Operating Manual

Inclined lift

SIMPLY

Translation based on the original German version

CE

Document no. 302110166

Reading the operating manual before starting work is mandatory!

Böcker Maschinenwerke GmbH | Lippestr. 69-73 | DE-59368 Werne | T +49 2389 7989-0 | F +49 2389 7989-9000 | info@boecker.de | www.boecker.de

Lippestr. 69 - 73
DE-59368 Werne

T +49 2389 7989-0
F +49 2389 7989-9000

E-Mail: info@boecker.de
Internet: www.boecker.de

Correlation of this operating manual

This assembly and operating manual refers to

Document No.:	302110166
Original dated:	09/2013
Version	10/2021

applies to:

Type:	Simply HD 21/1-5
Year of construction:	starting at 09/2013

Introduction

We are delighted that you have chosen a Böcker quality product.

This operating manual contains detailed instructions on how to operate, maintain, and care of your equipment. Furthermore, it describes how to troubleshoot and perform corrective actions. The manual is an integral part of the delivery. It must be accessible to all users and shall remain with the equipment, even if the unit is sold.

Before operating the equipment,

- before attempting any troubleshooting,
- or performing any maintenance or repair work,
- the operator must have read and understood the operating manual.

The lifting accessories are described in a separate operating manual. For the axle, over-run control device, and drive system, please refer to the enclosed installation, operating, and maintenance instructions issued by the respective manufacturers.

Failure of the machine is normally caused by improper operation, insufficient care and poor maintenance or unauthorised modifications to the equipment. Modifications to the machine are only permitted with the prior explicit consent of the manufacturer. It is prohibited to make modifications or changes to the machine, to bypass safety devices, interfere with the electronic and sensors, or to change the valve settings. Poor maintenance shall void any warranty or liability on the part of the manufacturer.

Due to the wide range of models available, some of the illustrations in this technical document might deviate somewhat from your equipment. Please note that we shall not accept any claims based on the information provided in this manual.

Only use original spare parts. Only they guarantee a safe and reliable operation. For spare part orders, please contact the relevant representative listed on our Website www.boecker.de

For warranty and liability terms, go to our General Business Terms and Conditions published on our Website www.boecker.de

Alternatively, you may order a hard copy (sent to you by post).

Access to repair and maintenance information
www.boecker.de/en/maintenance
(Username: service / Password: service)

We wish you a safe ride!

Yours truly, Böcker Maschinenwerke GmbH
(Subject to changes without notice due to technical progress)

1.0 General information

1.1 About this Operating Manual

This operating manual describes the installation, operation, and maintenance of the device. Compliance with all specified safety instructions and other directives is the prerequisite for safe work and proper handling of the device.

In addition, applicable local regulations for the prevention of industrial accidents and general safety regulations must be complied with.

The operating manual is part of the product and must be kept accessible in the immediate vicinity of the device for installation, operating, maintenance, service, and cleaning purposes.

The graphic illustrations in this manual are provided for purposes of better presentation and explanation of content; they are not necessarily true to scale and can deviate slightly from the actual version of the device.

In addition to this operating manual the operating manuals of the installed components also apply. The instructions contained therein, in particular the safety instructions, must be observed!

1.2 Applicable Documents

Components supplied by other manufacturers are installed in the device (e.g. drive motors). These purchased sub-assemblies have been subjected to hazard evaluations by their manufacturers. The manufacturer of the components has declared compliance of the designs with applicable European and national directives.

The Declarations of Conformity of these manufacturers, as well as the operating, maintenance, and repair instructions for the respective device components are inseparable components of this device documentation. All operating personnel must comply with instructions relevant to safety, set-up and installation, operation, disassembly, and disposal of the components as contained in the manufacturer's documentation.

1.3 Explanation of symbols

Important safety- and equipment-related instructions are identified by warning notices in this operating manual. The warnings must be strictly heeded to prevent accidents, personal injury, and property damage.

WARNING!

This symbol is used to identify instructions where non-compliance is likely to result in damage to health, injury, disability or even death.

Compliance with the associated safety instructions is mandatory. Always proceed with caution!

CAUTION!

This symbol is used to identify instructions where non-compliance might result in damage to property, malfunction and/or failure of the machine.

NOTE!

This symbol is used to identify tips and other information that should be observed in order to ensure efficient and trouble-free operation of the machine.

The following symbols have been used to make the operating manual more understandable:

	**Indicates component with its own operating manual**

1.4 Markings on the device

Before start-up and after each service, check the lift to ensure that all safety and instruction signs are attached and readable.

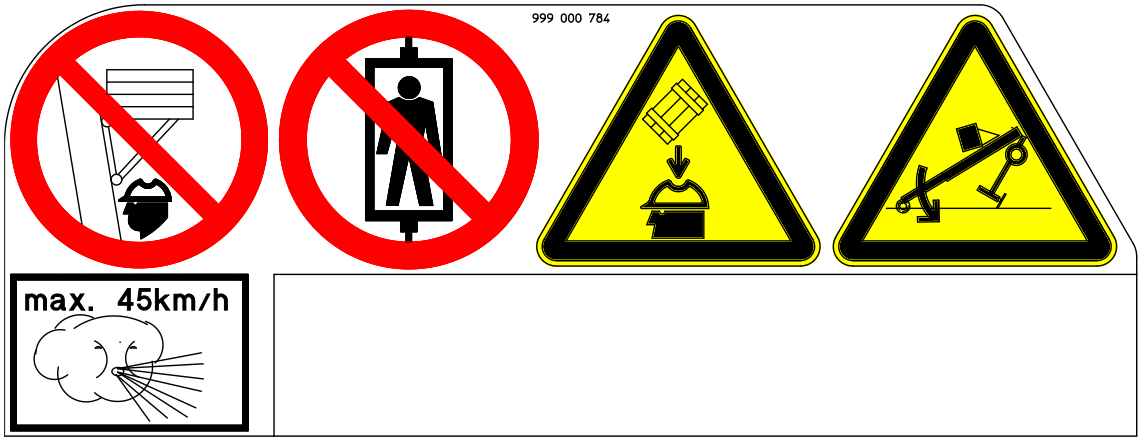


Fig. 1: Do not stand under suspended loads, Transport of persons prohibited, Loads may become dislodged, Danger due to lift tipping, Wind speeds

- **"Do not stand under suspended loads"**. Always keep required minimum distance to the lifting accessories. Do not stand directly below the lifting accessories and the rail unit.
- **"Transport of persons prohibited"** Do not access or travel on the lifting accessories.
- **"Loads may become dislodged"** Always keep required minimum distance to the lifting accessories. Do not stand directly below the lifting accessories and the rail unit.
- **"Danger due to lift tipping"** Lift may tip, if not been erected correctly. Pull out the outriggers until they contact the mechanical stop. Never exceed the danger of tipping limits! Never exceed the load weights indicated on the load sign
- "**Wind speeds"** Equipment may only be operated at wind speeds below 45 km/h.
  (see Appendix III Beaufort Scale).

The sign is attached to the lift.

- Warning sign **“Caution! Fasten drawbar.”**

The sign is attached to the drawbar.

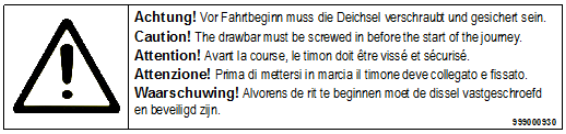


Fig. 2: “Caution! Fasten drawbar.”

- **"Hot surfaces"**. Contact with surface can lead to minor to medium burns. Do not touch component or switch it off and let cool down before touching it.

The sign is attached to the fuel tank and the hydraulic fluid tank.

Fig. 3: Hot surfaces

- Service label with blank fields for date of fluid change and date of next service.

The label is attached to the hydraulic tank.

Fig. 4: Maintenance sticker (example)

- Non-verbal instructions for lifting, extending and trolley operation.

The sign is attached to the control console.

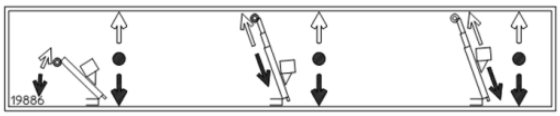


Fig. 5: Operation

- Load sign with indicator. For instructions; see "Load sign".

The sign i attached near the control console

NOTE!

Permissible load only as indicated on load capacity sign.

.

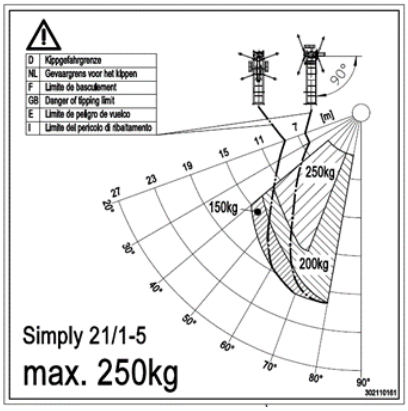


Fig. 6: Example of load capacity sign

- Warning sign **"Crush hazard"**.

The sign is attached near the cable drums.

Fig. 7: Safety sign Risk of crushing

optional label SYA (O_1 up to 750 kg permissible total weight)

- Warning sign **"Transport outriggers in towing vehicle"**.

The sign is attached above the drawbar.

Fig. 8: Outriggers safety sign

- Warning sign **"The platform must not be transported while attached to the lift."**

The sign is attached above the drawbar**.**

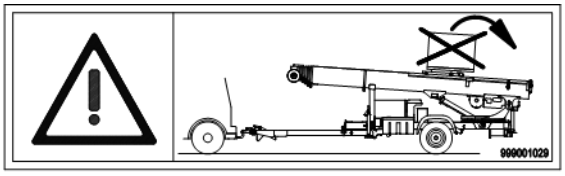


Fig. 9: Safety sign re.

Only in models with electric motor:

- Warning sign: **"Observe minimum cable cross-section for cable extensions up to 40 m".**

The sign is attached to the switch cabinet.

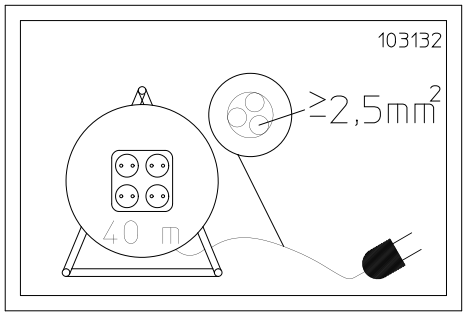


Fig. 10: Safety sign re. cable extension

The signs for the load handling device can be found in the operating instructions for load handling devices for construction and furniture.

1.5 Liability and warranty

The specifications and instructions in this operating manual have been compiled with reference to the applicable regulations, best practice and the latest state of technology. They reflect our best knowledge and experience.

The delivered machine might deviate from the one described in this manual, including drawings, in particular if it is a customised unit, if certain optional equipment has been chosen or if the machine has been modified for technical reasons. If you have any queries, please contact the manufacturer.

NOTE!

Carefully read all chapters of this operating manual BEFORE commissioning the machine, starting it or working with it for the first time. The manufacturer is not liable for damage caused due to non-compliance with the instructions in this operating manual.

We reserve the right to make modifications to the product in order to improve it and/or to upgrade it to the latest state of technology.

Components such as tools are subject to normal wear and tear during the use of the device, as well as operating and process materials such as greases, oil or cleaning agents are not covered by the warranty.

The obligations agreed upon in the supply contract, the terms and conditions, as well as the manufacturer's terms of delivery and all legal requirements applicable at the time of conclusion of contract remain in full effect.

1.6 Copy right

The operating manual should be treated confidentially. It has been exclusively prepared for personnel working on and with the device. Making the operating manual accessible to third-parties without written consent from the manufacturer is prohibited. If necessary, contact the manufacturer.

Content information, text, drawings, graphics, and other representations are protected by copyright and are subject to additional commercial property rights. Any improper use is punishable by law.

Duplication in any form - including excerpts - as well as exploitation and/or communication of the content are not permitted without a written declaration of release from the manufacturer. Actions to the contrary make damage compensation mandatory. We reserve the right to enforce additional claims.

1.7 EU type approve for trailer

WARNING! Do not overload the vehicle!

The platform of vehicle type Variant B17 (technically permissible maximum gross vehicle weight 750kg) (see type plate) must not be transported on top of the lift. These vehicles are rated as O1 trailer with a max. permissible axle load of 750 kg.

Prior to travelling on public roads:

– Check type plate.
– if necessary, remove platform and transport on towing vehicle

NOTE!

For other variants if may be necessary to transport the supports on the towing vehicle. This is the case, a sticker will be shown on the chassis.

Böcker Maschinenwerke GmbH Is the owner of the EU type approval for your trailer. Compliant with Article 18 of Directive 2007/46/EU, an EU Certificate of Conformity (CoC) is included with each type-approved trailer. It is based on the sample of the Directive as shown in Appendix IX. This document indicates that the vehicle conforms to the EU Type Approval certificate and that it is approved for each European country **without further technical inspection**. The original document bears the watermark "ORIGINAL", while any duplicate will be identified as "COPY".

There are also specific vehicles which are not covered by the type approval and require individual approval. These do not have a type approval number in the type plate and have to be submitted to the national inspection authorities for approval.

The original is part of the trailer and must be kept in a safe place.

1.8 Spare parts

CAUTION!

Incorrect of defective spare parts might result in damage to the equipment, malfunction or failure of the machine.

Use only original spare parts from the manufacturer.

The use of spare parts that are not approved by the manufacturer voids all warranty. In such a case, the manufacturer, its agents, dealers and representatives shall not accept any liability for damage.

1.9 Disassembly

To dismantle the machine, clean it and then remove the individual components, adhering to the relevant occupational safety and environmental regulations.

WARNING!

Residual energy, jammed components, pointed corners and edges on the machine or the tools used for dismantling can cause serious injury. The machine may therefore only be dismantled by qualified specialist technicians.

Before dismantling the machine:

– Shut down the machine and secure it against inadvertent start-up.

– Let it cool to ambient temperature.

– Disconnect it from the energy supply and release all residual energy.

– Remove all process chemicals, additives etc. and dispose of them in an environmentally safe manner.

1.10 Disposal

Unless a special return and disposal agreement has been entered into, it is the responsibility of the operator to make the dismantled components available for recycling or disposal.

- Recycle metal scrap.
- Have plastic parts collected for recycling.
- Sort all other components based on their materials and dispose of them through the appropriate channels.

CAUTION!

Electrical devices, electronic components, lubricants and other process chemicals are classified as hazardous waste and must be disposed of through an authorised specialist company!

Consumables such as greases, oils, preservatives and cleaning agents must be sorted by type and disposed of it in an environmentally compliant manner. Approved collection and storage containers suitable for the respective consumables must be used. Clearly mark containers with information as to content, filling level and date and store until final disposal in a manner ruling out incorrect use.

1.11 Transfer/Delivery

Check the device for completeness and transport damage immediately upon receipt.

Do not accept the device or, only accept the device subject to reservations if there is visible exterior damage. Make a written record of the scope of damage. Submit a complaint.

Register a complaint of hidden defects immediately after they are noticed, because damage claims can only be submitted within the applicable reclamation period.

1.12 After handover

WARNING! Personal injury and damage to property!
Lost wheels can cause personal injury and material damage!
Check the wheel bolts with a torque spanner after driving approx. 50 km. Refer to the chapter “Tightening Torques” or the tightening torque."

2.0 Safety

This section provides an overview of all the important safety aspects for optimal protection of personnel, as well as for safe and trouble-free device operation.

Additionally, the individual chapters include concrete safety instructions to prevent direct hazards, which are identified with symbols.

- When using the device we recommend obtaining employer's liability insurance coverage, and if necessary machinery breakdown insurance coverage.
- The valid national guidelines for approval and licensing of vehicles apply.
- The applicable statutory provisions relative to emissions levels (noise, exhaust, disposal, etc.) apply.
- The trailer requires its own official license.
- The operating permit must always accompany the device.
- The vehicle is designed for a maximum speed of 100 km/h owing to its construction type, unless there are national exemptions in this respect. This maximum speed must never be exceeded, even if the national regulations permit a higher speed for travelling with a trailer in tow.
  Compliance with national speed limits is mandatory.
- Do not exceed trailer's load capacity of the towing vehicle.

2.1 General information

At the time of its development and manufacturing this device was built in accordance with recognised engineering practice and is considered to be operationally safe. However there are hazards associated with the device if it is not used properly by expertly trained personnel. Consequently every person who is assigned to work on or with the device must have read and understood the operating manual prior to starting work.

Modifications of any type or conversions to the device are prohibited.

All safety, warning and operating notices on the device must always be kept in legible condition. Damaged signs or stickers must be replaced immediately.

The specified adjustment values or ranges must be strictly complied with.

2.2 Responsibility of the operator

The information on industrial safety is based on the applicable legal regulations of the European Union, valid at the time this device was manufactured. The customer is obligated during the entire implementation period of the device to ensure agreement of the cited industrial safety measures with the current state of legislation and to comply with new guidelines. Outside of the European Union, the industrial safety legislation applicable at the site of device implementation, as well as regional guidelines and regulations must be complied with.

In addition to the industrial safety instructions in this operating manual, generally valid safety and accident protection guidelines, and environmental protection guidelines must be heeded and complied with for the area of implementation.

The customer and personnel authorised by customer are responsible for trouble-free operation of the device, as well as for clear assignment of responsibilities for installation, operation, maintenance, and cleaning of the device.

The instructions in the operating manual must followed completely without exception!

- The operating manual must be kept accessible in the immediate vicinity of the device for installation, operating, maintenance, service, and cleaning activities.
- Only operate the device if it is in trouble-free technical condition and operationally safe.
- Always keep safety devices freely accessible and inspect them regularly.

Operating safety is only ensured when the machine is used properly.

2.3 Intended use

The inclined hoists from Böcker, are used exclusively to transport material between the exterior site and a higher level of the building.

Proper use also includes proper compliance with the assembly, operating, maintenance, and cleaning instructions.

Inclined hoists for material transport must be equipped with suitable lifting accessories that are approved by the manufacturer for the respective implementation purpose. The specified maximum extension length must not be exceeded. The load capacity depends on extension height and set-up angle; see "Load Diagram".

Operating safety is only ensured when the machine is used properly.

Any usage beyond this, and/or any application other the intended use of the device, is prohibited and considered improper. The manufacturer and/or his authorising agent(s) is/are not liable for any damages to the device arising from improper use. The operator is solely liable for all damage in the case of improper use.

2.3.1 Operating conditions

Ambient temperature (Operating unit)	-10°C to +40°C
Mounting	-20°C to +60°C
Wind speed At assembly / dismantling[1]: In operation [2]:	 up to a max. of 17 km/h or 11 mph up to a max. of 45 km/h or 28 mph
Check carrying capacity of ground: Supporting force max. (per support cylinder)	 at least 0,2 MN/m² (0,2 N/mm²)

– The internal combustion engine lift is intended for use up to a height above sea level of 610 m. A loss of performance and altered exhaust emission levels can be expected if it is used at higher altitudes. The carburettor setting must be modified by an authorised specialist workshop if the lift is to be permanently used at higher altitudes.
– The unit is suitable for operation in closed rooms, provided that there is adequate extraction of the exhaust gases to the outside of the building.
– To be used only with sufficient visibility and lighting.
– Operation is prohibited in explosive surroundings!

2.4 Potential misuse

WARNING!

Incorrect operation or misuse of the machine can result in serious injury or even death! The use of the machine for the following purposes is forbidden:

– Transport of persons
– Transport of explosive, corrosive or poisonous hazardous substances
– Operation in explosive atmosphere
– Operating without outriggers
– Operation with unsupported head end and tightened lift
– Lifting of loads with rail unit
– Use as ladder

1 footnotes see Appendix III Beaufort Scale

2 footnotes see Appendix III Beaufort Scale

2.5 Work safety

Compliance with the notes on safety can help to avoid personal injury and material damage when working on the machine. Failure to comply with these notes will cause a considerably risk of injury for persons and danger of damage or destruction of the machine.

Non-compliance with the safety regulations causes the exclusion of any liability or compensation claims against the manufacturer or his representative.

2.6 Personal Protective Equipment

When working on and with the device, wear the following safety equipment to protect yourself:

– **Safety clothing**
Tight fitting clothes (minimal tear strength, no wide sleeves, no rings or other jewellery, etc.)

– **Safety footwear**
to protect against heavy parts being dropped and slipping on slippery surfaces

– **Safety helmet**
for working on and under the device. For protection against falling and airborne parts and materials.

2.7 Hazards that can be associated with the device

The device has been subjected to a hazard analysis. The design and execution of the device derived from this analysis represents the current state of the art.

Nevertheless residual risks exist!

WARNING!

Moving parts can cause serious injury. During machine operation, do not reach into running machine sections and do not interfere with moving parts. Do not open the safety guards and maintenance cover.

- After the machine is switched off, wait until all moving parts have come to a full and complete stop.
- Before carrying out any cleaning, repair or maintenance work, wait until all parts have come to a full and complete stop, shut down the machine and secure it against inadvertent switching on.
- After completion of the cleaning, repair and maintenance work, mount all safety guards, maintenance covers, etc. and securely lock them.

CAUTION!

The surfaces of the drive motor become very hot. Touching these surfaces can cause burns. Therefore:

- Before carrying out any maintenance and repair work on the machine, secure it against start-up and let it cool to the ambient temperature.
- Always wear protective goggles!
- Before installing or removing the engine cover, let the engine cool down!

CAUTION!

Sharp edges on the unit housing and pointed corners can cause injury. Always wear protective gloves when working on the machine!

WARNING!

Hydraulic energy can cause serious injury or death. In the event of damage to a hydraulic part, there is a risk of fluid escaping at high pressure, causing injury and damage to property!

- Before carrying out any work on the machine, depressurise the hydraulic system of the machine.
- Do not remove or disable safety devices.

WARNING! Risk of injury from burns!

The fuel is flammable and explosive and can lead to serious injury and damage to property!

When working on the engine and the fuel tank:

– Switch off the engine.
– Do not smoke. Keep fire, sparks, and naked flames away from the machine.
– Only handle fuel outdoors or in well ventilated rooms.
– Remove spilled fuel immediately.

2.8 EMERGENCY OFF switch

Before starting the unit, the operator must ensure that he/she knows where the EMERGENCY STOP buttons are located and how they work.

