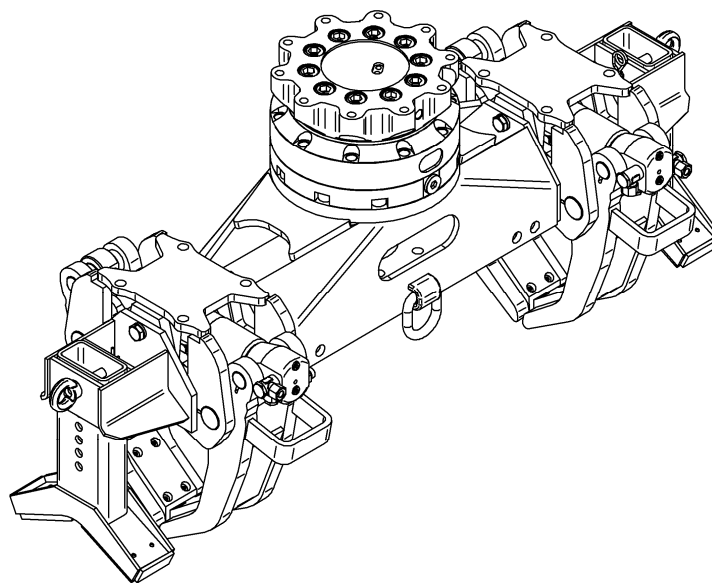


Bedienungsanleitung für Mastenstellgerät /
Operating Instructions for Pole Grab /
Mode d'Emploi pour Pince pour l'Erection de Tuyau

H30C100020SK

H30C100028SK

H30C100031SK



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Herausgeber der Originalbetriebsanleitung und Hersteller des Anbaugerätes:

Editor of the original operating instructions and manufacturer of the attachment:

Éditeur du mode d'emploi original et fabricant d'outil est:

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* Die Originalbetriebsanleitung, für die der Hersteller die Verantwortung übernimmt, ist die Sprachfassung Deutsch. Alle andere Sprachfassungen sind Übersetzungen der Originalbetriebsanleitung.

* The Original Operating Instructions, for which the manufacturer accepts responsibility, is in the language German. All other languages are a translation of the original operating instructions.


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Typenschild / Type plate / Plaque d'identification

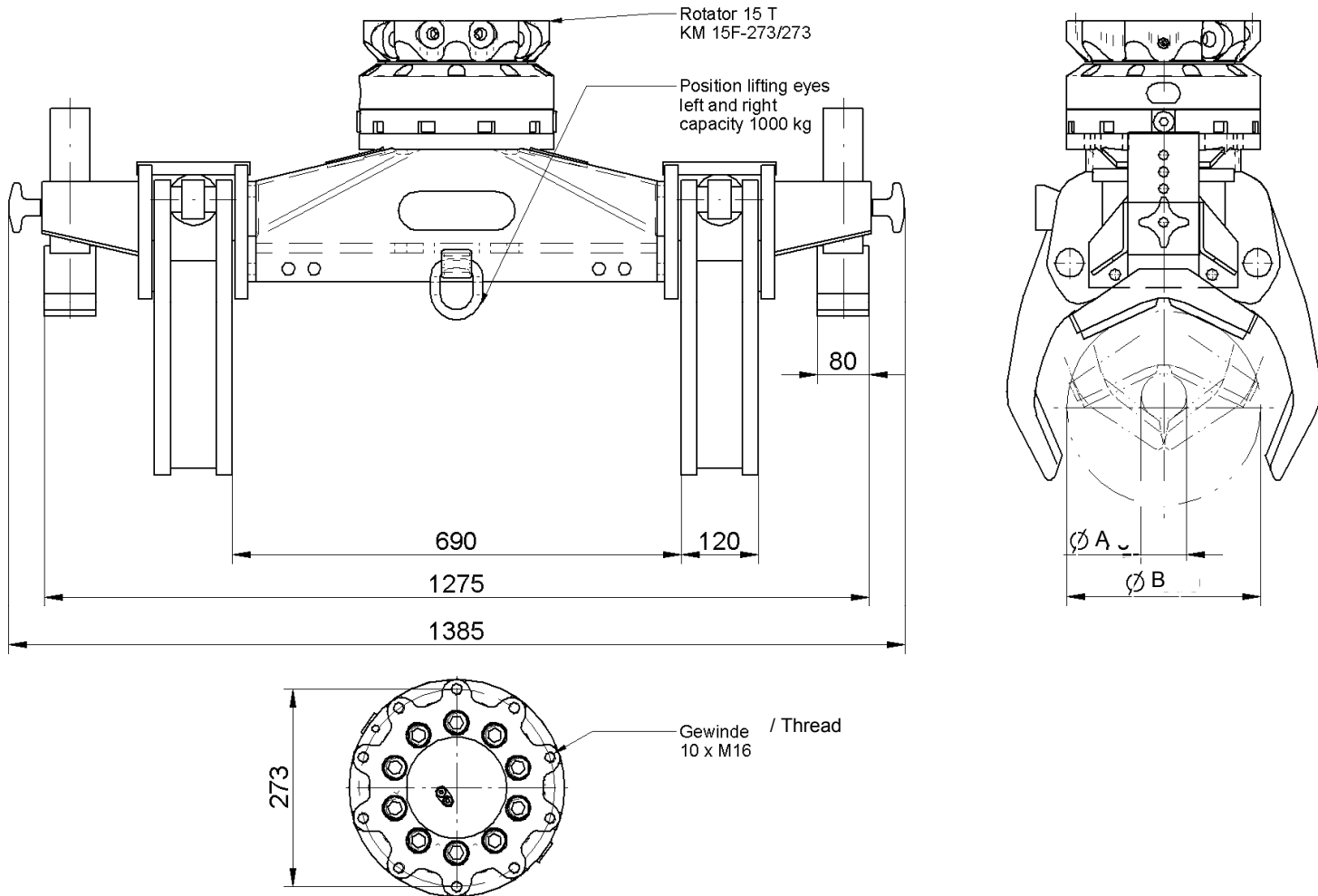
Das Typenschild auf dem Anbaugerät muss immer deutlich lesbar sein. Das Typenschild wie unten abgebildet oder ähnlich ist auf dem Anbaugerät befestigt:

