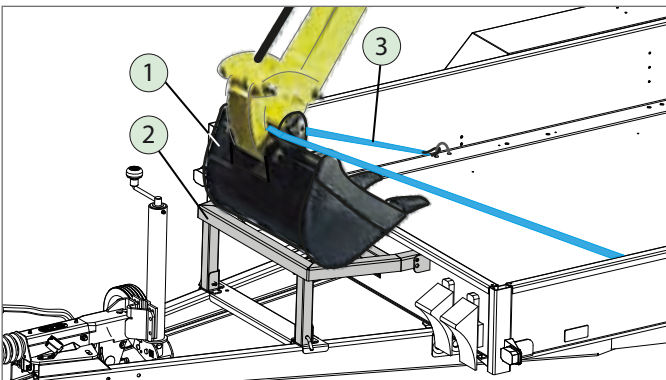


Holder frame, secured

- ▶ Insert the securing pins on both sides.
- ▶ Insert the cotter pins on both sides.


The holder frame has now been secured.

Tying down / securing the excavator shovel




Secured excavator shovel

1. Excavator shovel
2. Excavator shovel frame
3. Ties (tie-down straps, chains, wire ropes, etc.)


 The excavator shovel must be securely tied down on the excavator shovel frame.

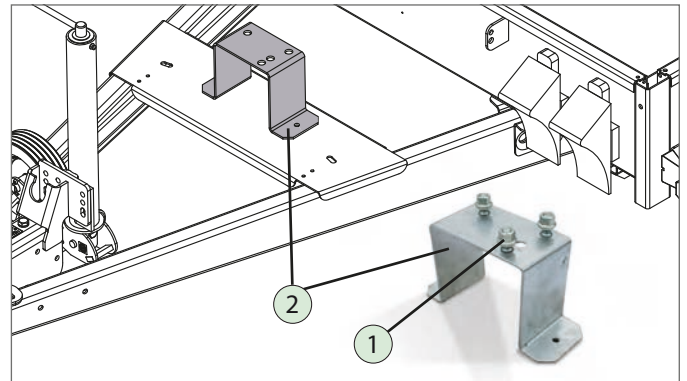
- ▶ Carefully position the excavator shovel on the excavator shovel frame.
- ▶ Tie down the excavator shovel securely, using the tie-down points.

6.3.5 Spare wheel

 The excavator shovel holder frame also serves as a bracket for the spare wheel on the V drawbar.

- ▶ The spare wheel is attached to the spare wheel holder with the 3 wheel nuts.

 You will find the safety-related information about handling the spare wheel holder in the operating instruction manual on "Trailers up to 3.5 to - General - Part 1".



Spare wheel holder on drawbar

1. Wheel nuts
2. Spare wheel holder



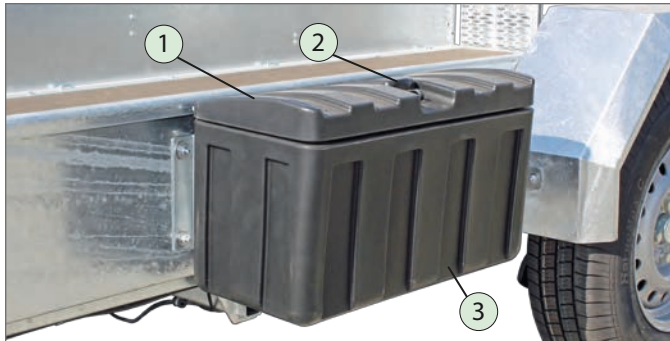
Spare wheel, attached

6.3.6 Toolbox

- The toolbox can be attached to the drop side at the factory as an option.



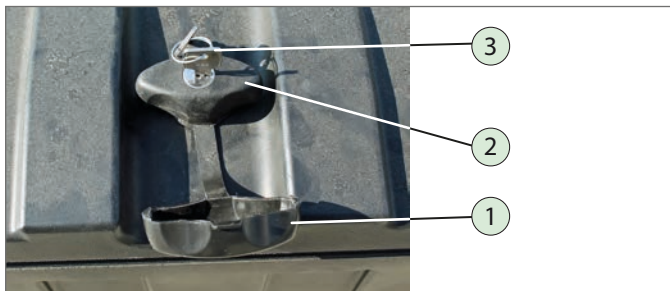
You will find the safety-related information about handling tool boxes in the operating instruction manual on "Trailers up to 3.5 to - General - Part 1".



Toolbox on the drop side

1. Cover
2. Locking shoe (with lock)
3. Box

Unlocking / opening



Tool box unlocked and opened

1. Locking cover
2. Locking shoe (with lock)
3. Key

- ▶ Pull off the locking cover.
- ▶ Use a key to open the lock.
- ▶ Turn the lock counter-clockwise.
- ▶ Fold up the cover.

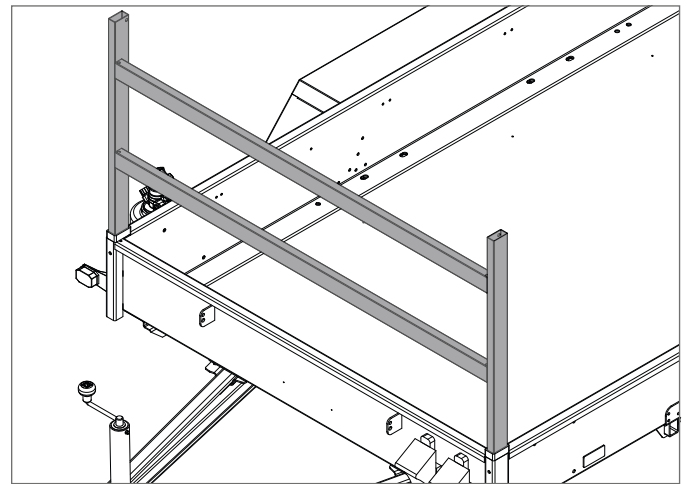
Closing and locking of the cover takes place in the reverse order.

6.3.7 H-frame

- The H-frame is intended to support and secure long goods that project forward over the trailer.
- The H-frame can be removed from the trailer when not in use.
- The H-frame is inserted into the front stanchions and secured with a screw connection.



You will find the safety-related information about handling the H-frame in the operating instruction manual on "Trailers up to 3.5 to - General - Part 1".



H-frame, mounted

6.4 Lowering the cargo bed

WARNUNG

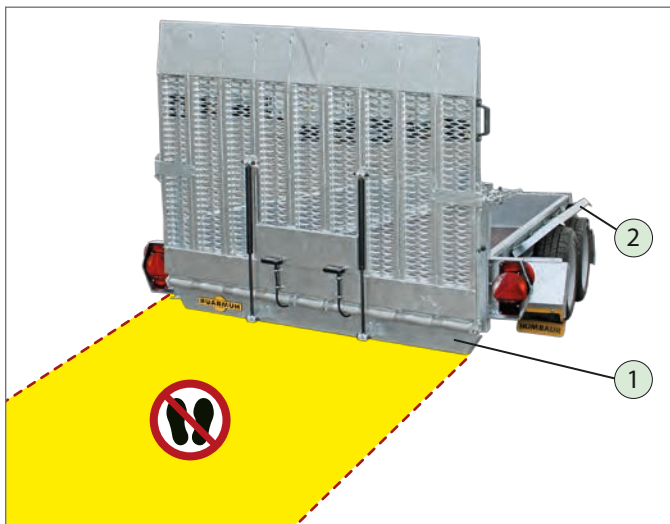


Cargo bed being lowered!

Persons can have their feet trapped under the underride guard when the load platform is being lowered.



Keep persons away from the area around the ramp wall (rear area) during lowering.



Risk zone

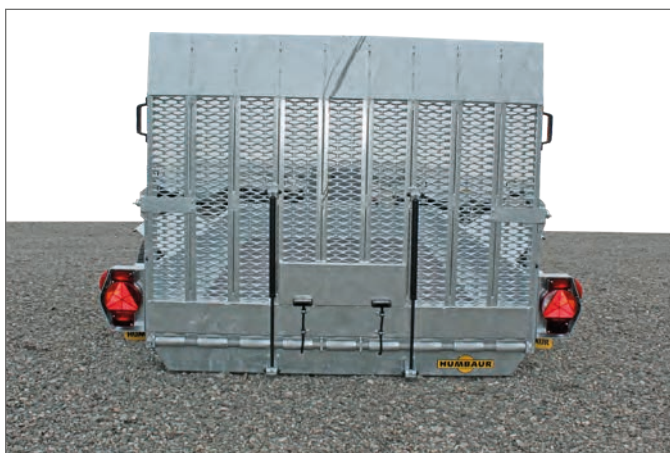
1. Underride protection
2. Mudguard, folded up

Preparing the trailer to be lowered



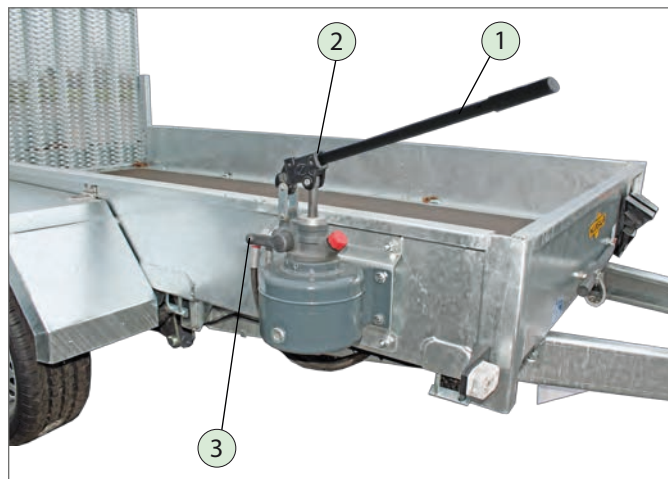
The trailer should not be able to slip away during the loading process.