NOTE!

The emergency stop button is a red pushbutton on a yellow background and identified as "EMERGENCY STOP"

2.8.1 Mechanical operation

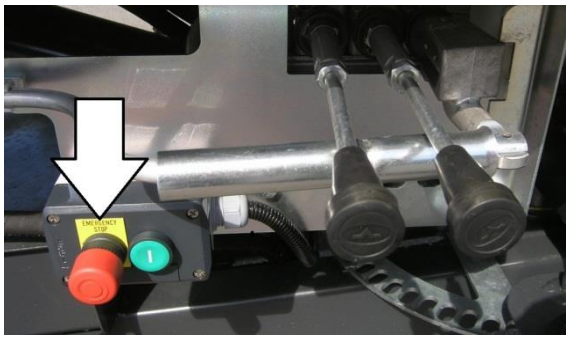


Fig. 11: EMERGENCY STOP button (arrow) at the control console.

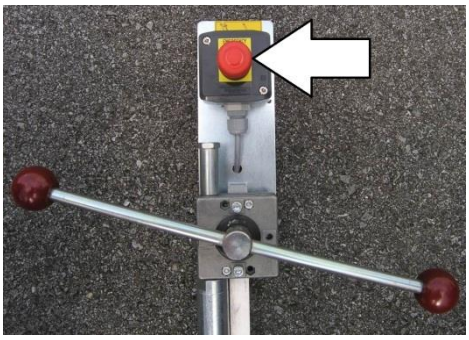


Fig. 12: EMERGENCY STOP button (arrow) at the remote control unit (optional).

2.8.2 Electrical operation (optional)

Fig. 13: EMERGENCY STOP button (arrow) at the switch cabinet

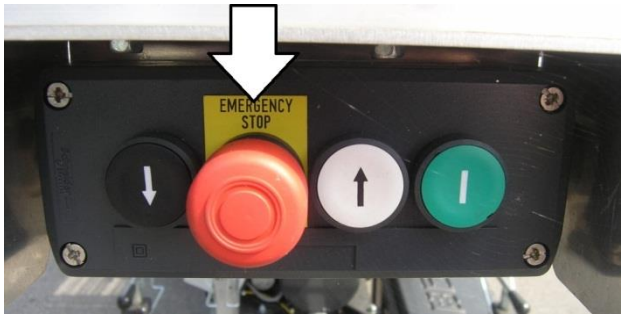


Fig. 14: EMERGENCY OFF on head end

Fig. 15: EMERGENCY STOP on the electrical plug remote control device

2.9 Operating personnel

2.9.1 General information

The device should only be operated and maintained by properly instructed personnel. Such personnel must have had special instruction regarding the dangers that can occur.

Instructed personnel are personnel who have been instructed and taught about the tasks assigned to them, and the possible hazards associated with improper behaviour, and have been instructed and taught about the necessary protective devices and protective measures.

Responsibilities for operation and maintenance must be clearly specified and complied with, so that there is no uncertainty where safety is concerned.

The device should only be operated and maintained by personnel, from whom it is expected that their work will be executed reliably. In this regard any manner of work that negatively affects safety of personnel, the environment, or the device must be refrained from. Persons who are under the influence of drugs, alcohol, or whose ability to react is impaired by medication, are **prohibited** from performing any work on or with the device.

When selecting personnel, compliance with the Youth Employment Guidelines and the minimum age requirements as stipulated in the career-specific guidelines of the respective country is required.

The operator bears joint responsibility to ensure that unauthorised persons do not work on or with the machine. Unauthorised persons must maintain an appropriate safety distance.

The operator is obligated to immediately switch off the device if changes occur that impair safety.

2.9.2 Qualifications

The operator must

– Demonstrate the capability of understanding all the information associated with the signs, operating manuals, safety codes and other information that is necessary for correct hoist operation, and implementing this information.
– Have knowledge of the emergency procedures and how to implement them.
– Be familiar with all applicable safety guidelines.
– Understand the responsibility for the maintenance requirements associated with the hoist.
– Be familiar with the hoist and its operating functions.
– Understand the operating procedures as explained by the manufacturer.

2.9.3 Physical Qualifications

– Visual acuity of at least 0.7 with or without contact lenses/corrective eye wear.
– Ability to differentiate colours, regardless of their position when colour differentiation is required for operation.
– Adequate hearing with or without a hearing aid for the respective operation.
– Have normal depth perception, field of vision, response time, finger dexterity and coordination.

Indication of physical limitations or emotional instability that could pose a possible hazard for the operator or others, or that could impair the capacity of the operator, constitute grounds for disqualification. In such cases special clinical or medical evaluations and tests are required.

Indication that an operator suffers from seizures or loss of physical control constitutes sufficient grounds for disqualification. It may be that special medical tests are required to confirm these findings.

Persons with susceptibility to vertigo attacks or similar impairments must be excluded.

2.9.4 Behaviour of Operating Personnel

The operator should not pursue any other activity during hoist operation.

Each operator is responsible for the operating procedures that are initiated under his direct operation. If there is a question of safety, the device must be switched off immediately.

The operator must maintain visual contact with the trolley **at all times!** If a warning sign is attached to the switch, or to the elements that start the motor, then the operator cannot activate the switch or start the motor until the sign has been removed by the assigned person.

Prior to activating the switch, or prior to starting the motor, the operator must ensure that all operating elements are in the OFF position, or in a neutral position, and that all personnel are outside of the danger zone.

If power is lost during operation, the operator must:

– Hit the red EMERGENCY STOP switch and switch the energy control elements to the "OFF" position or to a neutral position.
– Unload the load if this can be executed without danger.

The operator must be familiar with the equipment and its care.

If adjustment work or repair work are required then the device must be switched off and safeguarded from being switched on again. Assign qualified personnel to repair or maintain the device. The operator, or a person assigned by the operator, must immediately communicate the current status of the device to the successive operator.

Prior to starting work, the operator **must** check all controls. If there is a malfunction the device must be switched off immediately and safeguarded from being switched on again.

2.10 Behaviour in the event of danger or accident

In the event of danger or accident stop the device immediately by activating an EMERGENCY STOP switch.

Only activate safety devices with EMERGENCY STOP function in appropriate emergency situations.

Do not use safety devices to stop the equipment.

Always be prepared for accidents!

Keep first-aid supplies and fire extinguishers in reach.

The operator must be familiar with the handling and location of the safety devices, first-aid supplies, and fire extinguishers. Thus protection against danger and the best possible help in the event of an accident are ensured.

3.0 Technical data

Vehicle	SYA (O_1 trailer)[1]
EU Type approval	e1*2007/46*1278
Vehicle length	approx. 5950 mm
Vehicle width	1490 mm
Tyres	145R13, LI 78
Tyre pressure	4.5 bar
Technically permissible maximum static mass at the coupling point	75 kg
Technically permissible maximum mass (incl. maximum static mass) [2]	825 kg/750 kg[3]
Technically permissible maximum laden mass (each axle)	750 kg
Permissible speed on public roads	80 km/h
Rails	
Rail unit length	5250 mm
max. lifting height [4]	20.8 m
Max. angle	30° – 84°
Max. payload [5]	250 kg,
lifting accessories (LACC)	
lifting accessories	see appendix "Furniture lifting accessories" and "Construction lifting accessories"
Rated speed with petrol engine	45 m/min
Rated speed with electric motor (2.6 kW)	up: 24 m/min down: 48 m/min
Load winch cable	6x 19FE ZNK Ø 6 mm, min. fracture force 23.4 kN

[1] O_1 Trailer up to 750 kg

[2] This trailer is a centre-axle trailer.. According to ECE R55, 2.13 the following applies (in Germany: StvZO (German Highway Code) Appendix XXIX (for § 20 3a Letter 4): "The maximum mass of a centre-axle trailer to be taken into consideration shall be the mass transmitted to the ground by the axle(s) of the centre-axle trailer when coupled to the drawing vehicle This implies that the support load is not calculated. However, this load may not exceed 10% of the max. permissible total mass

[3] The 750 kg variants (B17) may only be moved on the road without a platform..

[4] Maximum rail length, plus bottom extension extended to the ground at 80°.

[5] The actual payload depends on the erection angle and extension length (load diagram).

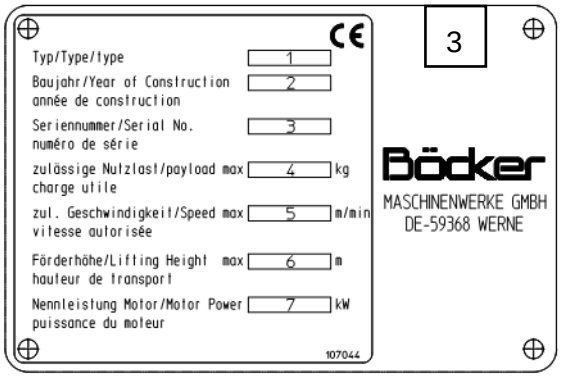
Hydraulic drive system with internal-combustion engine	
Drive motor	4.1 kW
Fuel	petrol, min. (91 Octane), E10 permitted [6]
Noise level at control desk	88 dB(A)
Noise level at mech. Remote control unit	79 dB(A)
Operating pressure: - internal combustion engine	130 bar
Hydraulic drive with electric motor	
Drive motor	2.6 kW
Electrical connection values	230V/50Hz/1~/16A
Noise level at control desk	77 dB(A)
Noise level at mech. Remote control unit	67 dB(A)
Operating pressure with electric motor	105 bar
Winch data	
Load winch motor	Danfoss OMR 200
Load winch brake	KMB 1 Zm spring-loaded multi-disc brake
Extension winch motor	Danfoss OMP250
Extension winch brake	Catch lock
Miscellaneous	
Operating temperature range	-10℃ to 40°C
Max. load per support	600 kg
Minimum size of support plate	250 x 250 mm
Extension winch cable	4 x36 ZNK Ø 7 mm, min fracture force 45.1 kN

[6] Clearance from Honda given in January 2011

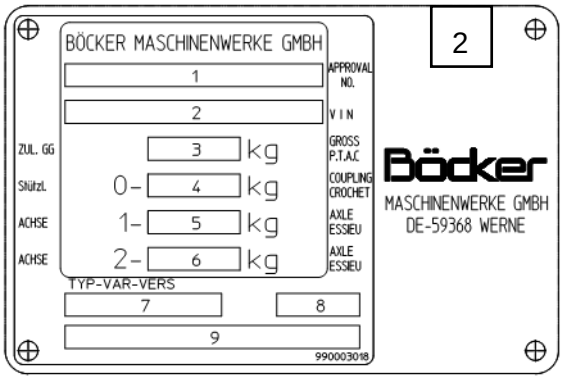
3.1 Rating Plate

3.1.1 Type Plates

The type plates can be found on the right-hand side of the vehicle.



Lift type plate on the rear right-hand side of the upper frame



Trailer behind the axle

Fig. 16 Böcker type plates locations on equipment

Lift
1 Type
2 Year of construction
3 Serial number
4 Max. permissible payload
5 Max. permissible speed
6 Max. lifting height
7 Rated power of motor

Trailer
1 Type-approval number (e1*…)
2 Vehicle identification number (V I N, 17 digits)
3 Technically permissible maximum laden mass (incl. maximum static mass) (see foot note 2, Chapter 3.0)
4 Technically permissible maximum static mass at the coupling point[7]
5 Technically permissible mass on each axle:1 (defines the classification O_1)
6 omitted
7 Type/Variant/Version
8 for internal use only
9 for internal use only

[7] (relevant for class and driving licence)

3.2 Location of trailer chassis number

The trailer chassis number can be found on the front left-hand side at the drawbar support

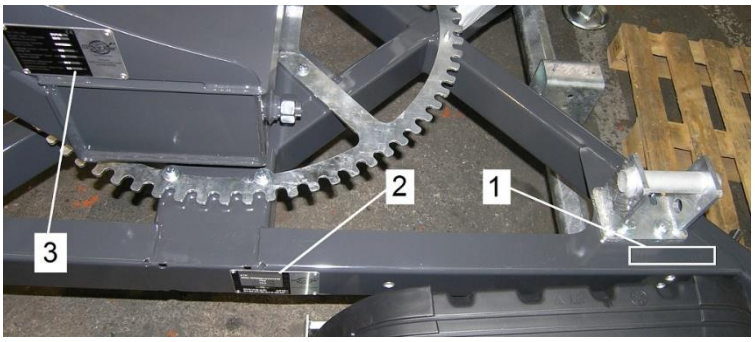


Fig. 17: Chassis number

3.3 Variant identification

The type designation contains the following combination:

HD	21		/	1	-	5

- 5 — Largest rail
- 1 — Smallest rail
- (blank) — K only four lifts with automatic elbow rail
- 21 — approximate extension length in m
- HD — HD = trailer; HL = truck superstructure

4.0 System layout and function

4.1 General description

Mobile hoists are placement hoists for material transport. A carriage with lifting accessories moves on telescoping rails that are placed on a building at the desired height.

	Heed the instructions in the lifting accessories operating manual

The load is raised or lowered to the final unloading point on the lifting accessories. Different lifting accessories are optionally available for special implementations.

4.2 Assembly description

4.2.1 Trailer O_1 (SYA) (up to 750 kg Axle load when coupled)

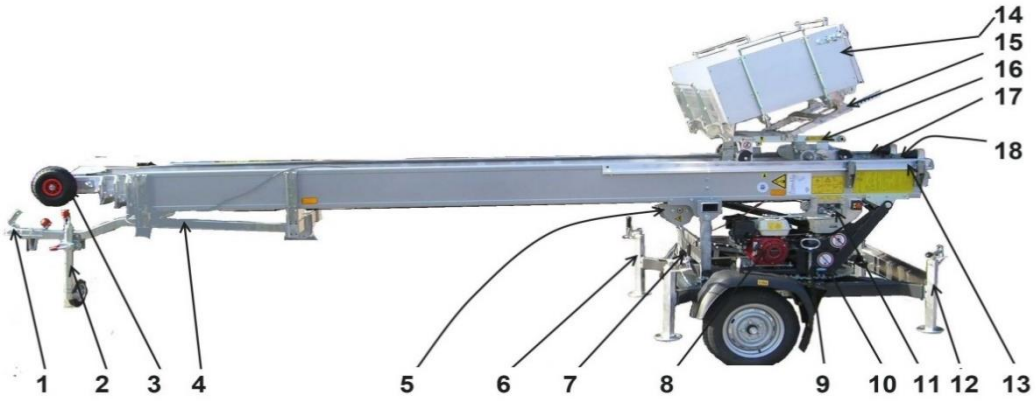


Fig. 18: General view of Simply with furniture platform

Pos.	Description	Comment
1.	Ball coupling	🕮
2.	Jockey wheel	
3.	Head end wheels	Extendible (optional)
4.	Drawbar	🕮
5.	Extension winch	in drive condition
6.	Front outriggers	
7.	Support block locking device	
8.	Drive system	here Honda🕮/ electric motor optional with hydraulic pump
9.	Anti-rotation lock	fixed
10.	Circular level	with brakes optional, retractable
11.	Control lever	
12.	Front outriggers	
13.	lower extension	foldable
14.	Platform	Figure shows furniture lift
15.	Adjusting mechanism	Figure shows furniture lift
16.	Trolley, electrical operation	
17.	Trolley holding rope	
18.	Load winch	In rail unit

5.0 Transport

WARNING! Risk of personal injury and property damage!

Only qualified operators are allowed to operate the lift.

– Every operator must fulfil the requirements described in Chapter 2 and observe all the safety regulations and codes of behaviour listed there!

5.1 Transfer/delivery

Check the device for completeness and transport damage immediately upon receipt.

Do not accept the device or, only accept the device subject to reservations if there is visible exterior damage. Make a written record of the scope of damage. Initiate a complaint.

Register a complaint of hidden defects immediately after they are noticed, because damage claims can only be submitted within the applicable reclamation period.

5.2 Prior to transport

Prior to transporting the machine and attaching it to another vehicle you **must** complete the following tests and inspections:

WARNING! Risk of fatal injury!

An unscrewed or not screwed tightly and secured drawbar can lead to loss of the trailer during the journey and can cause serious accidents.

– Before starting the journey check the drawbar is correctly screwed in and check safety catch and if necessary tighten retaining bolt and secure with safety bolts!

WARNING! Risk of injury!

Uncontrolled movements of the trolley, the rail extension or the lifting accessories during transport might cause injury to persons and damage to property!

– Before transporting the machine, check all attachments to ensure that they are properly secured!

WARNING! Do not overload the vehicle!

When using vehicle type Variant B17 (technically permissible maximum gross vehicle weight 750kg) (see type plate), the platform must not be transported while attached to the lift

– Check type plate.
– if necessary, remove platform and transport on towing vehicle

WARNING! Risk of injury!

Do not reach into the cable winch. Do not touch the steel cables while the unit is in operation as this could lead to injury!

– Do not reach into the openings of the cable winch. Do not touch the steel wires.

WARNING! Risk of injury!

During transport, insufficiently secured components might fall from the machine, causing injury to persons or damage to property!

– Before transporting the machine, check all components to ensure that they are properly secured!

WARNING! Risk of injury!

Uncontrolled movements of the rail unit during travel might cause injury and damage to property!

– Before transporting the machine, check the rail unit to ensure that it is properly secured!

CAUTION! Risk of damage to property!

Outriggers that are insufficiently retracted, lifted or secured might cause serious damage to property!

– Before transporting the machine, check the position of the outriggers!

CAUTION! Risk of damage to property!

If the head end wheels are not inserted completely and not secured, or if ball couplings have been inserted too deep into the vehicle, driving through corners may lead to contact with the vehicle and increase the risk of causing damage to the vehicle and trailer.

- Before transporting the machine, check the position of the head end wheels!
- Before transporting the machine, check the clearance of the trailer when driving around corners!
- If necessary, remove head end wheels and transport them in the towing vehicle.

CAUTION! Risk of damage to property!

Damaged hydraulic lines might burst during operation!

- Before moving the unit, ensure that the hydraulic lines are in the correct position!
- Replace damaged hydraulic lines immediately.

5.2.1 Transport as trailer

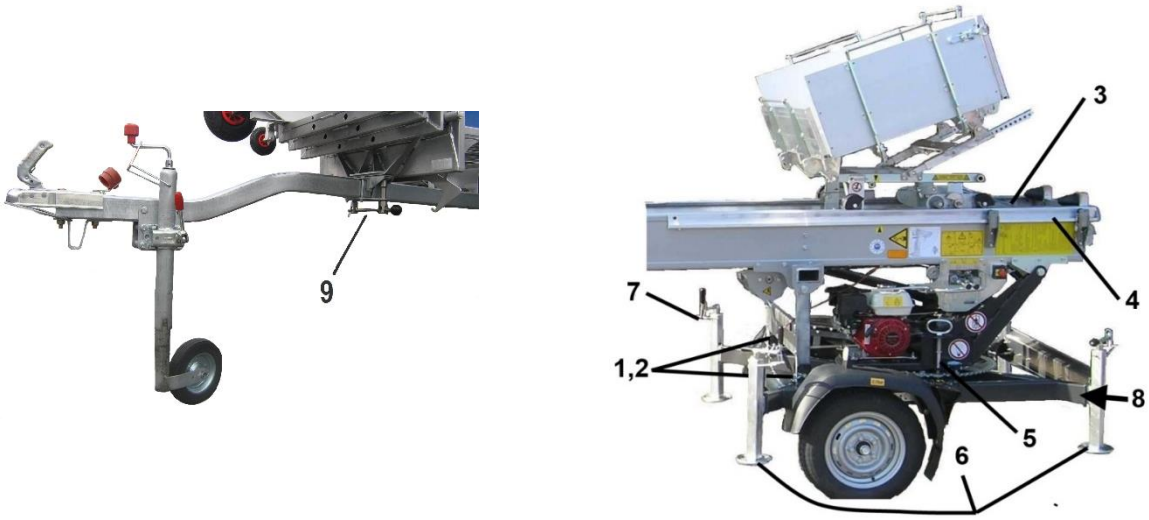


Fig. 19: Inspections prior to transport

The following inspections are mandatory; if necessary, the described condition must be established. Please refer to the respective chapters of these instructions.

Rail unit is completely inside of support frame.

1) Support block is secured (1,2)
2) The trolley must be secured with the safety cable (3). Both ends of the cable must be attached and the cable must be under tension. The arrows indicating the proper position of the lifting accessories must be aligned.
3) The lower rail extension (4) is push up to mechanical stop. Spring cotters inserted into the bores secure the rail extensions.
4) Anti-rotation lock (5) must be in its zero position (arrow) and must be engaged.
5) All 4 outriggers (6) are completely cranked up.
6) All cranks of the outriggers are secured with brackets (7).
   The optional removable head end wheels are retracted and secured.
7) All 4 outriggers (6) are completely retracted. The spring-loaded catches (8) are engaged. Transport supports in the tractor vehicle if this indicated on a sticker.
8) Drawbar is screwed tight. Drawbar screws are secured.
9) The platform must be removed in the B17 variant.

5.2.2 Checking mechanical remote control unit (optional equipment):

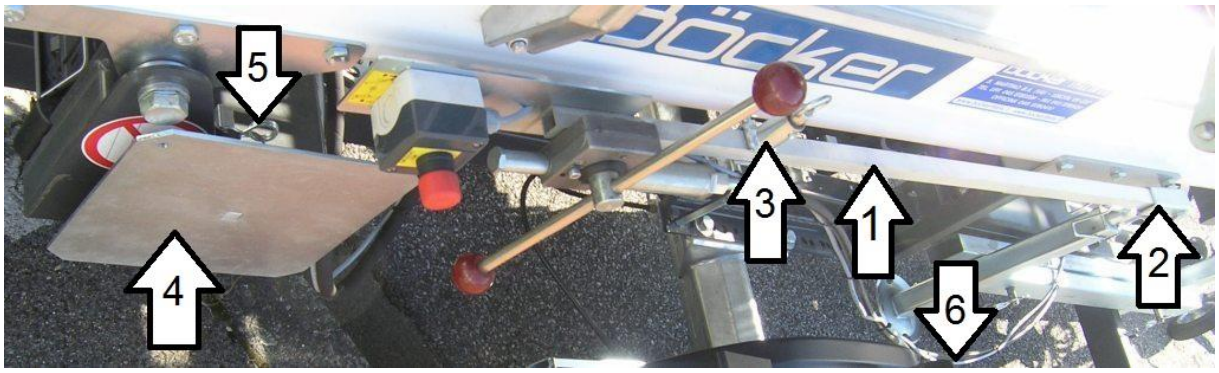


Fig. 20: Checking the remote control unit

1. Check mechanical remote control for proper fixture.
2. Ensure that the rod is correctly inserted into the support frame's locking device
3. Ensure that the rod is correctly inserted into the support frame and the locking pin is completely engaged.
4. The base of the mechanical remote control must be completely inserted and secured with the spring cotter.
5. Inspect the cable and ensure that it cannot come loose or be dragged along the pavement while the vehicle is moving.