The type plate on the attachment must be clearly legible at all times. The type plate pictured below or similar is fastened onto the attachment:

La plaque signalétique de l'appareil isolé doit toujours être bien lisible. La plaque signalétique comme représentée au-dessous ou semblable est fixée sur l'appareil isolé:

KINSHOFER crane and excavator attachments			 
Kinshofer GmbH Raiffeisenstr. 12 83607 Holzkirchen	+49 (0)8021-88 99 0 Made in Germany Year	www.kinshofer.com info@kinshofer.com	
Type	S/N		
Capacity Volume Weight	Pressure <input type="checkbox"/>  min. max.	Oil flow <input type="checkbox"/>  min. max.	

Technische Daten / Technical Data / Données Techniques



Typ KM 930	Greifbereich Arm opening range Fourchette de prise		Gewicht mit Drehmotor Weight w/ rotator Poids avec rotator
	mm		
Artikelnr. Article no.	min. A	max. B	kg
H30C100020SK	ø 70	ø 300	280
H30C100028SK	ø 70	ø 400	295
H30C100031SK*	ø 85	ø 400	280

*Drehmotor nicht in Lieferumfang / Rotator not included

Tragfähigkeit Capacity Capacité	Betriebsdruck Operating pressure Pression de service	Schließkraft Closing force Force de fermeture	Pumpenförderleistung Pump capacity Débit à la pompe	Dienstgewicht Operating weight of excavator PTR
kg	bar	kN	l / min	t
1000	320	36	25 - 7	max. 12

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1. General information

These operating instructions apply to products manufactured by **KINSHOFER GmbH**. They provide mounting instructions, technical information such as max. capacities and permitted operating pressure, and maintenance requirements.

Read these operating instructions carefully and act accordingly!



Service manual and spare parts catalogue

For repair procedures, there is a service manual available upon request for Premium Line products. A spare parts catalogue can be ordered for every product.

Contact us for any inquiries. Find the phone / fax number as well as e-mail / Internet address at the end of these operating instructions.

For reclamations or inquiries, please state the serial number. The serial number can be found on the type plate, stamped on the attachment, on the packing slip, invoice and **on the declaration of conformity**. Information about the position of the type plate and the stamped-on serial number can be found on the beginning pages of these instructions.

1.1 Safety instructions:



NOTICE

This operating instructions manual is only valid in combination with the separate sheet „**Safety Instructions for Kinshofer Products**“, which is delivered with every product.