- ▶ Place the trailer on solid ground.
- ▶ Couple the trailer to the towing vehicle!
- ▶ Check that the trailer hand brake has been released.



Chassis lowered

Lowering using the hand pump

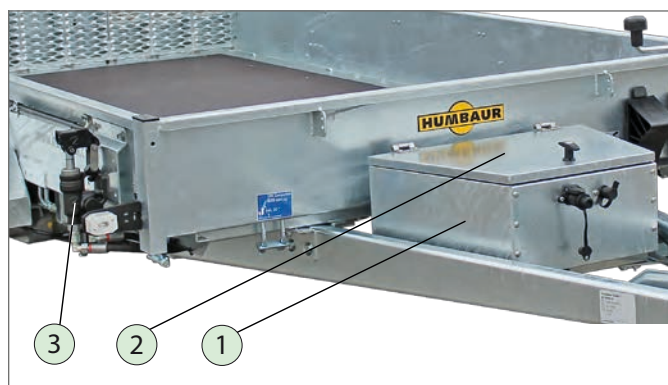


Operating the hand pump

1. Pump lever
2. Insertion opening
3. Valve lever

- ▶ Switch the valve lever to the lowering position.
- ▶ Insert the pump lever into the insertion opening.
- ▶ Pump the lever until the trailer underride guard rests on the ground.

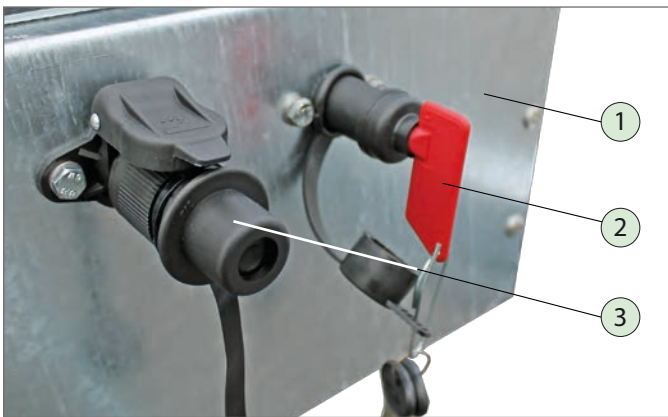
Lowering with the electric pump



Electric pump

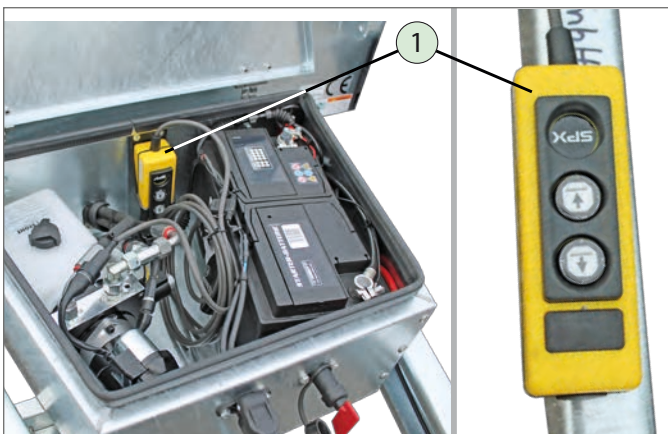
1. Electrics box
2. Electrics box cover
3. Manual emergency pump

- Optionally, the SENKO trailer can be fitted with an electric pump and an emergency hand pump.
- The lockable electrics box along with its battery and hydraulic tank is mounted to the drawbar at the front.
- The lowering operation is carried out by remote control using a hand button which is integrated into the electrics box.
- You can use the emergency hand pump to raise the cargo bed if the electric pump fails.
- The battery can be charged using an external charger connection.
- The power switch is used to disconnect/switch off the power supply (12 V).



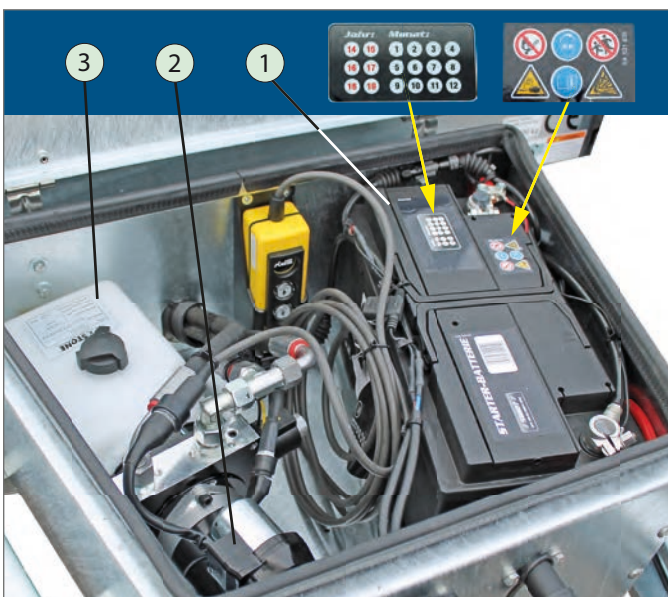
Connections

1. Electrics box
2. Power switch (ON-OFF)
3. Charger connection (12 V)



Hand button integrated into the electrics box

1. Hand button (2.5 m cable)



Electrics box - internal view

1. Battery (12 V, 88 Ah)
2. Electric motor (12 V)
3. Oil tank (working pressure of 120 bar)



WARNING



Danger when handling batteries!

The battery can explode as a result of spark generation or short circuits.

- ▶ Avoid short circuits and the formation of sparks.
- ▶ Do not place any tools on the battery.



Do not smoke and keep naked flames away.



Danger from battery acid!

Battery acid is corrosive, and if it comes into contact with you there is a danger of severe acid burns.



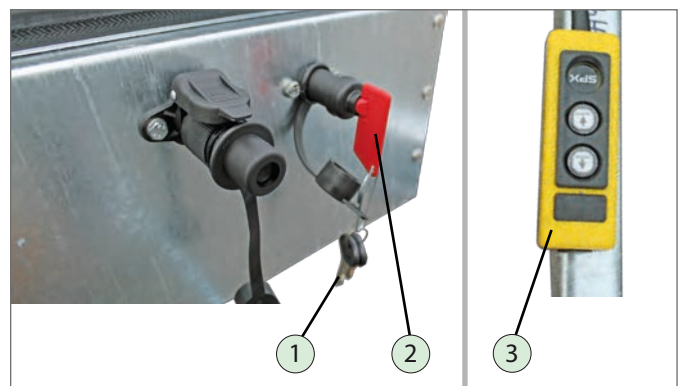
In the event of contact you must contact a doctor immediately.



Fire hazard!

Batteries which are short circuited get hot.

- ▶ Allow the battery to cool down before you start maintenance and servicing work.



Operating the electric pump

1. Electric box key
2. Power switch (ON-OFF)
3. Hand button

- ▶ Insert the power switch and set it to ON.
- ▶ Unlock and open the electrics box cover.
- ▶ Remove the hand button from its internal retainer - it has a magnetic base.
Alternatively, you can place the hand button on the draw-bar to operate it.
- ▶ Push the button (down arrow) to lower the cargo bed.
- ▶ Release the button as soon as the trailer rests completely on the ground.

6.5 Opening the ramp wall

WARNUNG



Crushing hazard!

When you release and fold down the ramp wall, your fingers / hands can be crushed between the ramp wall and the ground or the ramp wall and stanchion. They can also be crushed when the lock is opened.

- ▶ Only actuate the ramp wall from the side - not from the back.
- ▶ When releasing the ramp wall, make sure that your fingers are not near the corner posts.

- ▶ Use  .

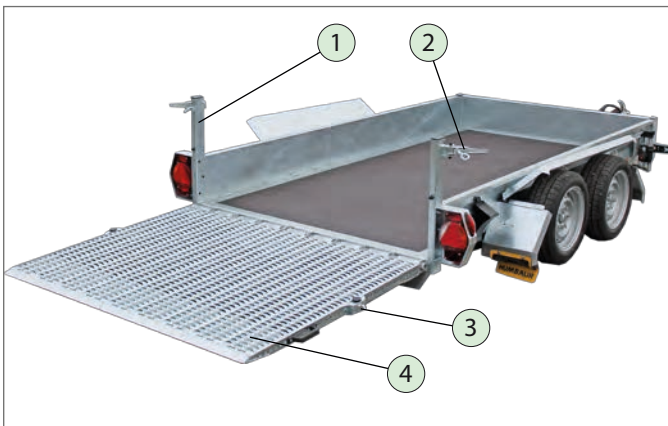


Folding ramp wall during transportation!

