



Operating Instructions

- Lifting Accessory Type LH -



Original Operating Instructions

Lifting Accessory

Type LH



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Operating Instructions

- Lifting Accessory Type LH -



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

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History

1.0	28/01/2020	Superordinate operating manual first created	BKL, cesitec GmbH, Bochumer Str. 217, 45886 Gelsenkirchen, Tel.: 0209 15519 104
Version	Date	Reason for/scope of the revision	Person responsible

Operating Instructions

- Lifting Accessory Type LH -



Table of contents

	Page
1 Basic information.....	4
1.1 Information on the operating instructions.....	4
1.2 Abbreviations, symbols and technical terms.....	4
1.3 Conformity / standards and guidelines.....	5
1.4 Warranty and liability.....	5
2 Safety at the machine	5
2.1 Definitions.....	5
2.2 Warnings, symbols and markings.....	6
2.3 Working safely with the machine	7
3 Description of the Lifting Accessory type LH.....	11
3.1 Intended use.....	11
3.2 Improper use	12
3.3 Structure Lifting Accessory type LH.....	12
3.4 Technical data and load tables.....	13
3.5 Calculation.....	13
4 Setup and commissioning.....	14
5 Operation.....	14
5.1 Safety information.....	14
5.2 Operating the Lifting Accessory with a forklift truck.....	15
5.3 Operating the Lifting Accessory with a crane (only type LH-I)	16
6 Troubleshooting and fault elimination.....	16
7 Maintenance.....	17
7.1 Safety.....	17
7.2 Servicing.....	17
7.3 Repair.....	18
8 Decommissioning, disassembly and disposal	18
9 Spare parts list.....	18
10 Annex	19
10.1 Declaration of conformity	19

Operating Instructions

- Lifting Accessory Type LH -



1 Basic information

1.1 Information on the operating instructions

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

1.2 Abbreviations, symbols and technical terms



Note

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

The following abbreviations are used in these operating instructions:

Abbreviation	Meaning
BAUER	BAUER Südlohn GmbH
LAM	Load handling device, Lifting Accessory
PPE	Personal protective equipment

The following layout elements are used in these operating instructions:

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

Operating Instructions

- Lifting Accessory Type LH -



Warnings are shown as follows in these operating instructions:

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

Warning
symbol
opt. PPE
symbol(s)

SIGNAL WORD!

Nature, source and cause of a danger

Consequences of non-compliance

➤ Measures to prevent the danger; prohibitions

1.3 Conformity / standards and guidelines

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

1.4 Warranty and liability



Note

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

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

2 Safety at the machine



Note

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

2.1 Definitions

2.1.1 Warning

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

2.1.2 Personal protective equipment (PPE)

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

Operating Instructions

- Lifting Accessory Type LH -



2.2 Warnings, symbols and markings

2.2.1 Understand warnings



⚠ DANGER!

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



⚠ WARNING!

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



⚠ CAUTION!

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



ATTENTION

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

2.2.2 Understand warning symbols

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



General warning of danger!



Warning: Suspended load!



Warning: Hand injuries!

2.2.3 Personal protective equipment symbols

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

Operating Instructions

- Lifting Accessory Type LH -



Wear helmet!



Use hand protection!



Wear safety shoes!



Read the operating manual!

2.3 Working safely with the machine

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

2.3.1 Basic warnings and safety notes

Information for the operator

This operating manual must be stored within easy reach and readily available at the operating site of the Lifting Accessory.

Local accident prevention regulations must be observed during all work on the LAM. Furthermore, observe the DGUV provisions, in particular DGUV regulation 100-500, chapter 2.8 (previously BGR 500), and DGUV information (per the latest engineering standards), or the nationally applicable regulations.

Personnel working with the LAM must be older than 18 years of age and familiar with the functionality and application of the LAM, as well as the dangers arising from it.