Disregarding the operating and safety instructions may result in downtimes and the warranty becoming void



In case of loss or misplacement of the sheet „**Safety Instructions for Kinshofer Products**“, it can be received from Kinshofer upon request. Please order part number 194066092 (in English) free of charge and on behalf of your own safety.



WARNING

If the Kinshofer product is not properly installed, operated, and maintained, misuse or the product and/or carried load falling down could cause serious injuries or death.

- **Installation, operation, and maintenance** of the product may only be carried out by trained and experienced personnel
- These personnel have read and understood all operating and safety instructions for the
 - Kinshofer product as described in this document as well as the sheet „**Safety Instructions for Kinshofer Products**“.
 - carrier machine and for other components, as stated in their corresponding documents
- **Do not operate by hand.**
- **Do not operate above persons.**
- **Do not transport persons.**

1.2 Statutory safety and accident prevention:

The following ordinances and regulations apply:

EC directives

- EC Directive Machines 2006/42/EC
- DIN EN 474 Earth-moving machinery - Safety
- DIN EN ISO 4413 Hydraulic fluid power – General rules
- DIN EN ISO 12100 Safety of machinery – General principles for design
- EN 13155 Cranes – Non-fixed load lifting attachments, including
 - 5.1.1.1(2) Regulations for structural testing

Safety and health rules at work – BGR (Germany)

- BGR A1 Basic principle of prevention
- BGR 500 Operation of work equipment
- BGR 137 Handling of hydraulic liquids
- BGI 610 Safe operation of truck cranes
- BGV D6 UVV Crane - Accident prevention regulations for cranes, including
 - §30 section 9: The operator is not allowed to transport loads above people.
 - §36 The transport of persons is prohibited.

Safety and health regulations for your country

1.3 Warranty and liability

All products and services are made exclusively according to the **General terms and conditions** (AGB). Any other arrangements must be proposed in writing and be confirmed by the manufacturer.

The General Terms and Conditions are handed over to the customer along with the the delivery slip and the invoice.

No warranty or liability claims will be assumed for personal and property damages if the limitations under point 9.6 in Terms and Conditions are not observed.

2. Operative Conditions

The pole grab is intended for use with a lorry-mounted loading crane.

It serves for lifting, up righting and for setting straight poles.

For operation, the device is subject to environmental conditions customary for the operation of construction machines.

The device is restricted to fresh-water applications and not suitable for use in salt-water environments.



Caution!

All other applications are to be considered as non-specified applications.

The damage and danger resulting therefrom are the sole responsibility of the owner/operator.

3. Installation instructions

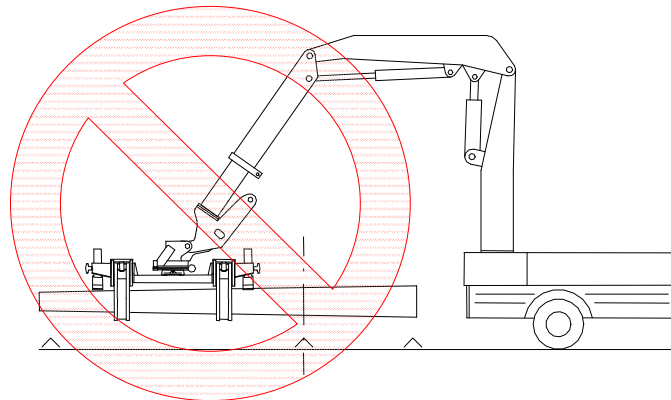
3.1 Operation of the device

Lorry cranes are constructed for hoisting loads. They are not designed for taking up larger torsional moments.

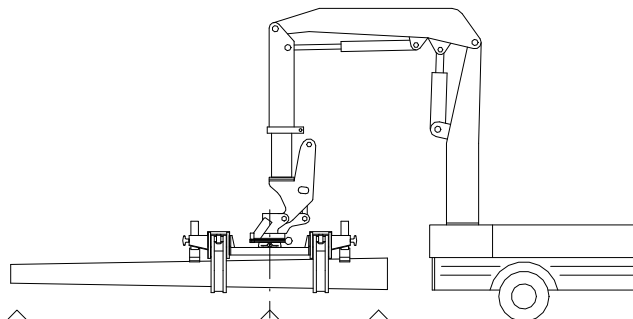
As pipes represent an immense lever, moments can be generated in connection with the large hoisting force of the crane on improper operation, which can result in the damage or destruction of the crane or pipe gripper.

