



Operating Instructions

- Heavy Duty Tipper -



Original Operating Instructions

Heavy Duty Tipper

Type SK



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Internal use is permitted for the operator of the machine in connection with the operation of the machine.

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History

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1 Basic information

1.1 Information on the operating instructions

- It is necessary to read through the operating instructions carefully before starting any work and store them in the immediate vicinity of the system, accessible to the authorised personnel at all times. The operator of the machine determines who is authorised as a user.
- The operating instructions provide information about:
 - description of the dangers and instructions for safe handling of the machine,
 - the intended use,
 - the structure and description of the components,
 - the functionality of the machine,
 - measures to establish operational readiness and operational safety,
 - the operation of the machine,
 - the maintenance and testing of the machine.
- They are a component of the machine and therefore must be supplied with the machine.
- For better explanation, illustrations may be shown not to scale and differ from the actual model.

1.2 Abbreviations, symbols and technical terms



Note

The Note symbol is used to identify information on operation of the machine and provides useful tips and recommendations, as well as information for efficient, economical, fault-free operation.

The following abbreviations are used in these operating instructions:

Abbreviation	Meaning
Bauer	Bauer Südlohn GmbH
PPE	Personal protective equipment
Container	Heavy Duty Tipper with rolling function

The following layout elements are used in these operating instructions:

Symbol	Meaning
(1)	Numbered action steps
⇒	Result after performing action steps
\$	Enumeration
-	Enumeration, subgroup
<i>Italic text</i>	Indicates preconditions that must be fulfilled before an action description
Chapter <i>number + title</i>	Refers to a section in this manual or further applicable documents

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Warnings are shown as follows in these operating instructions:

Each signal word is highlighted in a background colour (red, orange or yellow) according to the degree of risk of the hazardous situation.

Warning
symbol
opt. PPE
symbol(s)

SIGNAL WORD!

Nature, source and cause of a danger

Consequences of non-compliance

➤ Measures to prevent the danger; prohibitions

1.3 Conformity / standards and guidelines

This machine has been designed and built according to state-of-the-art technology and recognised safety regulations. Conformity of the machine with the EU guidelines and standards is confirmed through the CE declaration.

1.4 Warranty and liability



Note

Conformity in accordance with the Machinery Directive 2006/42/EC and the CE marking in accordance with the Machinery Directive 2006/42/EC become invalid if unauthorised alterations of the components or their assemblies are made.

The manufacturer assumes no liability for damage due to failure to follow these operating instructions.

2 Safety at the machine



Note

This machine has been designed and built according to state-of-the-art technology and recognised safety regulations. Nonetheless, dangers to the life and limb of the user or third parties or negative effects on the machine or other property can occur during use.

2.1 Definitions

2.1.1 Warning

A warning is used to warn of a situation that can lead to injury or death.

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2.1.2 Personal protective equipment (PPE)

If personal protective equipment (PPE) is required to be worn, this is indicated through additional symbols in the warnings of these operating instructions and the product safety labels/safety signs on the machine.

2.2 Warnings, symbols and markings

2.2.1 Understand warnings



DANGER!

... refers to a dangerous situation with a high degree of risk that will lead to death or serious injury if not prevented.



WARNING!

... refers to a dangerous situation with a medium degree of risk that could lead to death or serious injury if not prevented.



CAUTION!

... refers to a dangerous situation with a low degree of risk that could lead to slight or moderate injury if not prevented.



ATTENTION

... refers to a possibly dangerous situation that can lead to property damage if not prevented.

2.2.2 Understand warning symbols

The following symbols can be used in the operating instructions according to the type of danger:



General warning of danger!



Warning: Suspended load!

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Warning: Danger of crushing!



Warning: Obstacles on the floor!

2.2.3 Personal protective equipment symbols

The following symbols can be used in the operating instructions according to the area of use:



Wear helmet!



Use hand protection!



Wear safety shoes!

2.3 Working safely with the machine

The following section “*Basic warnings and safety notes*” deals with all warnings and safety notes for all stages of the machine’s life cycle. Warnings that are associated directly with an activity are an exception to this.

2.3.1 Information for the operator

This operating manual must be stored within easy reach and readily available at the operating site of the Heavy Duty Tipper.

Local accident prevention regulations must be applied to all work on the machine.

Persons involved with the machine must be older than 18 years of age and familiar with the functionality of the machine and the dangers arising from the machine.

The respective personnel must have received instruction on the task, and must be familiar with the operating manual, as well as any further applicable internal instructions.

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2.3.2 Basic warnings and safety notes



DANGER!

Unauthorised alterations of the Heavy Duty Tipper can endanger safe operation!

Risk of death and various injury hazards!

- Do not perform unauthorised design changes; all changes must be discussed with and approved by Bauer.
- Modifications of the protective/safety equipment.



DANGER!

Risk of fatal injury and various risks of injury

Besides the safety notes in these operating instructions, the safety notes in the operating instructions of the supplier must be observed!



WARNING!

Tilting containers that are stacked on top of each other can tip over!

