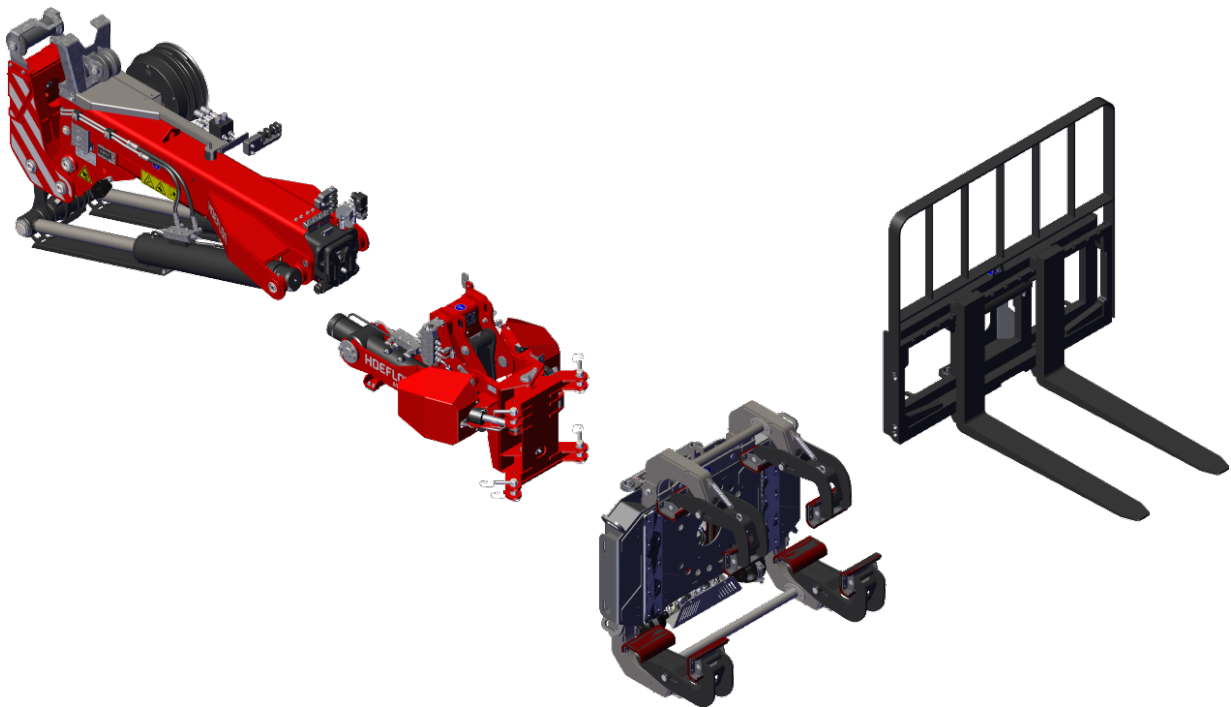


## User Manual

### Multitool HD + MC3000 / MF3000



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Original instructions

Serial no.:

Delivery date:

Reference: U.MT HD.00.00.EN

Version: 1.0



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## REVISION CONTROL

Revision	Publication date	Comments	From serial number
Version: 1.0			MT - HD (Jib) - xxxx xxxx MC3000 - xxxx xxxx MF3000 - xxxx xxxx

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## PREFACE

Thank you for buying the Hoeflon Multitool HD. We hope that you enjoy using it and that you will enjoy using it for many years to come.

This user manual contains the operating instructions for the Hoeflon Multitool HD. In this user manual we will refer to it as the multitool.

Read this user manual carefully to familiarize yourself with the correct operation and maintenance of the multitool. The figures in this document are for illustration purposes only and can be different from the multitool in your situation.

Hoeflon International B.V. recommends that you keep the original copy of this user manual, including all the annexes, in a safe, central place. Keep a copy of this user manual near the machine at the workplace.

You must fully understand how to use the compact crane before using the multitool with the compact crane.

## General terms & conditions

In all cases, Hoeflon International B.V. delivers the machine exclusively according to the General Terms and Conditions applicable at the time of purchase. These General Terms and Conditions can be found on the website [www.hoeflon.com](http://www.hoeflon.com).

Although Hoeflon International B.V. has made every reasonable effort to make sure that this user manual is as accurate and helpful as possible, Hoeflon International B.V. does not provide any guarantees with regard to the accuracy or completeness of the information provided herein.

Hoeflon International B.V. is committed to keeping the information in this user manual complete, accurate and up to date. Hoeflon International B.V. accepts no liability for the consequences of errors, except in the case of willful intent or deliberate recklessness on the part of Hoeflon International B.V..

Hoeflon International B.V. continuously develops and improves its products, we reserve the right to make changes to the technical design at any time without prior notice.

For technical support, please speak to your Hoeflon dealer.

## Warranty and liability

The Hoeflon Multitool HD conforms to the applicable basic safety and health requirements of the EU directives. It has been carefully tested for trouble-free use at the factory. If the multitool does have problems stop using the multitool and speak to your Hoeflon dealer immediately.

Use the multitool only for lifting loads as described in this user manual. Do not use the multitool in any other way.

Do not use the multitool if:

Repair the multitool or the compact crane first.

Hoeflon International B.V. is not liable for any damage or injury resulting from:

- not obeying the instructions in this user manual,
- exceeding the factory specifications,
- not obeying the legal requirements.

Do not:

- modify the multitool,
- repair the multitool yourself,
- use unauthorized replacement parts.

Make sure that you maintain the multitool correctly as described in this user manual.

## Target audience

This user manual is intended for everyone who works with or on the multitool.



### Note

Make sure that you have read and fully understand the contents of the user manual of the compact crane.

Make sure that you know how to operate the compact crane.

Always stay safe in familiar and unfamiliar situations.

## Warning icons

The instructions, recommendations and warnings in this user manual are accompanied by the following terms and pictograms. Read these instructions carefully.



### Danger

Identifies a very dangerous situation which, if not prevented, can result in death or very bad injury.



### Warning

Identifies a dangerous situation where there is a risk of bad injury.



### Caution

Identifies a situation where equipment or property can be damaged; or if there is a risk of injury.



### Note

Identifies important information to help you understand or adjust the equipment.

## Structure of the user manual

**Preface** describes the purpose of the manual, general terms and conditions, warranty and liability, target audience and notes for the reader.

**Introduction** includes an introduction to the multitool.

**Safety** lists all the points the user needs to know to work safely with the multitool.

**Technical data** gives the dimensions and specifications of the multitool.

**Description** describes the main components of the multitool and the operation of its various components.

**Installation** gives information on attaching each component.

**Operation** gives operating instructions for the intended use of the multitool.

**Maintenance** gives information on the necessary maintenance.

**Troubleshooting** lists possible faults and how to solve them.

**Transport and storage** gives recommendations for transporting and putting the multitool in storage.

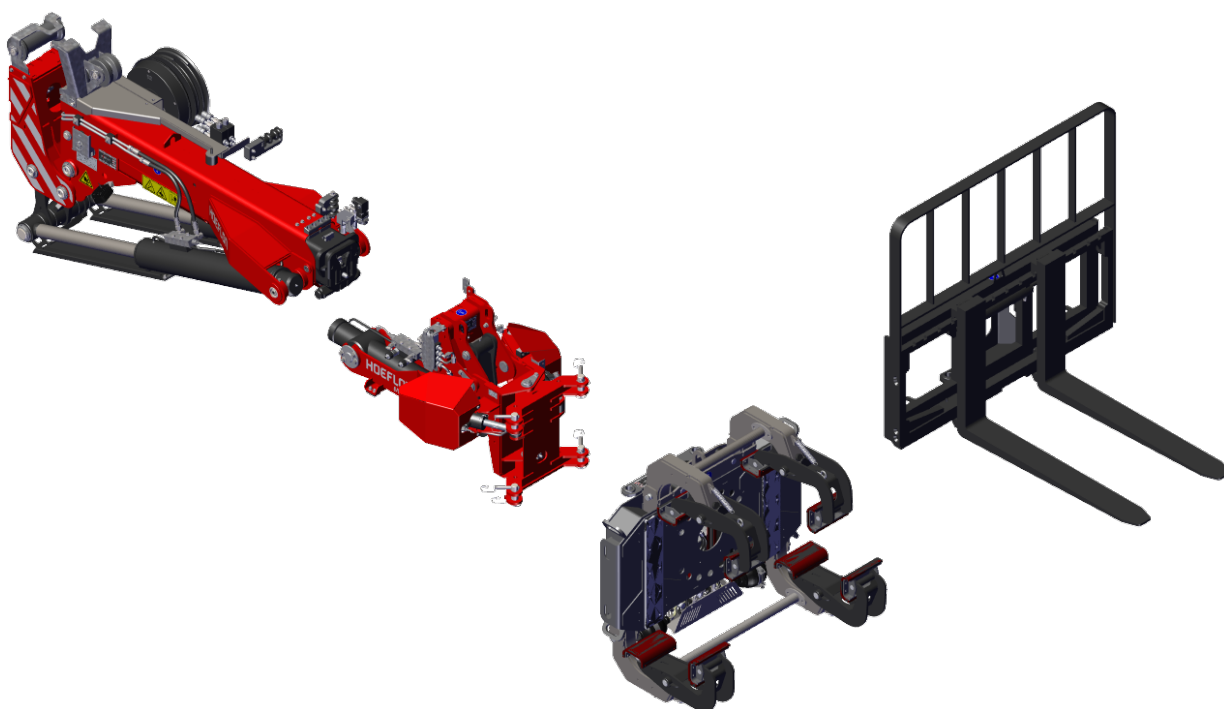
**Disposal** gives instructions for the disposal of the multitool.

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# 1.

## Introduction

---



### 1.1 Intended use

Only use the multitool with a Hoeflon C30e compact crane.

Only use the multitool for lifting and moving loads as described in this manual.

Only use on cranes that are prepared for your multitool by an authorized dealer.

## 1.2 Unintended use

Do not use the multitool:

- outside the permissible limits of the load chart,
- with a bypassed Rated Capacity Limiter (RCL),
- for tree care,
- to lift loads with:
  - an irregular cross-section or thickness,
  - a variable center of gravity,
  - an unknown weight.
- for prying, pushing or pulling,
- on cranes other than the cranes which are mentioned in chapter (see 1.1 Intended use)

## 1.3 EC Declaration

Hoeflon International B.V. declares that the multitool conforms with the applicable European Directives. The EC Declaration of Conformity is part of the documentation which is supplied with the multitool.

## 1.4 Type plate

A type plate containing the machine data is attached to the multitool. Do not remove the type plate . The CE mark indicates that the multitool conforms to the applicable standards for the European Economic Area.



<b>Type</b>	The type of machine
<b>Model</b>	The brand of the machine
<b>Serial no.</b>	The serial number of the machine
<b>Year</b>	The year the machine was built
<b>Weight</b>	The weight of the machine / attachment
<b>Max. capacity</b>	Maximum working load



**Note**

Please provide the type number and serial number when ordering parts.