No danger exists if the following 3 rules are observed:

- 1.) Pick up poles exactly at the centre of gravity.



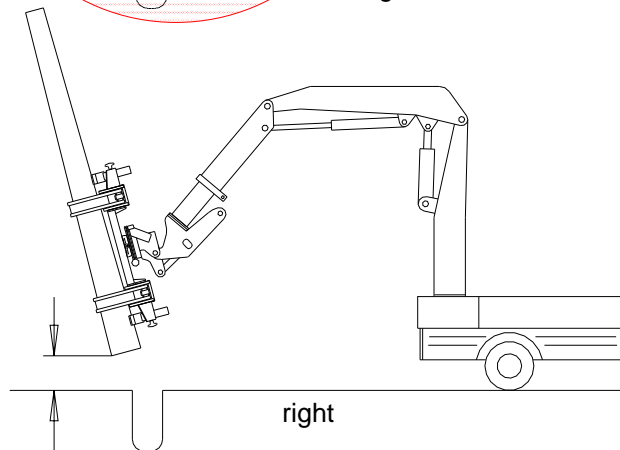
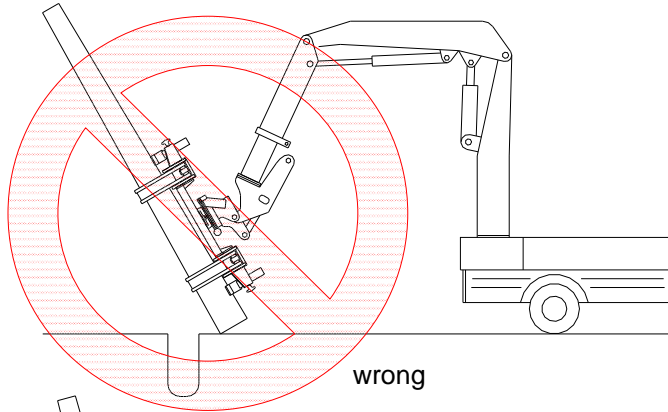
Wrong: Picking up outside the centre of gravity



Right: Picking up at the centre of gravity

- 2.) Poles are not to come in contact with other objects (ground, vehicles, trees, etc.) during the motion of the crane

The pole must be set into the hole when perpendicular without coming in contact with the ground.



- 3.) It is beneficial to grip the poles somewhat above the centre of gravity and to position it in such a manner before hoisting so that the pole erection device remains in the vicinity of the ground.

3.2 Installation information

The pole grab may only be installed and removed by trained personnel.

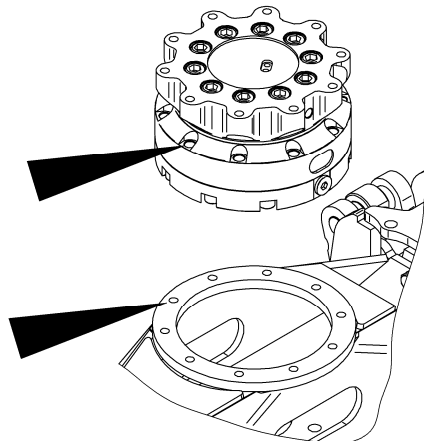
Observe the permissible total weight of the vehicle (vehicle registration papers) when installing.

The pole grab may only be attached to suitable installation units.

3.2.1 Mount the Rotator with the flange connection to the pole grab



Before mounting the rotator, all paint is to be removed from the contact points.



Place pole grab on an appropriate supporting surface.

Clean the flange surfaces on the motor and the gripper as well as the hydraulic fittings.

Install the rotator (10) in the connecting piece (1) and fix with six security screws M16x60 and nuts. (see page 9)



The pole erection device may only be mounted to suitable torque motors.

Alternations on the support member are not permitted.



Note:

Clean hydraulic fittings.

The hoses for "opening" and "closing" coming from the torque motor are to be connected to the specified fittings on the control panel.

Consecutively, activate the functions "open gripper" and "close gripper" and hold down for a short period of time.

No hydraulic fluid may escape at the fittings, and if necessary, the fittings are to be re-tightened

3.2.2 Removing and installing the clamp body cpl.

Removal

Place the pole erection device on an appropriate supporting surface.

Turn off the hydraulic system at the control panel, activating in both directions several times (pressure release).

Clean the hydraulic fittings at the hydraulic cylinder, screw off and cap the fittings.

Loosen and remove the hexagonal screws (2.1; M16x40) from both sides of the boom (2).