Risk of fatal injury and crushing hazard due to tilting containers tipping over.

- The tilting containers must not be stacked.



WARNING!

Insufficient lighting or visibility!

Danger of various types of injury.

- The operator is responsible for sufficient lighting in the working and transport areas!
- Operation of the container with insufficient lighting or visibility (fog) is prohibited.



WARNING!

For additional purchased components, the manufacturer's indications must be observed!



CAUTION!

Risk of injury due to slipping, tripping and falling!

- Do not leave any materials or tools lying on walkways or driveways.
- Immediately absorb/remove oil and other slippery materials in walking areas; use oil binding agents.

2.3.3 Recognise safety-related protective equipment

On the basis of the risk assessment of the machine, an automatic safety device is integrated to ensure safe work with the container.

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⚠ DANGER!

Unintentional falling/toppling of the container!

Various risks of injury due to material tipping out/toppling container.

- Drive the forklift forks fully into the fork pockets so that the automatic safety device is activated.

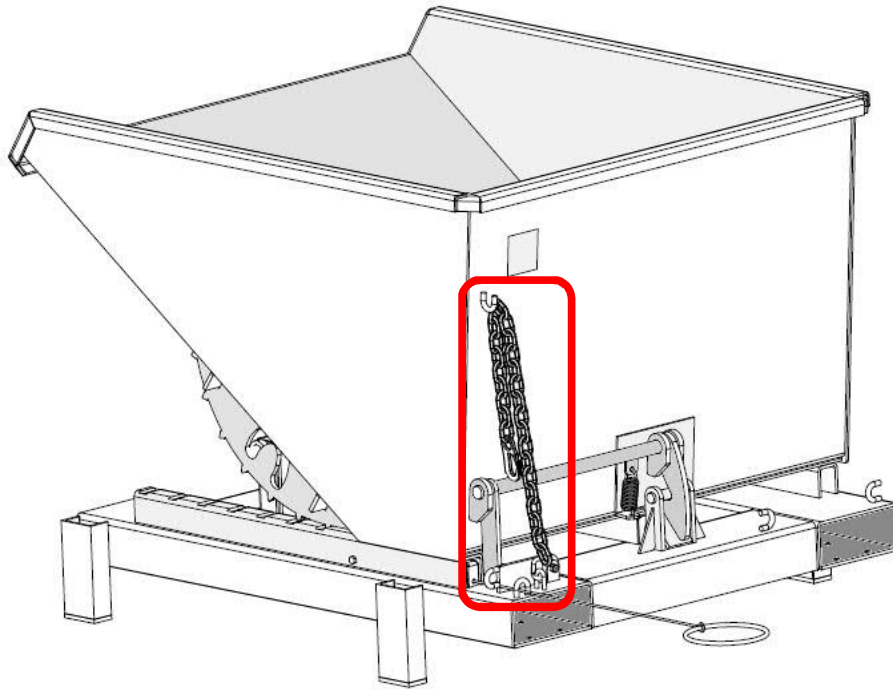


Fig. 2-1: Safety chain on the Heavy Duty Tipper

2.3.4 Signage on the Heavy Duty Tipper

Warning symbols/product safety labels are attached to the danger points of the machine according to the following overview.

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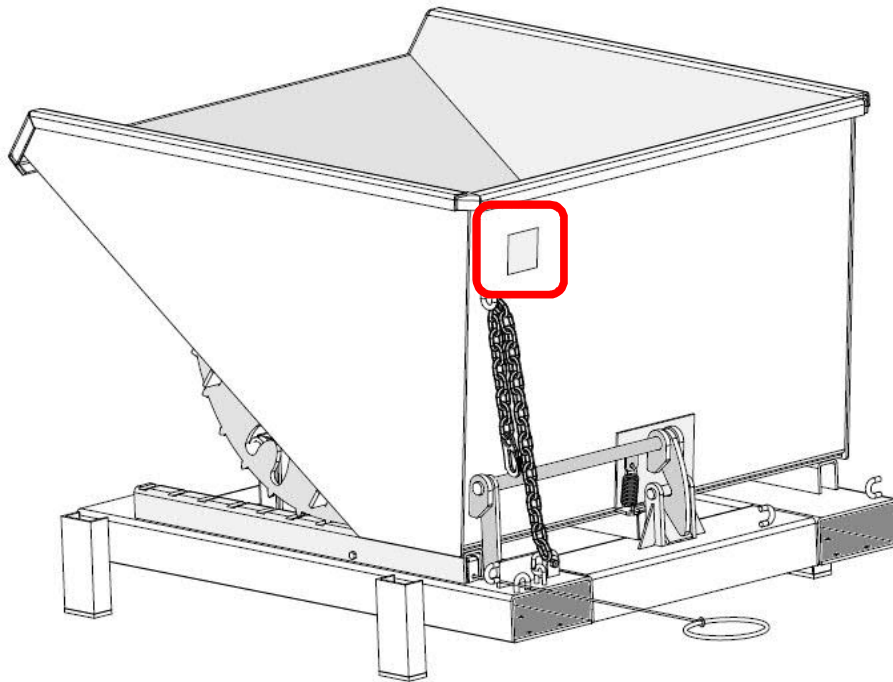


Fig. 2-2: Position of warning symbols/product safety labels

2.3.5 Machine marking and signs



Note

The year of manufacture and the manufacturer's number can be found in the type plate of the Heavy Duty Tipper. This data is not noted in the operating instructions.