If the ramp wall is not properly secured with the locks, it can come open on its own.

- ▶ Do not load your trailer so that the load protrudes over the ramp wall.
- ▶ Secure the ramp wall using the locks. Never lash it closed using belts.
- ▶ Make sure that it is correctly secured before driving off.

Loading position

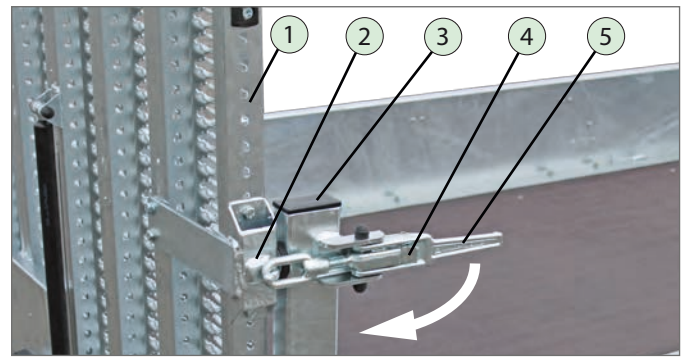


Ramp wall folded up

1. Stanchion
2. Ramp wall lock
3. Hook
4. Open ramp wall

The gas struts aid the operation of the ramp wall so that it can be operated by a single person.

Unlock locks

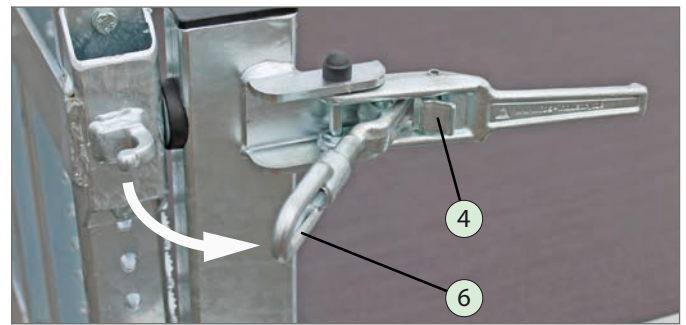


Unlock locking lever

1. Ramp wall
2. Locking hook
3. Stanchion
4. Securing device
5. Handle

Unlock the interlocks on both sides, one after the other.

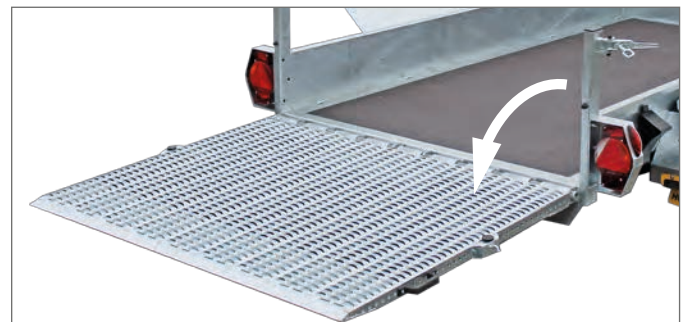
- ▶ Depress the safety catch on the handle.
- ▶ Pull the handle out at the same time.



Unlock ramp wall

6. Eyelet

- ▶ Swing the unlocked eyelets out of the hook.



Lower ramp wall

- ▶ Hold the handle from the side and allow the ramp wall to descend slowly.



Make sure that your feet are not near the edge of the ramp wall.

6.6 Loading the trailer



Make sure that the trailer is secured so that it cannot roll away.

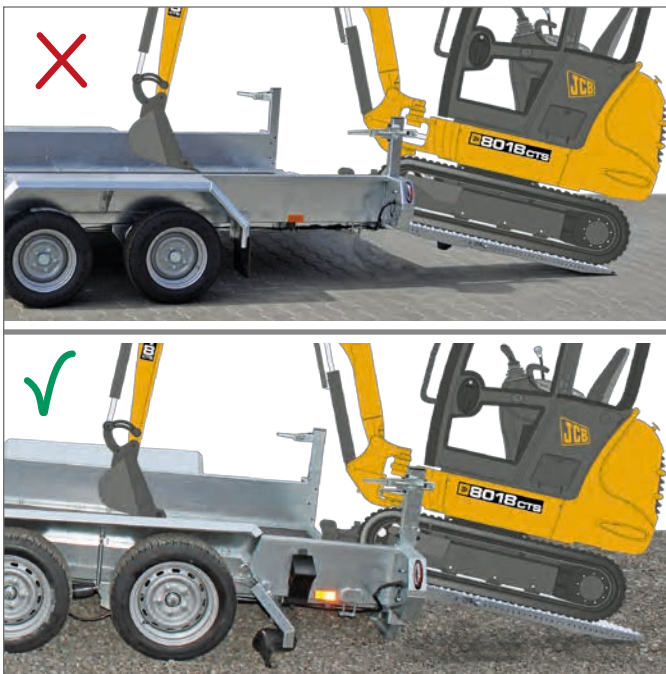
<p>! WARNUNG Unzureichende Beleuchtung beim Be- und Entladen! Erhöhte Unfallgefahr. ► Sichern Sie den Anhänger mit zusätzlichen Signaleinrichtungen.</p>	<p>! WARNUNG Inadequate lighting during loading and unloading! Increased risk of accidents. ► Secure the trailer with additional signalling devices.</p>

- Make sure that road traffic safety is not impaired when loading and unloading the trailer.
- If necessary, use additional signalling devices, e.g. signs, barriers.

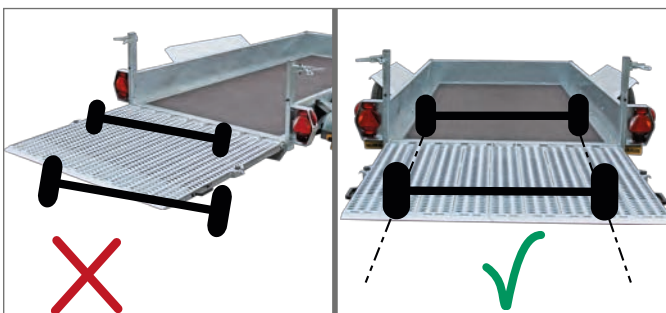
6.6.1 Driving up



The chassis must be lowered!
 -Underride protection is supported.



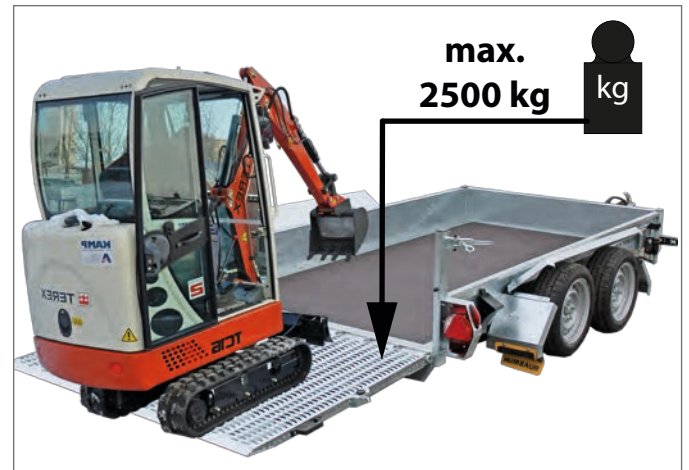
Lowering the chassis



Positioning the load vehicle

- Slowly and carefully drive over the ramp wall and slowly push the load vehicle upwards in a controlled manner.
- Take care that the load vehicle is facing the ramp wall.

Loading process - example



Maximum load on ramp wall



The ramp wall can support a maximum of 2,500 kg of evenly distributed load.

- Avoid point loads, e.g. by driving over the ramp wall with vehicles with small wheels, such as platform trucks and mobile lifting platforms.
- Observe the following:
 - 6.1 Load distribution
 - 6.2 Load securing
 - 6.3 Load securing with extension and accessories



Never exceed the maximum permitted total weight and drawbar load of the trailer.



Observe the maximum permitted drawbar load of your towing vehicle and trailer coupling.

6.6.2 Stepping onto / off the cargo bed



SENKO trailers have folding steel mudguards that are activated when raising or lowering the chassis.



Stepping onto the steel mudguards

1. Steel mudguards
2. Drop side edge

VORSICHT



Stepping onto / off the cargo bed!

You could fall when stepping onto / off the cargo bed over the drop sides, the excavator shovel holder, the drawbar or the steel mudguard.