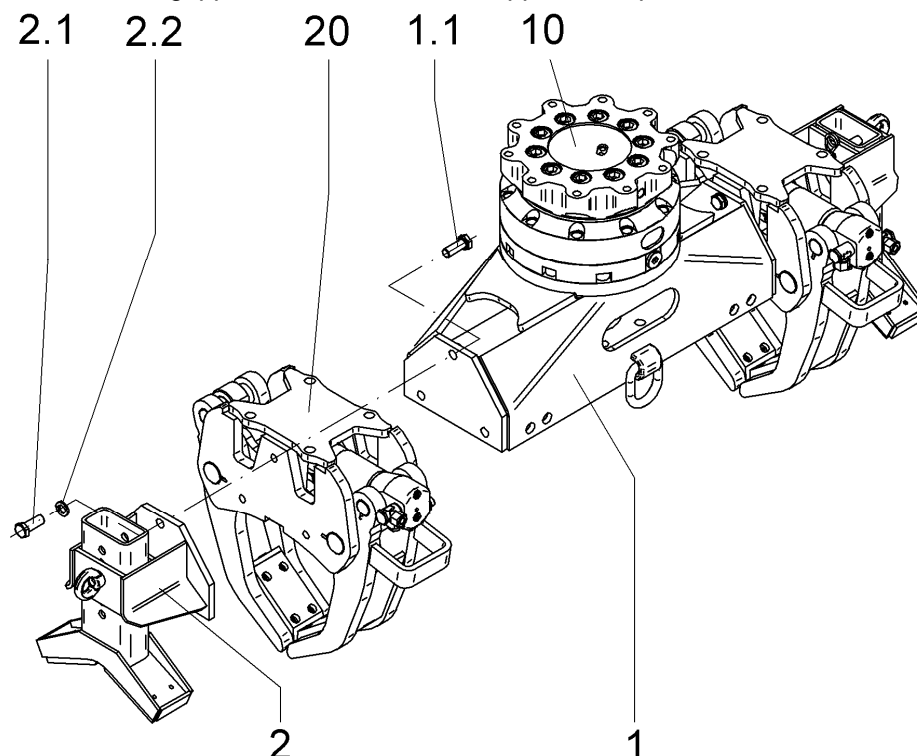
The boom (2) is removed completely from the pincer body (20) with the seating jaw (3).

Remove the hexagonal screws (1.1; M16x40) that connect the connecting piece (1) with the pincer body cpl. (20).

Now remove the complete pincer body (20).

Installation

The installation of the gripper is carried out in the opposite sequence



Screw type and nut type	Position	Screw size, nut size and rating	Tightening moment Nm
hexagon head cap screw	20 Clamp body cpl.	M16x40, 8.8	200
hexagon head cap screw	2 Ausleger	M16x40, 8.8	200



Note

Clean hydraulic fittings.

The hoses for "opening" and "closing" coming from the torque motor are to be connected to the specified fittings on the control panel.

Consecutively, activate the functions "open gripper" and close gripper" and hold down for a short period of time.

No hydraulic fluid may escape at the fittings, and if necessary, the fittings are to be re-tightened

3.2.3 Installation of removal of gripper arms

Removal

When repairing it might be necessary to dismantle the grab.

Put down the cpl. Pincer body (20) on an adequate ground.

Ensure the tines (22 and 23) against falling.

Remove the security ring from the pin (27.1), push out the pin (27.1) and remove spacer (27.2) and discs (27.4).