---

# 2.

## Safety

---

### 2.1 Introduction

Make sure that you have read the manual of the compact crane and the multitool and that you fully understand its contents.

Make sure that you understand and obey all applicable legal requirements on using the compact crane and the multitool before you start work.

When using the multitool:

- Obey all warnings and regulations.
- Obey all applicable national regulations about:
  - working with the compact crane,
  - working with the multitool,
  - working conditions,
  - work safety.

Make sure that all lifting equipment is correctly rated, approved and not damaged.



**WARNING**

Stop work immediately if you find any hydraulic leaks. Repair a leak immediately.

Hydraulic oil under pressure can penetrate the skin.

Obey the general safety precautions in this chapter when using the multitool.

Always be aware of the weight of the components and the loads.

Only use the correct tools.

Keep the compact crane and the multitool clean.

## 2.2 Notes on the safety features



### Warning

Do not remove, bypass or disable safety equipment.

### 2.2.1 General

If a sensor does not give an indication, speak to your Hoeflon dealer or to Hoeflon dealer immediately.

Do not:

- continue working.
- remove, bypass or disable safety equipment.
- remove, bypass or disable a sensor.
- change the pressure settings.
- change the motor speed.

Changing safety equipment, sensors, settings or speeds can lead to dangerous situations and damage to the crane. Any such changes will void the warranty immediately.

### 2.2.2 110% button

Use the 110% button only to return the crane to a safe situation. See the user manual of the compact crane for more information on the use of the 110% button.

Do not:

- use the 110% button to increase the crane's outreach.
- use the 110% button to continue lifting.

## 2.3 Personnel



### Note

Make sure that all personnel that works with the multitool has the necessary licenses and work permits as specified by your local laws on training and equipment competence.



### Note

Hoeflon has an online course that tells about the risks of using the multitool. Make sure that you do this course before using the multitool.

**Caution**

Always use approved Personal Protective Equipment (PPE).

- Hardhat
- Safety shoes
- Gloves
- Safety glasses

All operating personnel must:

- be fit to do the task.
- stay out of the operating radius of the multitool.
- fully know the content of the user manual of the multitool.
- fully know the content of the user manual of the multitool.
- be familiar with all the functions and attachments associated with the equipment.
- be at least 18 years of age.

Do not:

- be under the influence of narcotics or alcohol.

## 2.4 Work environment

Make sure that the environmental and operational conditions are safe and within limits before using the compact crane with the multitool.

Put barriers and safety warnings around the perimeter of the work area. Do not let unauthorized people in the work area.

Use extra light in dark areas.

Do not smoke or make fire in the work area.

Use communication equipment and a spotter if you cannot fully view the entire work area.

Obey the height restriction in covered areas.

Do not use the multitool:

- if it is not safe,
- near high voltage cables,
- in an explosive environment.

## 2.5 While working



### Caution

If you use the crane with the multitool incorrectly, incorrect and high forces can permanently damage or shorten the life of the crane and the multitool.



### Warning

Stop work and move the compact crane and the multitool into a safe position if a safety feature stops working or becomes damaged.

Fully prepare the task.

Continuously monitor the work area.

Continuously monitor the tip of the boom or the tip of the jib and the load. Make sure that the boom, the jib and the load do not hit anything.

Do not let unauthorized people in the work area.



### Caution

Do not use the multitool to:

- drag loads,
- pull loads at an angle,
- pull loads free (such as pulling out poles),
- push loads.

Prevent dangerous situations between:

- the compact crane,
- the multitool,
- the operator,
- other people,
- the load,
- the surroundings,
- the ground.

Do not:

- enter the work area during operation of the compact crane and the multitool,
- let anybody enter the work area during operation of the compact crane and the multitool,
- move a load over people,
- touch rotating parts,
- touch moving parts.
- put anything on the compact crane.

The lifting point on top of the jib is only intended for lifting the jib when it is removed from the crane. Do not use this lifting point for lifting a load or for securing the crane.

## 2.6 During lifting



### Caution

Refer to the load chart in the appendix for the maximum load when you use the multitool.



### Caution

The boom is flexible and bends when lifting the load. The boom will spring back when the load is put down.

Always:

- Use low gear and low speed when handling a load. The LED must be OFF.
- Lift a load over its center of gravity.
- Attach the load correctly.



Do not:

- Use the multitool if it is damaged or weakened.

Only move loads that:

- can move freely from the surface,
- are stable.

Make sure that there are no loose objects on:

- the crane,
- the multitool,
- the load.

## 2.7 Working with long loads

Be careful when you move a long load.



### Caution

The ends of a long load can move very fast.

The ends of a long load can still move even though the multiclaw has stopped moving.

- Do not make fast or sudden moves with the multiclaw.
- Sudden moves can cause the multiclaw to release the load without warning.
- The ends can hit something and can cause the multiclaw to release the load without warning.

## 2.8 While using the multiclaw



### Caution

Be aware that the maximum load of the multiclaw is also limited by the maximum that the multiclaw can hold by the friction between the jaws.



### Caution

Make sure that the clamping plates are in good condition, dry and clean so that they keep a good hold on the load.

Make sure that the load is:

- Dry and clean so that it does not slip
- Strong enough so that it does not bend or crush






The stack light shows the pressure in the clamping cylinder. The pressure decreases slowly, see (see 4.3.2 Stack light) for more information.

## 2.9 After work

- Remove the multitool and all attachments.
- Put the crane in transport position(see the user manual of the crane).

## 2.10 Pictograms

The pictograms used are shown below. Do not remove them. Replace a missing or damaged pictogram immediately!

Pictogram	Meaning	Location
	Lifting point for lifting the equipment.	On the top of the multitool adapter.  On the front of the multiclaw.  On the top of the pallet fork lifting frame.
	Attach a load on these points on the multitool.	On the four corners at the back of the multiclaw.  On the four corners at the back of the pallet fork lifting frame.
	Entrapment hazard.	On various parts of the multitool .
	Read the user manual first.	On various parts of the multitool .
	Label that shows when annual inspection is due (Netherlands only)	On the Multitool jib - On the top right at the front of the tilting part.  On the multiclaw - On the rotator drum.  On the pallet fork - On the top of the pallet fork lifting frame.



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# 3.

## Technical data

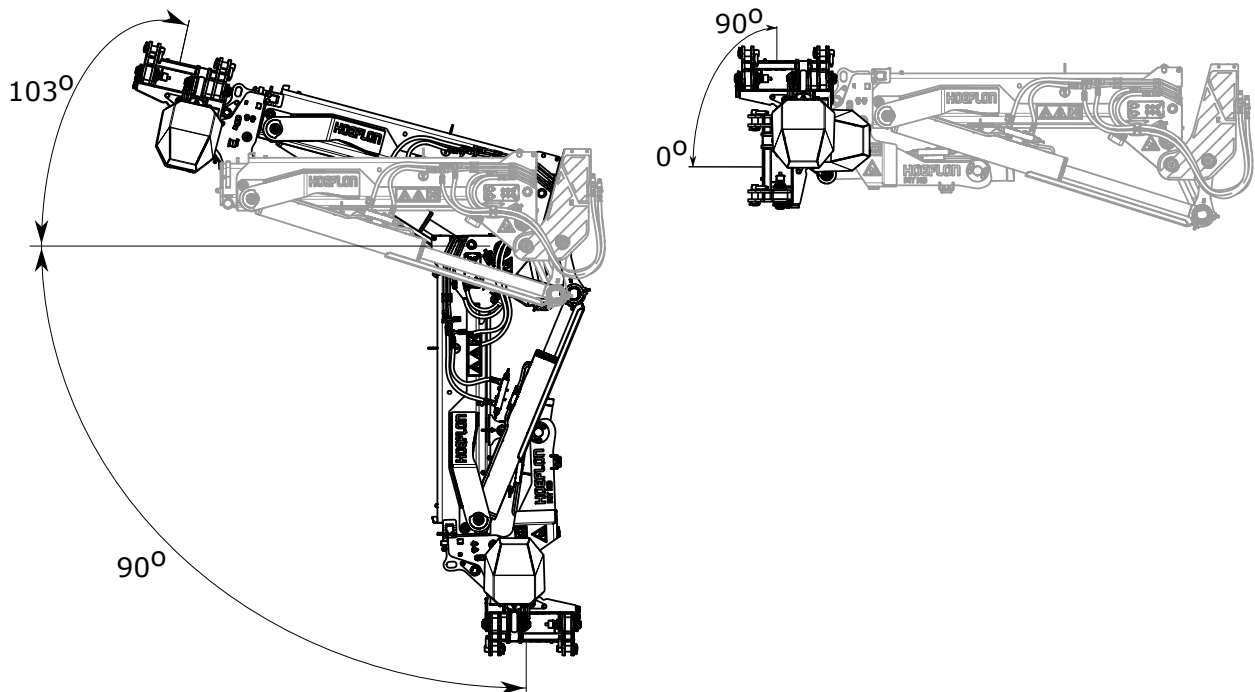
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### 3.1 Jib

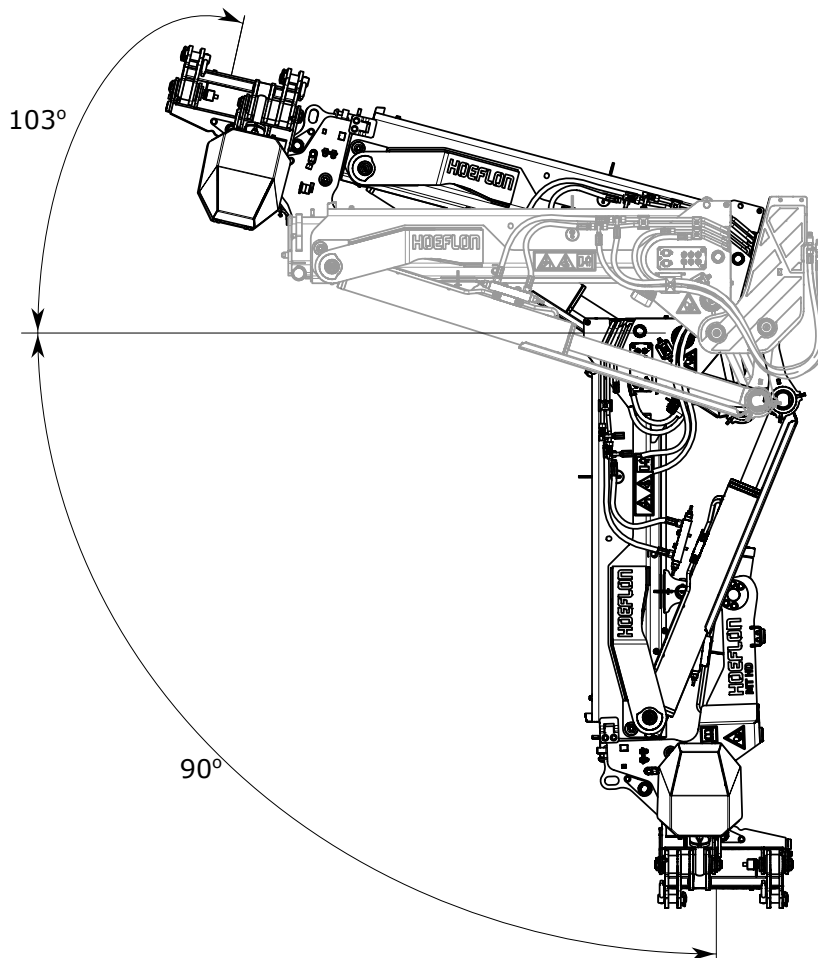
Install the multitool directly on the boom or on a jib 5.  
Read the user guide for the jib 5 for more information.