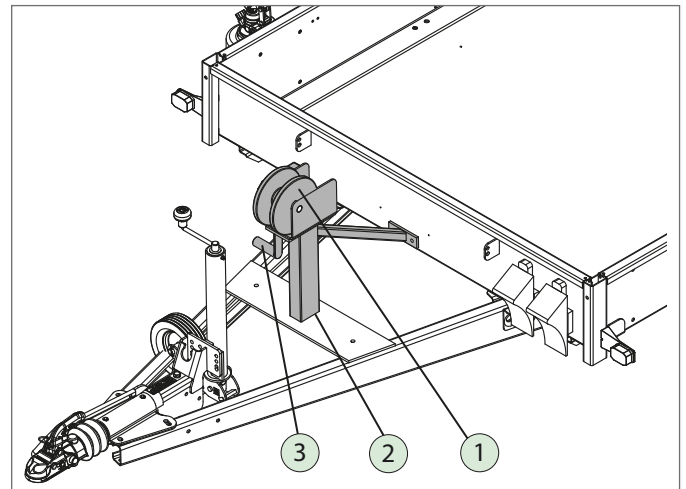
- ▶ Do not climb onto the edges of the drop sides.
- ▶ Do not step onto the excavator shovel holder.
- ▶ Try to step onto / off the cargo bed from the rear wherever possible.
- ▶ Do not climb onto the steel mudguard.

- ▶ Use .

6.7 Operating the cable winch

6.7.1 Cable winch (manual)

- The cable winch is centrally located on the drawbar.
- Defective vehicles can be pulled onto the cargo bed using the cable winch.



Cable winch frame

1. Cable winch
2. Frame, welded
3. Crank handle

WARNUNG



Using a damaged cable winch!

A damaged cable will be weakened and may tear when placed under load. People could be hit or crushed by the cable and / or the load.

- ▶ Only use the cable winch if it is undamaged and in perfect condition.
- ▶ Regularly have the cable winch serviced and repair it immediately if it is faulty.

VORSICHT



Operating the cable winch!

You could crush your hands / fingers in the cable winch while rolling or unrolling the cable. You could lacerate your hands on broken individual wires of the cable.

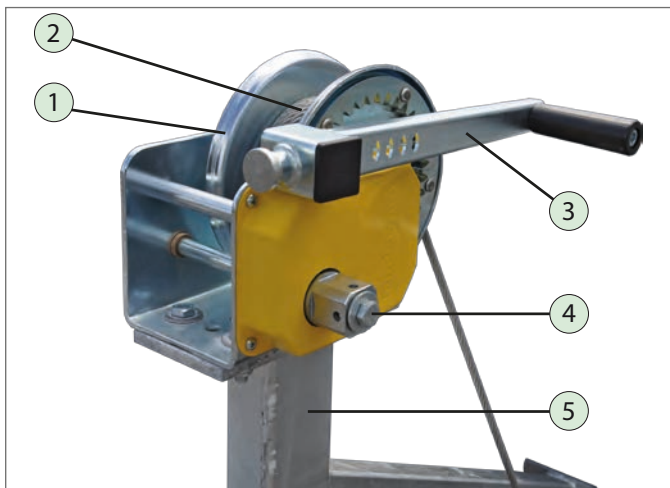
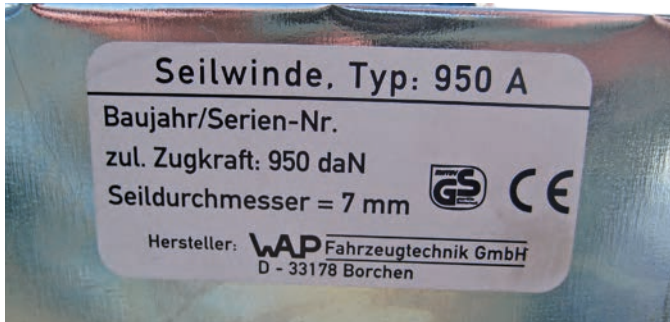
- ▶ Use .
- ▶ When operating the cable winch, ensure that the cable has no individual broken wires.
- ▶ Ensure that your fingers do not get caught in the cable winch when rolling up the cable.

HINWEIS

Overloading the cable winch!

Overloading the cable winch may result in breaking it off or tearing the cable.

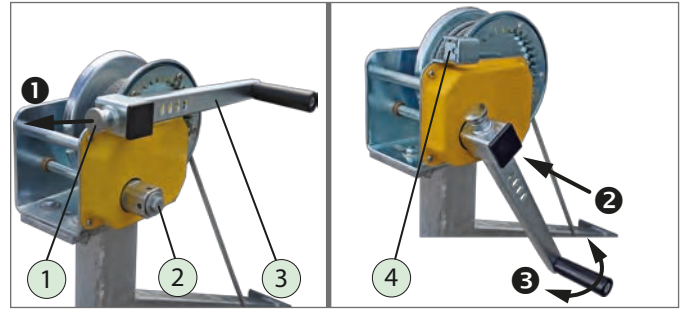
- ▶ Adhere to the maximum permissible tractive force of the cable winch, i.e. 950 daN or approximately 900 kg.
- ▶ Observe the type label on the cable winch.



Cable winch frame - components

1. Cable winch
2. Cable (steel)
3. Crank handle
4. Crank base
5. Frame, welded

Preparing the cable winch



Insert the crank handle

1. Securing pin
2. Crank base
3. Crank handle
4. Parking holder for the crank handle

- ▶ ❶ Pull on the securing pin, while at the same time removing the crank from its parking position.
- ▶ ❷ Insert the crank into the crank base.
- Simultaneously pull out the securing pin and place it into one of the holes.
- ▶ ❸ The crank handle can be turned.



Loosening the snap hooks

- ▶ Relax the cable by turning the crank handle in an anti-clockwise direction.
- ▶ Unhook the snap hook from the eyelet.

Extending / unrolling the cable



Unroll the cable

- ▶ Unhook the snap hook from the eyelet.
- ▶ Manually extend the cable.
- Ensure that the crank handle turns.
- If necessary, remove the crank handle beforehand.

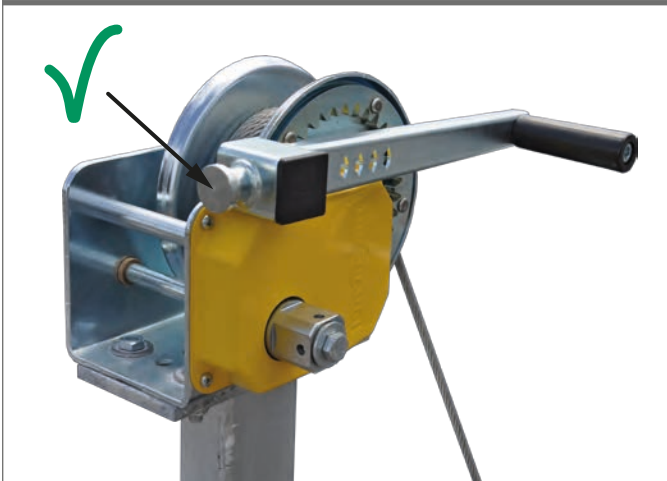
Roll up the cable and secure the cable winch

VORSICHT

Unsecured cable / crank handle!

An unsecured cable / crank handle may rattle around while driving, be torn off and hit a person.

- ▶ Before driving off, ensure that the cable is fastened in the eyelet with the snap hook and pulled tight.
- ▶ Ensure that the crank handle is in the parked position and secured with the securing pin.

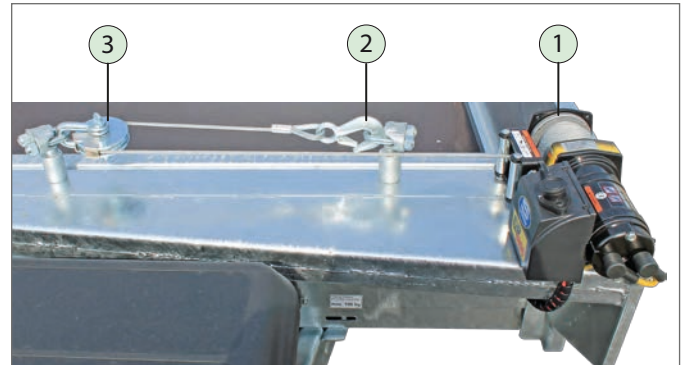


Cable rolled up / cable winch secured

- ▶ Carefully roll up the cable on the cable winch after use with the aid of the crank handle.
- ▶ Insert the snap hook into the eyelet.
- ▶ Slightly tighten the cable.
- ▶ Remove the crank handle from the crank base.
- ▶ Position the crank handle on the parking bracket.
 - Ensure that the crank handle points in the right direction (towards the cargo bed).
 - Ensure that the crank handle has been secured.

6.7.2 Cable winch (electric)

- The cable winch is attached on the side at the front.
- Defective vehicles can be pulled onto the cargo bed using the cable winch.