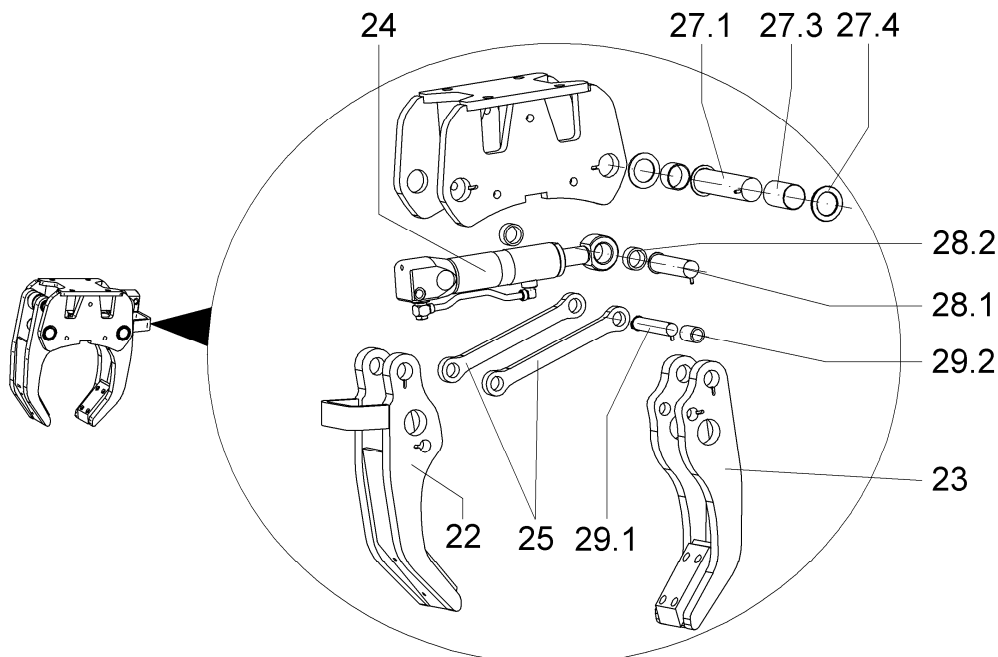
Afterwards remove security ring and spacers (28.2) from the cylinder pin (28.1) and push out the pin (28.2) and remover the hydraulic cylinder (24).

Now remove the security ring from the pin (29.1).

Now remove the pin (29.1) that connects the compensation rod (25) with the pincer body (21).

Remove spacer (29.2).

The tines (22 and 23) can now be removed.



Installation

The installation of the gripper is carried out in the reverse sequence.

Grease bearings journals before assembly.

Secure all bolts again.

3.2.4 Removal and installation of the hydraulic cylinder on the gripper

Removal

Zangenkörper kpl. auf festem Untergrund absetzen.

Hydraulikanlage ausschalten und Steuerhebel mehrfach in beide Richtungen betätigen (Druckabbau).

Hydraulikverbindungen an den Verschraubungen des Zylinders lösen.

Auslaufendes Hydrauliköl auffangen.

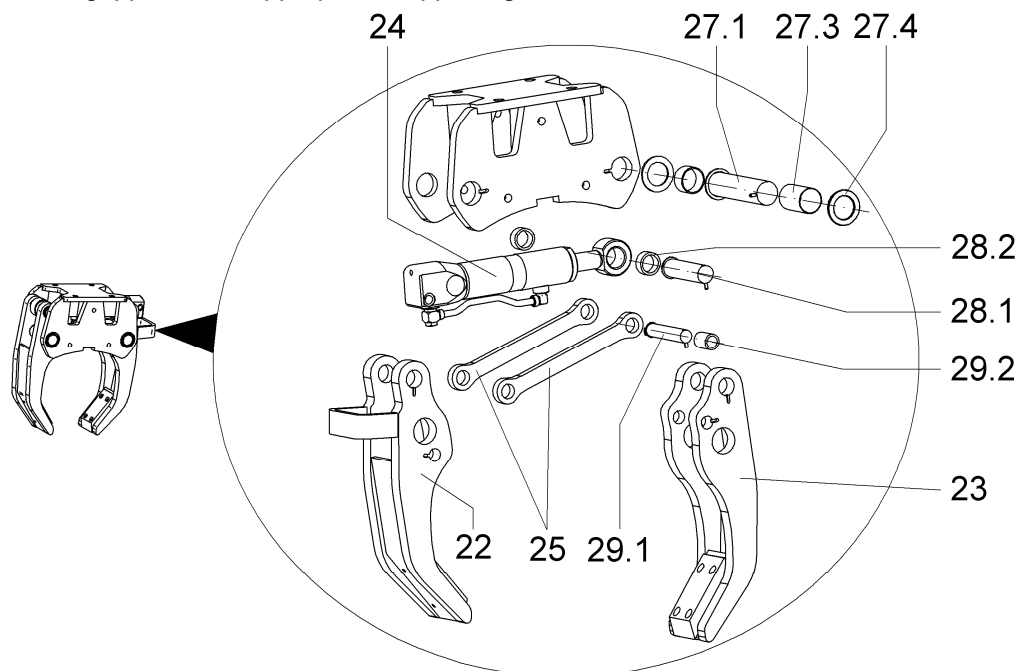
Remove the security ring from the pin (27.1), push out the pin (27.1) and remove spacer (27.2) and discs (27.4).