Typ	<input type="text"/>	ESP	<input type="text"/>
Herstell-Nr.	<input type="text"/>	LSP	<input type="text"/>
Baujahr	<input type="text"/>	Vorbaumaß	<input type="text"/>
Inhalt	<input type="text"/>	stapelbar	<input type="text"/>
Eigengewicht	<input type="text"/>	hydr. Druck min.	<input type="text"/>
Tragfähigkeit	<input type="text"/>	max.	<input type="text"/>
Achtung: Tragfähigkeit der Kombination von Flurförderzeug und Anbaugerät einhalten!			

Fig. 2-3: Heavy Duty Tipper type plate

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3 Description of the Heavy Duty Tipper

3.1 Intended use

The Heavy Duty Tipper with container rolling function is exclusively for gathering loose materials or chips in a container. A fastening chain is provided for safeguarding against unintentional slipping and tilting. The tilting process can be triggered with a cable pull. The offset locking points are intended for offset tilting of the container. Support from a ground-level transport vehicle (forklift) is required for transport and unloading.

The Heavy Duty Tipper is to be used exclusively within the performance limits listed in section 3.5 *Technical data*.

3.2 Improper use

Improper use includes in particular:

- Any use other than the use of the machine described in chapter 3.1 *Intended use* and further sections of these operating instructions without written permission of the manufacturer.
- Use, installation, operation, servicing or repair other than as described.
- Work performed by unqualified personnel.
- Use of unapproved, inappropriate accessories.
- Failure to follow safety and operating instructions, occupational safety and accident prevention regulations or applicable statutory regulations.
- Failure to eliminate faults in a timely fashion that could negatively impact safety.
- Use of parts other than the original spare parts or accessories.
- Operating the machine with incomplete safety equipment.
- Operation with a forklift or the like as a "lifting platform".
- Transport of persons in the Heavy Duty Tipper.
- Use of the Heavy Duty Tipper in its tilted state as a "shovel".
- Operation of the Heavy Duty Tipper in potentially explosive areas.

3.3 Structure, function and operating modes

The Heavy Duty Tipper SK can be equipped with the following accessories:

- Cover, opens on 2 sides
- Castors, 2 steering and fixed castors respectively, one steering castor lockable
- Crane lugs

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3.3.1 Overview Heavy Duty Tipper SK

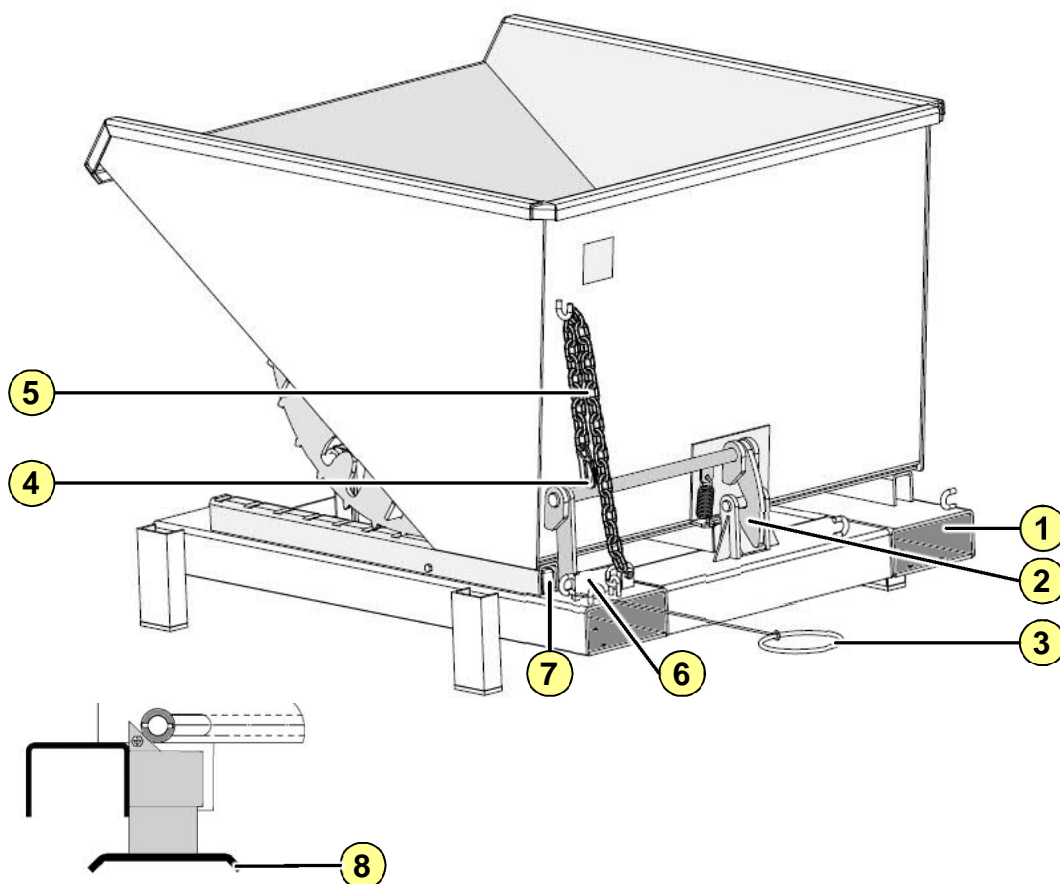
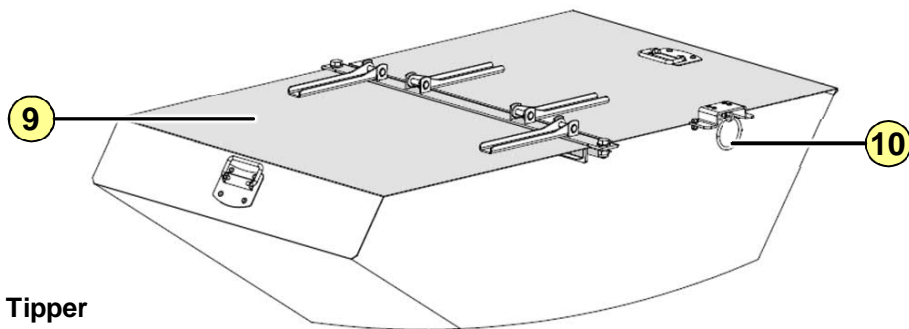