SENKO with electric cable winch

1. Cable winch with electric motor
2. Snap hook
3. Pulley



Remote control of cable winch

1. Connection for remote control
2. Remote control
3. Plug
4. Toggle switch, rolling up / down



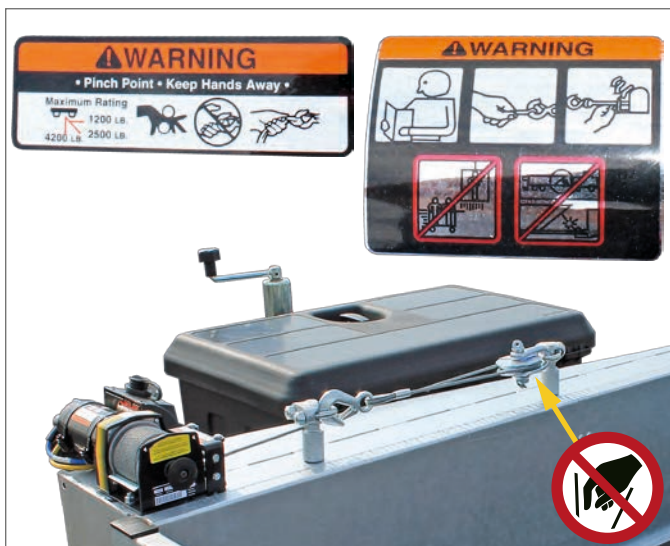
To find out more about operating the electrical cable winch, please see the manufacturer's operating instructions.



Please take note of the safety instructions on the housing of the electric cable winch!



6.8 Closing the ramp wall



Safety instructions



Please take note of the changing load limits for the electrical cable winch!
The load capacity of the electric cable winch decreases in relation to an increase in incline!

Slope*	10% (6°)	20% (11°)	30% (17°)	100% (45°)
Lbs.**	15,075	10,200	7,825	3,850
kg**	6838	4627	3549	1746

Table: GP 3000 / load limits



Please take note of the maximum force transfer!
See Table Layer 2 (1x deflection) = 1077 kg.

Wire Rope Layer	Max. Pulling Capacity lbs.	kg
1	3,000	1360
2	2,375	1077
3	1,975	896
4	1,675	760
5	1,475	669
6	1,300	590

Table: Force transfer during deflection




WARNING

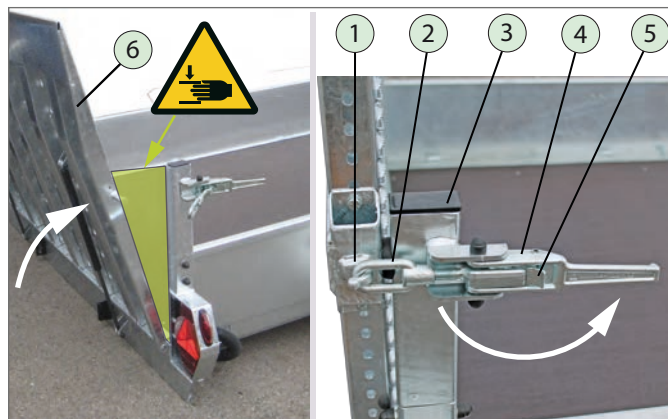


Crushing hazard!

When you close and lock the ramp wall, your fingers/hands can be crushed between the ramp wall and the stanchions / lock.

- ▶ Take particular care when closing and locking the ramp wall.
- ▶ Make sure that your fingers are not between the stanchion and the ramp wall.
- ▶ Use .

Closing the ramp wall



Closing the ramp wall

Securing the locks

1. Locking hook
2. Eyelet
3. Stanchion
4. Handle
5. Securing device
6. Ramp wall

Lock the interlocks on both sides, one after the other.

- ▶ Hold the handle and lift the ramp wall.
 - The gas struts help you to do this.
- ▶ Swing the eyelet onto the locking hook.
- ▶ Pull the locking lever backwards and insert the eyelet into the locking hook.
- ▶ Push the locking lever until it engages in its final position.
 - The lock has engaged.
 - The ramp wall is locked.

The cargo bed is secured against automatic opening while driving.

6.9 Raise the cargo bed




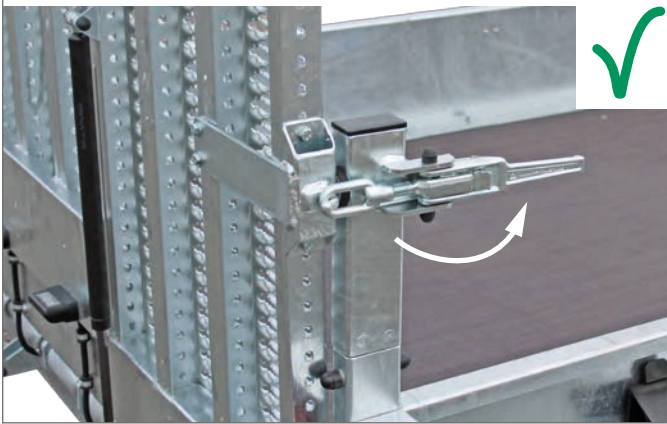
VORSICHT



Mudguards folding into place!

When the loading platform is being raised, the mudguards automatically fold into place. There is a danger of your hands getting trapped.

- ▶ Keep your hands away from the mudguards as they fold into place.
- ▶  Before raising the loading platform, make sure that there are no persons in the vicinity of the mudguards.



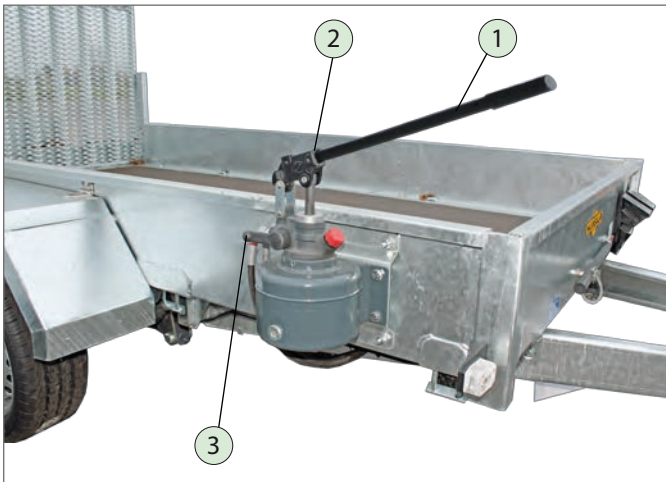
Ramp wall closed and locked



Mudguard open

1. Mudguard
2. Retaining spring

Raising the trailer with the hand pump

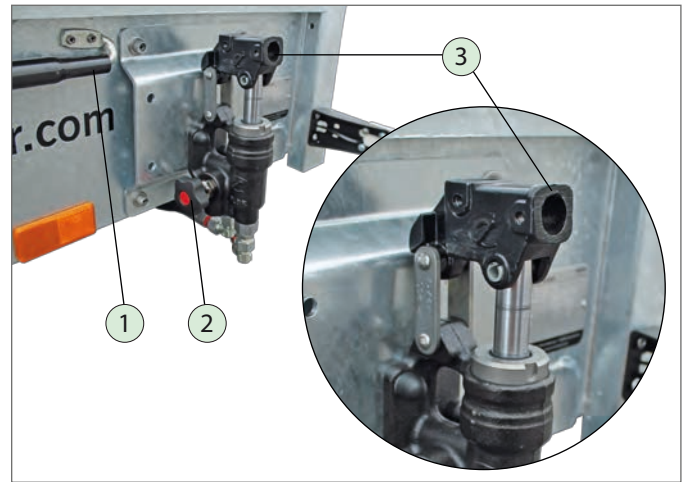


Operating the hand pump

1. Pump lever
2. Insertion opening
3. Valve lever

- ▶ Switch the valve lever to the lifting position.
- ▶ Insert the pump lever into the insertion opening.
- ▶ Pump the lever until the trailer is fully raised.

Raising the trailer with the emergency hand pump



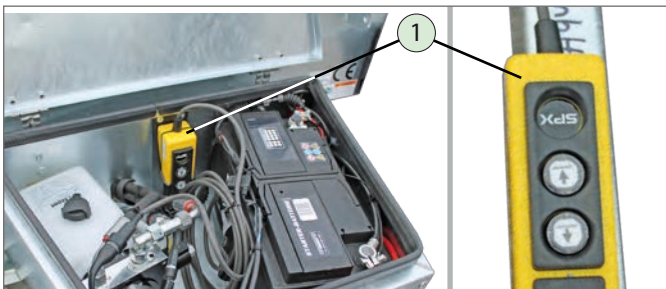
Manual emergency pump

1. Pump lever
2. Valve hand wheel
3. Insertion opening



The valve hand wheel is closed in the park position. Observe the information on the trailer.

Raising the trailer with the electric pump



Operating the electric pump

1. Hand button
- ▶ Push the upwards arrow on the hand button to raise the loading platform.
 - ▶ Release the button once the trailer is fully raised.
 - ▶ Stow the hand button in the electrics box (retainer) and lock the electrics box.
 - ▶ Turn the power switch to OFF and remove the key.