Afterwards remove security ring and spacers (28.2) from the cylinder pin (28.1) and push out the pin (28.2) and remove the hydraulic cylinder (24).

Installation

For repair operations, it may be necessary to remove the gripper.

Place the gripper on an appropriate supporting surface.



3.2.4.1 Changing seals

Screw off rod guide (3).

Pull out the piston rod (2) from the cylinder.

Screw off the piston from the piston rod (2).

Replace all seals (6) and O-rings (oil lightly) with new seals and O-rings, making sure that the new parts do not show any sign of damage.

Push on the rod guide (3) onto the piston rod (2).

Apply sealer (Loctite 638) to the piston rod threading and screw the piston (4) onto the piston rod.

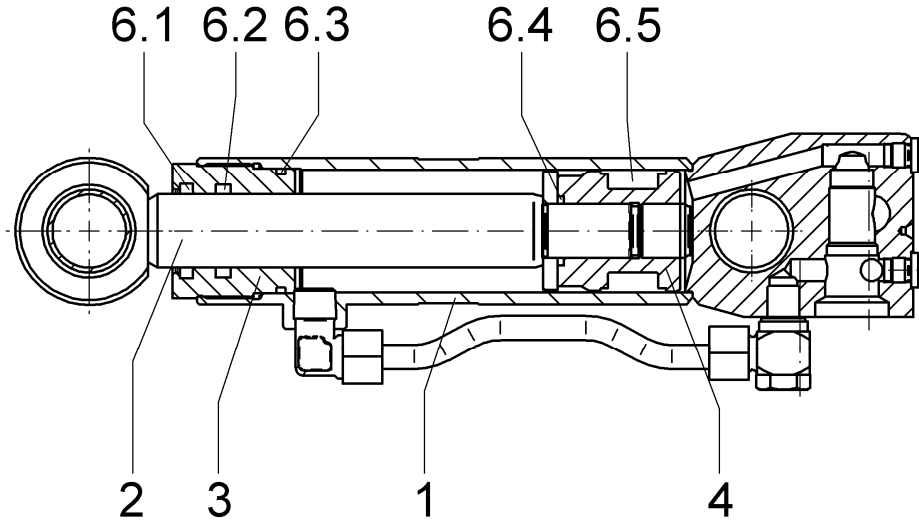


The thread sealant requires approx. 8 hours to completely harden.

During this time, the hydraulic cylinder may not be placed under fluid pressure.

Insert the piston rod (4) with the piston (2) and the rod guide (3) into the cylinder pipe (1).

Screw in the rod guide (3) into the cylinder pipe (1) (torque 800 Nm).



3.5 Transporting the pole erection device

While travelling, the pole grab must be brought down to the vehicle bed or positioned on the vehicle in such a manner so that it will not be able to pivot out.

4. Maintenance, repair

4.1 General notes

There are no greasing points. The rotary drive is filled with grease and the tines are equipped with maintenance free bushings.

To ensure safety and functionality and to prolong the life of the attachment, carry out daily inspections and maintenance as specified.

- Strict cleanliness must be observed in all maintenance operations.
- Before opening the hydraulic connections, clean these and their surrounding area to prevent dirt from getting into the hydraulic system.

WARNING

Ensure hydraulic pressure is released before maintenance or repair work

- Shut down the pump on the carrier, then release the pressure by opening the tines i.e. retracting the cylinder.
- Check the manometer (pressure gauge) to ensure the pressure has been released from the hydraulic system and accumulator.
- All hydraulic lines must be free of pressure.



WARNING

Possibility of injury when carrying out

- Maintenance
- Repairs
- Cleaning

To reduce health risks:

- Wear eye protection
- Wear hand protection
- Wear hearing protection

4.2 Oil and grease

The manufacturer requires the use of oil and grease with the following specifications for operation of the lifting attachment:

Hydraulic fluid	Grease
Hydraulic oil HLP46 in accordance with DIN 51524 Part 2 / ISO VG 46. or Bio Hydraulic oil HEES in accordance with ISO 15380 or OECD 301 B	Multi-purpose grease EP2 in accordance with DIN 51825 - KP2K-20 / ISO L-XBCHB 2.

Never mix different types of hydraulic fluids.

When in doubt about the specifications of oil and grease in use, replace them completely.

The percentage of non-conforming fluid (especially mineral oil) may not exceed 2%.