The respective personnel must have received instruction on the task, and must be familiar with the operating manual, as well as any further applicable internal instructions. They must possess the following knowledge and skills in particular:

- Ability to assess the weight of the load,
- Ability to assess the location of the centre of gravity of loads,
- Knowledge of the lifting gear available,
- Load bearing capacity of the lifting gear, depending on the number of lines, type of attachment and angle of inclination,

Operating Instructions

- Lifting Accessory Type LH -



- Selection of the correct lifting gear,
- Protection against unintentional unhooking,
- Conduct during attachment, lifting and transportation,
- Signals and gestures,
- Avoiding damage to lifting gear,
- Conduct when lowering and releasing lifting gear,
- Storage of lifting gear.

The operator is responsible for sufficient lighting in the working and transport areas!

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



Note

The LAM is designed for max. 16000 load changes (DIN EN 13155-E, chap. 1). Upon reaching the maximum number of load changes, the LAM must be put out of operation and scrapped, or - if possible - fully overhauled.

Information for the user

Before use, check the LAM for damage, e.g. for deformations, cracks, breakage, incomplete labelling.

The specified load bearing capacity must not be exceeded, see chapter 3.4 *Technical data*.

Select the load bearing capacity and attachment type of all lifting accessories and accessory parts in accordance with the technical data for the LAM.

Lifting and load handling devices must be stored such that they are protected from weathering and aggressive substances, if safety may be impaired by these influences.

LAM and lifting gear with mechanical damage or deformations must not be further used. For permissible cross section reductions refer to DGUV regulation 100-500, chapter 2.8, or the national regulations.

LAM is only intended for vertical lifting, diagonal pulling is prohibited.

When moving the LAM, prevent oscillations or impacts with objects or building parts.

Adjust the movement of loads to the weather conditions!

Lifting and transporting loads with particular hazards

Refer also in this regard to DGUV rule 100-500, chapter 2.8, no. 3.10 (D), or the national regulations.

Hazardous substances are substances and items that may pose danger to persons, animals or the environment in case of accidents or with incorrect handling during transport. These may be:

- Explosive substances and items; items loaded with explosive substances; igniting devices, fireworks and other goods,
- Compressed, liquefied and pressurised gases,
- Flammable liquids,

Operating Instructions

- Lifting Accessory Type LH -



- Flammable solids; self-igniting substances; substances that produce flammable gases in contact with water,
- Igniting (oxidising) substances; organic peroxide,
- Toxic, repellent and contagious substances,
- Radioactive substances,
- Caustic substances,
- Other hazardous substances and items.

Note the following in this regard:

- ⇒ Use load-bearing equipment that will not cause damage to packaging when lifting, transporting or setting down, e.g. when transporting gas bottles, use suitable loading drawers or special transport frames.
- ⇒ In case of hazardous goods with damaged packaging, only pick these up with load handling devices that will prevent any leakage or escape.
- ⇒ Do not pick up hazardous goods with load handling devices that only hold the load through magnetic, friction or suction forces.

DANGER!



Falling or uncontrolled parts during lifting, transportation and lowering.

Risk of fatal injury and various injury hazards!

- Persons are forbidden from dwelling under the suspended load or in the hazard area of the load!
- Transporting loads over the top of persons is prohibited.
- Observe the information about the intended attachment points!
- Make sure the LAM is securely attached! Observe the centre of mass!
- Only use approved and undamaged lifting equipment with sufficient load bearing capacity!
- Adjust the movement of loads to the weather conditions!

WARNING!



Unauthorised alterations of the Lifting Accessory can endanger safe operation!

Risk of death and various injury hazards!

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

Operating Instructions

- Lifting Accessory Type LH -



⚠ WARNING!

A failure to wear personal protective equipment.

Injuries due to crushing and bumping in case of carelessness and unexpected situations!

- Wear PPE (protective gloves, safety footwear and hard hat).

2.3.2

Recognise safety-related protective equipment

On the basis of the risk assessment of the LAM, a safety device for preventing the forklift forks from slipping is integrated in the equipment, to ensure safe work with the Lifting Accessory.



⚠ DANGER!

If the Lifting Accessory sits unsecured on the forklift forks, this will result in the Lifting Accessory / load toppling!

Various risks of injury due to a toppling Lifting Accessory / load.

- When transporting / using the Lifting Accessory, always drive the forklift forks into the fork pockets and secure with the clamping lever to prevent the LAM from slipping off the forks.