### 3.2 Limits of the multitool jib

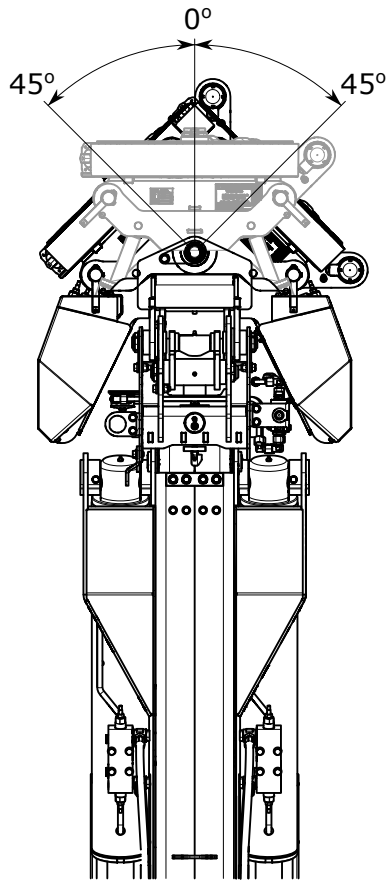
#### 3.2.1 Tilt limits



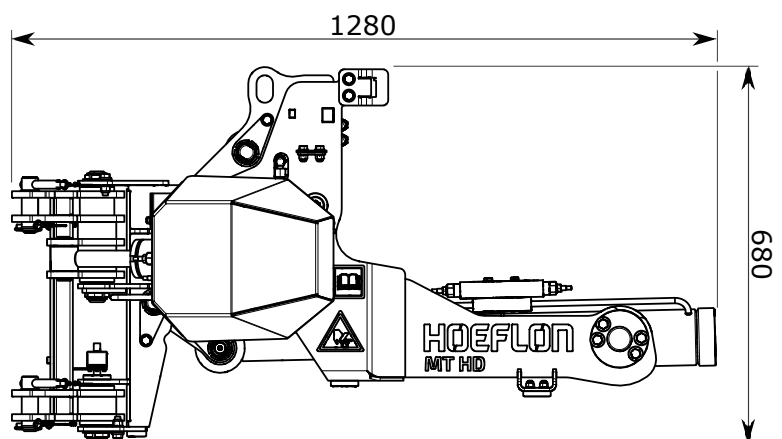
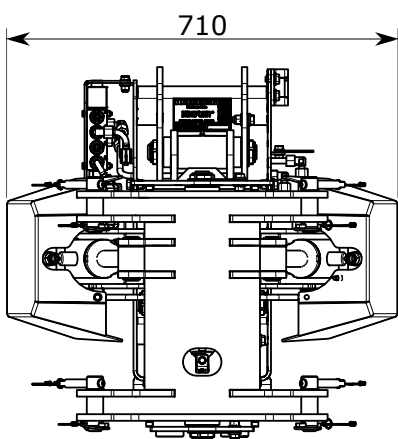
### 3.2.2 Total tilt limits



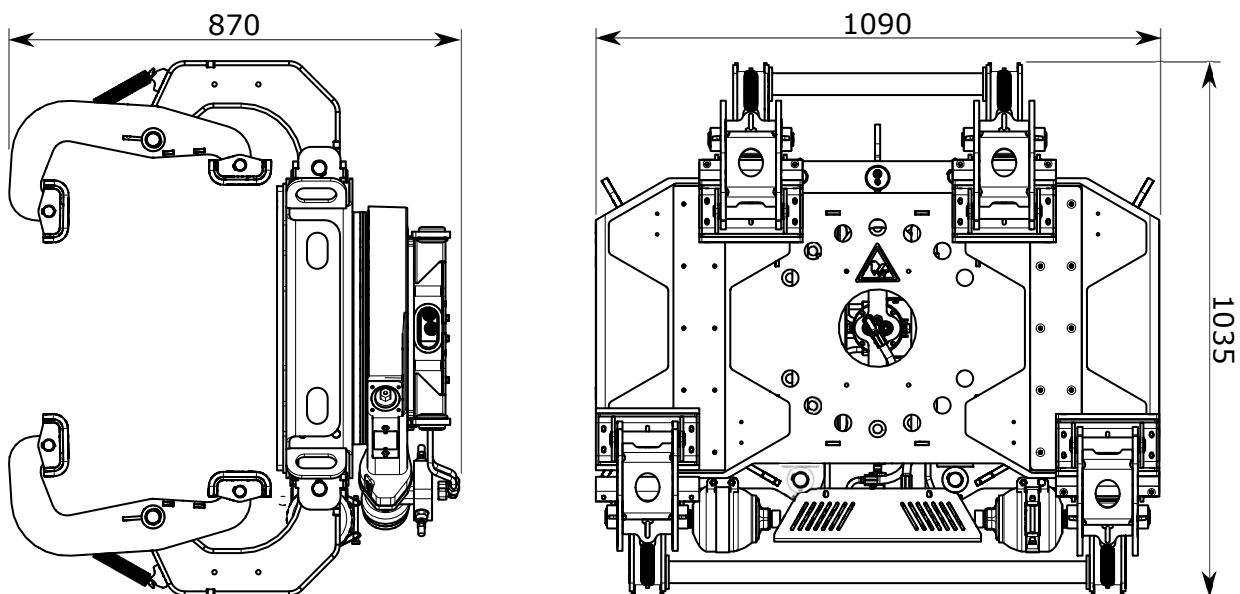
**3.2.3 Slew limits**



**3.3 Multitool**

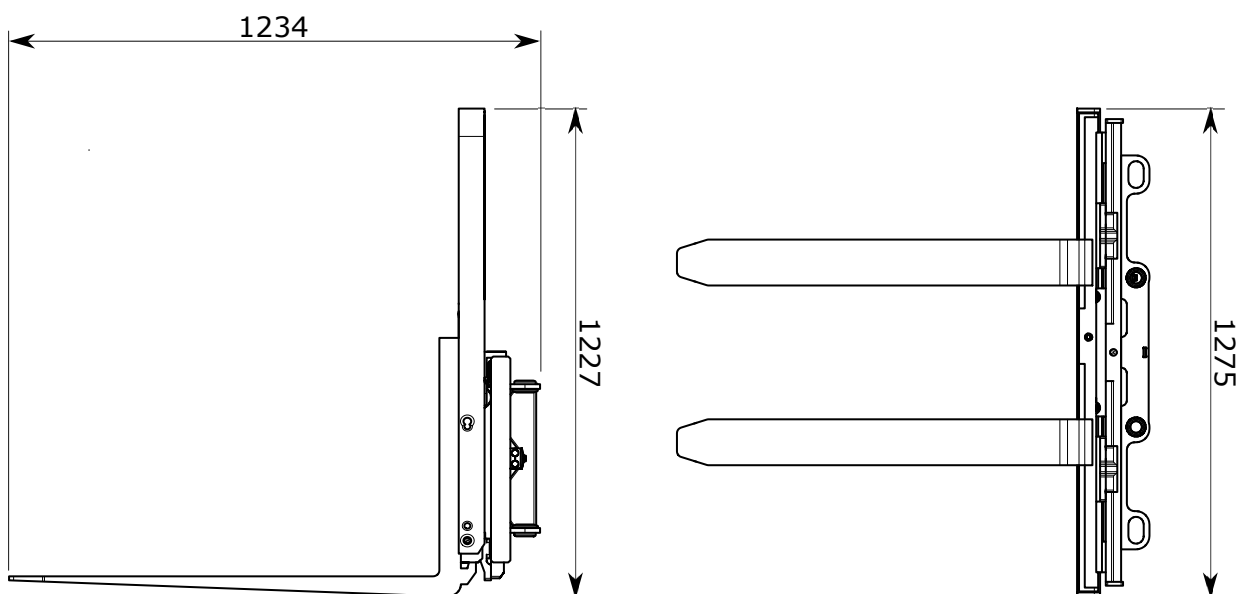


### 3.4 Multiclaw



General data – Multiclaw	
Weight	Base part: 331 kg Clamping arms: 137 kg Total: 468 kg
Maximum clamping diameter	Ø600- Ø800 x 400 mm tubes
Maximum lifting capacity - clamps	3000kg
Rotation range	Endless

### 3.5 Pallet fork



General data – Pallet fork	
Weight	379 kg
Net lifting capacity	3000 kg
Maximum width	1250 mm
Tine length	1000 mm
Tine dimensions	120 x 50 mm



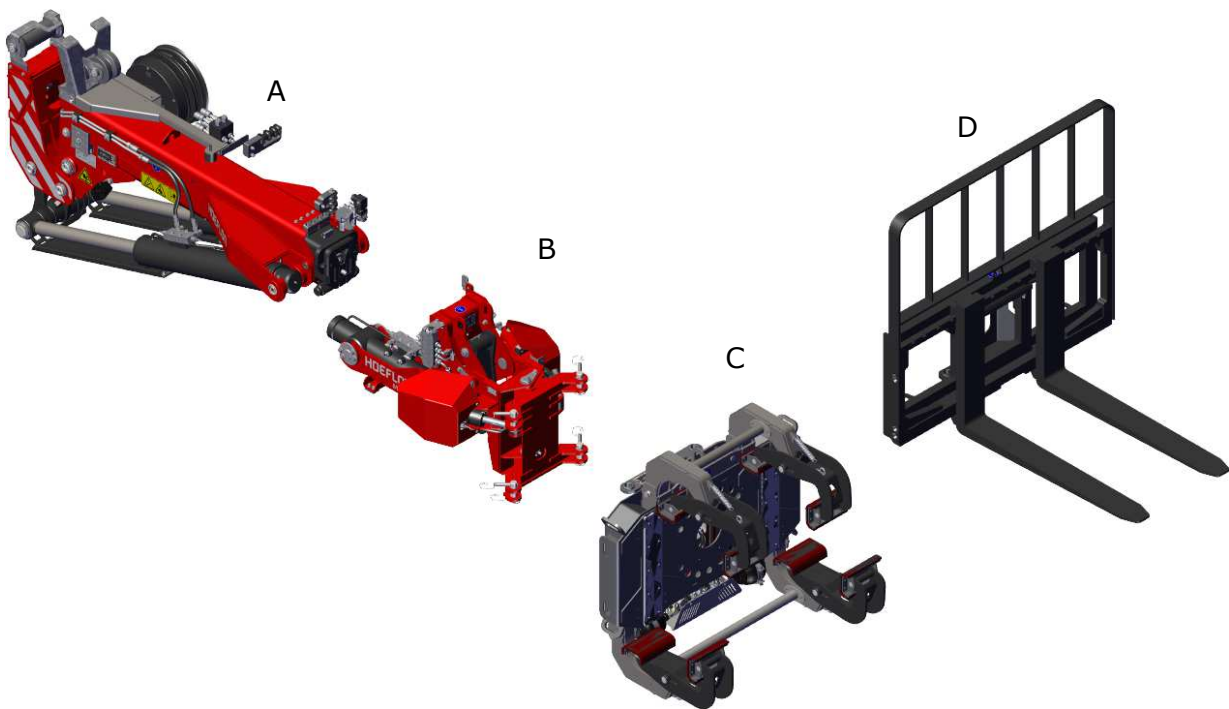
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# 4.