5.2.3 Checking cable remote control unit (optional equipment):

1. Ensure that the cable remote control unit is available.

Fig. 21: Cable remote control unit (example)

5.3 Hitching a trailer

WARNING! Risk of personal injuries and property damage!

Improperly secured or mounted equipment might become dislodged. If the machine is not attached properly to the towing vehicle, there is a risk that it might become disconnected from the towing vehicle!

– Before transporting the machine, ensure that all parts are properly mounted.

CAUTION! Risk of damage to property!

Overloading of the towing vehicle might cause damage to the equipment. Before attaching the machine to a vehicle, compare the relevant support load and towing load specifications of the towing vehicle.

CAUTION! Risk of personal injuries and property damage!

Disconnection of the machine from the towing vehicle might result in serious injury to persons or damage to property! If the wear indicator does not show a green section, even if the machine is properly attached to the coupling, the ball receptacle or the ball coupling of the towing vehicles is worn.

– Do not use the vehicle or machine and repair the defective devices immediately.

CAUTION! Risk of damage to property!

There is a risk of damage to the equipment if the jockey wheel is inadvertently lowered to the ground during transport!

– Before towing the trailer, check the position of the jockey wheel!

5.3.1 Secure drawbar

Lift drawbar, pull back catch hooks (1).

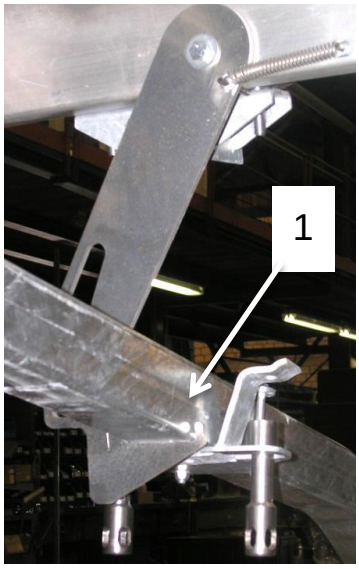


Fig.. 22: catch hooks

Hold the drawbar and screw both retaining bolts (2) tight with the help of the securing bolt.

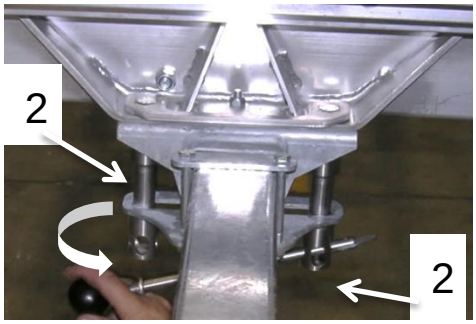


Fig. 23: screw in retaining bolts

Insert securing bolts through both retaining bolts.

In the process make sure that the safety bar (3) is locked

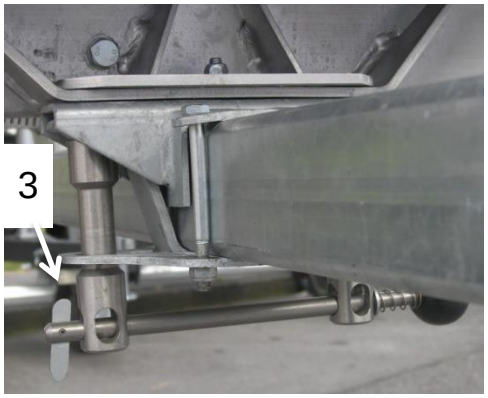


Fig. 24: secure safety bar

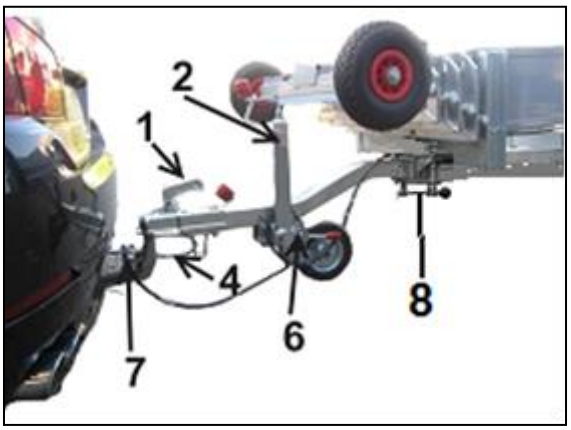


Fig. 25: Hitched trailer

Before attaching the machine to the towing vehicle, complete the following checks. See "Preparation for transport".

1. Fold up lever; if necessary, activate and hold on to safety lever. Attach the trailer to the towing vehicle. Push the lever downwards to the stop.
2. Both wear indicators on the lever must display "green".
3. Check the safety cable (configuration without brakes) for damage. Immediately replace defective cables
4. Use a captive connection to attach the safety cable (configuration without brakes) with the towing vehicle.
5. Lift the jockey wheel to the mechanical stop using the crank. The securing bracket must engage in the recess. Use the bracket to secure the jockey wheel crank.
6. Release the lever. Pull up the jockey spindle to the mechanical stop. Tighten the lever.
7. Connect the cable to the socket of the towing vehicle. Cables must not be dragged along the pavement or disconnect when driving around corners.

   NOTE!

   The trailer is equipped with a 13-pin socket and 13-pin connecting cable. If the vehicle is equipped with a 7-pin connector, use an adapter. When using a 7-pin connector and adapter, the back-up light will not function.
8. Screw the drawbar tight (see chapter 5.3.1)
9. Insert both chocks into the bracket on the vehicle's wing and lock in place.
10. Check the lighting system for damage and test its function. If necessary, check plug connections and/or replace cable or light bulbs.
11. Check tyres for damage, tread depth, and air pressure (see "Technical Data").

5.4 During Transport

WARNING! Risk of personal injuries and property damage!

Tipping of the machine might result in serious injury to persons and damage to property! Therefore, always:

- Reduce speed considerably when travelling around curves.
- Reduce speed to below 25 km/h when negotiating tight corners (e.g., roundabout, sharp turn off).
- Reduce speed if there are lane grooves.
- Reduce speed considerably if poor road conditions exist.
- Avoid unpaved roads; if this is not possible reduce speed to a walking pace.
- Avoid travelling along slopes along the side of the roads.

WARNING! Risk of personal injuries and property damage!

Swerving of the machine might result in serious injury to persons and damage to property!

- Reduce speed when driving along curves or turning off. Ensure that the path is not obstructed.

WARNING! Risk of personal injuries and property damage!

Loose or improperly secured parts might become dislodged, causing serious injury to persons or damage to property!

- Before transporting the machine and after breaks during the journey, check all parts to ensure that they are properly secured.

WARNING! Risk of personal injuries and property damage!

The machine may be higher than the towing vehicle or the cabin of the lorry!

- Check the clearances underneath bridges and observe the signs along the road!

5.5 Uncoupling, Parking

WARNING! Risk of personal injuries and property damage!

Uncontrolled movement of the vehicle might result in serious injury or damage to property!

When parking the machine, check the following:

– Use the chocks.

– Place the chocks behind the wheel at the slope side to prevent the machine from rolling away.

WARNING! Risk of personal injuries and property damage!

Tipping of the vehicle can result in serious injury or damage to property!

When parking the machine, check the following:

– Check the condition of the ground. It is **forbidden** to park the machine on slopes or on soft ground or sand.

5.5.1 Uncoupling and parking the trailer

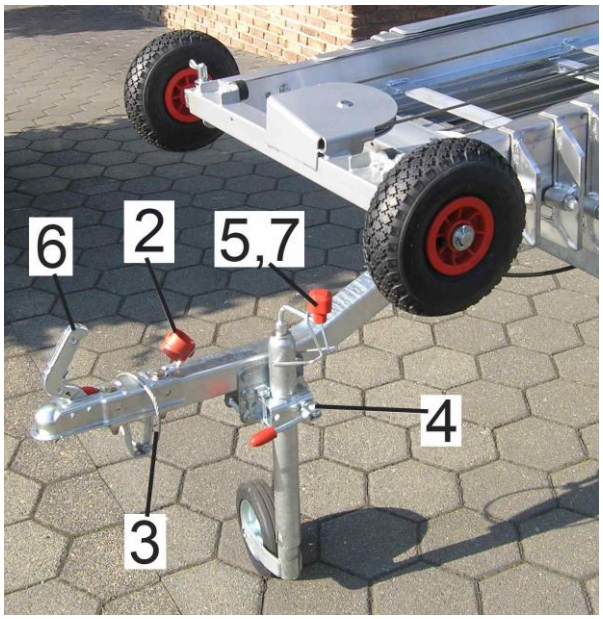


Fig. 26: Parked vehicle

1. Remove the chocks from their brackets and wedge them underneath both wheels in the opposite direction of the slope
2. Remove the connecting cable from the socket on the towing vehicle and insert plug into the bracket on the drawbar, remove safety cable from the towing vehicle
3. Release the lever. Push the jockey spindle downward. Tighten the lever
4. Lower the jockey wheel to the ground using the crank.
5. Fold up the lever. Operate the crank until the drawbar can be removed from the trailer coupling of the towing vehicle.
6. Use the bracket to secure the jockey wheel crank
7. Remove the trailer coupling from the towing vehicle.
8. Move the towing vehicle away from the trailer.

6.0 Set-up

6.1 Safety

6.1.1 Warning: Suspended loads

WARNING! Risk of fatal injury!

Suspended loads might become dislodged, leading to serious injury or even death!

When using the machine, strictly adhere to the following instructions:

- When transporting goods with the lifting gear, never stand under the suspended load!
- Cables and belts used to secure the load must be fitted with safety hooks. Never use torn ropes or ropes showing chafe marks. Do not run ropes and belts across sharp corners and edges, do not attempt to knot or twist the ropes/belts. When attaching the load, observe the equipment's centre point of gravity.
- Secure components with suitable tackle to the load take-up.
- Position the machine in such a way that there is no need for persons to stand under the guide rails while the unit is in operation.

6.1.2 Site inspection

Before erecting the machine, the ground and the surrounding area **must** be inspected thoroughly.

WARNING! Risk of fatal injury!

Tipping of the machine might result in damage to property, serious injury or property damage.

Before erecting the machine, observe the following:

- It is forbidden to erect the machine in the vicinity of slopes or crevices.
- **Always follow the assembly instructions in Appendix III Beaufort Scale in this respect.**
  Erect the lift only if there is no or only little wind. During erection and operation, always monitor the wind force. If necessary, suspend operation or dismantle the lift. Observe the site conditions. There is a risk of higher wind forces in wind channels between buildings.
- Check the outriggers for damage.
- Before using the telescope mechanism, pull out the outriggers until they contact the mechanical stop.
- Never exceed the danger of tipping limits! Never exceed the load weights indicated on the load sign.
- Secure the guide cable at the upper rail end and guide the unit when assembling and disassembling it, and during alignment.
- Do not place the machine on loose surface (sand, grass, wet land, etc.).

WARNING! Risk of fatal injury!

Contact with power lines might result in serious injury or death!

- Before erecting the machine, ensure that it is at sufficient distance to overhead power lines; see "Safety distance to power lines".

WARNING! Risk of personal injury!

Components may cause severe crushing-type injuries.

- Wear protective clothing.
- When operating the machine, keep a safe distance of 4 m.
- Do not stand below the trolley.
- Always work with great care when operating the machine.

CAUTION! Risk of damage to property!

Working with the machine might cause damage to other equipment or property.

- Collisions with obstacles when manoeuvring and extending the lift might result in damage. If possible, remove any obstacles that might impair the operation of the machine.
- When the lift is propped against a building, etc., considerable forces are applied. Weak walls might become damaged. Before using the machine, ensure that the propping up position at the building can withstand loads of more than 200 kg per jockey wheel.

When determining the position at which the machine is to be operated, consider the space required for its extension, etc.

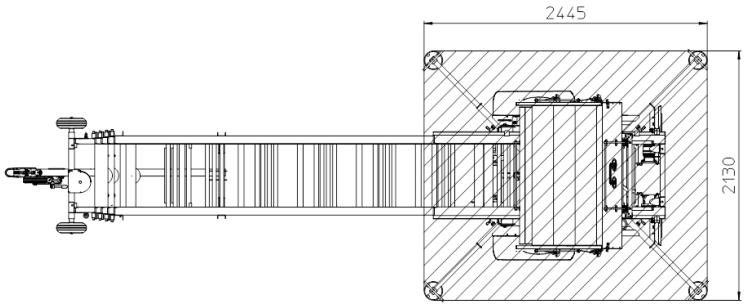


Fig. 27: Support area of brake-assisted machine with retracted drawbar (in m)

6.1.3 Heights that can be attained

WARNING! Risk of fatal injury!

Tipping of the vehicle can result in serious injury or damage to property!

– Always adhere to the height values indicated on the load sign attached to the lift.

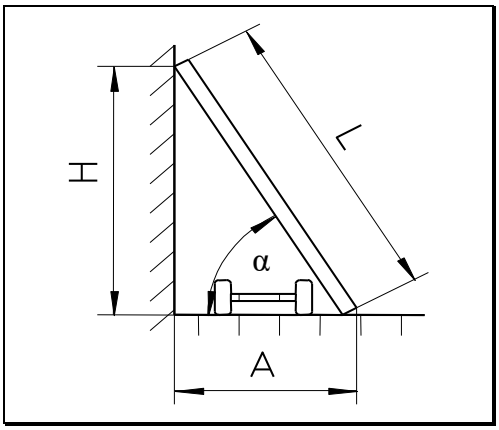


Fig. 28: Height at building

The table contains only theoretical values for an inclined position at an angle of 60 - 85° and a given distance from the building. The reach of the unit depends on the actual lift design and the outriggers widths.

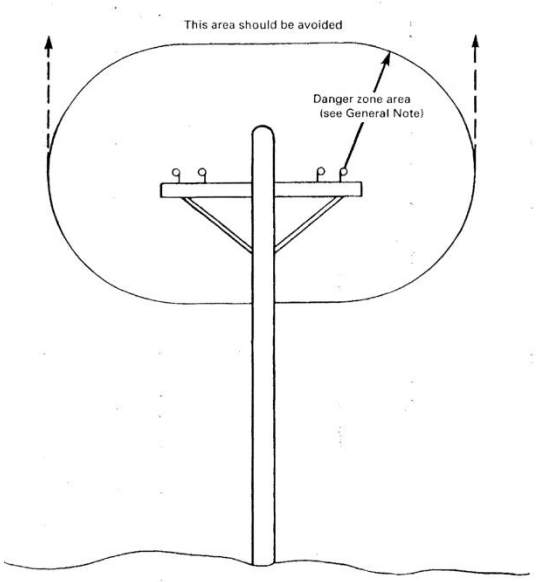
Inclined position α										
Extension length L	**60°**		**65°**		**70°**		**75°**		**80°**	
in m	**A**	**H**	**A**	**H**	**A**	**H**	**A**	**H**	**A**	**H**
7	3.5	6.1	3.0	6.3	2.4	6.6	1.8	6.8	1.2	6.9
10	5.0	8.7	4.2	9.0	3.4	9.4	2.6	9.7	1.7	9.8
13	6.5	11.3	5.5	11.8	4.4	12.2	3.4	12.6	2.3	12.8
15	7.5	13.0	6.3	13.6	5.1	14.1	3.9	14.5	2.6	14.8
18	9.0	15.7	7.6	16.3	6.2	16.9	4.6	17.4	3.1	17.7
21	10.5	18.2	8.9	19.0	7.2	19.7	5.4	20.3	3.6	20.7

The values are rounded to one decimal.

6.1.4 Safety distance to power lines

- Exercise caution when working in the vicinity of overhead power lines. Due to wind effects overhead lines can swing vertically and horizontally. This means that the danger zone can shift.
- Assign a qualified signalling person to observe the clearance. If necessary this person must be able to give warning before the specified limits are reached.
- Every overhead line must be considered as a live line until the owner or the responsible electrical utility confirms that the overhead line has been deenergised.

Normal voltage, kV (voltage between phases)				Required minimum clearance ft	Required minimum clearance m
When operating in the vicinity of high voltage lines					
		to	50	10	3.05
over	50	to	200	15	4.60
over	200	to	350	20	6.10
over	350	to	500	25	7.62
over	500	to	750	35	10.67
over	750	to	1,000	45	13.72
During transport operation without load with lowered boom or mast					
		to	0.75	4	1.22
over	0.75	to	50	6	1.83
over	50	to	345	10	3.83
over	345	to	750	16	4.87
over	750	to	1,000	20	6.10



GENERAL COMMENT: See the table for minimum clearance radius to the danger zone

Safety distances for hoists and raised loads in the vicinity of overland power lines (based on ASME B30.22-2000)

6.1.5 Erecting

NOTE!

When choosing a position to erect the lift, ensure that passers-by can walk around the machine without being obstructed.

6.1.6 Cordon off the danger zone

The base station of the lift must be protected with a fence.

The fencing must

- consist of two horizontal elements at heights of approx. 1.1 m and 0.5 m
- feature warning colours, such as red-white
- be installed at a distance of 1.4 m from the projection area of the widest load that is likely to be transported with the lift
- feature an access opening of max. 1.4 m in width.
- There must be a distance of minimum 2.5 m to the side of the travel path of the lift.

6.2 Erecting, aligning the lift

6.2.1 Setting up and aligning the trailer

WARNING! Risk of fatal injury!

Tipping of the machine might result in damage to property, serious injury or property damage.

– Before erecting the machine, check the ground to ensure that it is sufficiently stable. Rain and thaw periods can make the ground soft. The load-bearing capacity of the ground must be at least 0.2 N/mm^2. Keep a safe distance to slopes, etc. Do not position the machine on sand.

1. Position the machine parallel to the building. Observe the required distances and load limits; see "Maximum height of lift".
2. Unscrew the spring catch (1) at the support frame of the front outriggers.
3. Pull out the outriggers (arrow) by a short distance.
4. Unscrew the spring catch
5. Slowly pull out all 4 outriggers until the spring catch (1) engages.

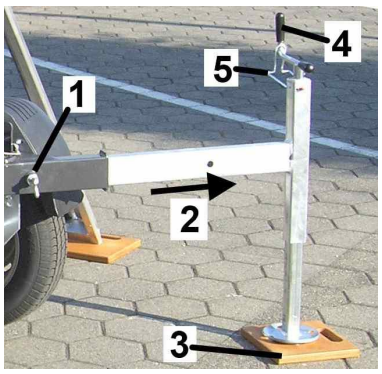


Fig. 29: outriggers

NOTE!

In order to prevent damage to the floor, timber planks should always be used underneath the equipment, even if the floor is made of concrete.

6. Place a timber plank (3) at the centre below the support base.
7. Adhere to minimum dimensions for the timber plank specified in the "Technical data".
8. Use the crank to extract the front outriggers first until the supports contact the ground.
9. Turn the crank (4) until the outrigger bases are firmly placed on the timber planks and the load is removed from the axle; however, the tyres must still contact the ground.

NOTE!

The support wheel must not contact the ground.

10. Align the device by raising or lowering the outriggers. Use the circular level for proper alignment.
11. Align until the bubble (arrow) is in the middle of the circular level.
12. Use brackets to secure all outriggers (5)

Fig. 30: Circular level

CAUTION! Risk of personal injuries and property damage!

Do not touch the steel cables while the machine is in operation, as this could lead to injury!

– When working around the equipment, stay clear of the outriggers.

6.2.2 Mechanical remote control (optional)

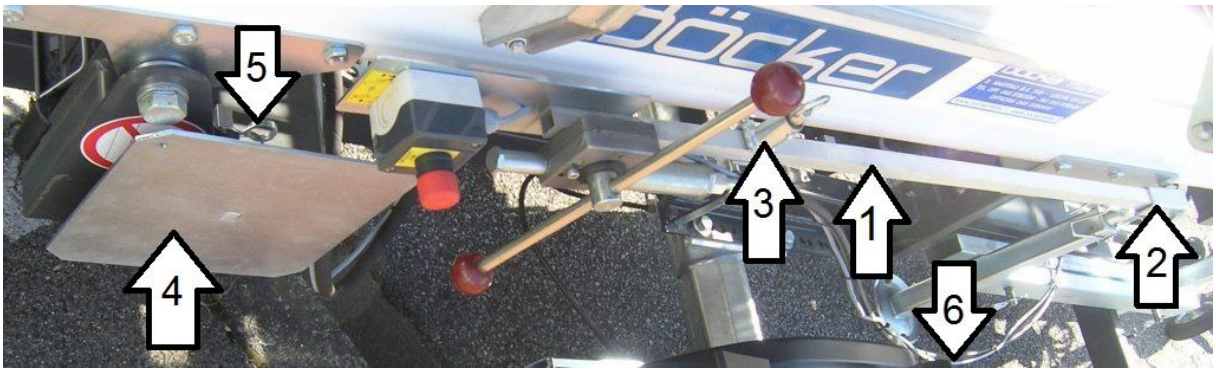


Fig. 31: Mechanical remote control unit

1. Pull the catch pin (3) down.
2. Remove the bar (1) from the holder (2).
3. Remove the spring catch (5).
4. Remove the base (4) from the holder.
5. Remove the cable of the mechanical remote control unit from the cable holder.
6. Insert the bar of the mechanical remote control unit (1) into the base (2).
7. Place the mechanical remote control away from the danger zone

NOTE!

Choose a position for the mechanical remote control unit in such a way that the lifting accessories can be seen by the operator at all times along the travel path. When working in the dark, the entire travel path must be properly illuminated.