Fig. 2-1: Protection against slipping on the Lifting Accessory

2.3.3

Machine marking



Note

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

The declaration of conformity and the operating manual are restricted to the Lifting Accessory supplied. A crane or lifting system is not part of this declaration of conformity.

Operating Instructions

- Lifting Accessory Type LH -

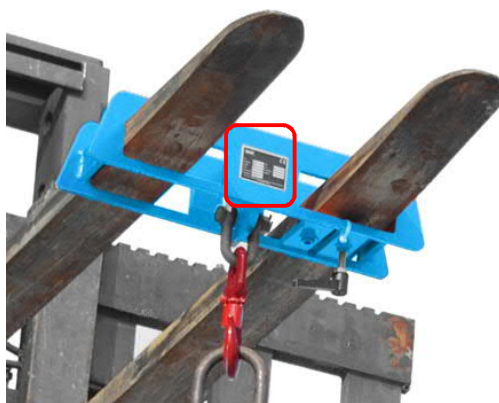


Fig. 2-2: Position of type plate type LH

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

Fig. 2-3: Lifting Accessory type plate

3 Description of the Lifting Accessory type LH

3.1 Intended use

The Lifting Accessory serves exclusively as interchangeable equipment for the use of a forklift truck in a similar way to a crane. This takes place with the aid of lifting gear suitable for variable attachment, which lifts and transports loads with a forklift truck as a lifting and transport vehicle. The Lifting Accessory type LH-I is also designed for use on a crane.

The Lifting Accessory is to be used exclusively within the performance limits listed in section 3.4 *Technical data*.

Operating Instructions

- Lifting Accessory Type LH -

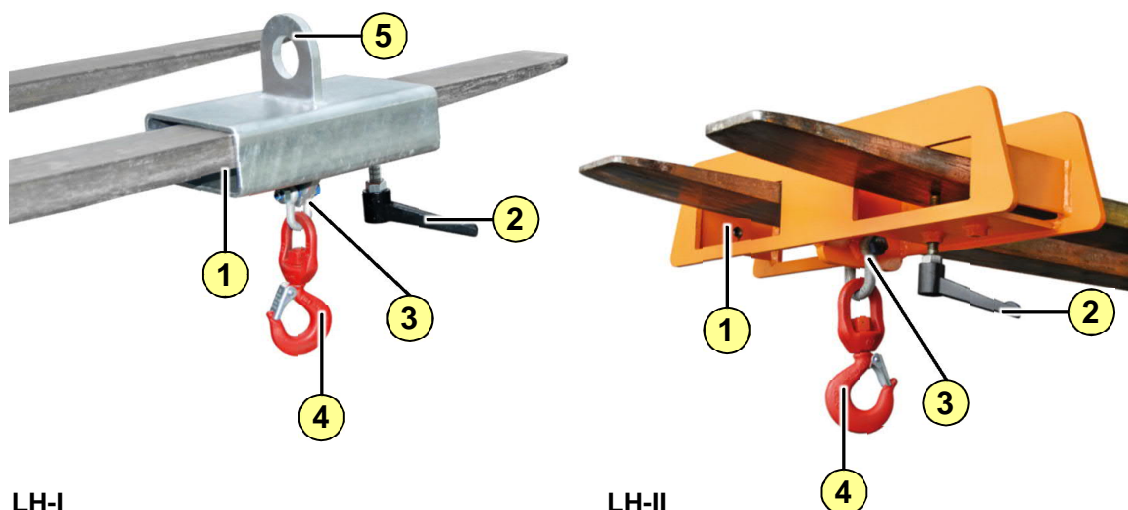


3.2 Improper use

Improper use includes in particular:

- Any use other than the use of the machine described in chapter 3.1 *Intended use* and further sections of these operating instructions without written permission of the manufacturer.
- Transporting persons.
- Leaving the load in the raised condition.
- Use, installation, operation, servicing or repair other than as described.
- Work performed by unqualified personnel.
- Use of unapproved, inappropriate accessories.
- Use of parts other than the original spare parts or accessories.
- Failure to follow safety and operating instructions, occupational safety and accident prevention regulations or applicable statutory regulations.
- Failure to eliminate faults in a timely fashion that could negatively impact safety.
- Lifting other loads or loads with different properties.
- Lifting the load in a manner or way that differs from the specifications.
- Using the LAM on construction sites.
- Operating in an environment with a special atmosphere (high humidity, explosive, briny, corrosive, alkaline, etc.).