## Description

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### 4.1 Multitool - Components



A. Jib5 (or boom C30)

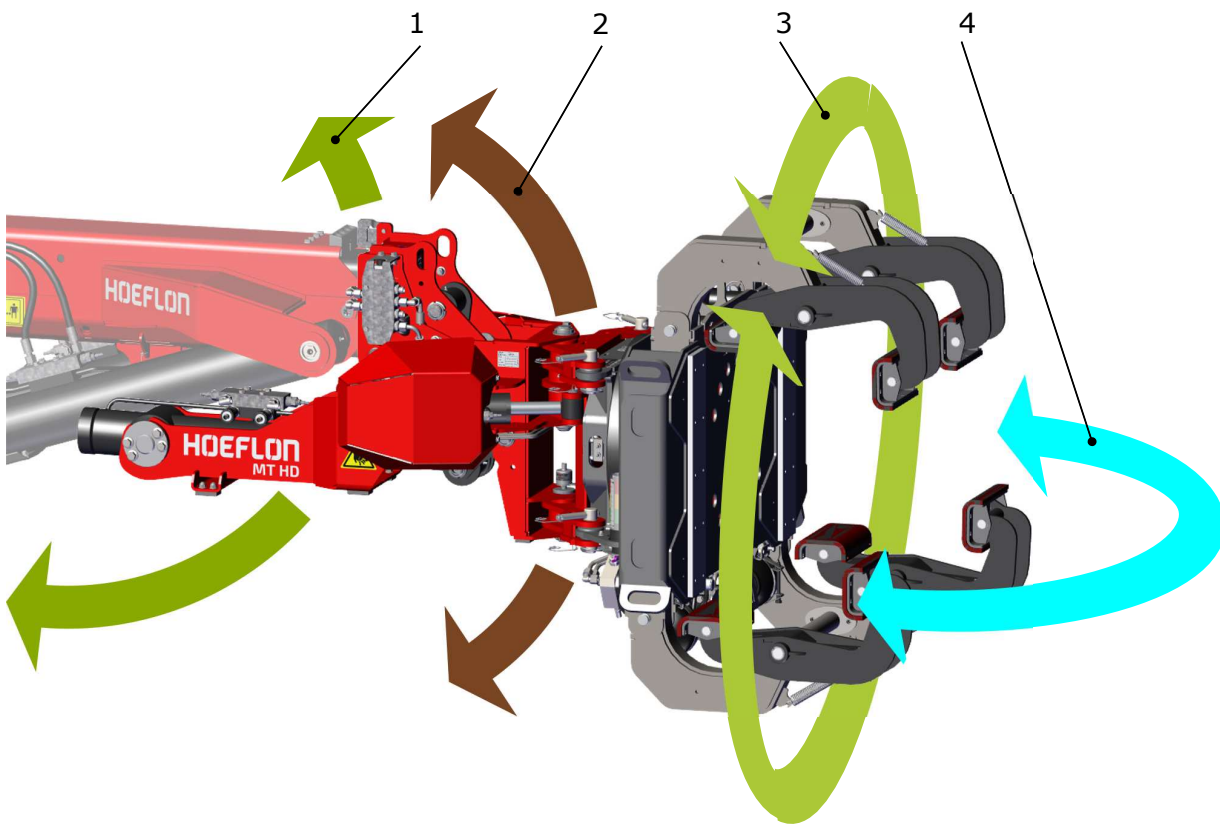
B. Multitool HD

C. Multiclaw and clamping plates

D. Pallet fork

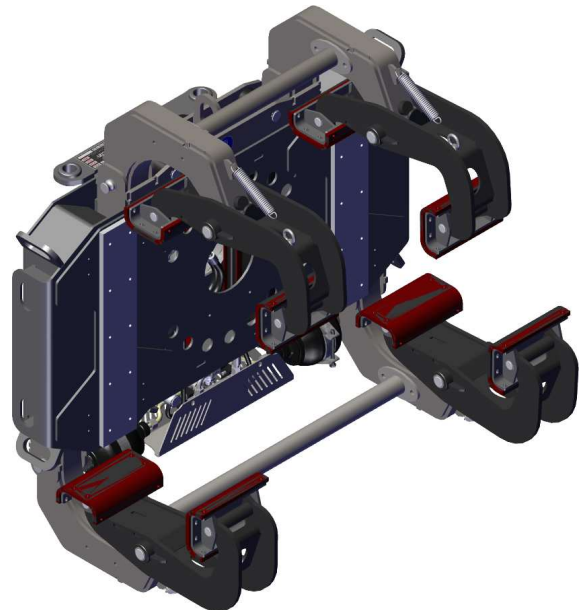
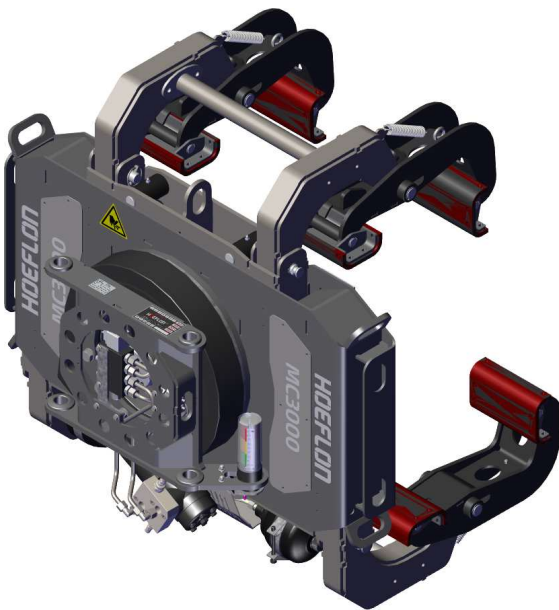
The core of the multitool is the multitool jib. Use the multitool to add extra functionality to your Hoeflon compact crane. Use an attachment on the multitool to lift and move beams, pipes, plate glass and pallets.

## 4.2 Movements of the multitool



1	Lift the attachment with the jib	Moves the attachment up and down. The distance of the attachment to the ground changes.
2	Tilt the attachment	Tilts the attachment up and down. The angle of the attachment to the ground changes.
3	Rotate the attachment	Rotates the attachment around its axis.
4	Slew the attachment	Slews the attachment to the left and right.

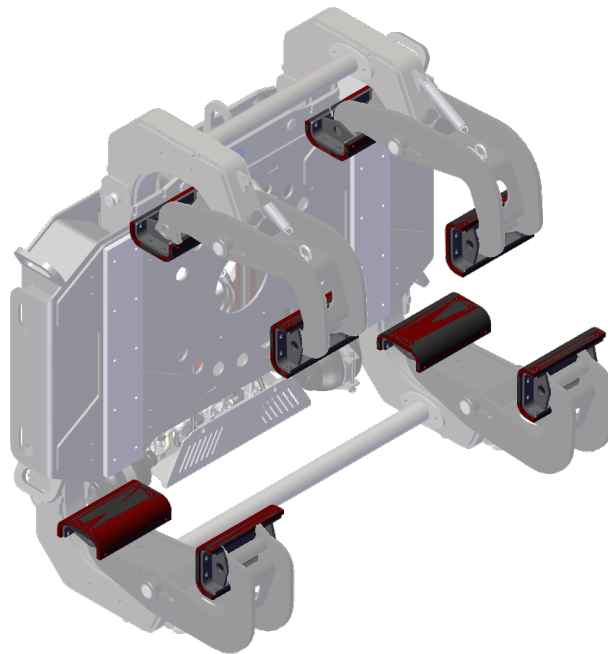
## 4.3 Multiclaw (MC3000)



1. Hydraulic hoses
2. Electrical cable
3. Connector to multitool jib
4. Type plate
5. Lifting eyes (3x)
6. Wide clamping jaw with two narrow fingers
7. Clamping plates
8. Narrow clamping jaw with single wide finger
9. Attachment point for slewing cylinder
10. Stack light
11. Inspection sticker

Use the multiclaw to clamp and move beams, pipes and items of equivalent shape.

### 4.3.1 Clamping plates



**Caution**

Make sure that the clamping plates are in good condition, dry and clean so that they keep a good hold on the load.

Install the clamping plates on the tips of the clamping jaws.

Use clamping plates to improve grip, distribute the clamping force or to reduce surface pressure.

### 4.3.2 Stack light


The stack light on the multiclaw shows the pressure in the clamping cylinder.

**Note**

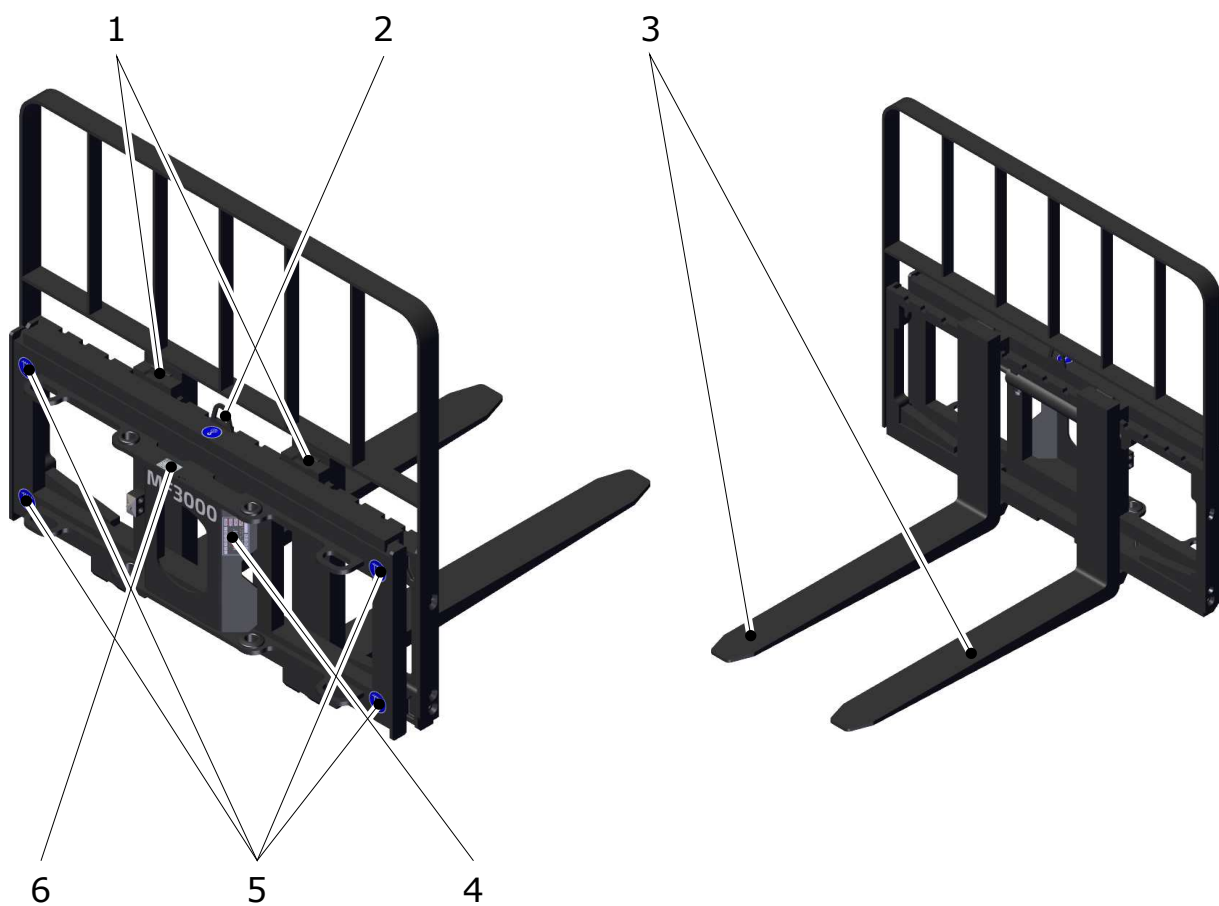
The stack light does not show the clamping force that is applied by the multitool. The clamping force also depends on the angle of the jaws.