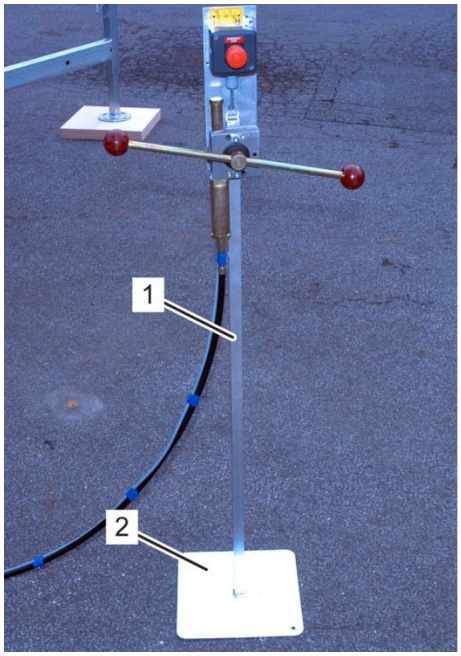


Fig. 32: Mechanical remote control unit

6.2.3 Loosen drawbar

Lightly press the securing bolts, position the safety bar (1) straight.

Remove safety bolts

Fig. 33: Loosen safety bolts

Unscrew the safety bolts with the retaining bolts (2).

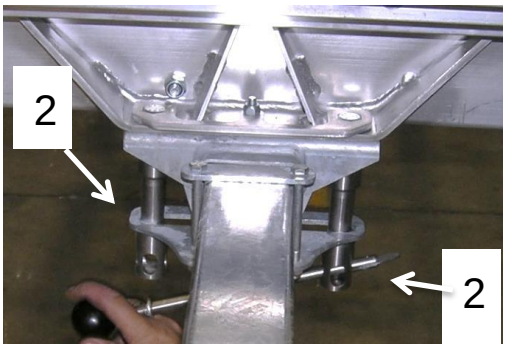


Fig. 34: Unscrew retaining bolts

Drawbar is loose and lies in the catch hooks (3).

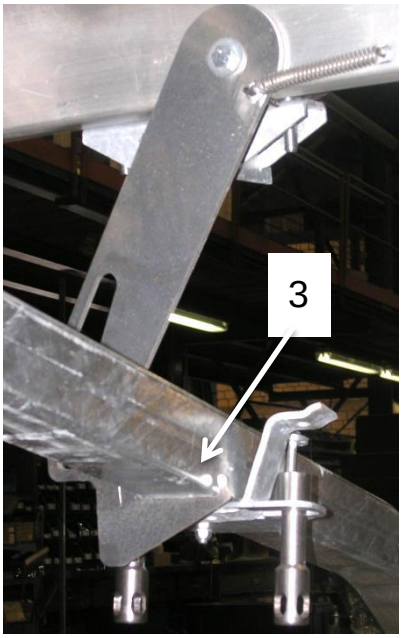


Fig. 35: drawbar lies in catch hooks

6.2.4 Starting the combustion engine

WARNING! Risk of fatal injury!

Flammable process chemicals and escaping gases might ignite, causing serious injury to persons and damage to property.

– Smoking, open fire and naked light is prohibited!

WARNING! Risk of fatal injury!

Do not inhale escaping gases or vapours as this can result in death by asphyxiation, or can cause long-term health problems!

– Operate the machine only outdoors in well ventilated areas.

CAUTION! Risk of injury from burns!

Hot surfaces can result in burns.

– Do not touch hot components.

WARNING! Risk of personal injury!

Engine noise can damage your hearing.

– When working on the motor and when operating the equipment from the control panel, always wear hearing protection!

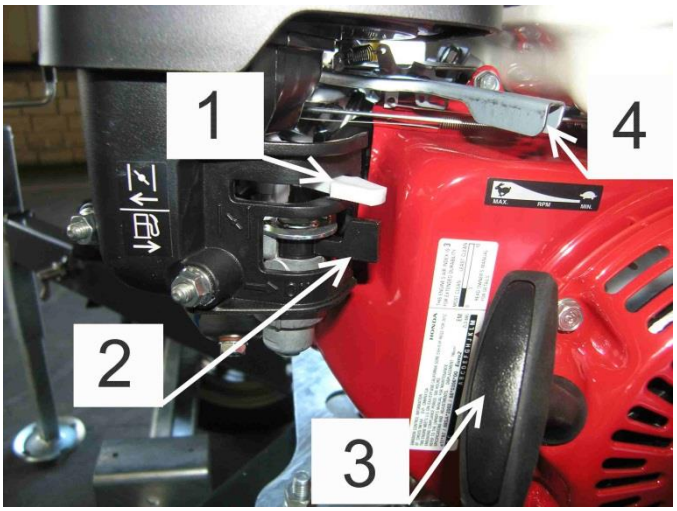


Fig. 36 Internal combustion engine

Fig. 37 Green start button

1. Check the fuel level and add fuel if necessary.

   NOTE!

   Only add petrol with an octane number of at least 91. use 91 octane E10 is permitted

2. 🕮Check the motor oil fill level (1); see supplier documentation in the "Appendix".
3. Complete a function test of all EMERGENCY STOP buttons; see "EMERGENCY STOP button". If necessary, release the button.
4. Carefully press the lever (2) of the fuel tap to the right.
5. When cold-starting the motor, push lever (1) for cold start device (choke lever) to the left.
6. Move accelerator lever (4) about one third in the direction “Max.” Set the red rotary switch to “ON”. Slightly pull on the handle for the cable pull switch (3) until resistance can be felt, then pull hard. If the motor does not start, pull again.

   NOTE!

   In order to avoid damaging the starter, slowly return the start handle to its original position.

   Do not let the motor kick back.

7. Use the throttle to regulate the fuel flow (4)
8. After a short warm-up phase, press the lever (1) of the choke to the right is into the neutral position.
9. Let the engine run idle to warm up for a few minutes.
10. Press the EMERGENCY STOP button at the operating panel to test its function.
11. Restart the motor
12. Use the same approach to test the function of all other EMERGENCY STOP buttons.

6.2.4.1 Operation with electric motor

WARNING! Risk of electrocution!

Electricity can cause serious injury or death. If insulators or individual components are damaged, there is a risk to life and limb.

Therefore:

- Prior to any work on the device, disconnect the mains plug!
- Prior to starting the machine, check mains connection lines for damage.

CAUTION! Risk of damage to property!

Under-dimensioned power cables can cause serious damage to property!

- For cables up to 40 m, the cross-section **must** be at least 2.5 mm^2.
- For cables longer than 40 m, the cross-section **must** be at least 4.0 mm^2.

CAUTION! Risk of injury from burns!

Hot surfaces can result in burns.

- Do not touch hot components.

6.2.4.2 Connecting and starting electric motor

CAUTION! Risk of damage to property!

Insufficient cable cross-sections or inadequate fusing can result in damage to property! Therefore:

- Do not connect the lift cable to a normal household power socket.
- Do not connect the lift through an earth leakage circuit breaker.
- The supply voltage must be at least 210 V. The lift must be protected with a 16 A slow-acting fuse.
- Keep the connecting cable to the electric motor as short as possible.
- Establish the electrical connection according to DIN VDE 0100, Part 704 through a separate point of supply, such as a portable power distribution unit with earth leakage circuit breaker (max. 0.03 A). 0.03 A.

1. Ensure that the indicator lamp (arrow) is on.

Fig. 38: Voltage indicator lamp

2. If available, connect the cable remote control unit (optional equipment) to the socket.
3. Complete a function test of all EMERGENCY STOP buttons.
4. Press the start/stop button (1) to start the electric motor. The start/stop button can be found at the bottom of the remote control, at the main operating panel, and the top of the head end.

Fig. 39: Cable remote control socket

5. If the motor fails to start, check the EMERGENCY STOP buttons (2); see "EMERGENCY STOP buttons".
6. To shut the equipment off, push the Start/Stop button.

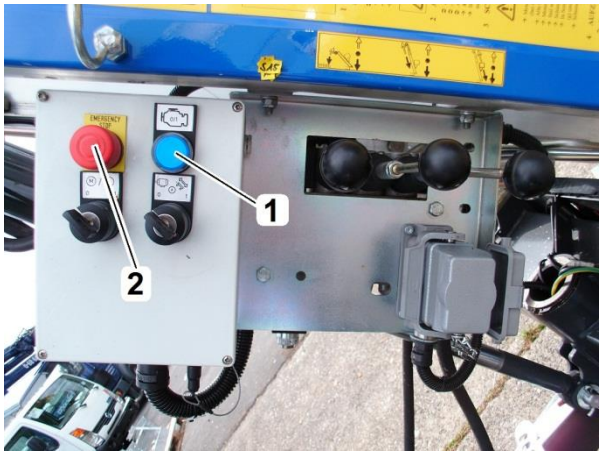


Fig. 40: Starting the electric motor

6.3 Erecting, Extending

WARNING! Risk of fatal injury!

Tipping over of the machine due to strong wind or gusts might cause serious injury to persons or damage to property!

- Before erecting the lift, ensure that the wind is not too strong, referring to the "Beaufort scale". If in doubt, contact the local meteorological office.
- **Always follow the assembly instructions in Appendix III Beaufort Scale in this respect.**
  Erect the lift only if there is no or only little wind. During erection and operation, always monitor the wind force. If necessary, suspend operation or dismantle the lift. Observe the site conditions. There is a risk of higher wind forces in wind channels between buildings.

WARNING! Risk of fatal injury!

If the unit overturns, there is a risk of serious damage or even death. Incorrect operation might result in overturning of the unit!

Due to the heavy weight of the rail unit, always observe the following instructions:

- Never exceed the **danger of tipping limits**!
- Determine the maximum possible extension length by referring to the load sign. The values indicated on the load sign attached to the lift must **not be exceeded** at any time during operation; see “Load sign”
- Lower the cable from the building and secure them to the upper rail end. When the rail unit is being erected or extended, it **must** be **guided by a second person**! The second person positioned above must be protected from forces that may occur suddenly on the cables
- The specified **extension lengths** must **not be exceeded**! Constantly observe the rail height! Do not extend the rails beyond the danger of tipping limit!
- If it is not possible to reach the building, lower the machine, move it closer to the building and erect it again.

WARNING! Risk of personal injury!

Do not reach into the cable winch. Do not touch the steel cables while the unit is in operation as this could lead to injury!

- Do not reach into the openings of the cable winch. Do not touch the steel wires.

CAUTION! Risk of personal injury!

Engine noise can damage your hearing.

- When working on the petrol engine and when operating the machine from the control panel, wearing hearing protection is mandatory!

CAUTION! Risk of personal injuries and property damage!

Uncontrolled rotation of the rail unit may result in injury to persons and damage to property.

- The extension may only be used if the catch pin at the upper frame is engaged in the perforated plate.

CAUTION! Risk of personal injuries and property damage!

Lack of diligence of the person standing at the propping-up point might cause injury to persons and damage to equipment!

- Risk of injury from crushing when the lift is moved to the propping-up point. Ensure that no limbs can be caught between the building and the lift!

CAUTION! Risk of personal injuries and property damage!

The jockey wheel on the head end negatively affects the tipping curve, and if it is in an unfavourable position, the rail unit and the jockey wheel may become damaged when extending the rails.

- Remove the jockey wheel the prior to erecting!

NOTE!

When erecting and extending the unit, you must work in teams of at least two people.

CAUTION! Weight/Damage to property*/Risk of collision

1. Remove jockey wheel
2. Employ a second person to lower the guide cable from the propping-up point to the machine and attach to head end (arrow). Telescope head end wheels (optional) and lock with spring catch.
3. Remove the right and left pin from underneath the support block
4. Start the motor; see "Starting the motor".
5. Use the lever (1) of the mechanical remote control unit or the lever on the control block to reverse carefully.

Fig. 41: Head end

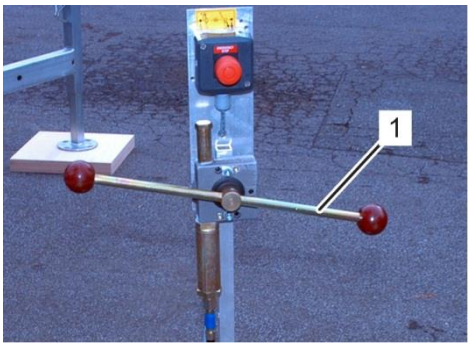


Fig. 42: Operating lever for trolley

6. Remove the safety cable (1).

NOTE!

If the rail angle is < 45°, remove the safety cable only after retraction.

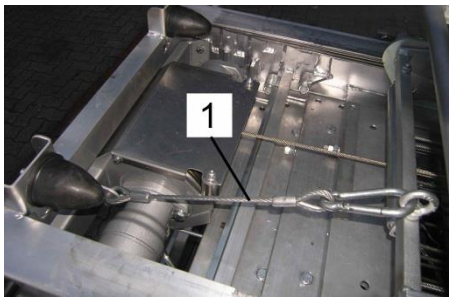


Fig. 43: Safety cable

* If the jockey wheel remains on the equipment, this will increase the risk of tipping over
Furthermore, when extracting the rail it can collide with the jockey wheel

7. Read the angle of the rail guides on the load sign (1) attached to the side of the unit; see "Load sign".

NOTE!

The load capacity sign describes the permissible working range of the lift.

OBSERVE ALL WARNINGS!

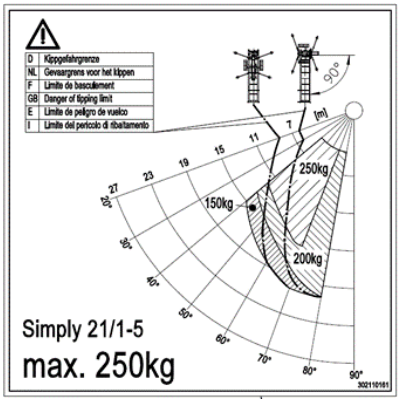


Fig. 44: Load Diagram

8. Pull the lever (1) carefully upwards to lift the guide rails carefully.
9. Lift the rail unit to an angle of inclination of approx. 70° to turn it.

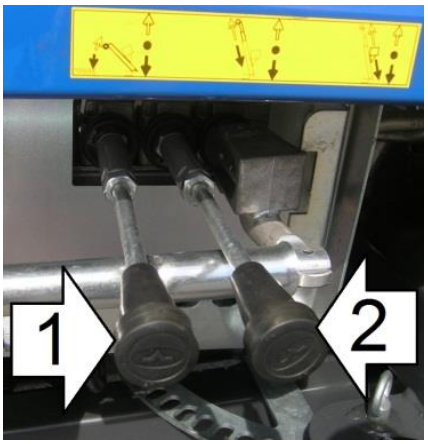


Fig. 45: Operating lever for angle adjustment

10. If necessary, turn the rail guides. To do this, pull out the catch pin (1) and hold it.
11. Rotate the guide rail unit into the desired direction and engage catch pin.

Fig. 46: Catch pin

12. Position the rail unit at the approximate angle of inclination; see "Maximum height of lift". To do this, pull out the lever (1) and hold it.
13. Carefully pull the lever (1) and push upward.
14. Read the "Danger of tipping limit" on the "Load capacity sign". It is determined by the erecting angle and the extension height.

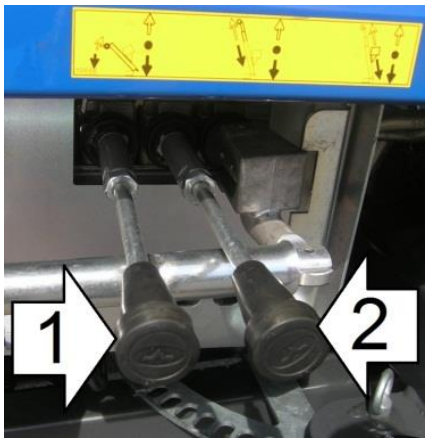


Fig. 47: Operating lever for angle adjustment

15. Place the trolley onto the rubber pads.

NOTE!

*While the rails are being extended, the trolley can slowly move upwards. When the trolley reaches a **height of 2 m**, stop the telescoping process and return the trolley to the rubber pads. Then continue the telescoping process.*

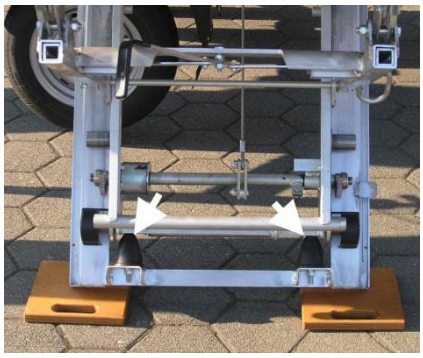


Fig. 48: Rubber pads

16. To ensure proper communication with the second person standing at the upper propping-up point, agree on unambiguous hand signs prior to extending the rail unit.
17. In order to extend the guide rails, pull the lever (2) and carefully push it upwards.
18. The second person **must** use the guide cable and check the extension height in relation to the prop-up point and keep the operator of the equipment informed about the progress.

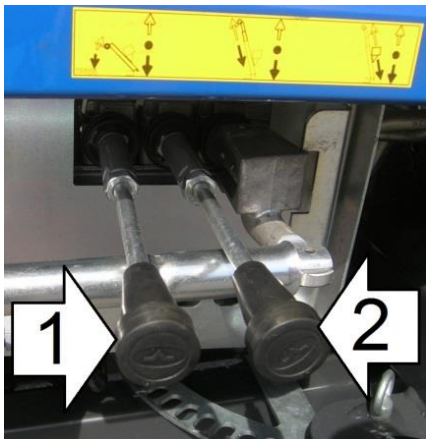


Fig. 49: Extending rail unit

19. Constantly observe the height of the rails, indicated in the base rail (1) When the "tipping limit" is reached, **stop the telescoping process**; see "Load capacity sign".

20. When the desired height is reached, carefully release the lever (2). Pull and push the lever (1) downward until the rail unit contacts the upper end of the propping-up point.

NOTE!
The extension height must be 10 to 20 cm above the propping-up point.

21. Ensure that the catch (arrow) is fully engaged in the lock.

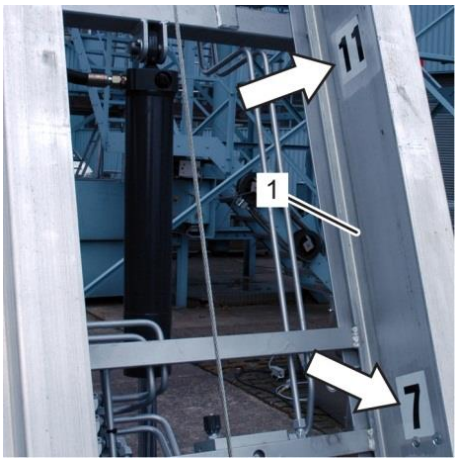


Fig. 50: Reading rail height

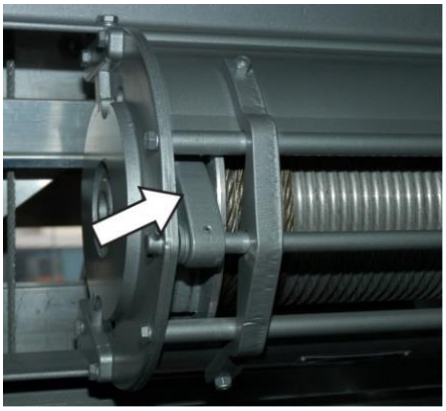


Fig. 51: Catch lock

CAUTION! Risk of damage to property!

There is a risk of damage to property when the guide rails are propped up against the building. Position the guide rail with the guide cable onto the building, engaging the second persons. Check the load capacity of the prop-up area.

22. In order to lean the guide rail onto the propping-up point, pull the lever (1) and carefully push it downward.

To adjust the height, proceed as follows:

a) Consult the second person for information regarding the current and desired height.

b) To remove the guide rail from the propping point, pull the lever (1) and carefully push it upward

If the rail unit is extended too far, retract it as follows:

a) Carefully press the lever (2) for two seconds upward (extending).

b) By pulling the lever, release the catch lock (arrow) and hold the lever.

c) Push the lever (1) immediately downward until the desired height is reached.

If the rail unit is not yet at the correct height, extend it as previously described.

23. Attach the guide cable to the building, taking into account the spring play of the rail (up to 20 cm).

24. Pull the guide rails slightly away from the building. To do this, carefully press the lever (1) to the right. The head end wheels must remain in contact with the building.

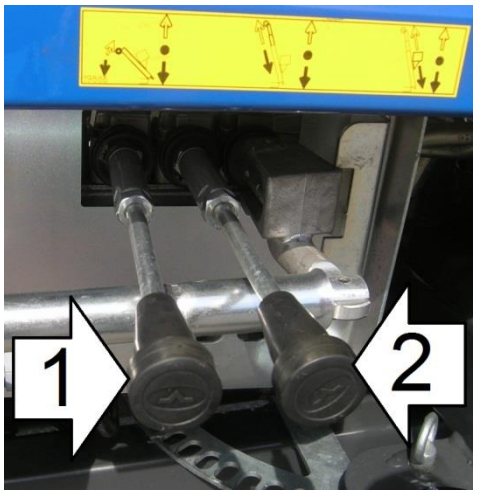


Fig. 52: Operating lever for angle adjustment

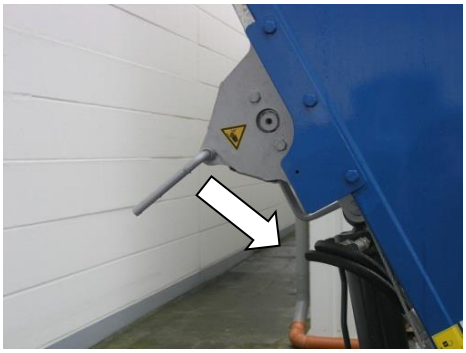


Fig. 53: Catch lock

CAUTION! Risk of damage to property!

Risk of damage to the lower extension! Never pull out the lower extension when the lift is free-standing.
For an extension by > 1 m, the extension must be supported at the centre.