Fig. 3-1: Heavy Duty Tipper SK assemblies

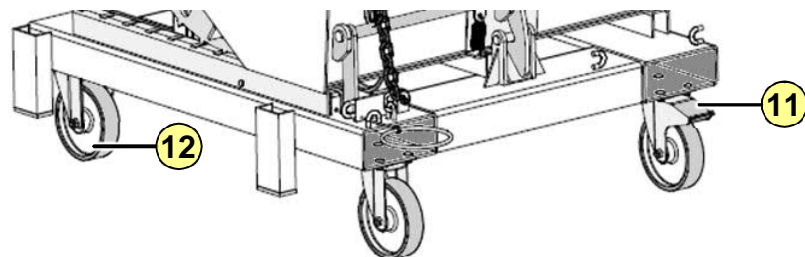
Item	Description
1	Fork pocket
2	Locking hook
3	Unlock operating cable
4	Carabiner
5	Fastening chain
6	Catch
7	Manual unlocking
8	Stamp

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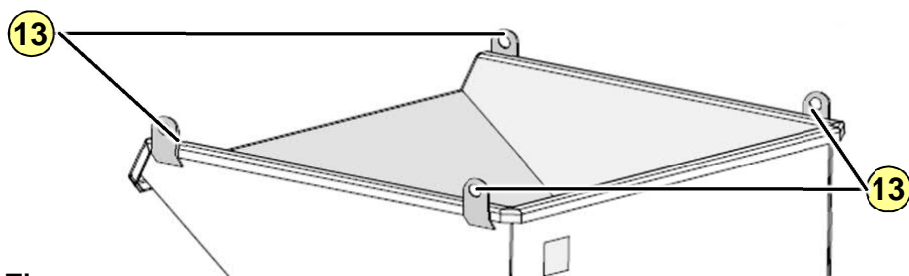
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Cover
Heavy Duty Tipper



Castors
Heavy Duty Tipper



Crane lugs
Heavy Duty Tipper

Fig. 3-2: Heavy Duty Tipper SK optional assemblies

Item	Description
9	(Optional) cover
10	Cover locking mechanism (optional cover)
11	Steering castor with lock (castors are optional)
12	Fixed castor (castors are optional)
13	Crane lugs (optional)

3.3.2 Operating modes

The following operating modes are defined:

Operating mode	Description
Loading	Filling with material; the container stands on the floor
Transport	Transporting the container

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3.4 Operating materials and media supply

Operating materials and media such as electricity, hydraulic or pneumatic power supply are not necessary for operation.

3.5 Technical data

3.5.1 Heavy Duty Tipper SK

Dimensions	Type	SK 300	SK 600	SK 900	SK 1200	SK 1700	SK 2100
Length [mm]		1310	1310	1310	1755	1755	1755
Width [mm]		805	1105	1580	1105	1580	1880
Height [mm]		970	970	970	1230	1230	1230
Volume [m³]		0.30	0.60	0.90	1.20	1.70	2.10
Weight							
Tare weight, painted [kg]		244	283	328	372	431	466
Tare weight, galvanised [kg]		263	304	353	400	464	501
Load-bearing capacity [kg]		4000					
Environmental conditions							
Permissible ambient temperature		−20°C to max. 40°C					

4 Setup and commissioning

The Heavy Duty Tipper is delivered in completely assembled form, is ready for operation without special commissioning and can be transported with the specified lifting equipment (forklift).