3.3 Structure Lifting Accessory type LH



LH-I

LH-II

Fig. 3-1: Assemblies Lifting Accessory type LH

Item	Description
1	Fork pocket
2	Clamping lever "Protection against slipping"
3	Shackle
4	Swivel hook
5	Crane lug, only with LH-I

Operating Instructions

- Lifting Accessory Type LH -



3.4 Technical data and load tables



MATERIAL DAMAGE!

Exceeding the load-bearing capacity of the forklift truck

Damage to the forklift truck due to overload.

➤ Specify the load-bearing capacity of the forklift truck on the basis of the LAM load table!

3.4.1 Technical data type LH-I

Dimensions	Type	LH-I 1.0	LH-I 1.5	LH-I 2.0	LH-I 2.5	LH-I 3.0
Length [mm]		300	300	300	300	300
Width [mm]		180	180	180	180	180
Height [mm]		390	417	419	454	465
Weight						
Tare weight, painted / galvanised [kg]		9/10	9/10	10/11	10/11	11/12
Load-bearing capacity [kg]		1000	1500	2000	2500	3000
Permissible number of load changes		Max. 16,0000				
Environmental conditions						
Permissible ambient temperature		-20°C to max. 40°C				

3.4.2 Technical data type LH-II

Dimensions	Type	LH-II 1.5	LH-II 2.5	LH-II 5.0	LH-II 7.5	
Length [mm]		170	170	180	180	
Width [mm]		739	739	739	739	
Height [mm]		383	421	489	555	
Weight						
Tare weight, painted / galvanised [kg]		21/23	22/24	31/34	35/38	
Load-bearing capacity [kg]		1500	2500	5000	7500	
Permissible number of load changes		Max. 16,0000				
Environmental conditions						
Permissible ambient temperature		-20°C to max. 40°C				

3.5 Calculation

The design is in accordance with EN 13155: "Double load without plastic deformation"

Operating Instructions

- Lifting Accessory Type LH -



4 Setup and commissioning

The Lifting Accessory is delivered in completely assembled form, is ready for operation without special commissioning and can be moved with the specified lifting equipment (forklift).

Before initial use, the operator checks whether the Lifting Accessory corresponds to the model ordered and that the scope of delivery is complete.

A qualified person must perform an inspection before first commissioning. Only perform commissioning once any detected defects have been eliminated.

5 Operation

5.1 Safety information



⚠ DANGER!

Falling or uncontrolled parts during lifting, transportation and lowering. Transporting people on the load / with the LAM.

Risk of fatal injury and various injury hazards!

- Persons are forbidden from dwelling under the suspended load.
- Moving loads over the top of persons is prohibited.
- It is prohibited to transport persons on the load / with the LAM.
- Ensure that persons maintain a sufficient safe distance.
- Only lift and transport with direct visual monitoring. If unobstructed visibility is not possible, be guided by a second person located outside the danger zone.



⚠ DANGER!

Tilting the load, toppling of the forklift truck due to incorrect loading.

Risk of death and danger of crushing!

- Observe the maximum permissible loads for each of the positions on the LAM.
- Observe the specifications for loading the forklift truck.
- Observe the centre of gravity of the forklift-load-combination.
- Move the forklift truck/load slowly to prevent any major oscillating movements.
- Observe the information about the intended attachment points on the load!
- Observe the weight and centre of gravity of the load!



⚠ WARNING!

Load / parts of the load may fall due to the use of unapproved, unsuitable or defective lifting equipment!

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

- Only use approved, suitable and undamaged lifting devices and lifting gear.
- Ensure sufficient load-bearing capacity of the lifting equipment.