25. Move the trolley up to a height of 2.5 m.
26. Place a timber plank(s) on the ground below the rail extension.
27. Hold the lower rail extension.
28. Remove the spring catch (1) on both sides.
29. Carefully lower the rail extension. If the extension does not reach the ground (e.g. in the case of small erection angles), install blocks or similar devices to support the rail end!
30. Place the rail extension firmly on the timber plank (2).
31. Lower the trolley onto the rubber pads.

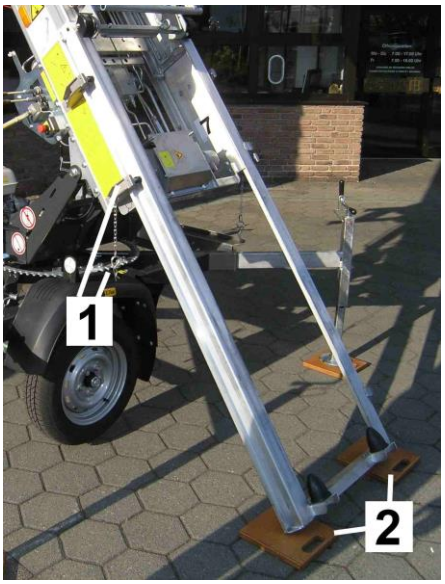


Fig. 54: Lower rail extension

only if elbow section can be lashed 📖

a) Ensure that the slotted head screws (arrows) are flush.
b) If required, attach additional rail extensions.
c) Mounting head end

To dismantle the rail extensions, complete the above steps in reverse order.

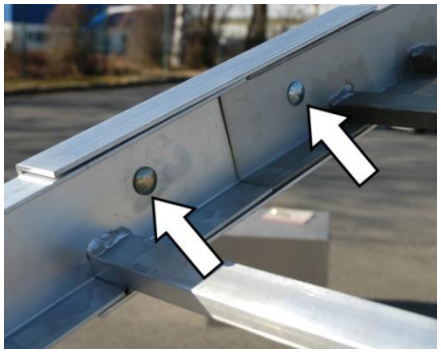


Fig. 55: Checking screws

For operation with electronic remote control unit:

The stop and brake switches (arrows) prevent the trolley from impacting on the mechanical stops during operation. Before starting operation, the position of the switch bars attached to the rail end and the lower rail extension must be adjusted to the desired holding position.

d) Release the knurled screw (1).

e) Adjust the height of the switch bar (2).

f) Tighten the knurled screw (1).

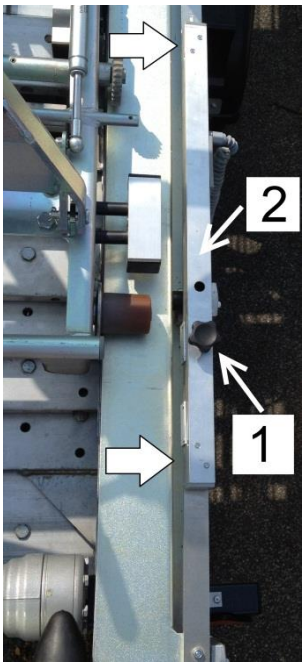


Fig. 56: Brake and stop point switch (Rail extension)

NOTE!

When adjusting the stopping point on the upper rail end, the trolley must be moved in order to be able to reach the switch bar.

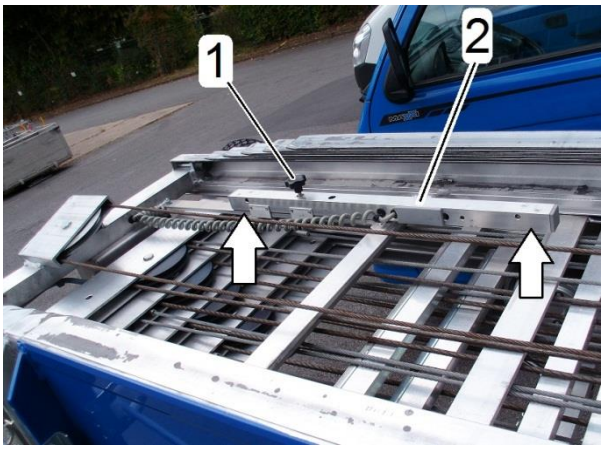


Fig. 57: Brake and stop point switch (Rail end)

6.4 Load capacity sign (how to read the diagram)

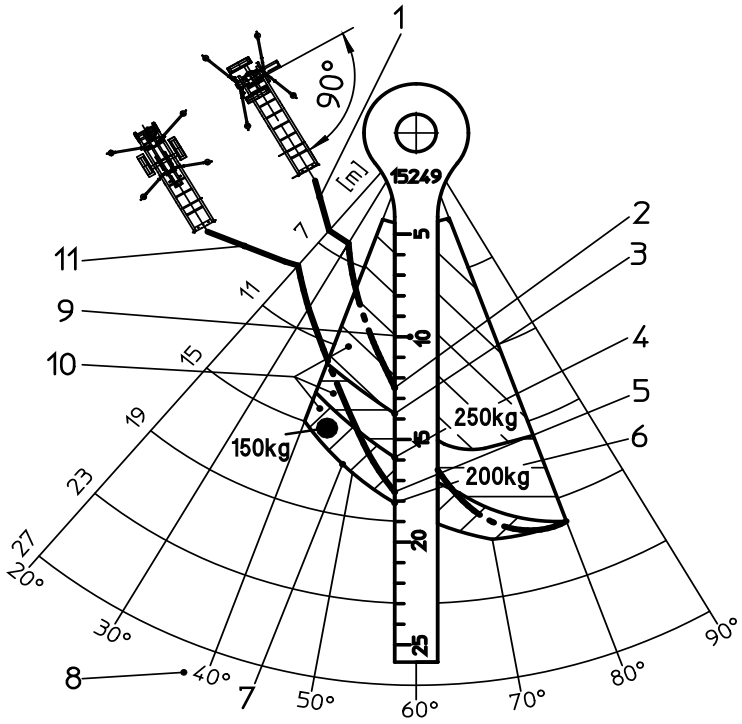


Fig. 58: Example of load capacity sign (all values in this example refer to 60° erected)

1 Danger of tipping limit when rail unit is **turned** 90°
2 up to max. 12.5 m free-standing 90° rotated extendible
3 up to 14 m, max. permitted load 250 kg
4 up to max. 17 m free-standing across the axle extendible
5 up to 16 m, max. permitted load 200 kg
6 up to 18.0 m, max. permitted load 150 kg. **DO NOT EXTEND RAIL UNIT FURTHER!**
7 Max. extension length
8 Erection angle
9 Length of extension
10 Permissible load of rail unit
11 Danger of tipping limit of rail unit extended across the axle

7.0 Operation

7.1 Behaviour of Operating Personnel

The operator should not pursue any other activity when erecting, disassembling, and operating the lift.

Each operator is responsible for the operating sequences that are initiated under his direct operation.

The operator must supervise moving loads.

If a warning sign is attached to the switch, or to the elements that start the motor, then the operator cannot activate the switch or start the motor until the sign has been removed by the assigned person.

Prior to activating the switch, or prior to starting the motor, the operator must ensure that all operating elements are in the OFF position, or in a neutral position, and that all personnel are outside of the danger zone.

If power is lost during operation, the operator must:

- Activate the EMERGENCY STOP switch that switches the energy control elements to the "OFF" position or to a neutral position.
- Deposit the load on the ground, if this can be executed without danger.
- The operator must be familiar with the equipment and its care.
- If adjustment work or repair work are required then the device must be safeguarded from being switched on again.

At the beginning of each shift, the operator must check all control elements. If control elements do not function correctly then they must be adjusted or repaired prior to starting operation.

7.2 User/Loader Instruction

Hazards for objects and persons can occur when operating the lift, particularly if the guidelines in the operating manual are not heeded. All personnel who work in the danger zone of the lift must be familiar with these residual risks and must act in such a manner that no accidents or damage occurs due to their behaviour.

Every operator and each person who loads or unloads the lifting accessories must be authorised to operate the lift. Instruction based on the checklist must be executed for this authorization; see "Appendix".

The authority and instruction do not release any user from the obligation to carefully read the operating manual. We recommend having the instruction and the authority confirmed in writing.

7.3 Work Interruption Measures

Always ensure that unauthorised persons cannot operate the lift!

7.3.1 Work Break Measures

The following activities **must** be executed prior to work breaks:

– Lower lifting accessories to the ground.
– Unload lifting accessories.
– Switch off motor and safeguard it from being switched on again.
– Remove all keys (motor, main switch, tool box).

7.3.2 End of Work Measures

The following activities must be executed prior to finishing work:

– Lower lifting accessories to the ground.
– Unload lifting accessories.
– Switch off motor and safeguard it from being switched on again.
– Remove all keys (motor, main switch, tool box).
– Protect trailer from theft.
– For devices with gasoline motor, lock the gas tank.
– For devices with electric motor remove the power cord.
– For devices with gasoline motor place the motor hood over the motor and lock it.
– Cordon off traffic area, signal and illuminate.
– Block access to the hoist.

7.3.3 Measures when resuming work

The following steps **must** be taken prior to resuming work:

– Check the outriggers
– Check the alignment and anchoring of the rail pack
– Execute maintenance; see "Prior to Each Use".

7.4 Sled Operation

WARNING! Risk of fatal injury!

Suspended loads might become dislodged, leading to serious injury or even death!

– When transporting goods with the lifting gear, never stand under the suspended load!

WARNING! Risk of fatal injury!

When attaching a load, observe its centre of gravity.

– When reaching the end of the rail track, reduce the trolley speed.

WARNING! Risk of personal injuries and property damage!

Loads that become dislodged from the lifting accessories pose a serious risk of injury or even death!

– Never exceed the load indicated on the load capacity signs; see "Load capacity sign"

WARNING! Risk of personal injuries and property damage!

Components dropping from above can result in injury and damage to property. Non-compliance with warning signs may cause severe injuries or even death. Therefore:

- Risk of damage to persons and property!
- Only use appropriate lifting accessories.
- Use proper means to attach components to lifting accessories
- Ensure to position the load's centre point of gravity as low as possible, along the centre line, and near the guide rails.
- Do not exceed the permitted payload; see "Load sign".
- Use only suitable load take-ups.
- Secure components with suitable tackle to the load take-up.
- Ropes and belts must be fitted with safety hooks. Never use torn ropes or ropes showing chafe marks. Do not run ropes and belts across sharp corners and edges, do not attempt to knot or twist the ropes/belts. When attaching the load, observe the equipment's centre point of gravity.
- Before reaching the end of the rail, reduce speed of the trolley.

WARNING! Risk of personal injury!

Do not reach into the cable winch. Do not touch the steel cables while the unit is in operation as this could lead to injury!

- Do not reach into the openings of the cable winch. Do not touch the steel wires.

CAUTION! Risk of personal injuries and property damage!

Do not touch the steel cables while the machine is in operation, as this could lead to injury!

- When working around the equipment, stay clear of the outriggers.

Before commencing operation, complete a test run, each with and without load.

Do not touch the steel wires.

1. Trolley operation from the control panel: Remove the lever extension (1) from the clip (arrow) and turn it out.
2. Ensure that the fixing sleeve (arrow) is properly positioned; if necessary, push it in the direction of the operating panel.

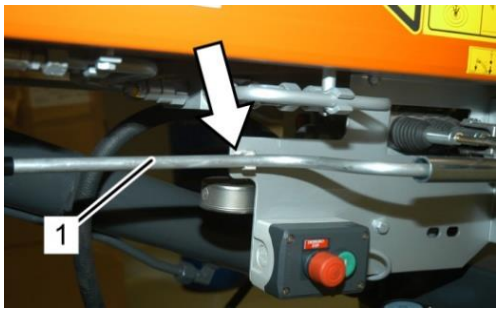


Fig. 59: Operating lever for trolley

3. To move the trolley upwards, remove the lever (1) from the lock and push it up.
4. To stop the trolley, carefully move the lever (1) to its neutral/central position.
5. To move the trolley down, push the lever (1) down.

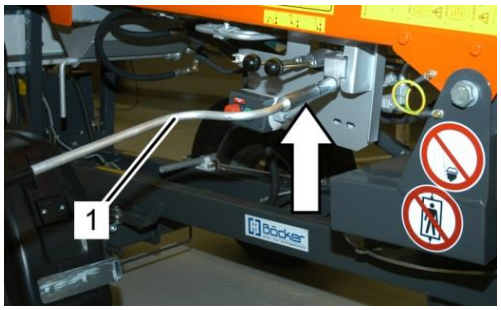


Fig. 60: Operating lever for trolley

Trolley operation with the mechanical remote control unit (optional equipment):

1. Check the safety catch; see "Testing safety catch".
2. Carefully operate the trolley, using the level (1) of the mechanical remote control.
   To move the trolley up: press the left part of the lever (1) down.
   To move the trolley down, press the right part of the lever (1) down.

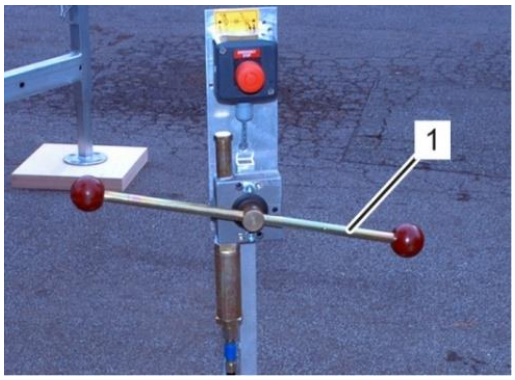


Fig. 61: Operating lever for trolley

Trolley operation with the electrical remote control unit (optional equipment):

1. Fold out the lever (1).
2. Remove the dummy plug (2)
3. Insert the plug (3) of the remote control unit.
4. Fold the lever (1) back.
5. To move the trolley up, press button (2).
6. To move the trolley down, press button (1).
7. To move the trolley up, press the button (3).
8. To stop the trolley in an emergency, press the EMERGENCY-STOP button (4).

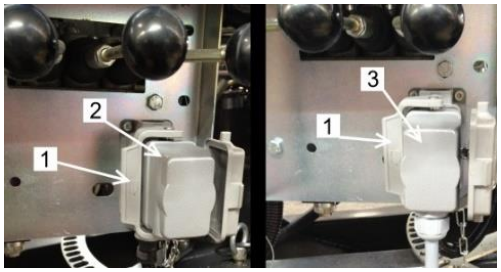


Fig. 62: Socket for remote control unit

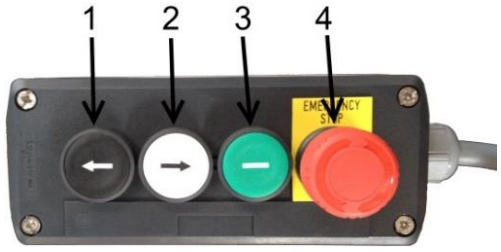


Fig. 63: Remote control unit

Remote control unit at the head end (optional equipment):

1. To move the trolley down, press the button (1).
2. To move the trolley up, press the button (2).
3. To move the trolley up, press the button (3).
4. To stop the trolley in an emergency, press the EMERGENCY-STOP button (4).

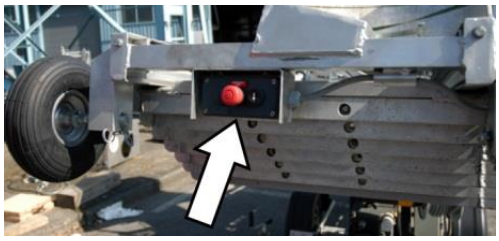


Fig. 64: Head end remote control

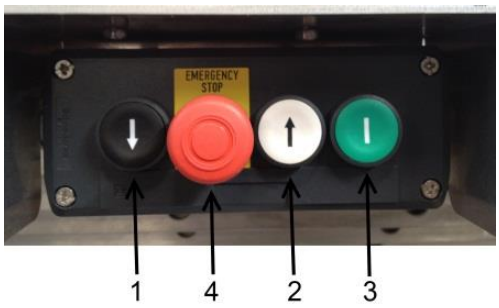


Fig. 65: Head end remote control

Dead man function//Automatic mode (optional)

WARNING! Risk of fatal injury!
Uncontrolled movement of the trolley might result in serious injury or even death!

- Move lifting accessories only under safe conditions.
- Maintain a minimum distance of 3 metres.

Models with optional "self-locking function" can be used for automatic trolley operation.

Key switch (1):

NOTE!

Before activating the automatic mode, position the operation limit switches; see "Erection and extension".

- To activate the automatic mode function, turn the key switch to position (1) "ON"
- Briefly press the direction button for trolley operation. The trolley automatically moves to the respective operation limit switch.
- Dead man function: When lowering the equipment while in the automatic mode, the trolley stops at the 2 m range. From now on, the trolley can only be moved downward by activating the direction button on the lower remote control unit.
- To deactivate the automatic mode function, turn the key switch to position (1) "OFF"

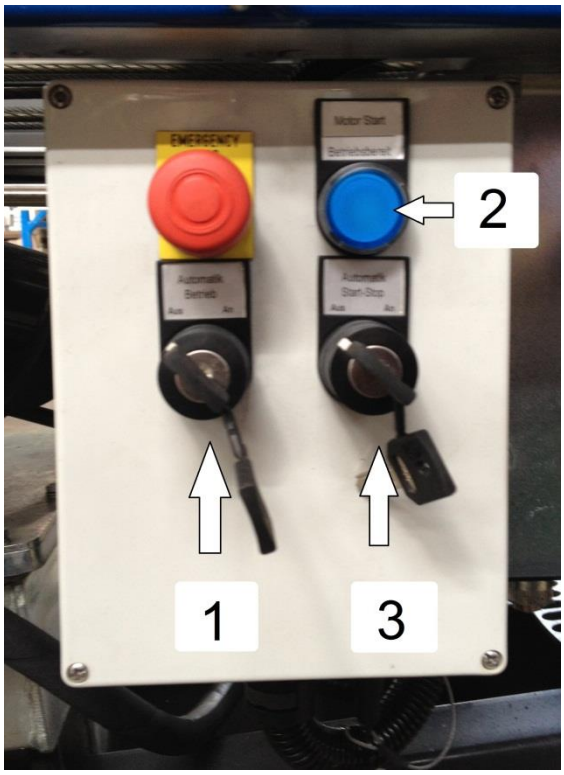


Fig. 66: Key switch and pushbuttons

Pushbutton (2):

- As soon as the control modules ready, the pushbutton (2) starts blinking.
- To start the motor, press button (2).
- In order to stop the trolley while it is moving, press button (2).

- To switch off the motor, press button (2) and hold depressed for at least 2 seconds.

(Only for models with electric motor):

Key switch (3):

NOTE!

When erecting/extending the equipment, the key switch (3) must be in the "OFF" position!

- In order to activate the E-motor automatic mode, key switch (3) must be in the "ON" position
- As soon as the drive command has been activated, the E-motor starts up. Once the imposition of the trolley has been reached, the E-motor switches off.
- In order to deactivate the E-motor automatic mode, key switch (3) must be in the "OFF" position

See supplier documentation in the "Appendix" for instructions on safe loading, unloading, and operation of the lifting accessories.

8.0 Dismantling

8.1 Dismantling the equipment

WARNING! Risk of fatal injury!

If the unit overturns, there is a risk of serious damage or even death. Incorrect operation might result in overturning of the unit!

Due to the heavy weight of the rail unit, always observe the following instructions:

- Never exceed the **danger of tipping limits**!
- The values indicated on the load sign attached to the lift must **not be exceeded** at any time during operation; see “Load sign”
- The specified **extension lengths** must **not be exceeded**!
- When dismantling the rail unit, a second person must guide it with the assistance of a rope!

Observe the support position; see "Load sign".

- **Always follow the assembly instructions in Appendix III Beaufort Scale in this respect.**
  Erect the lift only if there is no or only little wind. If sudden gale-force winds occur, suspend operation or dismantle the lift. Observe the site conditions. There is a risk of higher wind forces in wind channels between buildings.

WARNING! Risk of personal injuries and property damage!

Uncontrolled movements of the rail unit may result in personal injuries or damage to property.

- When extending the telescope, always guide the rail unit with the guide cable, engaging a second person.

WARNING! Risk of personal injury!

Do not reach into the cable winch. Do not touch the steel cables while the unit is in operation as this could lead to injury!

- Do not reach into the openings of the cable winch. Do not touch the steel wires.

NOTE!

Before dismantling the unit, remove all objects and dirt from the load -bearing equipment.

NOTE!

When dismantling the equipment, you must work in teams of at least two persons.

NOTE!

The control levers are equipped with a latch mechanism. Prior to the operation they must be pulled by the operator.

1. Carefully lower/lift the trolley to 2.5 m, using a lever extension or the lever (1) of the mechanical remote control.

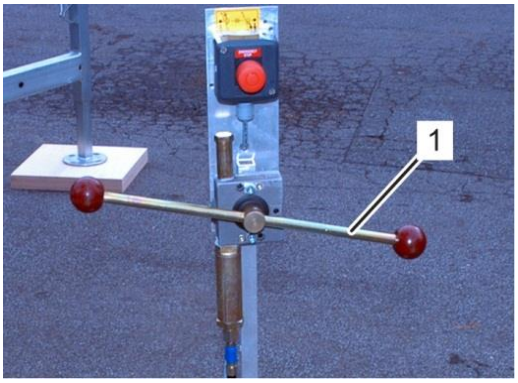


Fig. 67 Operating lever for trolley

2. Push up the lower rail extension (1) to the mechanical stop and hold it in this position.
3. Insert the spring catch (1) on both sides in the bore of the rail extension.
4. Remove the timber plank from the danger zone.
5. Check whether the rail extension is properly secured.
6. Carefully lower the trolley.
7. Remove the guide cable from the building.

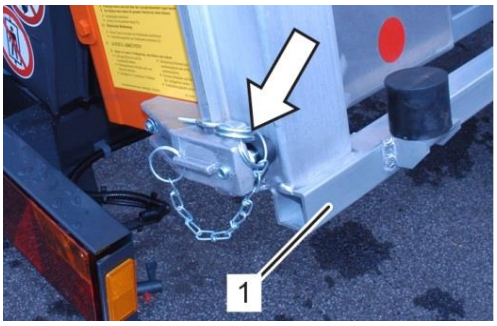


Fig. 68 Rail extension

8. To move the guide rails away from the building, carefully push lever (1) upward until the lift is standing freely.
9. Push lever (2) for 3 seconds upwards and then push lever (1) downward and hold it in this position until the rail unit is fully retracted.