Before initial use, the operator checks whether the Heavy Duty Tipper corresponds to the model ordered and that the scope of delivery is complete. A qualified person must perform a visual inspection as part of commissioning.

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5 Operation

5.1 Safety information



⚠ DANGER!

Persons in the transport and movement area of the container and forklift!

Risk of fatal injury and crushing hazard when transporting and tilting the container and due to the material being dumped.

- Never step underneath the raised container and make sure that persons maintain a sufficient safe distance!
- Never transport load over individuals.
- Exercise particular caution when driving backwards.
- Only move the tilting container under direct visual supervision, even when driving backwards; the driving area must be completely visible!
- If unobstructed visibility is not possible, have a second person located outside the danger zone provide guidance.
- Before dumping, check whether it is possible to dump without danger and ensure that persons maintain a sufficient safe distance.
- Trigger the tilting operation **ONLY** with the pulling equipment provided for this purpose.



⚠ DANGER!

Use of prohibited lifting equipment may cause container to fall!

Risk of fatal injury and crushing hazard in the movement area of the container.

- Crane transport is not allowed because the container is not equipped with crane lugs.
- For transport with a forklift, the forklift tines must be inserted completely into the fork pockets, so that the automatic safety device latches behind the fork.
- Observe the information about the intended attachment points and centre of mass!



⚠ DANGER!

Transport of persons in the tilting container!

Risk of fatal injury due to crashing and being ejected from the container.

- Transporting persons in the container is prohibited.



⚠ WARNING!

Permissible load-bearing capacity of the forklift and bearing surface is exceeded!

Risk of fatal injury and crushing hazard due to container and forklift tipping over.

- Observe the permissible load-bearing capacity of the forklift.
- The operator must ensure the load-bearing capacity of the bearing surface at the placement location and on the transport routes!
- Take the slope of the bearing surface into account during transport and placement.

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⚠ WARNING!

Negligent use of personal protective equipment!

Injuries due to crushing and bumping.

- Wear PPE (protective gloves, safety footwear) when working with the Heavy Duty Tipper.

5.2

Transport Heavy Duty Tipper with the forklift

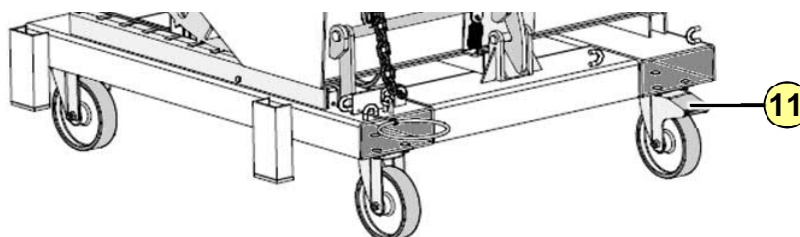


Fig. 5-1: Secure steering castor

- (1) Container with steering castors: Activate the steering castor lock (11).

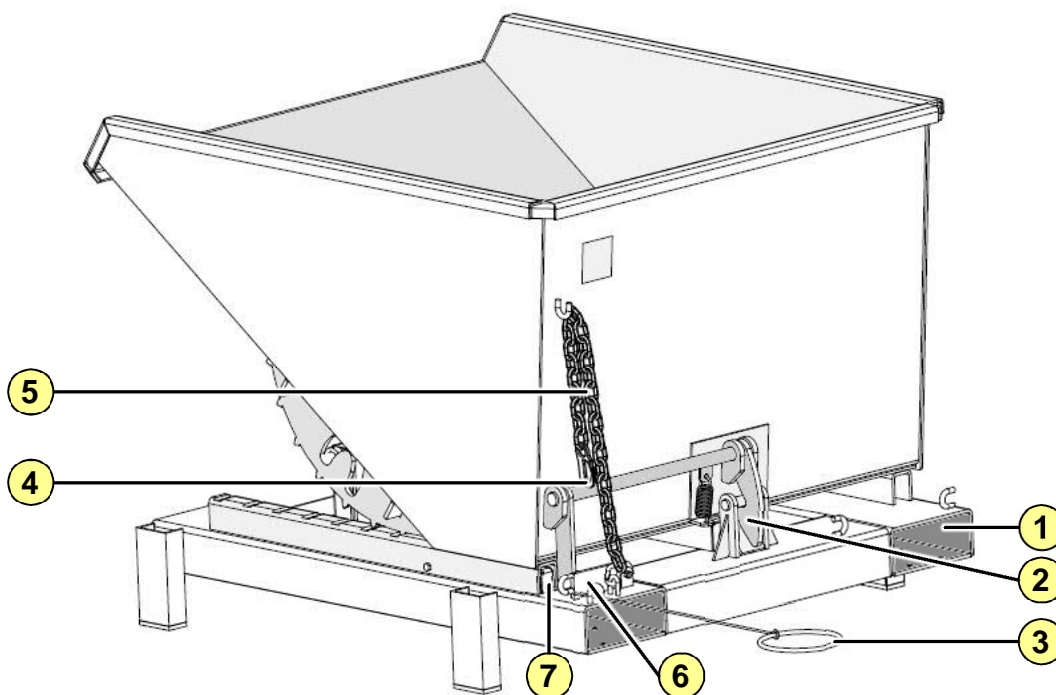


Fig. 5 2: Transport Heavy Duty Tipper

- (2) Align mast of forklift vertically.
- (3) Adjust forklift forks to match the distance between the fork pockets.
- (4) Drive the forks up to the end of the intended fork pockets (1) of the frame.