**Note**

Use the information from the stack light to make an estimate on how much clamping force is applied to the load.

Lamp displays	Pressure in the clamping cylinder
Green LEDs are ON	60-100 bar
Green and Orange LEDs are ON	120-160 bar
Green, Orange and Red LEDs are ON	180-220 bar
The maximum clamping pressure is reached when all the LEDs are ON and an intermittent acoustic signal operates.	
Orange LEDs rotate, an intermittent acoustic signal operates on the compact crane and on the remote control	Unlock mode
Red LEDs only are ON, a continuous acoustic signal operates on the compact crane and on the remote control	<p>The pressure in the clamping cylinder decreases too much in a short time - without operation.</p> <div style="display: flex; align-items: center;">  <div> <p><b>WARNING</b></p> <p>Stop work immediately if you find any hydraulic leaks. Repair a leak immediately.</p> <p>Hydraulic oil under pressure can penetrate the skin.</p> </div> </div>

### 4.4 Pallet fork (MF3000)



1. Adjustment knob for tines

2. Lifting eye

3. Tines

4. Inspection sticker

5. Lashing points

6. Type plate

## 4.5 Remote control



Use the crane's remote control to operate the multitool. The functions of the levers on the remote control change when the multitool is connected. The remote control for the multitool also has a joystick.

This section gives the functions of the remote control when you use the multitool on a compact crane.

Some operations cannot be done at the same time (see 6.1 Control limitations ).

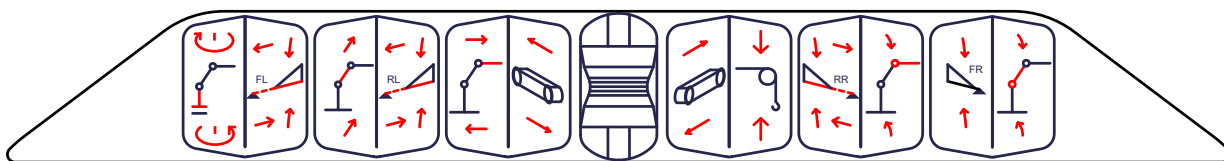
### 4.5.1 Levers



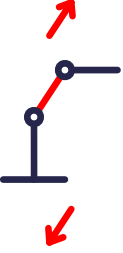

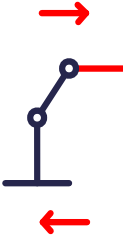



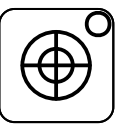
**Note**



The levers for the superstructure have a different function when you use the multitool. The operation of the undercarriage does not change when you use the multitool.

Only the levers for the superstructure with the multitool are explained. See the user manual of the compact crane for an explanation of the levers during use without the multitool.

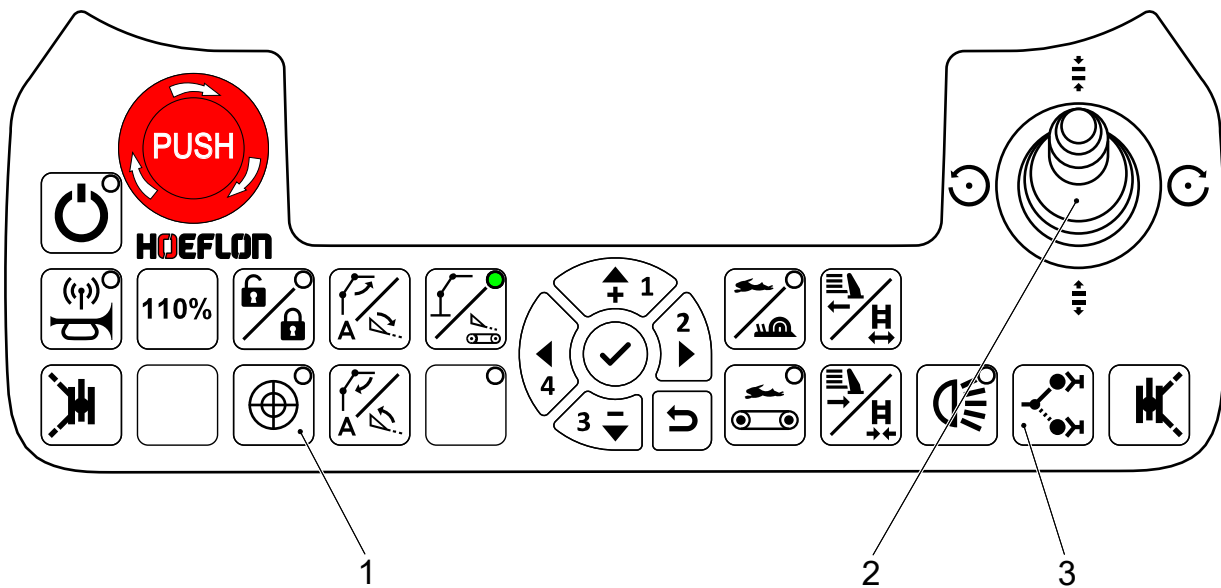


Lever	Function	Lever backwards	Lever forwards
	Slew boom	Left	Right

Lever	Function	Lever backwards	Lever forwards
	Extend / retract boom	Retract	Extend
	Slew multitool attachment	Left	Right
 + 	Extend multitool jib	Retract	Extend
	Tilt multitool attachment	Up	Down
 + 	Tilt multitool attachment with <b>Auto level ON</b>	Up	Down

Lever	Function	Lever backwards	Lever forwards
	Lift / lower multitool	Lift	Lower
	Lift / lower boom	Lift	Lower

4.5.2 Buttons



No.	Button	Function	Explanation				
1		<b>Auto level</b>	<p>Toggles the auto level function of the multitool jib.</p> <table border="1"> <tr> <td><b>Auto level ON</b></td> <td>The attachment maintains its orientation to the ground when you tilt the boom or the multitool jib.  Do not use lever 4 (Tilt multitool attachment (see 4.5.1 Levers) when you lift the multitool (with lever 5) or the boom (with lever 6). The attachment may not move correctly.</td> </tr> <tr> <td><b>Auto level OFF</b></td> <td>The attachment maintains its orientation to the multitool jib when you tilt the boom or the multitool jib.</td> </tr> </table>	<b>Auto level ON</b>	The attachment maintains its orientation to the ground when you tilt the boom or the multitool jib.  Do not use lever 4 (Tilt multitool attachment (see 4.5.1 Levers) when you lift the multitool (with lever 5) or the boom (with lever 6). The attachment may not move correctly.	<b>Auto level OFF</b>	The attachment maintains its orientation to the multitool jib when you tilt the boom or the multitool jib.
<b>Auto level ON</b>	The attachment maintains its orientation to the ground when you tilt the boom or the multitool jib.  Do not use lever 4 (Tilt multitool attachment (see 4.5.1 Levers) when you lift the multitool (with lever 5) or the boom (with lever 6). The attachment may not move correctly.						
<b>Auto level OFF</b>	The attachment maintains its orientation to the multitool jib when you tilt the boom or the multitool jib.						
2	Joystick	<b>Multiclaw operation</b>	<ul style="list-style-type: none"> <li>- <b>Close:</b> Joystick forwards</li> <li>- <b>Open:</b> Joystick backwards and press <b>Lock/unlock function</b> button once.</li> <li>- <b>Rotate left:</b> Joystick left</li> <li>- <b>Rotate right:</b> Joystick right</li> </ul>				
		<b>Pallet lifter operation</b>	<ul style="list-style-type: none"> <li>- <b>Move pallet lifter left:</b> Joystick left</li> <li>- <b>Move pallet lifter right:</b> Joystick right</li> </ul>				
3		<b>Lock/unlock function</b>	<p>Push this button once and move the joystick to unlock the multiclaw. After 10 seconds of no movement, the button must be pressed again.</p> <p>Orange LEDs rotate, an intermittent acoustic signal operates on the compact crane and on the remote control</p>				



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# 5.

## Installation

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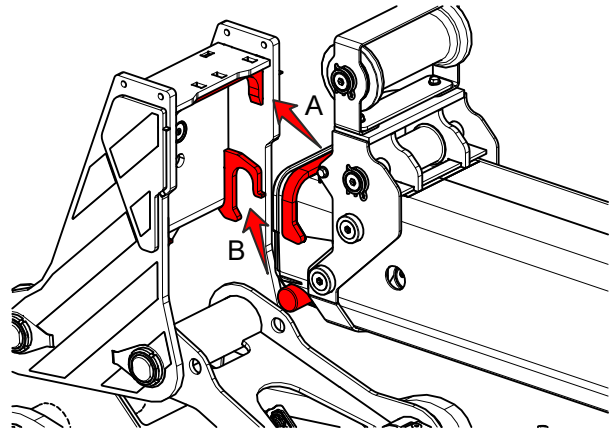
### 5.1 Installing the jib

1. Fully retract the boom.
2. Align the crane with the jib.
3. Raise the crane on the outriggers.
4. Adjust the crane with the outriggers so that the boom points towards the connection plate on the jib.
5. Push the lever on the top of the boom back.
  - Lock the lever by pushing it to the side.
6. Make sure that the locking pin is fully retracted.