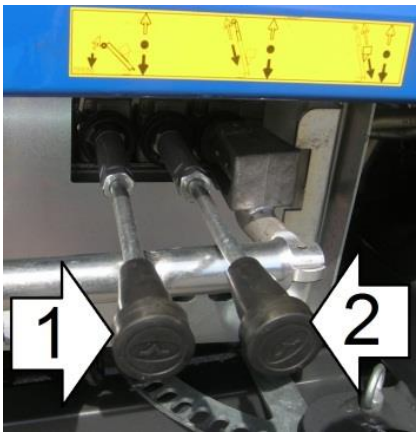


Fig. 69 Operating lever for angle adjustment

10. Read the angle of the rail guides on the load sign attached to the side of the unit.
11. Stop the lifting/lowering movement of the guide rails when they reach an angle of approx. 70°.

For more detailed information; see "Load sign".

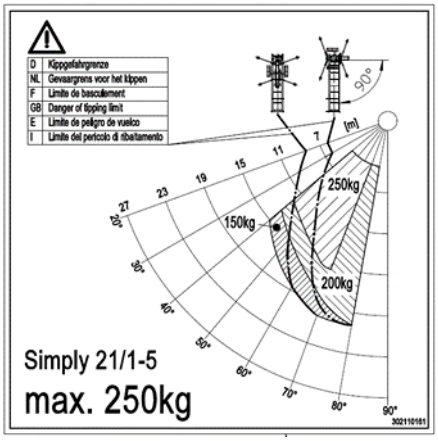


Fig. 70 Load Diagram

12. If necessary, turn the rail guides. To do this, pull out the catch pin and hold it.
13. Turn the rail pack to the centre position.
14. Let the catch pin engage in the 0° position (arrow).

! CAUTION! Risk of damage to property!

Incorrect positioning of the catch pin may result in damage to property. The catch pin must engage in the position marked with an arrow.


Fig. 71: Basic position of perforated strip

15. Lever (1) carefully push to the left and hold in position

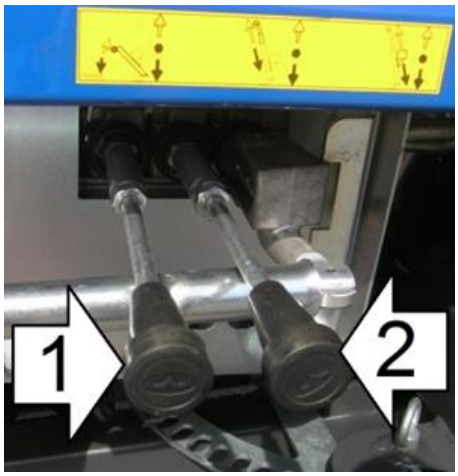


Fig. 72 Positioning on support

16. When the rail unit has reached the support frame (arrow), hold the lever for another 2 seconds and then release it.
17. Check whether the rail unit (1) is correctly positioned in the support frame (arrow).
18. Insert and secure both pins
19. Remove the guide cable.

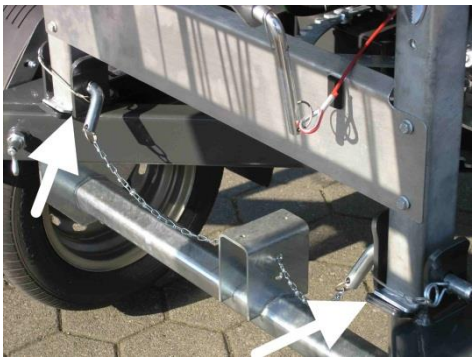


Fig. 73 Positioning on support

! CAUTION! Risk of damage to property!

Incorrectly positioned rail units might become dislodged during transport, causing damage to property.

– Before starting the unit to drive it, check the rail pack position.

! CAUTION! Risk of damage to property!

Defective or missing safety cables must be replaced with an original cable of a suitable length!

20. Attach the safety cable (1). If necessary, raise the trolley a little.
21. To tighten the safety cable (1), **slowly** move the trolley up.

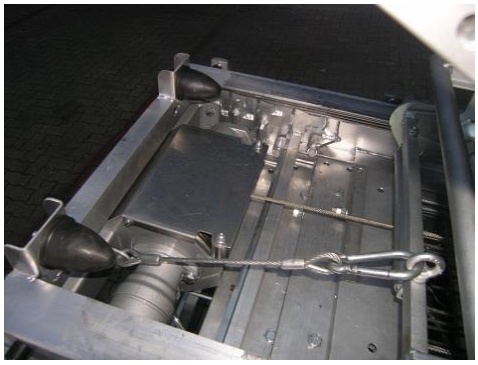


Fig. 74: Safety cable

CAUTION! Risk of damage to property!

Flammable substances and gases might ignite and cause damage to persons and property!

– Do not smoke. Keep fire and naked flames away from the machine

22. Set the switch to “OFF”.

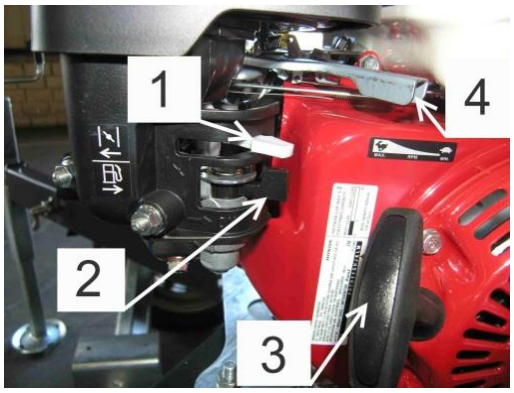


Fig. 75: Switching off the motor

23. Push the lever for the petrol valve (2) and chock lever (1) to the left until it contacts the stop.

CAUTION! Risk of damage to property!

Hot surfaces might result in injury from burns!

– Do not touch hot components.

CAUTION! Material damage!

Malfunction! Close the fuel tap after after operation.

– Leaving the fuel tap open during road transportation may lead to malfunctions (the motor smokes or does not start any more).

24. Allow the engine to cool down.

25. Mounting the jockey wheel


Fig. 76: Mounting the jockey wheel

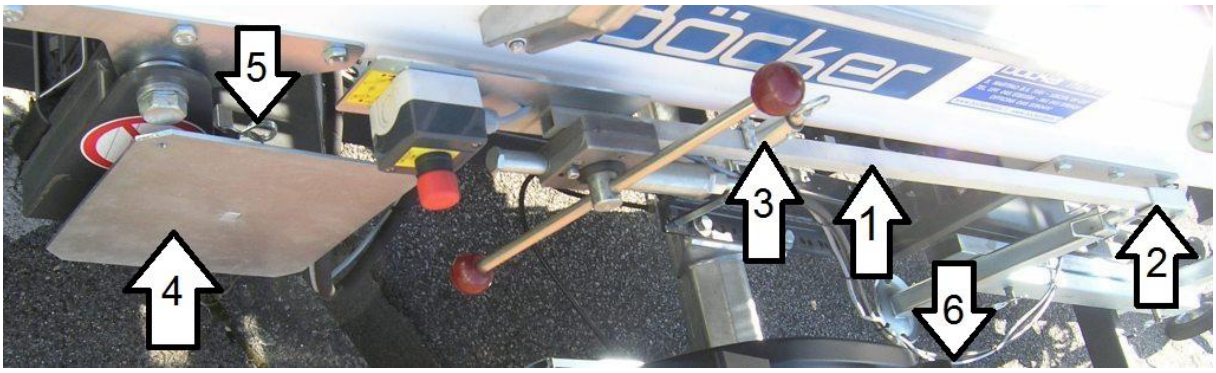


Fig. 77: Mechanical remote control (optional)

26. Insert base (4) and secure with spring cotter (5)
27. Pull the catch pin (2) down.
28. Push the bar (1) into the holder (arrow).
29. Ensure that the catch pin (2) is properly engaged in the bore of the bar.
30. Take the cable (6) of the mechanical remote control unit from the cable holder (2).

NOTE!

Inspect the cable and ensure that it cannot come loose or being dragged along the pavement while the vehicle is moving.

31. Remove the outriggers; see "Removing outriggers".

8.2 Removing the outriggers

8.2.1 Trailer model

1. Check whether the jockey wheel is mounted
2. Lower the jockey wheel to half the distance to the ground; see "Preparation for transport".
3. Use the crank (4) to lift the front outriggers until they contact the stop
4. Remove the timber plants (3) from the danger zone.
5. Turn and remove the spring catch (1) at the support frames of the rear outriggers.

! CAUTION! Risk of damage to property!

Improperly secured outriggers may result in damage to the equipment. Check the rear supports and spring catches for proper mounting.

6. Turn and remove the spring catch (1) at the support frames.
7. Slide in all 4 outriggers.
8. Check all spring catches (1) and engaging devices
9. Fold up the securing bracket (5) to secure the support against twisting.

! CAUTION! Risk of damage to property!

Supports that are not properly secured against twisting can cause damage to the equipment. Before moving the trailer, check the securing bracket (5).

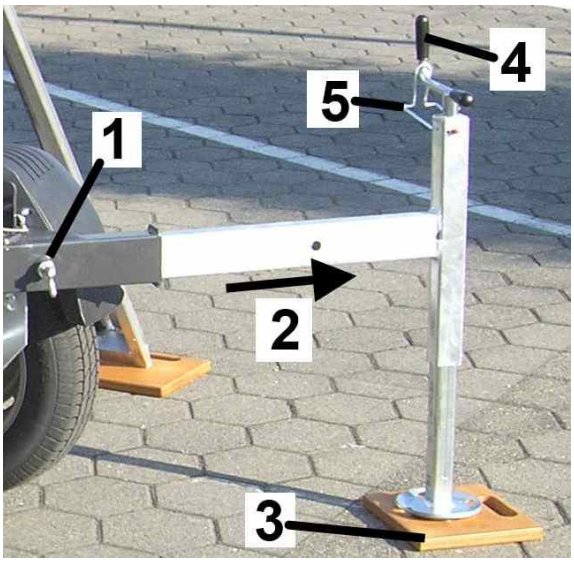


Fig. 78: Safety device, rear support

9.0 Storage

If the unit is not to be used for a prolonged period of time, complete the following steps:

– Carefully clean the unit.
– Increase the tyre pressure by 0.5 bar.
– Grease all moving parts through the grease nipple (rotating connection).
– 🕮
Prepare the drive engine, axle and running gear for storage, following the manufacturer instructions in the "Appendix".
– 🕮
Check the motor oil fill level; see supplier documentation in the "Appendix".
– 🕮
Check the hydraulic fluid level; see "Starting engine".
– Place chocks under the wheels.

For storage for more than 1 month:
– Check tyre pressure once a month.
– 🕮
Check the motor oil fill level; see supplier documentation in the "Appendix".
– 🕮
Check the hydraulic fluid level; see "Starting engine".
– Check the components for mobility.

☞ *NOTE!*
Ensure that the unit is not exposed to any aggressive substances.

10.0 Maintenance

10.1 General information

Böcker lifts are extremely user-friendly and require only minimum maintenance.

To ensure continued operational safety, the operator must regularly inspect the machine and the unit must be serviced at the prescribed intervals by specialised technicians.

Always adhere to the applicable statutory regulations regarding testing and inspection of mobile lifts and vehicles.

WARNING! Risk of personal injuries and property damage!

Improperly completed welding work might cause serious injury to persons and damage to property.

Welding work on the machine is only permitted with the explicit written consent of the manufacturer and must be carried out by qualified specialist technicians.

WARNING! Personal injury and damage to property!

Lost wheels can cause personal injury and material damage! After refitting, check the wheel bolts with a torque spanner after driving approx. 50 km. Refer to the chapter "Tightening Torques" for the tightening torque."

WARNING! Risk of personal injury!

Escaping process chemicals might cause injury. Improperly completed maintenance work might cause equipment malfunctions, serious injury to persons and damage to property.

Before carrying out work on the hydraulic system, let the fluid cool down and de-pressurise the unit.

CAUTION! Risk of damage to property!

Improperly completed maintenance work might cause malfunctions or total shut-down of the equipment.

– Only qualified experienced personnel shall be permitted to perform repairs on the electrical and hydraulic system.

CAUTION**! Risk of damage to property!**

The use of high-pressure cleaning equipment can cause malfunctions in the electrical and hydraulic system.

– Do not use high-pressure cleaning equipment when cleaning hydraulic and electrical components.

CAUTION! Risk of damage to property!

Improper storage or insufficient cleaning can cause damage on the galvanised or painted surfaces.

– After each drive for transport (e.g., on the lorry) during the winter months, equipment must be thoroughly cleaned using water or, if necessary, a steam jet. CAUTION! Do not clean hydraulic or electrical components! They must be cleaned by hand!
– Do not use aggressive cleaning solutions!
– Avoid condensed water, use instead sufficient air circulation and do not cover equipment!
– Do not store the equipment in snow!
– All rotating connections must be turned on the regular basis (weekly)

NOTE!

What is referred to as "white corrosion" on hot-dip galvanised surfaces is not a concern. You may use a zinc cleaning agent (e.g., Polygrat) to clean the surface.

– Cleaning the device will increase the safety and its service life.
– To prevent corrosion, small paint damages must be repaired immediately.
– Car body damage and damage caused during an accident must only be repaired by an expert body shop.
– 🕮
For details regarding the maintenance intervals for the overrun brake system, please refer to the supplier documentation in the "Appendix".
– 🕮
For details regarding the maintenance intervals for the drive system, please refer to the supplier documentation in the "Appendix".
– 🕮
For details regarding the maintenance intervals of the drive motor, please refer to the supplier documentation in the “Appendix”.
– For details regarding the operating hours counter; see "Operating hours counter". Reading the operating hours; see “Operating hours counter”
– Compliance with the main inspection intervals of the equipment is mandatory.

10.2 Regular checks by the operator

10.2.1 Prior to entering onto public roads

NOTE!

Any detected defects must be repaired before entering public roads

For a detailed description of the tasks, please refer to chapter "Before travelling".

1	Lighting system	Completeness, damage, function and cleanliness
2	Tyres	Damage, tread depth, pressure
3	Brake cable	Damage
4	Safety cables on the trolley	Damage, proper length, arrows on the trolley and rail must be aligned and pointing towards each other
5	General information	Attachment of all moving parts (supports, covers, etc.) and safety devices
6	Fuel and hydraulic tank	The usual inspection for leaks in the hydraulic system and the fuel tank as well as their supply lines

10.2.2 Prior to each use

WARNING! Risk of personal injuries and property damage!

A cable brake can result in serious injury to persons and damage to property.

- Before using the lift, always check all cables for damage.
- If you detect any damage, even if minor, do not operate the lift and have the respective cable replaced by a qualified technician.

1. Visually inspect the supports for damage.
2. Check all instruction and warning signs for legibility.
3. Check all safety devices to ensure that they are properly mounted (spring catch, clips, bolts, etc.).
4. 🕮Check the hydraulic fluid level; see "Starting the motor".
5. Visually inspect the hydraulic system for leakage.
6. 🕮Check the engine oil level. If necessary, add oil; see supplier documentation in the "Appendix".
7. 🕮Check load take-up for proper attachment and function; inspect for damage; see "Appendix".
8. Complete a function test of all EMERGENCY-STOP buttons.

9. Check the rollers (arrow) for damage.
10. Check the trolley safety catch; see "Testing safety catch".

Fig. 79: Trolley

10.2.3 Testing the safety catch

WARNING! Risk of fatal injury!
Uncontrolled movement of the trolley or rail unit can lead to serious injury or even death!

- Shut down the motor and secure it to prevent inadvertent start-up.

WARNING! Risk of fatal injury!
Operation of the lift with defective safety devices can lead to serious injury or even death!

– It is prohibited to use the device if any of its safety devices are defective, bridged or otherwise disabled.

WARNING! Risk of personal injury!
Do not reach into the cable winch. Do not touch the steel cables while the unit is in operation as this could lead to injury!

– Do not reach into the openings of the cable winch. Do not touch the steel wires.

If the safety catch is not triggered, repeat the above test. If the safety catch still fails to work, do not use the device, dismantle it and have it repaired by qualified specialist personnel.

1. Erecting rail unit; see "Erecting".
2. Pull out the lower rail extension; see "Erecting".
3. Lower the trolley onto the lower rubber pads (arrow); see “Trolley operation”.
4. Actuate the "Lower" control lever for a short time again until approx. 10 cm of cable have been unreeled from the winch.
5. 🕮 Remove load accessories, working in teams of at least 2 people; see supplier documentation in the "Appendix".
6. Shut down the motor and secure it to prevent inadvertent start-up.
7. Check whether the cable thimble (1) is tilted to the right (as seen from the operator side).
8. The tooth sections (arrow) must touch the guide rail.
9. Turn the cable thimble (1) with the rib manually to the left. Some resistance should be noticeable.
10. Start the motor; see "Starting the motor".
11. Use the operating lever to raise the trolley approx. 30 cm; see “Trolley operation”.
12. Shut down the motor and secure it to prevent inadvertent start-up.
13. Pull the cable that is being unreeled from the winch (arrow) by hand from the rails.
14. Pull out the cable until the trolley is lifted by approx. 30 cm.
15. Let cable go suddenly.
16. Check whether the safety catch (arrow) has engaged instantly.
17. Start the engine or motor; see "Starting engine".
18. Move the trolley up a little.
19. Lower trolley onto the rubber pads.

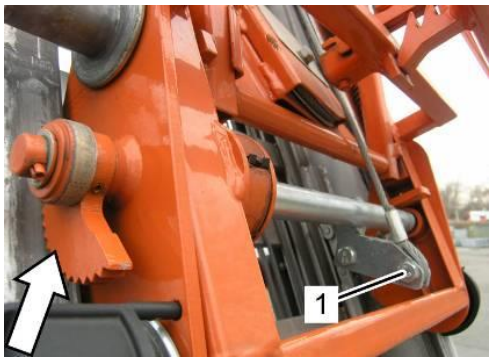


Fig. 80: Inspection of cable thimble

Fig. 81: Checking spring

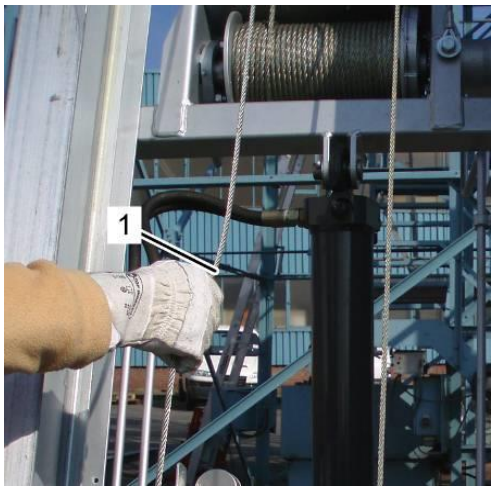


Fig. 82: Lifting trolley

20. Mount a load take-off; see supplier documentation in the "Appendix".

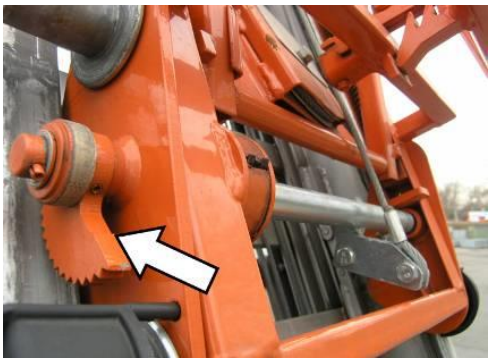


Fig. 83: Check the safety catch

10.3 Operating hours counter (optional)

The operating hour counter is located in the switch cabinet on the motor. It enables operators to carry out the maintenance work at the prescribed times.

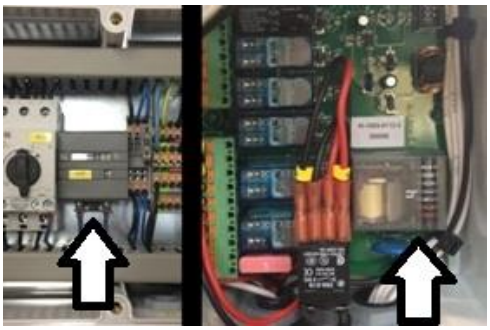


Fig. 84: Operating Hour Meter

10.4 Regular maintenance

All regular maintenance must be recorded in the inspection logbook, otherwise any liability and/or warranty by the manufacturer will be null and void.

CAUTION! Risk of damage to property!

Replace damaged or faulty components immediately. Non-compliance shall void the warranty and liability of the manufacturer.

NOTE!

For a list of recommended lubricants and the relevant change intervals; see supplier documentation. The unit must be inspected annually at an authorised specialist workshop. Inspections and repairs are to be logged in the vehicle log.