4.3 Disposal

Pay attention to national and regional regulations for disposing of used oil and grease.

For disposal of the attachment, shut down and remove the hydraulic oil and grease residues. The attachment can then be disassembled and the materials recycled.

4.4 Maintenance intervals

Daily

Check hydraulic connections for leaks and tighten if necessary.

Every 50 operating hours

Check screw connections and tighten if necessary

Check pinned joints and safety parts, tighten or replace if necessary.

Check for external cracks, wear, corrosion and functional safety

Annually

Carry out expert inspection in accordance with the country-specific health and safety directives.

Check for cracks, wear, corrosion and functional safety

Seal replacement

Check for cracks by means of die penetration process per EN 571 and EN ISO 3452

Every 2 years

Replace hydraulic hoses under intensified working requirements

Every 6 years

Replace hydraulic hoses, couplers and screw fittings

Commissioning after being shut down for extended periods (one month or more)

Lubricate pressure lubricating heads

Check screw connections and tighten if necessary

Check pinned joints and safety parts, tighten or replace if necessary.

Check hydraulic connections for leaks and tighten if necessary.

Check for cracks, wear, corrosion and functional safety.

WARNING



Do not operate if there is any damage to the attachment.

4.5 Welding

Before carrying out welding operations on the grab, consult with the manufacturer for required materials.

4.6 Repairs

If defects are detected during an examination, these must be repaired immediately.

In case of defect, please contact the manufacturer. The assembly instructions and spare parts list can be received upon request. For contact information, refer to the first page of this manual.



Only the use of original Kinshofer spare parts guarantees safe and correct operation of the Kinshofer attachments.

The installation of non-Kinshofer spare parts eliminates the possibility of any warranty claims and potential ex gratia agreements for that attachment. This is also valid for subsequent damages.

An exception are standardised purchased parts, such as screws and fittings

4.7 Cleaning

Clean the attachment only after it has been shut down.

Carry out cleaning on an adequate surface equipped with an oil/water separator.

In the first two months after initial operation or after a new painting, do not clean with a pressure washer. This way the finish can harden.

When cleaning with a pressure washer, the water jet should not be hotter than 80°C and the pressure not higher than 70 bar.

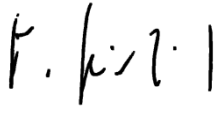
Do not clean seals and seal gaps on rotating or tilting parts directly with a high pressure jet as this could cause damage.

After every washing, carry out a function check for open/close and rotation.

5. Troubleshooting chart

Malfunction	Cause	Remedy
The pole grab's closing pressure declines.	The hydraulic system is leaking.	Tighten hydraulic connections or repair other leaks.
	Hydraulic cylinders are losing pressure.	Change seals in hydraulic cylinders.
	Malfunction in return-line filter from crane.	Clean hydraulic filter in return-line from crane, change if necessary.
The grabber closes / opens too slowly	Litre capacity of the crane hydraulic system is insufficient / reduced	Check the crane's hydraulic system / clean the dirty filter.
	Hydraulic quick-change systems between the crane and grabber are not completely closed	Tighten the hydraulic quick-change systems or rectify other leaks.
Pressure relief valve whistles	Pressure relief valve faulty or clogged	Clean pressure relief valve or replace seals
Bucket spills material (control lever of the crane not moved)	Non-return valve faulty or clogged	Clean or replace non-return valve

EC-Declaration of conformity

We hereby declare that the attachment		
Type:		CE
Serial number:		
Date:		
in its state of delivery is in conformity with the health and safety requirement 2006/42/EG, dated 17.05.2006 „Machinery Directive“ of the European Community.		
The attachment for cranes or excavators is suitable, among other things, for lifting, transporting, digging or breakdown of various materials or exchanging equipment on construction sites and other industrial areas.		
Applied harmonised standards:		
DIN EN ISO 12100	Safety of machinery	
DIN EN 474-1	Earth-moving machinery - Safety	
DIN EN 1501-5	Refuse collection vehicles	
DIN EN 13155	Loose lifting attachments	
DIN EN ISO 4413	Hydraulic fluid power - General rules and safety requirements on hydraulic systems and their components	
Applied German standards and technical specifications:		
DIN 15428	Load suspension devices Technical terms of delivery	
BGR 500	Operation of work equipment	
Other country-specific health and safety regulations		
Authorised person to compile the technical documentation: Manager technical documentation, Kinshofer GmbH		
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