Operating Instructions

- Lifting Accessory Type LH -



5.2 Operating the Lifting Accessory with a forklift truck

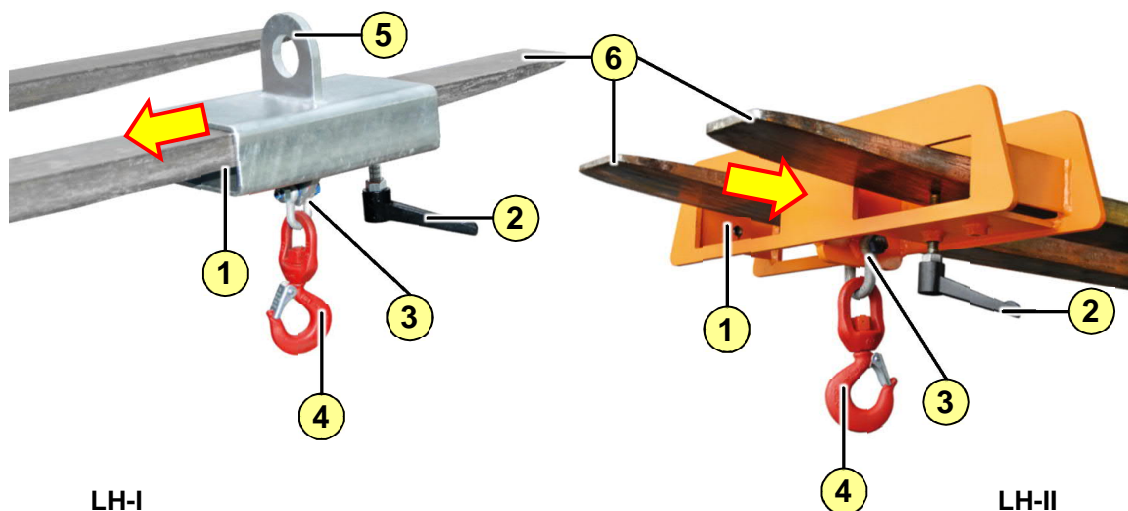


Fig. 5-1: Using Lifting Accessory

- Align the mast of the forklift truck vertically.
- Adjust forklift forks (6) to match the distance between the fork pockets (1) (only with LH-II).
- Slide the Lifting Accessory onto the forklift forks as far as possible up to the mast.
- Tighten the clamping lever (2) up to the forklift fork to prevent the Lifting Accessory from slipping.



Fig. 5-2: Shackle for the swivel hook

- Check that the nut (7) is screwed onto the bolt (8) and secured with the split pin (6).
- Lift the load hook with the mast of the forklift truck and drive to the location of use.
- Attach the load to the swivel hook (4). When doing so, consider the maximum load-bearing capacity of the Lifting Accessory and the forklift truck.
- Raise the mast and slowly move the Lifting Accessory into the desired position, in accordance with the safety instructions above.
- Lower the load, open the swivel hook (4) and unhook the load.
- After using the Lifting Accessory drive it back to the set-down place.
- Release the clamping lever (2).
- Lower the mast.
- Drive the forklift backwards until the fork pockets (1) release the forks.

Operating Instructions

- Lifting Accessory Type LH -



5.3 Operating the Lifting Accessory with a crane (only type LH-I)

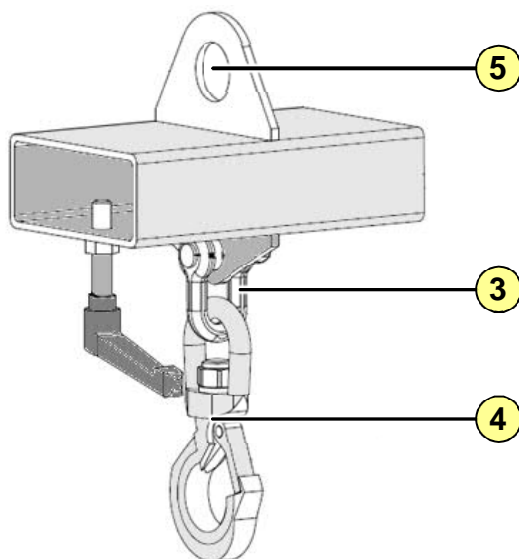


Fig. 5-3: Using Lifting Accessory type LH-I

- Attach the crane lifting equipment to the crane lug (5) with the hook lock.