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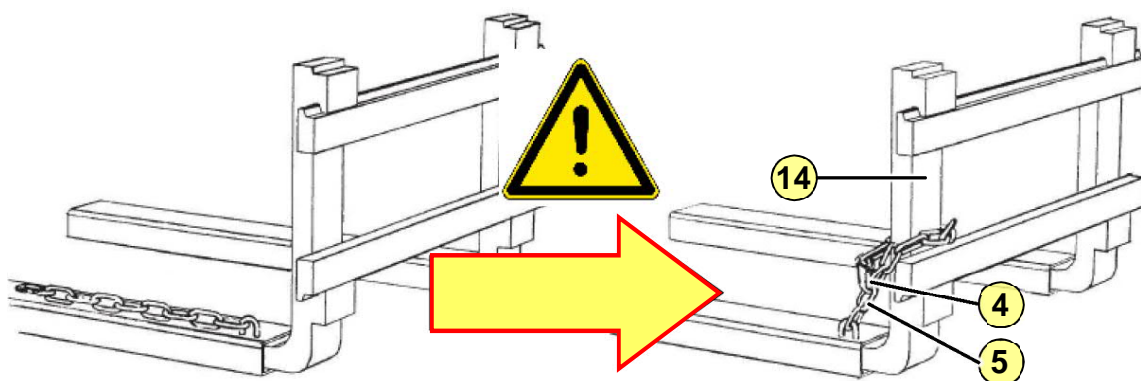


Fig. 5 3: Secure Heavy Duty Tipper

- (5) Pull the fastening chain (5) of the container tight around the fork carriage/back of the fork (14).
- (6) Hook the carabiner (4) into a link of the chain in order to secure the fastening chain (5).

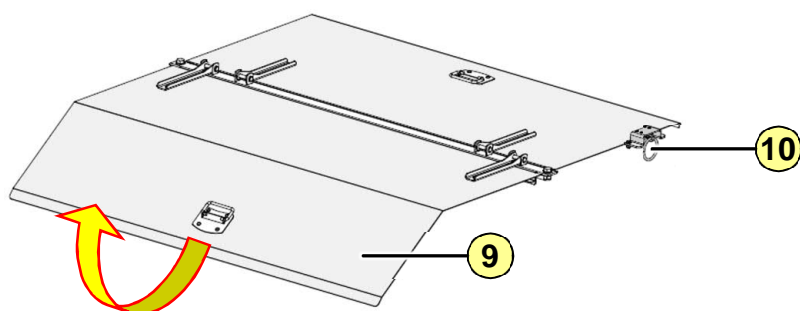


Fig. 5 4: Open cover Heavy Duty Tipper

- (7) In case of containers with a cover: Open the front cover part (9) and secure it with the cover locking mechanism (10).
- (8) Lift the container with the mast of the forklift and drive to the location of use.

Unlocking, option A

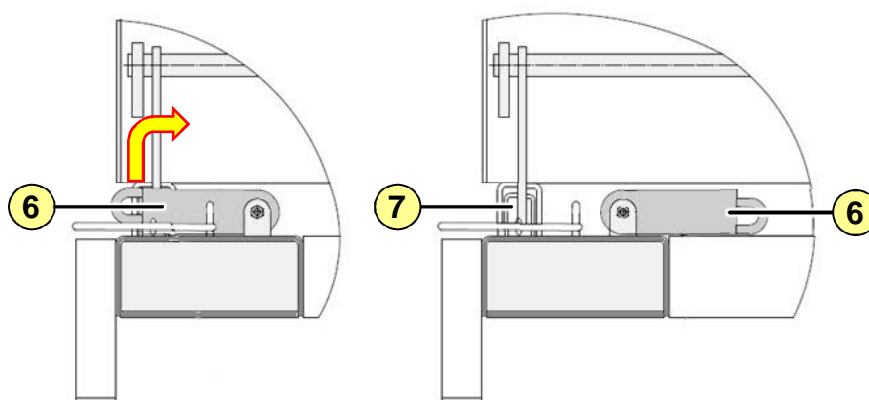


Fig. 5 5: Unlocking, option A

- (9) Immediately before emptying flip the safety catch (6).