HINWEIS	!	NOTICE
Bedienung per Handpumpe Bei Ausfall der Elektro-Hydraulikpumpe. ▶ Handpumpe nur zum NOT-HEBEN der Ladefläche benutzen. Kein Absenken möglich!	 <small>ca. 2004</small>	Operation via hand-pump! For failure of the electro-hydraulic pump. ▶ Use only for EMERGENCY-LIFT of load area. No lowering possible!

- ▶ Fully open the valve hand wheel.
- ▶ Insert the pump lever into the insertion opening.
- ▶ Pump the lever until the trailer is fully raised.
- ▶ Close the hand wheel and make sure that the emergency hand pump is in the park position.

7 Driving



Before setting off, make sure that the maximum permissible loads (load capacity and drawbar load) are not exceeded.



Observe the maximum permissible towing load and drawbar load of your towing vehicle and the trailer coupling.

- ▶ Where required, check the weight information for the goods to be loaded.
- ▶ Carry out a departure check (see operating instruction manual, "Trailers up to 3.5 to" (General Points - Part 1))



Driving in car and trailer combinations (example image)



Please note that mini-excavators have a high tilting moment.

- ▶ Adapt your driving style accordingly!
 - Reduce your speed and drive particularly carefully around bends / when turning!

8 Parking



Observe the general safety and warning instructions on parking your trailer safely in the operating instruction manual, "Trailers up to 3.5 to" (General Points - Part 1).



Wheel chocks



Wheel chock on rigid axle, front

1. Front drop side
2. Wheel chock

- ▶ Make use of the wheel chocks attached to the front drop side.
- ▶ Only place the wheel chocks under wheels with a rigid axle.

8.1 Water drainage



Water drainage

1. Rain guard

- ▶ Park the trailer on an incline to allow the water to drain away.

9 Cleaning / maintenance / servicing

9.1 Care / cleaning



Observe the safety instructions and instructions for general cleaning / care of trailers in the operating instruction manual, "Trailers up to 3.5 to" General Points - Part 1.



When you carry out care and cleaning work on your SENKO and its electro-hydraulic equipment, take particular care to observe the warnings of the manufacturer of the battery and hydraulic unit in the electrics box.



WARNING



Battery live!

When the trailer is coupled up and connected, the battery is live. There is a danger of short-circuit.



- ▶ Disconnect the power supply before carrying out any care and cleaning work.
- ▶ Turn the power switch to OFF and fit the covering cap.

HINWEIS



Battery discharge!

Current leaks can occur if the battery terminals are contaminated by environmental influences such as dirt and moisture. The connections can be corroded.



- ▶ Never wash the battery with a wet cloth. Never spray water into the electrics box.
- ▶ Dry the surface of the battery and the terminals with a clean dry cloth.
- ▶ Protect the terminals from corrosion using terminal grease.



- ▶ Wear and .

9.2 Maintenance / servicing



Maintenance instructions are given in the operating instruction manual, "Trailers up to 3.5 to" (General Points - Part 1). Additional specific maintenance instructions may be found here.

9.2.1 Tyres / wheels

The following tyre sizes can be used for the SENKO:

Tyre type	p _{max.} in bar
185 R 14 C	4.5
195 50 R 13 C	6.5

Table: Tyre pressure / tyre size

- ▶ Check the tyre pressure on all wheels on a regular basis and before long journeys. (See the table: Maintenance instructions in the operating instruction manual "Trailers up to 3.5 to General Points - Part 1")

9.2.2 Gas struts



WARNING

Removing gas struts!

The gas struts are under high pressure! Improper fitting / removal may result in injury to persons - impact / collision risk!

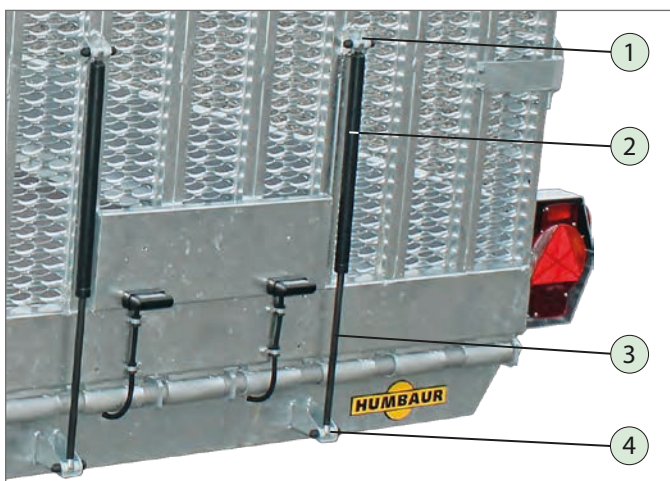
- ▶ Observe the safety warnings on the gas struts.
- ▶ Take note of the instructions provided by the gas strut manufacturer. (see gas strut)
- ▶ Have worn / defective gas struts replaced by qualified staff only.



The working range of the gas struts is:
- 25°C to + 60°C.

Service life, functionality and safety depend largely on ensuring that the gas struts are serviced and maintained.

9.2.4 Charging the battery



Maintaining gas struts

1. Attachment
2. Gas strut (body)
3. Piston rod
4. Fixing system / attachment

- ▶ Secure the ramp wall against falling when fitting / removing the gas strut.



During spraying, do not aim the water jet directly at the gas struts.

- ▶ Keep films and paper packaging away (electrostatic charging is possible).
- ▶ Do not scratch or paint the piston rod or treat it with aggressive media (abrasives).
- ▶ Only use gas struts of the same type - take note of the force information.

9.2.3 Electro-hydraulic equipment



The electro-hydraulic equipment (motor, hydraulic tank, hoses, electric cables, and connections) is maintenance-free.

However, the equipment needs to be regularly checked for damage, ageing, breakage, and material fatigue.

Servicing work must only be carried out by qualified specialists.




WARNING



Danger when handling batteries!

The battery can explode as a result of spark generation or short circuits.

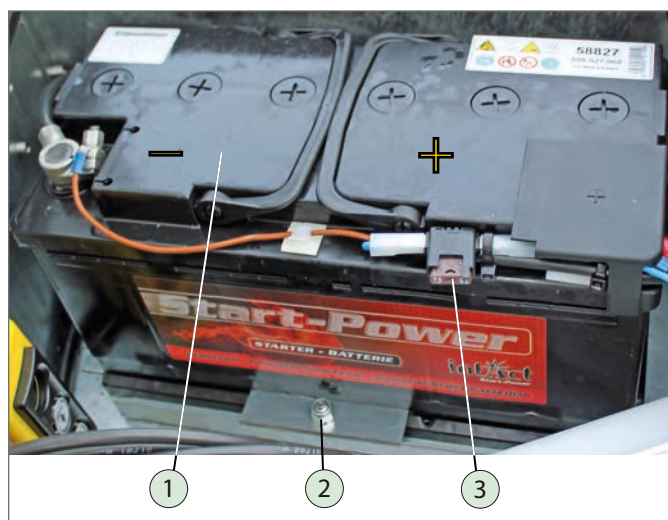
- ▶ Avoid short circuits and the formation of sparks.
- ▶ Do not place any tools on the battery.
- ▶  Do not smoke and keep naked flames away.



Fire hazard!

Batteries which are short circuited get hot.

- ▶ Allow the battery to cool down before you start maintenance and servicing work.



Battery

1. Battery (12 V, 88 Ah)
2. Clamping fixation
3. Securing device

Towing vehicles that have a charging line in accordance with DIN ISO 11446:2004 (D) can maintain the battery charge on extended journeys using the charging line in the 13-core cable.


In the case of towing vehicles which do not have a charging line in accordance with the DIN standard, there is no isolating relay. This can lead to the discharging of the battery of the towing vehicle and to other power-related side-effects.


- ▶ Make a regular check of the battery power (and check the date of manufacture).
- ▶ If the power is low, the battery must be charged.

Charging possibilities:

- Directly using a 12 V car battery charger
- Via the battery charging plug


Charging directly using a 12 V car battery charger

 Make sure that the charger is suitable for the battery.

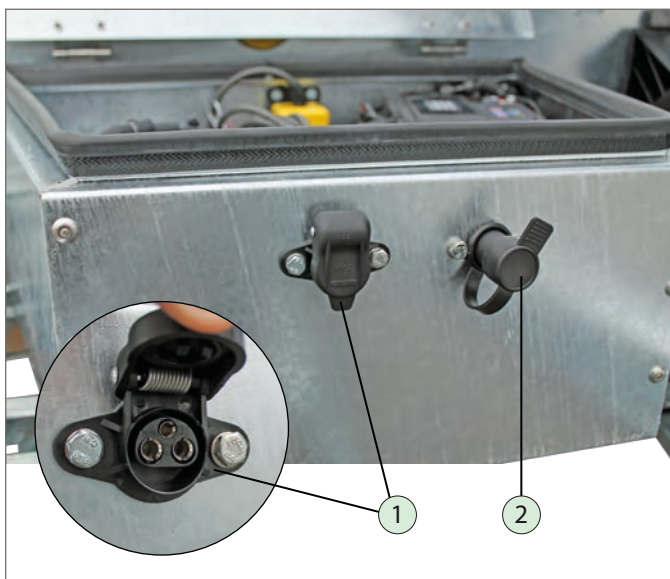
 Read the instructions for your car battery charger carefully and maintain the correct sequence of contact connections.