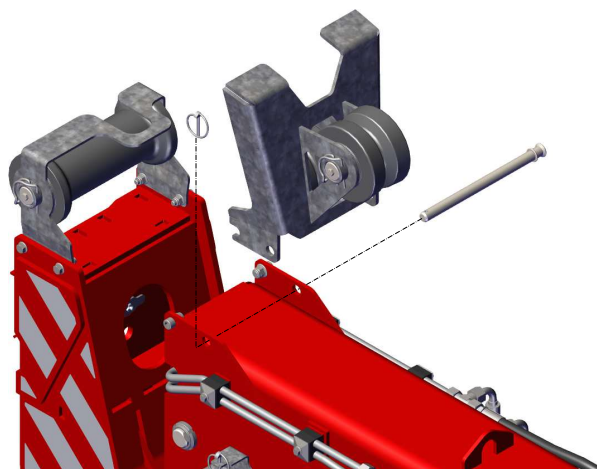


7. Slowly extend the boom until the end of the boom almost touches the quick connect of the jib.
8. Slowly extend the boom until the end of the boom touches the quick connect of the jib.
9. Connect the hydraulic hoses and the power plug.
  - Use the color coding on the hoses when you connect the hoses.
  - You can move the connector plate of the jib with a small amount if it does not fully align with the boom.
10. Make sure that:
  - the strip on the top of the boom engages into the slot in the top of the jib (A).
  - the pins on the side of the boom engage with the slots in the side of the jib (B).
11. Slowly move the boom UP.
  - Make sure that the jib doesn't fall.
  - Make sure that the hoses or the cable don't catch.
12. Lift the jib of the ground.
13. Slowly move the boom UP.
  - Make sure that the jib doesn't fall.
  - Make sure that the hoses or the cable don't catch.
14. Lift the jib of the ground.

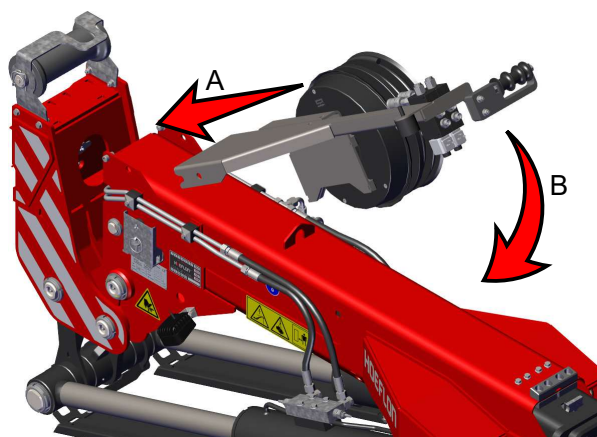


## 5.2 Install the reel on the jib

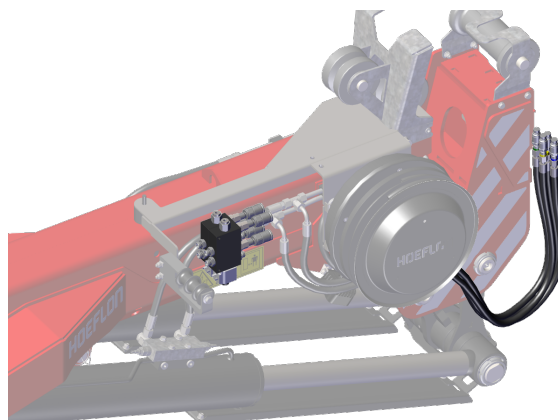
1. Remove the jib support.



2. Move the reel so that the bracket goes on the pin.
3. Turn the reel on to the jib.



4. Disconnect the hoses between the crane and the jib.
5. Connect these hoses to the distribution box at the front of the jib.
6. Connect the hoses that are fixed to the distribution box at the front of the jib to the crane.



### Note

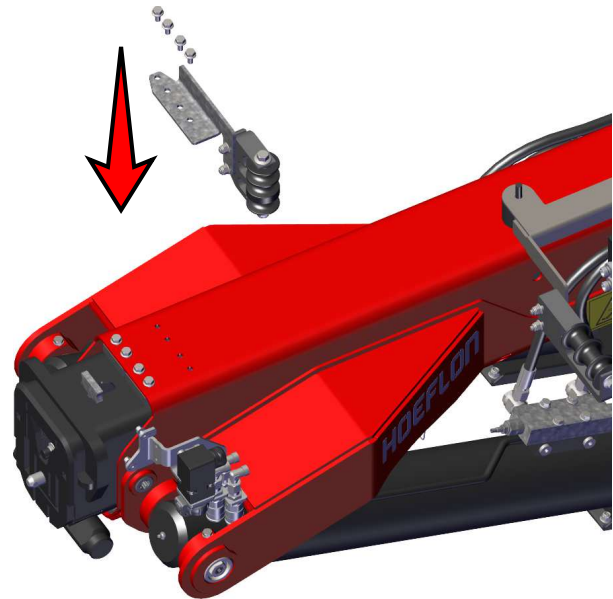
Make sure that you connect matching colors together.



### Note

Do a check of all the movements of the jib. Make sure that everything moves as expected.

7. Install the bracket for the extension hoses to the end of jib.



### 5.3 Attaching the multitool



#### Warning

Make sure that all parts move freely during installation.

If a part does not move freely tension can occur, the parts can then suddenly move with much force.

This can lead to loss of limb.



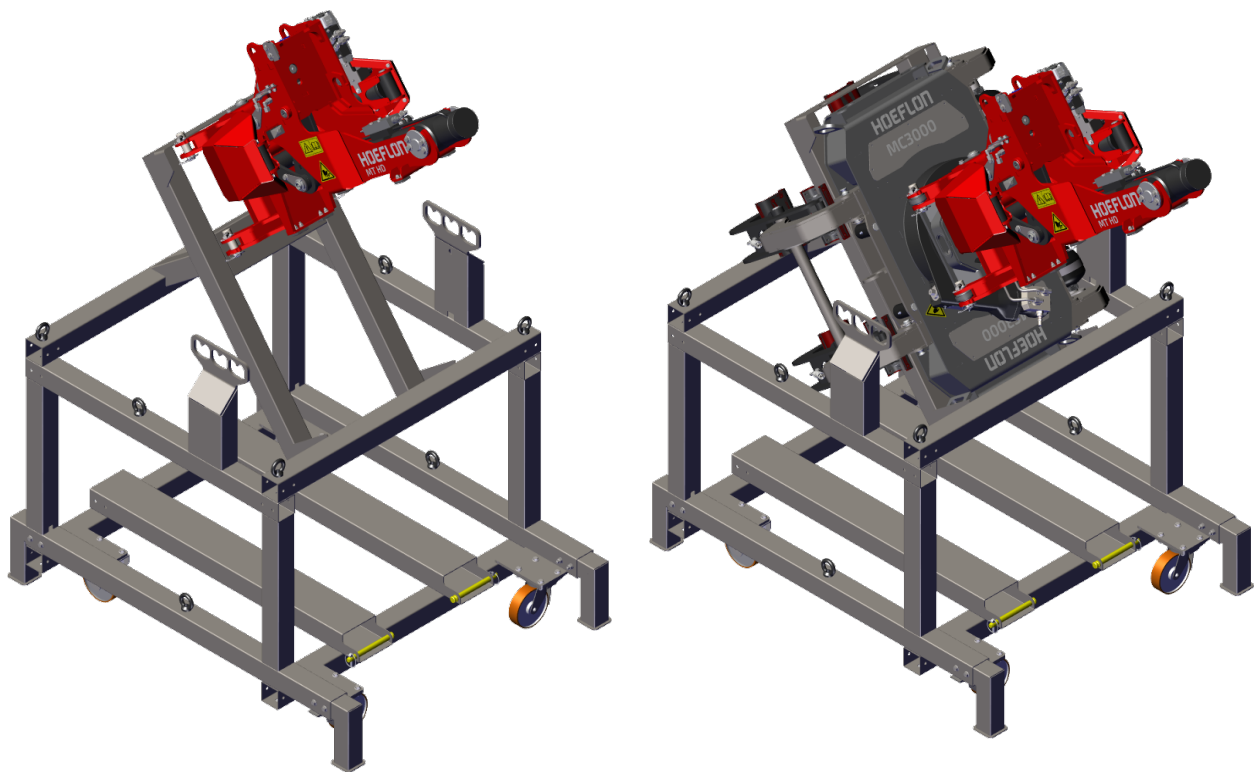
#### Caution

Use the SLOW setting when you install or remove an implement from the crane.



#### Note

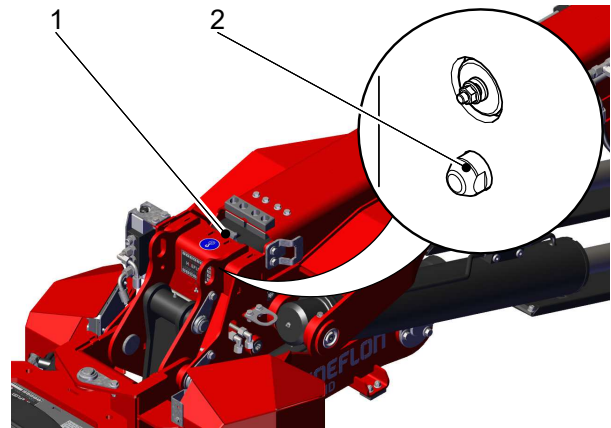
Only use a hammer that has a soft face.



The multitool can be stored:

- directly on the storage trolley,
  - on the multiclaw on the storage trolley.
1. Make sure that:
    - The trolley is standing on all four feet.
    - the wheels are retracted.
    - The trolley is stable
    - the multiclaw is positioned correctly.
  2. Align the jib with the multitool.
  3. Pull the release (1) back and then sideways.
    - Make sure that the release goes into the slot.
  4. Make sure that the retainer pin (2) is retracted into the jib.
  5. Slowly raise the jib until it lifts the multitool.

6. When the jib is fully attached to the multitool:
  - Move the release out of its slot.
  - Move the release forward.
  - Make sure that the retainer pin (2) engages in the multitool.
7. Connect the electrical connector to the connector on the boom.
8. Connect the four hydraulic hoses of the multitool jib to the couplings at the front of the boom.

**Note**

Make sure that you connect matching colors together.

**Note**

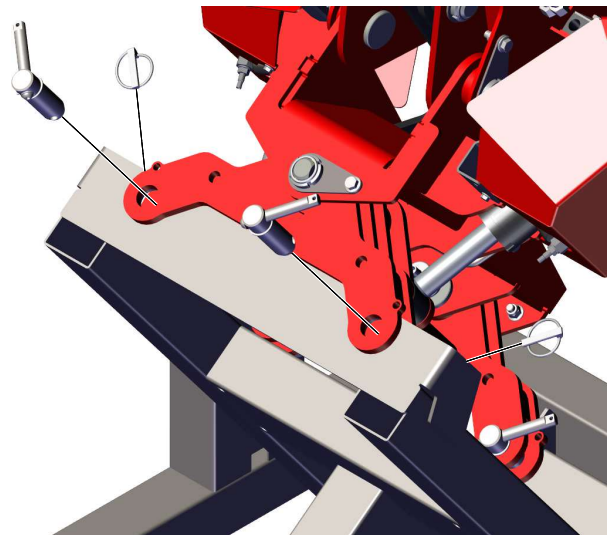
Do a check of all the movements of the multitool. Make sure that everything moves as expected.