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- (10) Take off and unwind the operating cable (3) from the hook.
- (11) Lift the container to the unloading height.
- (12) Tilt the mast of the forklift forwards.
- (13) Pull the operating cable (3).
 - ⇒ Manual unlocking (7) is triggered.
 - ⇒ Locking hook (2) releases the container.
 - ⇒ Container tilts and empties itself independently.
- (14) Tilt the mast back towards the forklift truck, until the container tilts back and latches into the base position again.
- (15) Lower the mast.
- (16) Place the safety catch (6) back in the initial position.
- (17) Roll up the operating cable (4) and hang it from the hook.
- (18) Lift the container, drive back to its set-down place and put the container down.

ATTENTION: Only place container on level surface. On a sloped surface, there is a danger of the container slipping or falling over.
- (19) Drive the forklift backwards until the fork pockets (1) release the forks.
- (20) In case of containers with a cover: Release the cover locking mechanism (10) and close the front cover (9).

Unlocking, option B

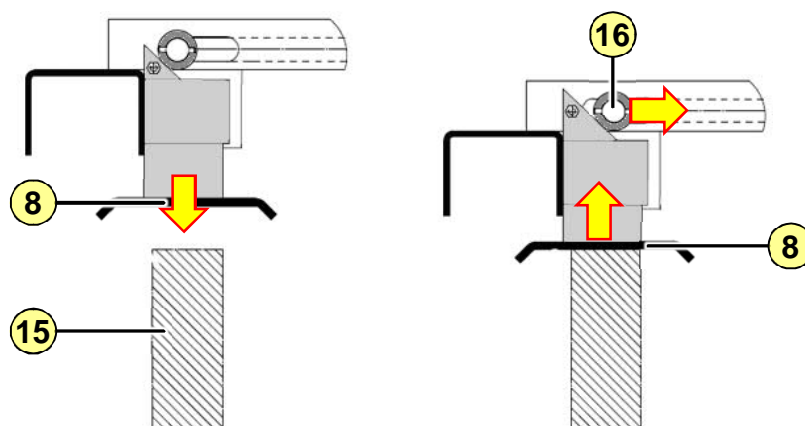


Fig. 5 6: Unlocking, option B

- (21) Immediately before emptying flip the safety catch (6), see Fig. 5.5.
- (22) Drive with the container to the collection container.
- (23) Tilt the mast of the forklift forwards.
- (24) Lower the container with the mast of the forklift, such that the stamp (8) lies at the top edge (15) of the container.
 - ⇒ Unlocking (16) releases the locking hook (2) and the container is released.

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⇒ Container tilts and empties itself independently.

- (25) Tilt the mast back towards the forklift truck, until the container tilts back and latches into the base position again.
- (26) Lower the mast.
- (27) Drive back to the set-down place and put the container down.
ATTENTION: Only place container on level surface. On a sloped surface, there is a danger of the container slipping or falling over.
- (28) Open the carabiner (4) of the fastening chain (5), remove the chain from the forklift and hook the carabiner back into a link of the chain.
- (29) Drive the forklift backwards until the fork pockets (1) release the forks.
- (30) In case of containers with a cover: Release the cover locking mechanism (10) and close the front cover (9).

5.3 Transport Heavy Duty Tipper with the crane

Requirements:

The container must be equipped with crane lugs (13) for crane transport.



WARNING!

Uncontrolled movements of the container due to fastening, lifting and moving incorrectly!

Risk of fatal injury and crushing hazard in the movement area.

- Only use tested and technically faultless lifting equipment.
- Attach lifting accessories only to the crane lugs.
- Observe maximum specified weights.
- Always attach lifting accessories in such a way that the load-handling attachment is located vertically above the centre of mass (avoid eccentric centre of mass).
- Make sure the suspension cables do not undershoot an angle of 60° to the horizontal.
- Do not attach cables and straps to sharp corners and edges, kink them or twist them.
- Lift the container carefully and observe whether the load tilts. If necessary, correct the attachment.
- Adjust the movement of the container to the weather conditions.



Notes

- Lock the steering castor prior to crane transport.
- The Heavy Duty Tipper attached to the crane with the lifting equipment cannot be tilted!

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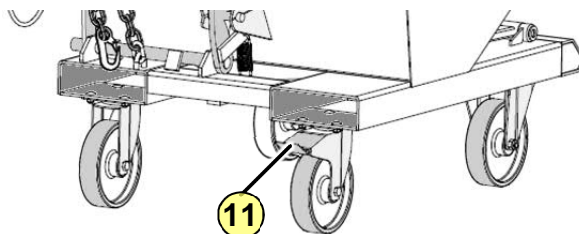


Fig. 5-7: Transport Heavy Duty Tipper

- (1) Container with steering castors: Activate the steering castor lock (11).