- ▶ Connect the charger to the battery in accordance with the relevant instructions.
- ▶ Charge the battery using the charger.
- ▶ Remove the charger.

Charging using the battery charging plug

 If your charger has a compatible plug, you can connect it to the charger connection on the electrics box to charge the battery.

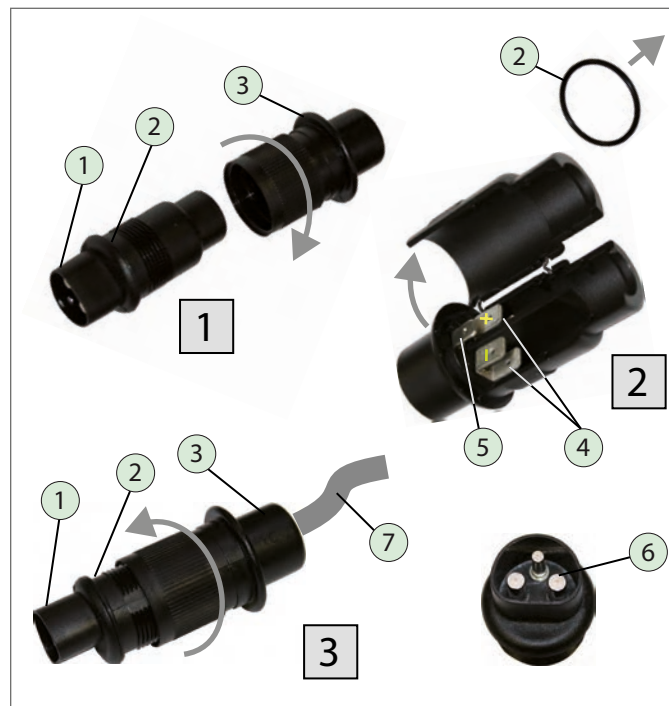
- ▶ If your charger does not have a suitable plug: Connect the charging line to the provided battery charging plug.



Connections

1. Charger connection (12 V)
2. Power switch (ON-OFF)

Connecting the battery charging plug




Battery charging plug

1. Front section of plug (with contacts)
2. Rubber sealing ring
3. Back of plug
4. + line terminal (No. 15/30); - line terminal (No. 31)
5. Pin terminal (no. 82) (free)
6. Contacts
7. Charging line (connected)

- ▶ Unplug the battery charging plug from the charger connection on the electrics box.
- ▶ Screw the charging plug in and remove the rubber sealing ring.
- ▶ Pull the rear section of the plug onto the charging line.
- ▶ Open the front section of the plug.
- ▶ Attach the + line terminal (No. 15/30) (generally red) to the + terminal. Attach the - line terminal (No. 31) (generally black) to the - terminal. Leave the third pin terminal (No. 82) free.
- ▶ Close the front section of the plug and slide the rubber sealing ring onto the plug.
- ▶ Screw the plug elements together again.

Now you can connect your charger to the electrics box using the battery charging line.

 Make sure that the contacts on the plug do not get dirty or corrode. If necessary, clean them with contact spray.

9.2.5 Lubricating the chassis cylinders/axles



The lubrication / maintenance work on the chassis cylinders and axles may only be carried out by qualified experts.



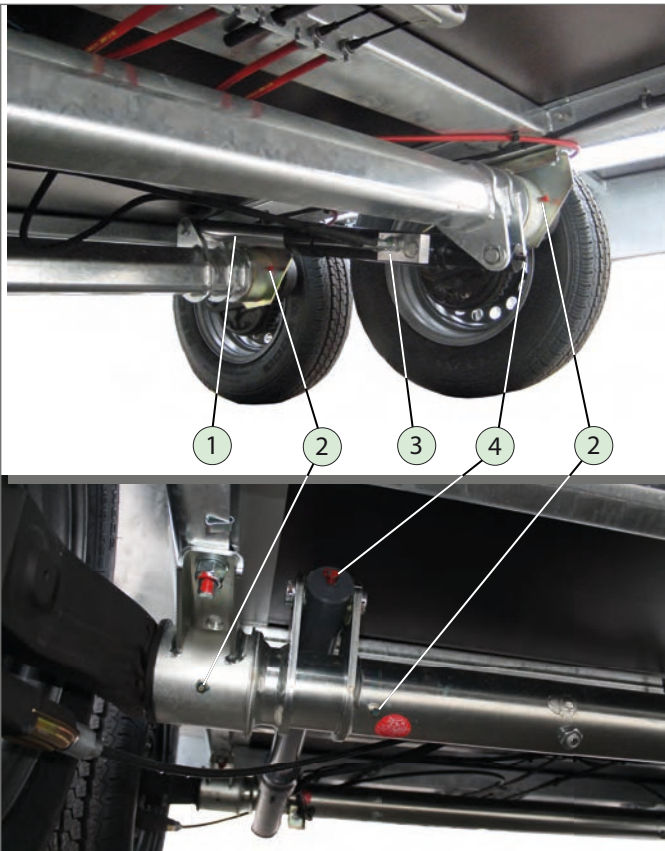
WARNING



Falling chassis frame!

The cylinders retract during lowering, pulling the axles together. The chassis can slip off the stands and fall down.

- ▶ Never lower the loading platform if the trailer is on stands.

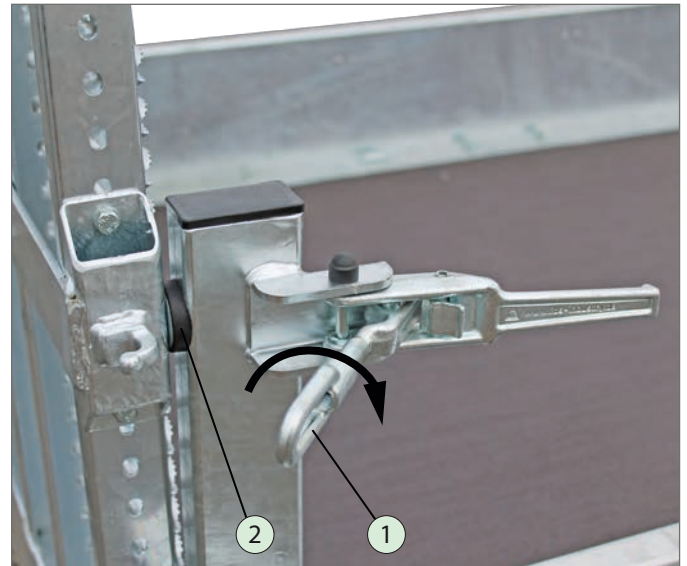


Chassis cylinders / axles - lubrication points

1. Cylinders extended (travel position)
2. Axle grease nipples
3. Cylindrical hydraulic connections
4. Cylinder grease nipples

- ▶ Clean the points to be lubricated with a clean cloth.
- ▶ Remove the covering caps from the grease nipples.
- ▶ Grease the chassis cylinders and axles with commercially available multi-purpose grease using a grease gun.
- ▶ Check the extended cylinders for damage and remove any contamination / dirt.
- ▶ Grease the piston rods with multi-purpose grease.
- ▶ Replace the covering caps of the grease nipples.

9.2.6 Ramp wall lock



Adjust the locks

1. Eyelet
2. Rubber buffer

- ▶ Check the locks for signs of wear, fracture, secure closing (creation of tension).
- ▶ Check that the lock functions smoothly.
 - Activate the locking lever several times.
- ▶ Remove any dirt and old grease.

If the build-up of tension by the interlocks reduces:

- ▶ Screw the eyelet in a little (a couple of threads) and close the interlock.
 - the lock is under tension.
- ▶ Check that the interlocks pull in with approximately the same tension on both sides (right and left).

9.2.7 Double wing door

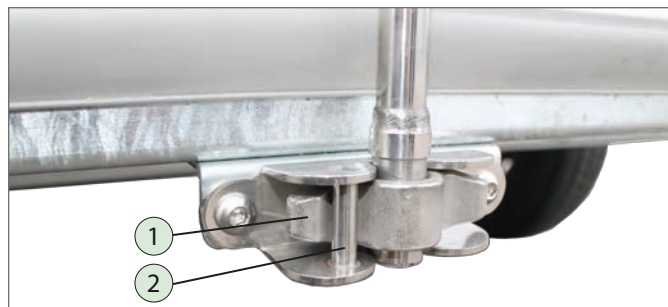


Door hinge

1. Bolt
2. Bush
3. Cap
4. Hinge

- ▶ Check the screws of the door hinge.
- ▶ Adjust the screws if necessary.
- ▶ Replace any bushes that may be worn.