Fig. 5-4: Shackle for the swivel hook

- Check that the nut (7) is screwed onto the bolt (8) and secured with the split pin (6).
- Drive load hook by crane to the location of use.
- Attach the load to the swivel hook (4). When doing so, consider the maximum load-bearing capacity of the Lifting Accessory and the crane.
- Raise the load and slowly move to the desired position, in accordance with the safety instructions above.
- Lower the load, open the swivel hook (4) and unhook the load.
- After using the Lifting Accessory drive it back to the set-down place and lower it.
- Remove the crane lifting gear from the crane lug (5).

6 Troubleshooting and fault elimination

After unusual incidents such as an overload, the Lifting Accessory must be visually inspected by a qualified person, even outside of the specified inspection periods.

Operating Instructions

- Lifting Accessory Type LH -



The Lifting Accessory must be checked for mechanical damage and deformations, and the supervisor must be informed if applicable.

Deformed parts may only be repaired after consultation with the manufacturer.

7 Maintenance

7.1 Safety



WARNING!

Servicing and repair work performed improperly lead to reduced load-bearing capacity and malfunctions.

Various risks of injury!

- Have maintenance and repair work performed only by authorised personnel.
- The specifications of the manufacturer must be observed with purchased components.
- If components have been removed, ensure correct assembly, reattach all fasteners and observe bolt tightening torques.

7.2 Servicing

The Lifting Accessory must be checked by an expert for good condition, function, completeness, deformation, wear, damage and cracks as a minimum:

- Before first commissioning
- At least yearly
- After a repair or renewed assembly

The results must be documented in an inspection report.

7.2.1 Maintenance plan and work (operator)

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

Inspection and maintenance checklist

Frequency	Object	Activity
Daily	Complete Lifting Accessory	Check for wear and defects Verify proper function
Daily	Clamping lever	Check for presence, completeness and defects
Monthly	Complete Lifting Accessory	Check for wear, permanent deformation, cracks and corrosion that negatively impacts the function or load-bearing capacity

Operating Instructions

- Lifting Accessory Type LH -



7.2.2 Maintenance plan and work (specialist personnel)

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

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

*All inspections must be documented. Lifting Accessory with identified defects must be decommissioned immediately.

7.3 Repair

Repairs of the Lifting Accessory must be performed exclusively by the manufacturer or authorities commissioned by it.

Only original spare parts must be used.

8 Decommissioning, disassembly and disposal

No special requirements on decommissioning, disassembly and disposal exist.

9 Spare parts list



Ordering spare parts:

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

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

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

Operating Instructions

- Lifting Accessory Type LH -



10 Annex

10.1 Declaration of conformity

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

EC Machinery Directive 2006/42/EC, Annex II A

We declare that the Lifting Accessories named/described below have been designed, tested and found to comply with the relevant sections of the Directive referenced above. These units comply with all essential health and safety requirements of the Directive.

Name of the Manufacturer or his Authorised Representative in the EU:

Name: Bauer GmbH
Street: Eichendorffstraße 62
Place: D-46354 Südlohn
Telephone: +49 2862 709 -0

Identification of the Lifting Accessory:

Type/model: LH-I, LH-II
Serial number: Please refer to the order
Function: The Lifting Accessory serves as interchangeable equipment for the use of a forklift truck in a similar way to a crane.
Load-bearing capacity: See load capacity table on the LAM
Year of construction: 2021 and thereafter

Other Directives applied or referenced:

- none

Harmonised Standards applied:

- EN ISO 12100:2011 Safety of machinery - General principles for design -
- DIN EN 614-1:2009 Safety of machinery - Ergonomic design principles -
- DIN EN 1005-1:2009 Safety of machinery - Human physical performance -
- DIN EN 13155 Cranes - Safety - Non-fixed load-carrying equipment

We confirm that the technical files for this machinery were prepared in accordance with Annex VII, part A of the Directive and will be made available to the market surveillance authorities on request.

This Declaration of Conformity will become null and void if a Lifting Accessory is modified without our consent.

Name/Function of Signatory:

Heinz Laing
Authorised Signatory

Place and date of issue

Südlohn, 05 October 2021:

Signed by:

On behalf of: Bauer GmbH