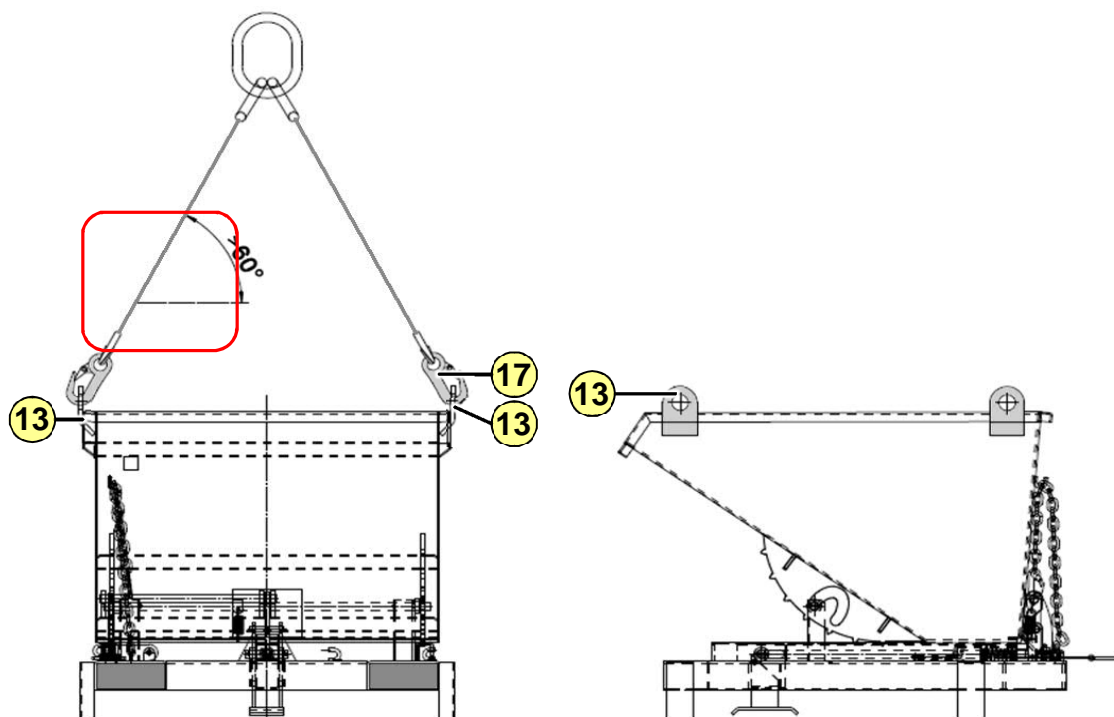


Fig. 5-8: Crane transport Heavy Duty Tipper

- (2) Attach the lifting equipment to the crane lugs (13) with the hook lock (17).

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6 Troubleshooting and fault elimination

6.1 Safety



WARNING!

Improper fault elimination can lead to serious personal injury or property damage.

- Ensure sufficient free space for assembly before starting the work.
- Ensure order and cleanliness at the assembly location! Loose components and tools in piles or left lying around can cause accidents.
- If components have been removed, ensure correct assembly, reattach all fasteners and observe bolt tightening torques.

6.2 Characteristic faults and elimination of them by the operator

After unusual incidents, the Heavy Duty Tipper must be visually inspected by a qualified person, even outside of the specified inspection periods.

The Heavy Duty Tipper must be checked for mechanical damage, and the supervisor must be informed if applicable.

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7 Maintenance

7.1 Safety



⚠ WARNING!

Servicing and repair work performed improperly can lead to various risks of injury!

- Have repair work performed only by authorised personnel.
- Use specified spare parts.
- Particular caution should be exercised when safety equipment has been deactivated.

7.2 Servicing

7.2.1 Maintenance plan and work (operator)

Any parts that have become defective and must be replaced during maintenance can be found on the assembly drawing.

Inspection and maintenance checklist

Frequency	Object	Activity
Daily	Entire container	Check for wear and defects of the container Verify proper function
Daily	Fastening chain	Verify presence and completeness and check for defects
Monthly	Entire container	Check for wear, permanent deformation and corrosion that negatively impacts the function or load-bearing capacity

7.2.2 Maintenance plan and work (specialist personnel)

The following maintenance work must only be performed by specialist personnel of Bauer or an authority commissioned by Bauer.

Object	Activity
Entire container	Inspection by qualified person (in accordance with BetrSich [Industrial Safety Ordinance] sec. 10 and 11)*
Safety equipment	Inspection by qualified person

*All inspections must be documented. Forklift attachments with identified defects must be de-commissioned immediately.

7.3 Repair

Repairs of the Heavy Duty Tipper must be performed exclusively by the manufacturer or authorities commissioned by it.

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Repair work on the tilting mechanism must only be performed by persons who possess the knowledge and skills necessary for this.

Only original spare parts must be used.

8 Decommissioning, disassembly and disposal

No special requirements on decommissioning, disassembly and disposal exist.

9 Spare parts list



Ordering spare parts:

Bauer GmbH
Eichendorffstr. 62
D-46354 Südlohn
Tel.: +49 2862 709 – 0
Fax: +49 2862 709 – 156
Email: info@bauer-suedlohn.de

To process your order quickly, we need the following information:

- our spare part item number
- our spare part item name
- order quantity
- name of the container, manufacturing number and year of manufacture

10 Appendix

10.1 Declaration of conformity

The declaration of conformity is included in the delivery in the machine documentation.