9.2.9 Bolt for espagnolette lock

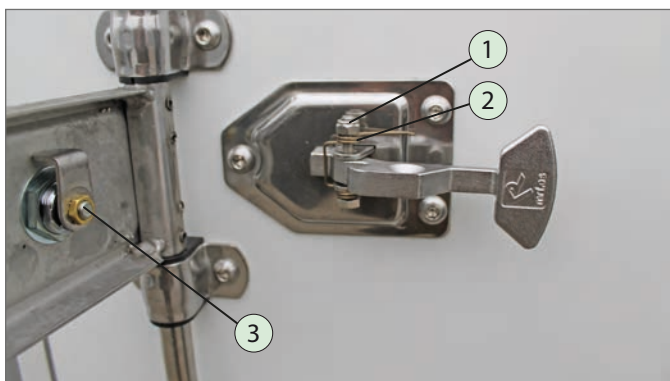


Bottom / top lock

1. Hook
2. Securing pin

- ▶ Remove any dirt and old grease.
- ▶ Lubricate the contact point between the lock hook and the latch bolt with grease.

9.2.8 Lock

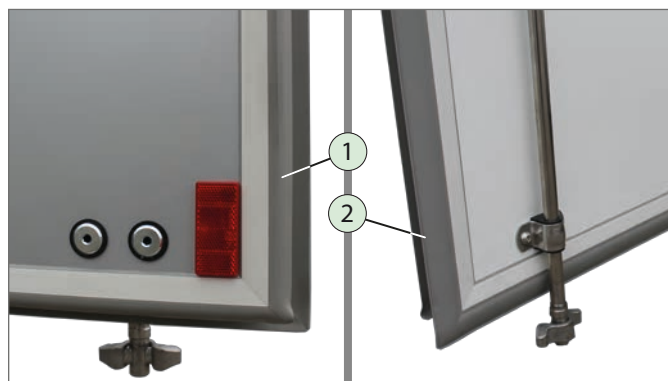


Espagnolette lock mechanism

1. Screw / nut
2. Spring
3. Lock cylinder / tongue

- ▶ Check the screws of the espagnolette lock.
- ▶ Adjust the mechanism if necessary.
- ▶ Replace the worn spring if necessary.
- ▶ Lubricate the lock cylinder / tongue if necessary.

9.2.10 Double wing door seal



Seal

1. Internal seal
2. External seal

- ▶ Check the state of the seal around the double wing door.
- ▶ Have any defective seals (e.g. torn) repaired or replaced by a specialised workshop if necessary.

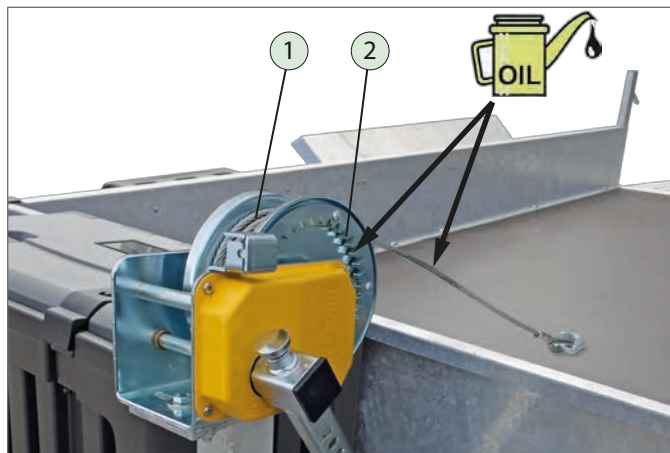
9.2.11 Cable winch (manual)



The cable winch must be inspected by specialised staff at least once a year or every 10,000 km. If the cable winch is subject to heavy-duty use or operating conditions, the inspection interval must be shorter.

The cable winch and its attachment must be checked for damage / crushing, ageing, broken individual wires or the cable as a whole and material fatigue.

Servicing work must only be carried out by qualified specialists.



Testing / greasing the cable winch

1. Cable (steel)
2. Gear segment

- ▶ Completely extend the cable and clean both the cable and the gear segments with a clean cloth.
- ▶ Carry out a visual inspection for damage / tears / cracks.
- In the event of damage, have the cable winch repaired by qualified staff.
- ▶ Use a commercial machine grease to grease the cable slightly.
- ▶ Carefully wind the cable onto the drum.

9.2.12 Cable winch (electric)



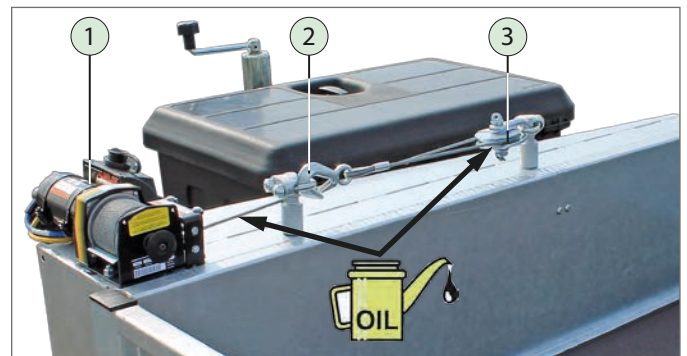
The cable winch must be inspected by specialised staff at least once a year or every 10,000 km. If the cable winch is subject to heavy-duty use or operating conditions, the inspection interval must be shorter.



Please take note of the manufacturer's operating instructions!

The cable winch and its attachment must be checked for damage / crushing, ageing, broken individual wires or the cable as a whole and material fatigue.

Servicing work must only be carried out by qualified specialists.



Testing / greasing the cable winch

1. Cable winch with electric motor
2. Snap hook
3. Pulley

- ▶ Completely extend the cable and clean both the cable and the gear segments with a clean cloth.
- ▶ Carry out a visual inspection for damage / tears / cracks.
- In the event of damage, have the cable winch repaired by qualified staff.
- ▶ Use a commercial machine grease to grease the cable slightly.
- ▶ Carefully wind the cable onto the drum.

10 Troubleshooting



If a fault occurs, this table might help you to restore the specific operational functions of your SENKO trailer. For further causes of faults and rectification measures, see the operating instruction manual "Trailers up to 3.5 to General Points - Part 1".



WARNING



Unsecured trailer! Unexpected start!

Do not go under the chassis when troubleshooting. There is a danger of your being crushed if the trailer starts to move unexpectedly.

- ▶ Make sure that the trailer is secured so that it cannot roll away.
- ▶ Do not actuate the hydraulic system whilst you or anyone else are under the chassis.

11 Decommissioning / disposal



Observe the safety instructions for decommissioning / disposal of trailers in the operating instruction manual, "Trailers up to 3.5 to" (General Points - Part 1).

11.1 Shutdown

- ▶ Secure your trailer against unauthorised use by third parties, e.g. using wheel clamps.
- ▶ Park your trailer so that it cannot cause any additional hazards for third parties, e.g. by tipping over, rolling away, or causing a traffic obstruction.

11.2 Disposal

- ▶ Bring the individual parts or the complete trailer to a car / vehicle recycling place. The specialists at the car / vehicle recycling facility will dispose of the individual components in the proper manner.

Malfunction	Possible cause	Solution
SENKO cannot be lowered.	<ul style="list-style-type: none"> - Battery charge is too low. - Battery fails. - Actuation using the emergency hand pump. - Hand pump not generating enough pressure. - Line break safety device is activated, but no leakage apparent. - Chassis cylinders are iced up. - Oil in hydraulic installation has become viscous (old). 	<ul style="list-style-type: none"> - Charge the battery. - Have the battery replaced by an expert workshop. - Trailer cannot be lowered with emergency hand pump. - Charge the battery. - Check the oil level in the hand pump. - Check the oil lines for damage. - Check the oil valve. - Consult an expert workshop and commission repair work if necessary. - Actuate the hand pump (apply pressure) and open up the hand wheel on the hand pump very slowly (release the pressure). - De-ice chassis cylinder. - Consult an expert workshop and have the oil replaced.
SENKO cannot be raised.	<ul style="list-style-type: none"> - Battery charge is too low. - Battery fails. - Oil valve on hand pump is open. - Hand pump not generating enough pressure. - Line break safety device is activated, but no leakage apparent. - Chassis cylinders are iced up. - Oil in hydraulic installation has become viscous (old). 	<ul style="list-style-type: none"> - Charge the battery. - Raise the trailer using the emergency hand pump. - Have the battery replaced by an expert workshop. - Close the oil valve and then actuate the hand pump. - Check the oil level in the hand pump. - Check the oil lines for damage. - Check the oil valve. - Consult an expert workshop and commission repair work if necessary. - Consult an expert workshop and commission repair work if necessary. - De-ice chassis cylinder. - Consult an expert workshop and have the oil replaced.
ramp wall can only be actuated with difficulty.	<ul style="list-style-type: none"> - Gas struts have become too weak. - Gas struts are defective. 	<ul style="list-style-type: none"> - Check the gas struts for damage. - Consult a specialised workshop and have them replaced.



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All illustrations are representative.

Deviations and modifications are subject to the model type.

Subject to technical modifications.

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Printed in Germany.

Version 2019/01