**Note**

Make sure there is enough oil in the hydraulic oil tank.

### 5.3.1 Remove the multitool from the storage trolley

1. Remove the lynch pins.
2. Remove the pin.
3. Remove the multitool from the storage trolley.

**Note**

Put the pins and the lynch pins back when you have removed the multitool from the storage trolley.

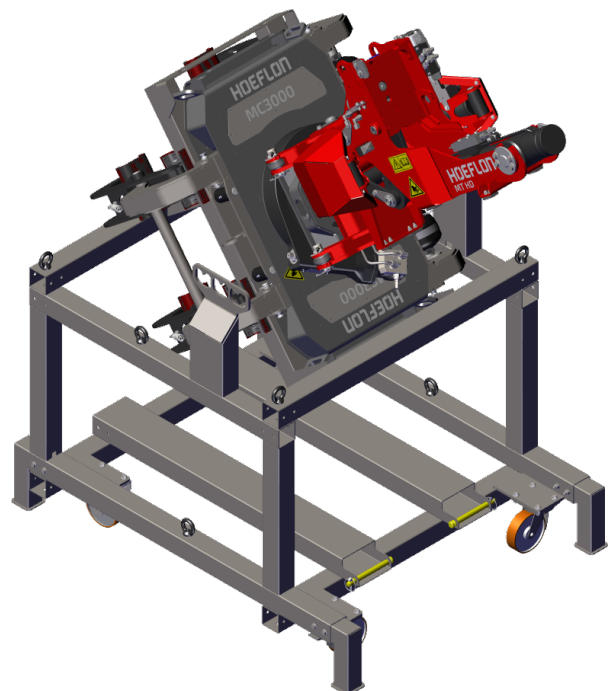
### 5.3.2 Remove the multitool and the multiclaw from the storage trolley

1. Make sure that the jaws of the multiclaw are open.
2. Carefully move the multitool with the multiclaw out of the storage trolley

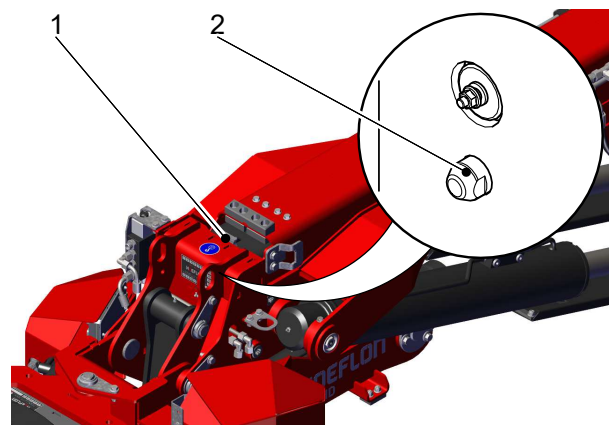
## 5.4 Put the multitool in the storage trolley

### 5.4.1 Multitool and multiclaw

1. Open the jaws of the multiclaw.
2. Carefully put the multiclaw in the storage trolley.

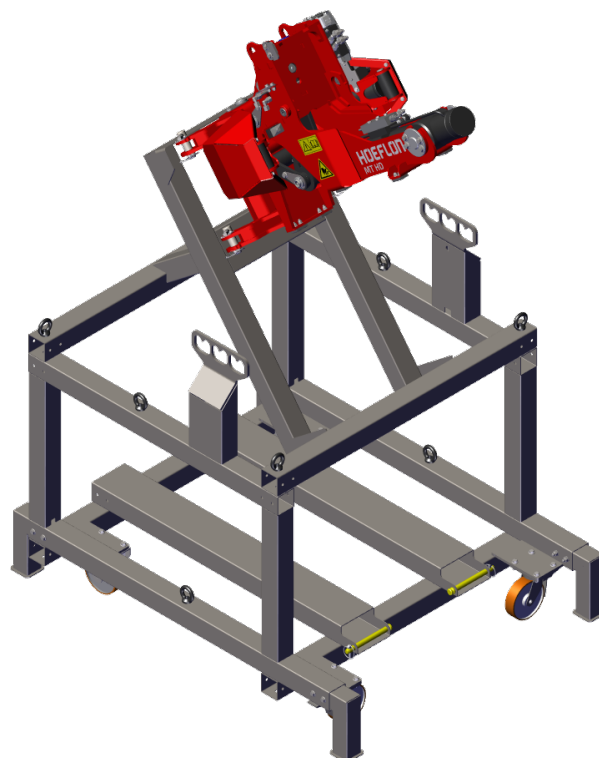


3. Pull the release (1) back and then sideways.
  - Make sure that the release goes into the slot.
4. Make sure that the retainer pin (2) is retracted into the jib.
5. Slowly raise the jib and move it away from the multitool.

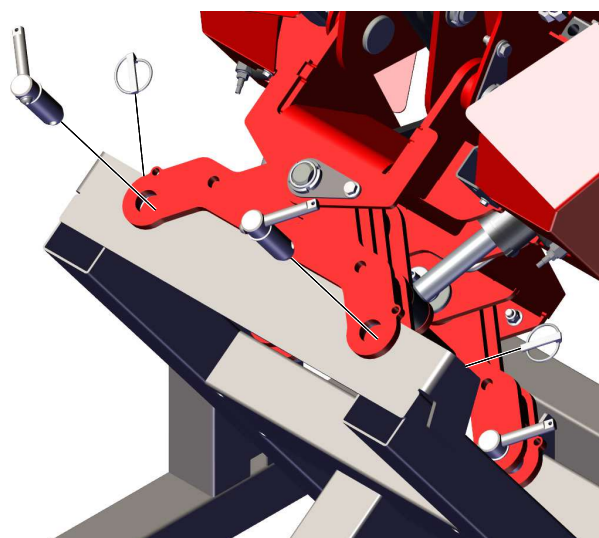


### 5.4.2 Multitool only

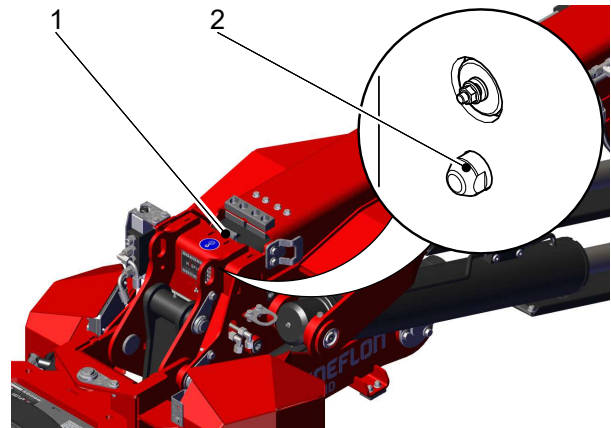
1. Carefully put the multitool in the storage trolley.



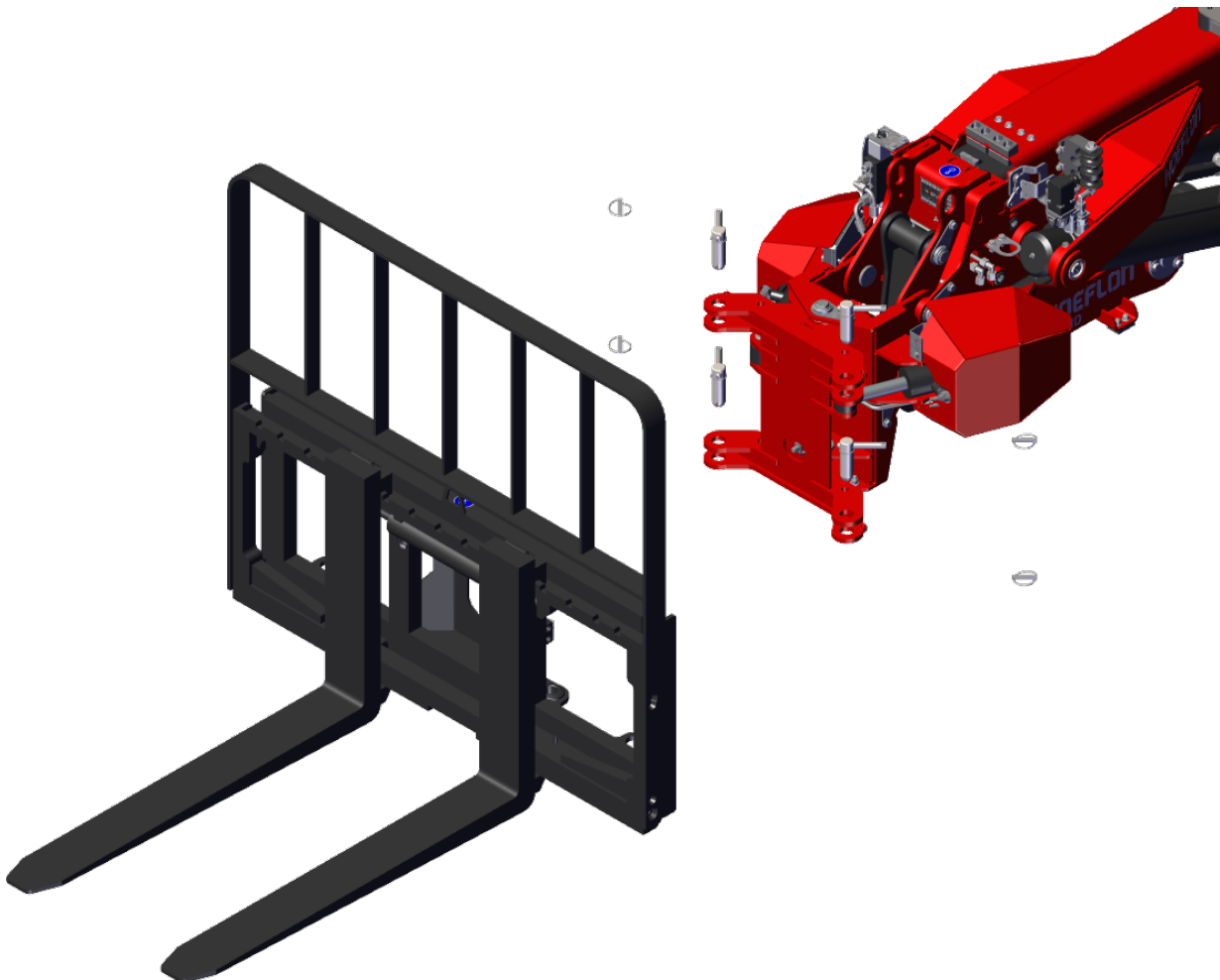
2. Make sure that bracket of the multitool is over the bar at the end of the storage trolley.
3. Put the pins through the holes in the multitool and the holes in the bar.
  - Safety the pins with the lynch pins.



4. Pull the release (1) back and then sideways.
  - Make sure that the release goes into the slot.
5. Make sure that the retainer pin (2) is retracted into the jib.
6. Slowly raise the jib and move it away from the multitool.