	After operating hours (OH) or km	Every 6 months or if the equipment has not been used for more than 4 weeks	Annually	The monthly and six-monthly inspections may be carried out on site by trained and qualified specialist personnel. Annual inspections must only be carried out by a certified technician
Documents and labels				
1. Inspection log book (see Appendix)		●	●	Completeness/legibility
2. Operator's Manual		●	●	Completeness/legibility
3. Signs (Adhesive labels, nameplates, brief instruction)		●	●	Check signs for readability
4. Load capacity diagram		●	●	Check signs for readability
5. Control lever identification		●	●	Check signs for readability
General information				
1. Mounting and safety features of all detachable connections		●	●	Check all threaded connections for firm fit, check completeness of the safety elements and, if necessary, replaced them
2. Damage to paint			●	Visual inspection and repair, if necessary

	After operating hours (OH) or km	Every 6 months or if the equipment has not been used for more than 4 weeks	Annually	The monthly and six-monthly inspections may be carried out on site by trained and qualified specialist personnel. Annual inspections must only be carried out by a certified technician
3. Lighting system		●	●	Function, completeness
4. Securing to prevent unauthorised use		●	●	Locks installed/functionality
5. Dirt		●	●	Cleaning all functionally important parts
6. Lubricate		●	●	Lubricating all movable parts
Trailer				
1. Tyres		●	●	Check tread and tyre pressure; inspect for damage.
2. Wheel bolts				At each wheel change and 50 km after a wheel change
3. Ball diameter			●	
4. Support		●	●	Visual inspection for damage, deformation, cracks and corrosion, functional test
		●	●	lubricate
5. Safety bolt/ Catch pin		●	●	Inspection for damage, stiffness, completeness of bolt locking components (spring catch, etc.)
		●	●	lubricate
6. Bearing bolts (cylinders, rails)		●	●	Inspection for damage, stiffness, completeness of bolt locking components
		●	●	lubricate
7. Rotating- connection		●	●	Inspection for damage, ease of movement, lubricate

		After operating hours (OH) or km	Every 6 months or if the equipment has not been used for more than 4 weeks	Annually	The monthly and six-monthly inspections may be carried out on site by trained and qualified specialist personnel. Annual inspections must only be carried out by a certified technician
Rail unit and cables					
1	Weld seams		●	●	Visual inspection for damage, deformation, cracks and corrosion, functional test
2	Lubricate bearing points		●	●	
3	Rail profiles and cable roller pockets				Visual inspection for damage, deformation, cracks and corrosion, functional test with 25% overload according to load capacity diagram
4	Wearing strips			●	
5	Locking devices		●	●	Check rail lock or cable break safety device for function and wear
6	Sliding points		●	●	lubricate
7	Trolley		●	●	Visual inspection of rollers for wear; check of protective hoods for completeness of components
8	Cables		●	●	Proper cable according to nameplate, wear, wire breaks, crushed locations, “bird-caging” of cable section.
9	Cable rolls		●	●	Visual inspection for cracks, wear, formation of burrs, alignment
10	Cable fixtures		●	●	Tighten screws
11	Cable drums		●	●	Visual inspection for wear and correct winding of cables
12	Protective hood of drum		●	●	Visual inspection for proper seating, damage and completeness
13	Load winch brake		●	●	Function test; see "Checking safety catch".

		After operating hours (OH) or km	Every 6 months or if the equipment has not been used for more than 4 weeks	Annually	The monthly and six-monthly inspections may be carried out on site by trained and qualified specialist personnel. Annual inspections must only be carried out by a certified technician
14	Fall arresting device		●	●	Check function according to 10.2.3, inspect spring for damage, cleanliness, and function
Drive system					
1	Petrol engine	See supplier documentation "Engine".			
2	Control cables		●	●	Function test; if necessary, readjust, lubricate
3	Full bore cylinder		●	●	Function test of turbo switch; oil mechanical elements
Hydraulic system					
1	Oil tank		●	●	Check for tightness, oil level
2	Return filter	600 BS	or	●	change mineral oil and filter; see supplier’s documentation “Hydraulics”
3	Hydraulic fluid				
4	Operating pressure		●	●	According to table in Technical Data
5	Pressure hoses		●	●	Check for leaks, cracks and inspect threaded fittings and connections
6	Hydraulic cylinder		●	●	Check for tightness and screwed connections, check for damage or grooves, check bearing clearance
7	Hydraulic valves		●	●	Check tightness and threaded fittings; check seals
Electrical system					
1	Limit switch		●	●	see function check
2	Circuit breakers		●	●	Visual inspection of switch cabinet
3	Battery		●	●	Check fluid level and idle voltage

		After operating hours (OH) or km	Every 6 months or if the equipment has not been used for more than 4 weeks	Annually	The monthly and six-monthly inspections may be carried out on site by trained and qualified specialist personnel. Annual inspections must only be carried out by a certified technician
4	Electric cables		●	●	Visual inspection for damage, fixture
5	Electrical connections		●	●	Visual inspection for corrosion and firm fit, check protective earth conductor
Function of lift					
1	Limit switch		●	●	Check functions, connections
2	Sensors		●	●	Check functions, connections
3	EMERGENCY-STOP button		●	●	Check all EMERGENCY STOP functions
4	All hydraulic functions	500 BS	●	●	1. Hoist/lower load 2. Extend/retract rails 3. Holies/lower rail unit 4. Rotate slew ring 5. Trolley in serial position 6. Bend/retract elbow section
5	Remote control unit		●	●	Check connection and
6	Slack rope safety device		●	●	Check efficiency
7	Load winch brake		●	●	Emergency stop function Function of operating lever, test using 10% excessive load Trolley stops
8	Test set-up		●	●	Operate with empty and loaded (max. load capacity) lifting accessories

		After operating hours (OH) or km	Every 6 months or if the equipment has not been used for more than 4 weeks	Annually	The monthly and six-monthly inspections may be carried out on site by trained and qualified specialist personnel. Annual inspections must only be carried out by a certified technician
Optional equipment					
1	Live ring -lock		●	●	Inspection for damage, function test
2	lifting accessories	Function and safety test; see supplier documentation "Load take-off"			
Lubrication					
1	Hydraulic system	Lubricant **A),** see “Fuels and process chemicals”			
2	Spherical plain bearings	as required, lubricant **C)**; see “Fuels and process chemicals”			
3	Guide rail	if required, use lubricant **C)**; see “Fuels and process chemicals”			
4	Petrol engine	see manufacturer’s documentation			

10.5 Initial tests and delivery

During the production, the lift was subject to a comprehensive test.

Rails and winches were tested using a load that exceeded the maximum load by 25%. A coefficient of 1.1 was applied to test the load winch.

Immediately prior to delivery, the equipment will be subject to another factory test.

The test decal indicates that the factory test was performed and when the next inspection must take place
(see 10.6)

Fig. 85: Test decal

(Example: Next inspection 07/2013)

NOTE!

The applicable test reports are available from the factory and, if necessary, can be viewed upon request.

If you have any question, please contact our Service Centre.

10.6 Reoccurring inspections/maintaining an inspection log

The lift must be inspected annually by an expert specialised workshop, otherwise the guarantee shall become null and void and all liability will be excluded. This inspection must be documented in an inspection logbook and the company's stamp must be applied (Appendix V Inspection log).

NOTE!

A template of the inspection logbook, which you may use for this purpose, can be found in Appendix V Inspection log "According to national guidelines, the vehicle must be presented to the inspection authority".

Replace hydraulic hoses if they are damaged.

10.7 Fuels and lubricants

CAUTION! Risk of damage to property!

Dispose of used oil, empty oil containers, lubricants, detergents and solvents in a safe and environmentally friendly manner, in accordance with the statutory regulations.

– Ensure that hazardous substances are not disposed of through the sewage system and do not contaminate the ground.

CAUTION! Risk of damage to property!

The use of unsuitable lubricants can result in serious damage to the equipment.

Process chemical	**Brand** (The lubricants indicated in bold print are applied at the factory)	**Quantity**
A) Hydraulic fluid	**Aral Vitam HF 46 (internal-combustion engine)** **Aral Vitam H 540 (electric motor)**	approx. 20 litres
B) Multi-disc brake Load winch	Without lubricant	
C) Spherical plain bearings and guide rail	**Vosimex VM Multipurpose Grease** Shell Retinax AM Mobil Grease MP	
D) Drive motor	**Petrol, min. 91 octane** E10 acc. to Honda release, permitted as of January 2011	approx. 6 litres

10.8 Checking the hydraulic fluid level and replacing the hydraulic fluid

1. Pull out dip stick (1) and check hydraulic fluid level.
   Carefully close the lid.
2. If necessary, open the lid (2) and add hydraulic fluid; see "Fuels and process chemicals".
   Carefully close the lid.

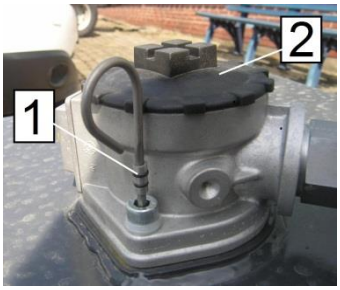


Fig. 86: Dipstick

NOTE!

If the rail unit has been lowered, you may refill the hydraulic oil by placing a funnel over opening (1). To do this, open the oil filter a lock to vent the filter.

10.9 Spare wheel , Changing the wheel

Replace defective or worn tyres. If a wheel fails during the transport, use the spare wheel to replace it.

1. Loosen the wheel bolts (arrow) of the wheel to be changed, using a suitable tool.
2. Jack-up the trailer.
3. Remove wheel bolts (arrow).
4. Remove the wheel (1).

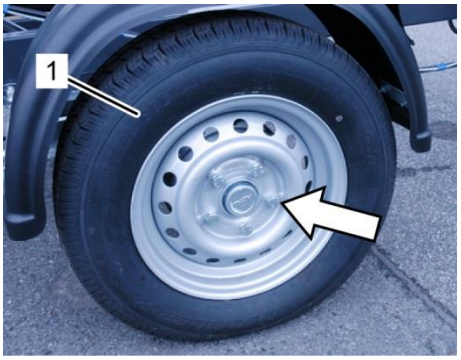


Fig. 87: Removing the wheel

10.10 Tightening Torques

CAUTION! Risk of damage to property!

Screws might become loose, resulting in a serious risk of damage to the equipment. Comply with the following instructions:

- Do not re-use self-locking nuts after removal.
- Use a torque spanner to check bolts and nuts regularly.
- Every 50 km of travel, check all screw connections with a torque spanner. If necessary, retighten the bolts and nuts with the specified torque.

The strength class of the wheel bolts (10.9 or 8.8) is written on the bolt head.

	Bolts	Torque
Over-run device		
Drawbar K 10, straight	3x M12, 8.8	86 Nm
Axle		
UBR 850-4	4x M12, 8.8	86 Nm
Wheel connection		
145 R13 with 112x5	M12x1.5x25 ball R12, 8.8	90 Nm

All screws must be galvanised. Use only self-locking and galvanised nuts according to DIN 985.

Screw dimensions	8.8	10.9	12.9
M8	25 Nm	37 Nm	43 Nm
M10	50 Nm	75 Nm	85 Nm
M12	90 Nm	125 Nm	150 Nm
M16	215 Nm	305 Nm	365 Nm
M20	420 Nm	520 Nm	710 Nm

Strength class for screws with standard thread and untreated and unlubricated surface.

11.0 Malfunctions

11.1 Safety instructions

CAUTION! Risk of damage to property!

Improper troubleshooting can result in serious injury and/or damage to property!

– All defects and faults must be eliminated by suitably trained and authorised specialist personnel!

11.2 Malfunction Table

11.2.1 Model with electric motor

Fault/failure	Possible cause	Remedy
Electric motor fails to start	EMERGENCY-STOP button not released	Release EMERGENCY-STOP button
	Voltage too low	Fully unwind cable. Check voltage in the switch cabinet during erection (to be carried out by qualified electrician). Minimum voltage 210 V.
	Ambient temperature below -5° C	
	Fuse blown	Check fuses; see "Circuit breakers".
Electric motor fails to work with full force	Oil temperature too low	Let oil heat up for about 15 minutes.
	Platform overloaded	Reduce payload on the platform
Electric motor automatically shuts down during operation	Motor overload; thermal sensor has been triggered Malfunction on the frequency inverter (special equipment) Special equipment	Voltage too low or platform overloaded; see above Pull out the mains connector of the lift, plug it back in again and re-start the drive with the green button. If this situation should occur frequently, the message shown on the display of the frequency inverter must be recorded and the customer service department must be informed.

Fault/failure	Possible cause	Remedy
Load winch fails to lift max. payload	Platform overloaded	Remove loads until the max. permissible payload is reached
	Operating pressure too low	Press the EMERGENCY-STOP button and contact a specialist to readjust the operating pressure
	Oil motor defective	Activate the EMERGENCY-STOP switch and have qualified personnel replace the oil motor.
	Hydraulic pump defective	Activate the EMERGENCY-STOP switch and have qualified personnel replace the hydraulic pump.
	Multi-disc brake cannot be released	Press the EMERGENCY-STOP button and contact a specialist to check the brake settings
Platform fails to stop properly at the upper and lower loading points	Incorrect limit switch settings	Readjust the limit switch settings for creep mode
Load winch fails to hold max. payload	Lifting accessories are overloaded	Remove loads until the max. permissible payload is reached
	Brake pads worn	Contact a specialist to replace the brake or brake pads
	Brake air pressure too high	Press the EMERGENCY-STOP button and contact a specialist to check the control pressure in the hydraulic system.

11.2.2 Design with internal combustion engine

Fault/failure	Possible cause	Remedy
Combustion engine not working	No gas in the tank	Add gasoline.
	Gas cock closed The fuel tap was open during road transportation	Open the gas cock.
	EMERGENCY-STOP button not released	Release EMERGENCY-STOP button
	Too little motor oil	Add motor oil; see supplier documentation, "Appendix".
Load winch fails to lift max. payload	Lifting accessories overloaded	Remove loads until the max. permissible payload is reached
	Operating pressure too low	Press the EMERGENCY-STOP button and contact a specialist to readjust the operating pressure
	Hydraulic pump defective	Activate the EMERGENCY-STOP switch and have qualified personnel replace the hydraulic pump.
	Oil motor defective	Activate the EMERGENCY-STOP switch and have qualified personnel replace the oil motor.
	Multi-disc brake cannot be released	Press the EMERGENCY-STOP button and contact a specialist to check the brake settings
	Check the altitude	Use at altitudes exceeding 610 m without adjustment of the carburettor results in a loss of performance (approx. 3.5 % per 300 metres of altitude)
Load winch fails to hold max. payload	Lifting accessories are overloaded	Remove loads until the max. permissible payload is reached
	Brake pads worn	Contact a specialist to replace the brake or brake pads
	Brake air pressure too high	Press the EMERGENCY-STOP button and contact a specialist to check the control pressure in the hydraulic system.

12.0 Accessories

The following products are available as extras:

- Mechanical remote control, consisting of rod (1) with operating lever and EMERGENCY-STOP switch and base (2).

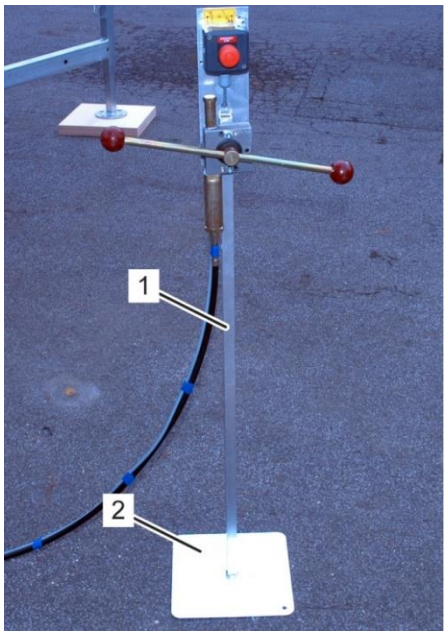


Fig. 88: Mechanical remote control unit

- Telescopic head end wheels
  🕮 Various lifting accessories; see "Appendix"

Fig. 89: Head end wheels

- Spare wheel for trailer (1)

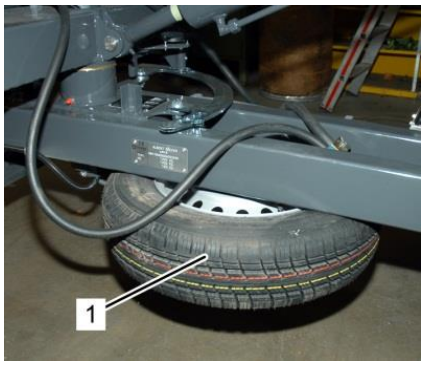


Fig. 90: Spare wheel

- Jockey wheel with pin stop (arrow)

Fig. 91: Jockey wheel

- Elbow section (1) in connection with lift and rail extensions, optional

Fig. 92: Elbow section

Other extras:

- Aluminium tube support for rails, adjustable from 2.85 to 5.30 m
- Adjustable roof batten block for placement of rail pair on roofs
- Rail extensions, from 1 to 5.80 m
- Rail extension and elbow section

Appendix I Check list Instruction

Lift type:	**Chassis no.:**	
Topic		
Proper use according to operating manual		
Safety instructions and danger warnings in operating manual; in particular • the prohibition of transporting persons • consideration of wind force and effect on the lift's • stability • detailed instruction about all functions shown on the load sign • manoeuvring and vehicle behaviour in road traffic • All maintenance work must be carried out by specialist technicians.		
Practical instruction in the operation of the control devices (operator must have carried out all functions at least once) according to operating manual.		
Selection and installation of lifting accessories according to load take-up manual (LAM).		
Loading lifting accessories, in particular • Permissible load • Centre of gravity of load • Securing of load		
The operator must at all times have a full view of the entire travel path.		
Reference to the operating manual, in particular • Requirement that all operators must read the manual(s) prior to starting the unit • Location of storage of operating manual in the vehicle		
Do not exceed payload	enter load here →	kg
Trailer load	enter load here →	kg
Support load	enter load here →	kg
Additions:		

I herewith confirm that the operator/user named in this document has been properly instructed according to the above-mentioned check list in the operation and use of the lift and is herewith authorised to operate/load the lift. Date Signature of lift owner	I am over 18 years of age and have been instructed in the operation and use of the lift according to the above check list. NAME: Date Signature of operator/user

Please note that, in the event of contradictions, the instructions in the operating manual have precedence!

Appendix II Applicable Documents

- Replacement Part List
- Lifting accessories Operating Manual
- Operating Manual - Honda Motor
- Operating Manual AL-KO Brake
- Operating manual for rail extensions and elbow section (optional)
- Hydraulic Circuit Diagram
- COC for trailers

Appendix III Beaufort Scale

Beaufort	km/h/kn	Inland effects	Assembly/ Dismantling[1]	Operation[2]
0 Calm	<1 /<1	Smoke rises vertically.	✓	✓
1 Light air	1-5 / 1-3	Smoke drift indicates wind direction.	✓	✓
2 Light breeze.	6-11 / 4-7	Wind felt on exposed skin. Leaves rustle. Wind vanes begin to move.	✓	✓
3 Gentle breeze	12-19 / 8-11	Leaves and smaller twigs in constant motion.	✓	✓
4 Moderate breeze	20-28 / 12-15	Twigs and small branches begin to move. Dust and loose paper raises.	⚠[3]	⚠[4]
5 Fresh breeze	29-38 / 16-21	Smaller trees sway	⚠[3]	⚠[4]
6 Strong breeze.	39-49 / 22-27	Whistling heard in overhead wires, large branches in motion, umbrella use becomes difficult.	⚠[3] max. 45 km/h	⚠[4] max. 45 km/h
7 High wind, moderate gale	50-61 / 28-33	Effort needed to walk against the wind. Whole trees in motion.	✗	✗
8 Gale	62-74 / 34-40	Some branches break off trees. Considerable effort required to walk.	✗	✗
9 Strong gale	75-88 / 41-47	Slight structural damage to houses and roofs.	✗	✗
10 Whole gale	89-102 / 48-55	Trees are uprooted, considerable structural damage to houses.	✗	✗
11 Violent storm	103-117 / 56-63	Widespread structural damage.	✗	✗
12 Hurricane	>117 />63	Serious destruction.	✗	✗

[1] Observe local conditions: Local wind speed between two buildings is stronger than in the surrounding area (the respective national laws and regulations regarding wind influence must be observed).

[2] The shape of the lifted load influences the effective wind-exposed area. Turning the load can suddenly change the wind-exposed area. Lift loads with large wind-exposed areas and flow resistances only at low wind speeds

[3] At a wind speed of between 20 km/h and 45 km/h, it is the responsibility of the operator to ensure that sufficient safety measures are taken during assembly / dismantling (e.g. guide the headpiece, decrease extension length, provide complete support, avoid side wind)

[4] Wind speeds of up to 45 km/h are permitted during operation, if the surface area exposed to wind is not larger than that of the load handling attachment (in case of a furniture platform, the load must not protrude beyond the closed side walls).

Appendix IV Declaration of Conformity

EU Declaration of Conformity

(Translation based on the original German version!)

The manufacturer

Böcker Maschinenwerke GmbH
Lippestraße 69 - 73
DE-59368 Werne

declares that the product

Simply HD 21/1-5
Inclined lift for material transport
Serial no. ....

in the delivered version is in compliance with the following Directives:

- EC Machinery Directive 2006/42/EC
- EMC Directive 2014/30/EU
- Outdoor Directive 2000/14/EC

Applied harmonised standards:

DIN EN ISO 12100: 2013-08
DIN EN 12158-2: 2010

Acoustic power level

$L_{WA\ measured}$ = 92,5 dB (A)
$L_{WA\ guaranteed}$ = 93 dB (A)

Authorised representative for the compilation of the technical documentation:
Böcker Maschinenwerke GmbH, Lippestraße 69-73, DE-59368 Werne

Böcker Maschinenwerke GmbH

Werne, 15.02.2021
Location and date of the declaration

Dipl.-Ing. Frank Kolkmann
(Authorized signatory)

Dipl.-Ing. Günter Röhling
(Head of Research and Development)

Böcker Maschinenwerke GmbH · Lippestraße 69-73 · DE-59368 Werne · T +49 (0)2389 79890 · F +49 (0)2389 7989 9000 · info@boecker.de · www.boecker.de

Appendix V Inspection log

The equipment must be tested by an authorised technician **at least once a year** and must be documented in writing. Alternatively, a separate log may be used that has been created by the owner. Maintenance of the inspection log, compliance with all schedules, and the selection of a technical expert is the sole responsibility of the equipment's owner

Technical expertise is defined as the professional education and attested experience with sufficient know-how in the subject matter of lifts. The respective person must be familiar with all national and international rules and regulations (e.g., occupational safety, DIN standards, and Highway traffic act) and must be able to provide evidence that he is able to operate the lift in a safe and secure manner.

The inspection log is part of the equipment and if it is sold, it must be transferred to the next owner.

NOTE!

All equipment is subject to a factory test prior to delivery. This test will be documented with the application of the test decal (see Chapter 10.5).

NOTE!

If considerably changes are made or supporting components are prepared, the equipment must be inspected again by an ***authorised expert.*** *An inspection by a technician is insufficient!*

Inspection by an authorised expert "Lift"	
Equipment number: _ _ _ _ _ _ _ _ Operating hours:	Date:
The Böcker lift was tested according to the maintenance schedule and the current rules and regulations	
O No defects found	
O Defects found were corrected.	
O The following defects were found but were not repaired: _____	
O The equipment must not be inspected again **inspected again**	O **The equipment must be**
O The equipment has passed safety test and can be taken into operation. O **The equipment must be taken out of service.**	Date Signature
Repeated inspection	
O **Defects corrected**	O **Defects not corrected**
O The equipment has passed safety test and can be taken into operation. O **The equipment must be taken out of service.**	Date Signature

Inspection by an authorised expert "Lift"	
Equipment number: _ _ _ _ _ _ _ _ Operating hours:	Date:
The Böcker lift was tested according to the maintenance schedule and the current rules and regulations	
O No defects found	
O Defects found were corrected.	
O The following defects were found but were not repaired: _____	
O The equipment must not be inspected again **inspected again**	O **The equipment must be**
O The equipment has passed safety test and can be taken into operation. O **The equipment must be taken out of service.**	Date Signature
Repeated inspection	
O **Defects corrected**	O **Defects not corrected**
O The equipment has passed safety test and can be taken into operation. O **The equipment must be taken out of service.**	Date Signature

Inspection by an authorised expert "Lift"	
Equipment number: _ _ _ _ _ _ _ _ Operating hours:	Date:
The Böcker lift was tested according to the maintenance schedule and the current rules and regulations	
O No defects found	
O Defects found were corrected.	
O The following defects were found but were not repaired: _____	
O The equipment must not be inspected again **inspected again**	O **The equipment must be**
O The equipment has passed safety test and can be taken into operation. O **The equipment must be taken out of service.**	Date Signature
Repeated inspection	
O **Defects corrected**	O **Defects not corrected**
O The equipment has passed safety test and can be taken into operation. O **The equipment must be taken out of service.**	Date Signature

Inspection by an authorised expert "Lift"	
Equipment number: _ _ _ _ _ _ _ _ Operating hours:	Date:
The Böcker lift was tested according to the maintenance schedule and the current rules and regulations	
O No defects found	
O Defects found were corrected.	
O The following defects were found but were not repaired: _____	
O The equipment must not be inspected again **inspected again**	O **The equipment must be**
O The equipment has passed safety test and can be taken into operation. O **The equipment must be taken out of service.**	Date Signature
Repeated inspection	
O **Defects corrected**	O **Defects not corrected**
O The equipment has passed safety test and can be taken into operation. O **The equipment must be taken out of service.**	Date Signature

Inspection by an authorised expert "Lift"	
Equipment number: _ _ _ _ _ _ _ _ Operating hours:	Date:
The Böcker lift was tested according to the maintenance schedule and the current rules and regulations	
O No defects found	
O Defects found were corrected.	
O The following defects were found but were not repaired: _____	
O The equipment must not be inspected again	O **The equipment must be inspected again**
O The equipment has passed safety test and can be taken into operation. O **The equipment must be taken out of service.**	Date Signature
Repeated inspection	
O **Defects corrected**	O **Defects not corrected**
O The equipment has passed safety test and can be taken into operation. O **The equipment must be taken out of service.**	Date Signature

Inspection by an authorised expert "Lift"	
Equipment number: _ _ _ _ _ _ _ _ Operating hours:	Date:
The Böcker lift was tested according to the maintenance schedule and the current rules and regulations	
O No defects found	
O Defects found were corrected.	
O The following defects were found but were not repaired: _____	
O The equipment must not be inspected again	O **The equipment must be inspected again**
O The equipment has passed safety test and can be taken into operation. O **The equipment must be taken out of service.**	Date Signature
Repeated inspection	
O **Defects corrected**	O **Defects not corrected**
O The equipment has passed safety test and can be taken into operation. O **The equipment must be taken out of service.**	Date Signature

Inspection by an authorised expert "Lift"	
Equipment number: _ _ _ _ _ _ _ _ Operating hours:	Date:
The Böcker lift was tested according to the maintenance schedule and the current rules and regulations	
O No defects found	
O Defects found were corrected.	
O The following defects were found but were not repaired: _____	
O The equipment must not be inspected again **inspected again**	O **The equipment must be**
O The equipment has passed safety test and can be taken into operation. O **The equipment must be taken out of service.**	Date Signature
Repeated inspection	
O **Defects corrected**	O **Defects not corrected**
O The equipment has passed safety test and can be taken into operation. O **The equipment must be taken out of service.**	Date Signature

Inspection by an authorised expert "Lift"	
Equipment number: _ _ _ _ _ _ _ _ Operating hours:	Date:
The Böcker lift was tested according to the maintenance schedule and the current rules and regulations	
O No defects found	
O Defects found were corrected.	
O The following defects were found but were not repaired: _____	
O The equipment must not be inspected again **inspected again**	O **The equipment must be**
O The equipment has passed safety test and can be taken into operation. O **The equipment must be taken out of service.**	Date Signature
Repeated inspection	
O **Defects corrected**	O **Defects not corrected**
O The equipment has passed safety test and can be taken into operation. O **The equipment must be taken out of service.**	Date Signature

Inspection by an authorised expert "Lift"	
Equipment number: _ _ _ _ _ _ _ _ Operating hours:	Date:
The Böcker lift was tested according to the maintenance schedule and the current rules and regulations	
O No defects found	
O Defects found were corrected.	
O The following defects were found but were not repaired: _____	
O The equipment must not be inspected again **inspected again**	O **The equipment must be**
O The equipment has passed safety test and can be taken into operation. O **The equipment must be taken out of service.**	Date Signature
Repeated inspection	
O **Defects corrected**	O **Defects not corrected**
O The equipment has passed safety test and can be taken into operation. O **The equipment must be taken out of service.**	Date Signature

Inspection by an authorised expert "Lift"	
Equipment number: _ _ _ _ _ _ _ _ Operating hours:	Date:
The Böcker lift was tested according to the maintenance schedule and the current rules and regulations	
O No defects found	
O Defects found were corrected.	
O The following defects were found but were not repaired: _____	
O The equipment must not be inspected again **inspected again**	O **The equipment must be**
O The equipment has passed safety test and can be taken into operation. O **The equipment must be taken out of service.**	Date Signature
Repeated inspection	
O **Defects corrected**	O **Defects not corrected**
O The equipment has passed safety test and can be taken into operation. O **The equipment must be taken out of service.**	Date Signature

Appendix VI Maintenance log

Maintenance "Lift"	
Equipment number: _ _ _ _ _ _ _ _ Operating hours:	Date:
The Böcker lift was maintained according to the maintenance schedule	
O Motor inspection compliant with manufacturer's instructions	
O Hydraulic fluid changed (oil used ……..	O Hydraulic oil filter changed
O Rail its cleaned and lubricated	O Lift lubricated
O The following repairs were performed: _____ _____	
O Checked for relevant retrofit tasks	O Outstanding retrofit actions completed
O Only Böcker original parts and lubricants used	
The maintenance was performed by: Name and address of company:	Date Signature

Maintenance "Lift"	
Equipment number: _ _ _ _ _ _ _ _ Operating hours:	Date:
The Böcker lift was maintained according to the maintenance schedule	
O Motor inspection compliant with manufacturer's instructions	
O Hydraulic fluid changed (oil used ……..	O Hydraulic oil filter changed
O Rail its cleaned and lubricated	O Lift lubricated
O The following repairs were performed: _____ _____	
O Checked for relevant retrofit tasks	O Outstanding retrofit actions completed
O Only Böcker original parts and lubricants used	
The maintenance was performed by: Name and address of company:	Date Signature

Maintenance "Lift"	
Equipment number: _ _ _ _ _ _ _ _ Operating hours:	Date:
The Böcker lift was maintained according to the maintenance schedule	
O Motor inspection compliant with manufacturer's instructions	
O Hydraulic fluid changed (oil used ……..	O Hydraulic oil filter changed
O Rail its cleaned and lubricated	O Lift lubricated
O The following repairs were performed: _____ _____	
O Checked for relevant retrofit tasks	O Outstanding retrofit actions completed
O Only Böcker original parts and lubricants used	
The maintenance was performed by: Name and address of company:	Date Signature

Maintenance "Lift"	
Equipment number: _ _ _ _ _ _ _ Operating hours:	Date:
The Böcker lift was maintained according to the maintenance schedule	
O Motor inspection compliant with manufacturer's instructions	
O Hydraulic fluid changed (oil used ……..	O Hydraulic oil filter changed
O Rail its cleaned and lubricated	O Lift lubricated
O The following repairs were performed: _____ _____	
O Checked for relevant retrofit tasks	O Outstanding retrofit actions completed
O Only Böcker original parts and lubricants used	
The maintenance was performed by: Name and address of company:	Date Signature

Maintenance "Lift"	
Equipment number: _ _ _ _ _ _ _ Operating hours:	Date:
The Böcker lift was maintained according to the maintenance schedule	
O Motor inspection compliant with manufacturer's instructions	
O Hydraulic fluid changed (oil used ……..	O Hydraulic oil filter changed
O Rail its cleaned and lubricated	O Lift lubricated
O The following repairs were performed: _____ _____	
O Checked for relevant retrofit tasks	O Outstanding retrofit actions completed
O Only Böcker original parts and lubricants used	
The maintenance was performed by: Name and address of company:	Date Signature

Maintenance "Lift"	
Equipment number: _ _ _ _ _ _ _ _ Operating hours:	Date:
The Böcker lift was maintained according to the maintenance schedule	
O Motor inspection compliant with manufacturer's instructions	
O Hydraulic fluid changed (oil used ……..	O Hydraulic oil filter changed
O Rail its cleaned and lubricated	O Lift lubricated
O The following repairs were performed: _____ _____	
O Checked for relevant retrofit tasks	O Outstanding retrofit actions completed
O Only Böcker original parts and lubricants used	
The maintenance was performed by: Name and address of company:	Date Signature

Maintenance "Lift"	
Equipment number: _ _ _ _ _ _ _ _ Operating hours:	Date:
The Böcker lift was maintained according to the maintenance schedule	
O Motor inspection compliant with manufacturer's instructions	
O Hydraulic fluid changed (oil used ……..	O Hydraulic oil filter changed
O Rail its cleaned and lubricated	O Lift lubricated
O The following repairs were performed: _____ _____	
O Checked for relevant retrofit tasks	O Outstanding retrofit actions completed
O Only Böcker original parts and lubricants used	
The maintenance was performed by: Name and address of company:	Date Signature

Maintenance "Lift"	
Equipment number: _ _ _ _ _ _ _ _ Operating hours:	Date:
The Böcker lift was maintained according to the maintenance schedule	
O Motor inspection compliant with manufacturer's instructions	
O Hydraulic fluid changed (oil used ……..	O Hydraulic oil filter changed
O Rail its cleaned and lubricated	O Lift lubricated
O The following repairs were performed: _____ _____	
O Checked for relevant retrofit tasks	O Outstanding retrofit actions completed
O Only Böcker original parts and lubricants used	
The maintenance was performed by: Name and address of company:	Date Signature

Maintenance "Lift"	
Equipment number: _ _ _ _ _ _ _ _ Operating hours:	Date:
The Böcker lift was maintained according to the maintenance schedule	
O Motor inspection compliant with manufacturer's instructions	
O Hydraulic fluid changed (oil used ……..	O Hydraulic oil filter changed
O Rail its cleaned and lubricated	O Lift lubricated
O The following repairs were performed: _____ _____	
O Checked for relevant retrofit tasks	O Outstanding retrofit actions completed
O Only Böcker original parts and lubricants used	
The maintenance was performed by: Name and address of company:	Date Signature

Maintenance "Lift"	
Equipment number: _ _ _ _ _ _ _ _ Operating hours:	Date:
The Böcker lift was maintained according to the maintenance schedule	
O Motor inspection compliant with manufacturer's instructions	
O Hydraulic fluid changed (oil used ……..	O Hydraulic oil filter changed
O Rail its cleaned and lubricated	O Lift lubricated
O The following repairs were performed: _____ _____	
O Checked for relevant retrofit tasks	O Outstanding retrofit actions completed
O Only Böcker original parts and lubricants used	
The maintenance was performed by: Name and address of company:	Date Signature

Maintenance "Lift"	
Equipment number: _ _ _ _ _ _ _ _ Operating hours:	Date:
The Böcker lift was maintained according to the maintenance schedule	
O Motor inspection compliant with manufacturer's instructions	
O Hydraulic fluid changed (oil used ……..	O Hydraulic oil filter changed
O Rail its cleaned and lubricated	O Lift lubricated
O The following repairs were performed: _____ _____	
O Checked for relevant retrofit tasks	O Outstanding retrofit actions completed
O Only Böcker original parts and lubricants used	
The maintenance was performed by: Name and address of company:	Date Signature

Maintenance "Lift"	
Equipment number: _ _ _ _ _ _ _ _ Operating hours:	Date:
The Böcker lift was maintained according to the maintenance schedule	
O Motor inspection compliant with manufacturer's instructions	
O Hydraulic fluid changed (oil used ……..	O Hydraulic oil filter changed
O Rail its cleaned and lubricated	O Lift lubricated
O The following repairs were performed: _____ _____	
O Checked for relevant retrofit tasks	O Outstanding retrofit actions completed
O Only Böcker original parts and lubricants used	
The maintenance was performed by: Name and address of company:	Date Signature

Maintenance "Lift"	
Equipment number: _ _ _ _ _ _ _ _ Operating hours:	Date:
The Böcker lift was maintained according to the maintenance schedule	
O Motor inspection compliant with manufacturer's instructions	
O Hydraulic fluid changed (oil used ……..	O Hydraulic oil filter changed
O Rail its cleaned and lubricated	O Lift lubricated
O The following repairs were performed: _____ _____	
O Checked for relevant retrofit tasks	O Outstanding retrofit actions completed
O Only Böcker original parts and lubricants used	
The maintenance was performed by: Name and address of company:	Date Signature

Steel wire replaced	
Equipment number: _ _ _ _ _ _ _ _ Operating hours:	Date:
O Cables for load winch replaced; Steel wire item number_ _ _ _ _ _ _ _ _	
O Cables for extension winch replaced; Steel wire item number _ _ _ _ _ _ _ _ _	
O Other steel wires replaced; Steel wire item number_ _ _ _ _ _ _ _	
O After replacing the steel wires, the Böcker lift was thoroughly inspected.	
O The equipment has passed safety test and can be taken into operation. O **The equipment must be taken out of service.**	Date Signature
Repeated inspection	
O **Defects corrected**	O **Defects not corrected**
O The equipment has passed safety test and can be taken into operation. O **The equipment must be taken out of service.**	Date Signature

Steel wire replaced	
Equipment number: _ _ _ _ _ _ _ _ Operating hours:	Date:
O Cables for load winch replaced; Steel wire item number_ _ _ _ _ _ _ _ _	
O Cables for extension winch replaced; Steel wire item number _ _ _ _ _ _ _ _ _	
O Other steel wires replaced; Steel wire item number_ _ _ _ _ _ _ _	
O After replacing the steel wires, the Böcker lift was thoroughly inspected.	
O The equipment has passed safety test and can be taken into operation. O **The equipment must be taken out of service.**	Date Signature
Repeated inspection	
O **Defects corrected**	O **Defects not corrected**
O The equipment has passed safety test and can be taken into operation. O **The equipment must be taken out of service.**	Date Signature

Steel wire replaced	
Equipment number: _ _ _ _ _ _ _ _ Operating hours:	Date:
O Cables for load winch replaced; Steel wire item number_ _ _ _ _ _ _ _ _	
O Cables for extension winch replaced; Steel wire item number _ _ _ _ _ _ _ _ _	
O Other steel wires replaced; Steel wire item number_ _ _ _ _ _ _ _	
_____	
_____	
O After replacing the steel wires, the Böcker lift was thoroughly inspected.	
O The equipment has passed safety test and can be taken into operation. O **The equipment must be taken out of service.**	Date Signature
Repeated inspection	
O **Defects corrected**	O **Defects not corrected**
O The equipment has passed safety test and can be taken into operation. O **The equipment must be taken out of service.**	Date Signature

Steel wire replaced	
Equipment number: _ _ _ _ _ _ _ _ Operating hours:	Date:
O Cables for load winch replaced; Steel wire item number_ _ _ _ _ _ _ _ _	
O Cables for extension winch replaced; Steel wire item number _ _ _ _ _ _ _ _ _	
O Other steel wires replaced; Steel wire item number_ _ _ _ _ _ _ _	
_____	
_____	
O After replacing the steel wires, the Böcker lift was thoroughly inspected.	
O The equipment has passed safety test and can be taken into operation. O **The equipment must be taken out of service.**	Date Signature
Repeated inspection	
O **Defects corrected**	O **Defects not corrected**
O The equipment has passed safety test and can be taken into operation. O **The equipment must be taken out of service.**	Date Signature

Steel wire replaced	
Equipment number: _ _ _ _ _ _ _ _ Operating hours:	Date:
O Cables for load winch replaced; Steel wire item number_ _ _ _ _ _ _ _ _	
O Cables for extension winch replaced; Steel wire item number _ _ _ _ _ _ _ _ _	
O Other steel wires replaced; Steel wire item number_ _ _ _ _ _ _ _	
_____	
_____	
O After replacing the steel wires, the Böcker lift was thoroughly inspected.	
O The equipment has passed safety test and can be taken into operation. O **The equipment must be taken out of service.**	Date Signature
Repeated inspection	
O **Defects corrected**	O **Defects not corrected**
O The equipment has passed safety test and can be taken into operation. O **The equipment must be taken out of service.**	Date Signature

Steel wire replaced	
Equipment number: _ _ _ _ _ _ _ _ Operating hours:	Date:
O Cables for load winch replaced; Steel wire item number_ _ _ _ _ _ _ _ _	
O Cables for extension winch replaced; Steel wire item number _ _ _ _ _ _ _ _ _	
O Other steel wires replaced; Steel wire item number_ _ _ _ _ _ _ _	
_____	
_____	
O After replacing the steel wires, the Böcker lift was thoroughly inspected.	
O The equipment has passed safety test and can be taken into operation. O **The equipment must be taken out of service.**	Date Signature
Repeated inspection	
O **Defects corrected**	O **Defects not corrected**
O The equipment has passed safety test and can be taken into operation. O **The equipment must be taken out of service.**	Date Signature

Steel wire replaced	
Equipment number: _ _ _ _ _ _ _ _ Operating hours:	Date:
O Cables for load winch replaced; Steel wire item number_ _ _ _ _ _ _ _ _	
O Cables for extension winch replaced; Steel wire item number _ _ _ _ _ _ _ _ _	
O Other steel wires replaced; Steel wire item number_ _ _ _ _ _ _ _	
O After replacing the steel wires, the Böcker lift was thoroughly inspected.	
O The equipment has passed safety test and can be taken into operation. O **The equipment must be taken out of service.**	Date Signature
Repeated inspection	
O **Defects corrected**	O **Defects not corrected**
O The equipment has passed safety test and can be taken into operation. O **The equipment must be taken out of service.**	Date Signature

Steel wire replaced	
Equipment number: _ _ _ _ _ _ _ _ _ Operating hours:	Date:
O Cables for load winch replaced; Steel wire item number_ _ _ _ _ _ _ _ _	
O Cables for extension winch replaced; Steel wire item number _ _ _ _ _ _ _ _ _	
O Other steel wires replaced; Steel wire item number_ _ _ _ _ _ _ _	
O After replacing the steel wires, the Böcker lift was thoroughly inspected.	
O The equipment has passed safety test and can be taken into operation. O **The equipment must be taken out of service.**	Date Signature
Repeated inspection	
O **Defects corrected**	O **Defects not corrected**
O The equipment has passed safety test and can be taken into operation. O **The equipment must be taken out of service.**	Date Signature

Other types of repair	
Equipment number: _ _ _ _ _ _ _ _ _ Operating hours: Date:	
_____	
_____	
O After the repair, the Böcker lift was thoroughly inspected.	
O The equipment has passed safety test and can be taken into operation. O **The equipment must be taken out of service.**	Date Signature
Repeated inspection	
O **Defects corrected** O **Defects not corrected**	
O The equipment has passed safety test and can be taken into operation. O **The equipment must be taken out of service.**	Date Signature

Other types of repair	
Equipment number: _ _ _ _ _ _ _ _ _ Operating hours: Date:	
_____	
_____	
O After the repair, the Böcker lift was thoroughly inspected.	
O The equipment has passed safety test and can be taken into operation. O **The equipment must be taken out of service.**	Date Signature
Repeated inspection	
O **Defects corrected** O **Defects not corrected**	
O The equipment has passed safety test and can be taken into operation. O **The equipment must be taken out of service.**	Date Signature

Other types of repair	
Equipment number: _ _ _ _ _ _ _ Operating hours:	Date:
O After the repair, the Böcker lift was thoroughly inspected.	
O The equipment has passed safety test and can be taken into operation. O **The equipment must be taken out of service.**	Date Signature
Repeated inspection	
O **Defects corrected**	O **Defects not corrected**
O The equipment has passed safety test and can be taken into operation. O **The equipment must be taken out of service.**	Date Signature

Other types of repair	
Equipment number: _ _ _ _ _ _ _ Operating hours:	Date:
O After the repair, the Böcker lift was thoroughly inspected.	
O The equipment has passed safety test and can be taken into operation. O **The equipment must be taken out of service.**	Date Signature
Repeated inspection	
O **Defects corrected**	O **Defects not corrected**
O The equipment has passed safety test and can be taken into operation. O **The equipment must be taken out of service.**	Date Signature

Other types of repair	
Equipment number: _ _ _ _ _ _ _ Operating hours:	Date:
O After the repair, the Böcker lift was thoroughly inspected.	
O The equipment has passed safety test and can be taken into operation. O **The equipment must be taken out of service.**	Date Signature
Repeated inspection	
O **Defects corrected**	O **Defects not corrected**
O The equipment has passed safety test and can be taken into operation. O **The equipment must be taken out of service.**	Date Signature

Other types of repair	
Equipment number: _ _ _ _ _ _ _ Operating hours:	Date:
O After the repair, the Böcker lift was thoroughly inspected.	
O The equipment has passed safety test and can be taken into operation. O **The equipment must be taken out of service.**	Date Signature
Repeated inspection	
O **Defects corrected**	O **Defects not corrected**
O The equipment has passed safety test and can be taken into operation. O **The equipment must be taken out of service.**	Date Signature

Index