## 5.5 Attaching the pallet fork



**Caution**

Use the SLOW setting when you install or remove an implement from the crane.

**Warning**

Make sure that all parts move freely during installation.

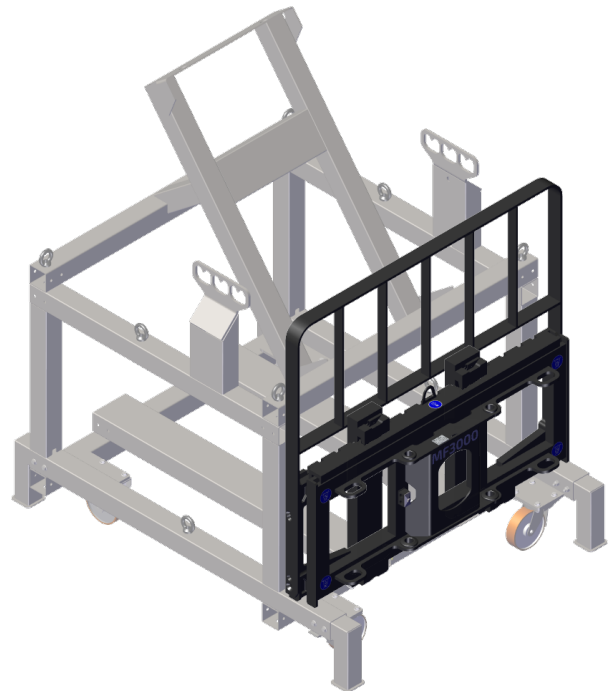
If a part does not move freely tension can occur, the parts can then suddenly move with much force.

This can lead to loss of limb.

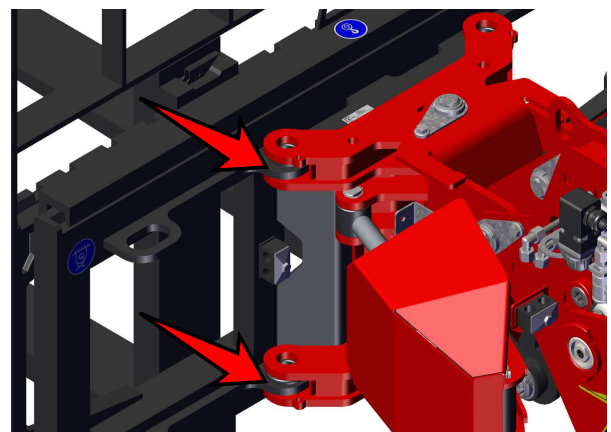
**Note**

Only use a hammer that has a soft face.

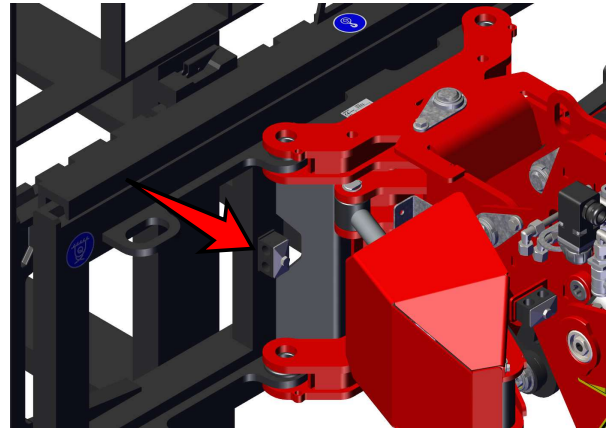
1. Make sure that the pallet fork has the correct position in the storage trolley.
  - The tines are in the rectangular storage profiles.



2. Remove the four lynch pins from the bottom of the four locking pins.
3. Remove the locking pins.
4. Slowly move the multitool into the pallet fork.
  - Make sure that the lugs on the pallet fork move between the brackets on the multitool.
  - Make sure that the holes align.
5. Put the four locking pins back to attach the pallet fork to the multitool jib
6. Safety the locking pins with the lynch pins.



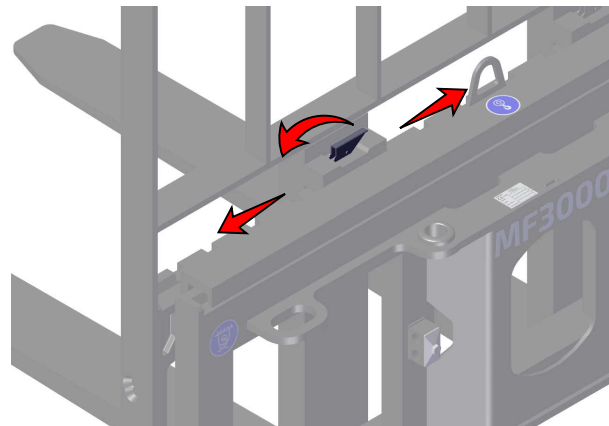
7. Connect the hydraulic hoses to the connector on the pallet lifter.
  - The hoses are color coded, make sure you connect them to the connectors with matching colors.
8. Connect the electrical connector to the connector on the multitool.



## 5.6 Setting the tines on the pallet fork

The pallet fork has two tines. You can change the space between the tines:

1. Pull the latch on the top of the tine up,
2. Move the tine to the correct position.



### Caution

Make sure that the distance between each tine and the center of the pallet fork is equal.

3. Make sure that the adjustment knob aligns with a slot on the crossbeam.
4. Release the latch.



### Caution

Make sure that the latch fully engages in its slot.

## 5.7 Removing the pallet fork



### Warning

Make sure that all parts move freely during installation.

If a part does not move freely tension can occur, the parts can then suddenly move with much force.

This can lead to loss of limb.



### Caution

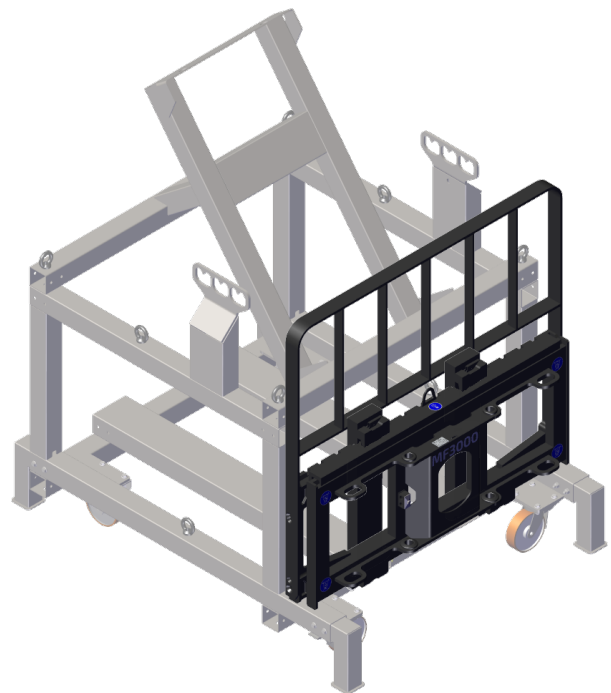
Use the SLOW setting when you install or remove an implement from the crane.



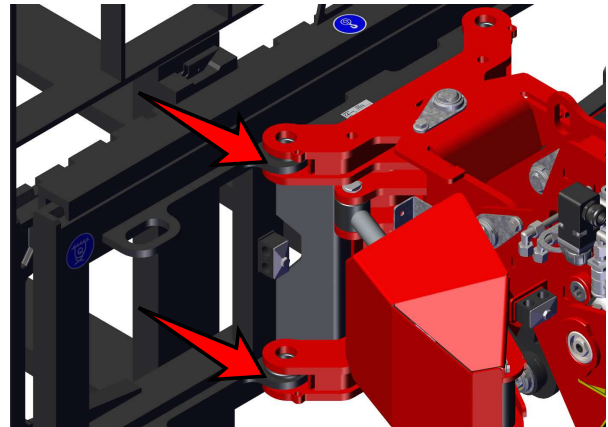
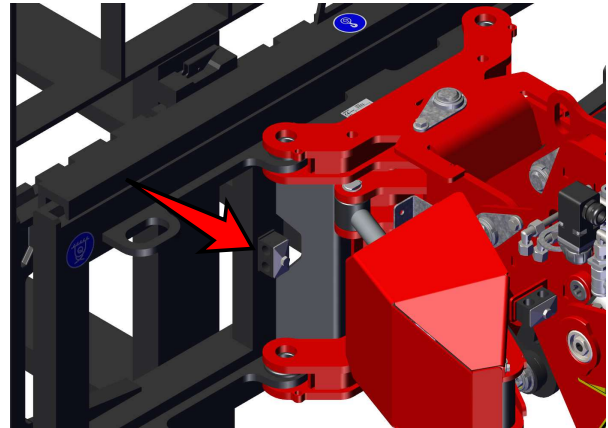
### Note

Only use a hammer that has a soft face.

1. Move the pallet fork in the storage trolley.
  - Make sure that it is in the correct position in the storage trolley.
  - The tines are in the rectangular storage profiles.



2. Disconnect the hydraulic hoses from the connector on the pallet lifter.
  - Put the hoses in a safe position.
3. Disconnect the electrical connector from the multitool.
  - Put the electrical connector in a safe position.
4. Remove the four lynch pins from the bottom of the four locking pins.
5. Remove the locking pin.
6. Slowly move the multitool away the pallet fork.
7. Put the four locking pins back.
  - Put the lynch pins back in the locking pins..

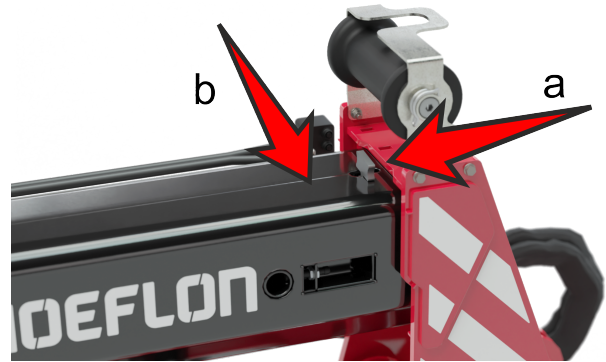


## 5.8 Removing the Jib

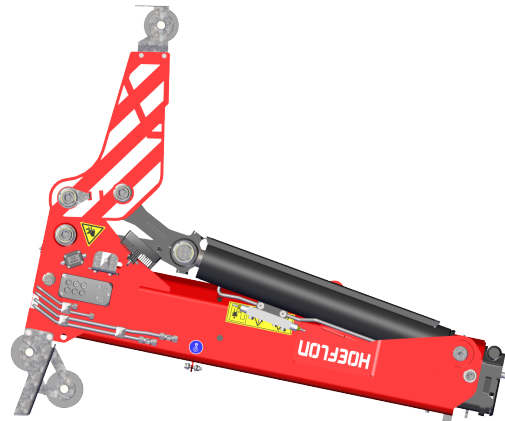


1. Move the jib into its transport position.
2. Extend the boom and adjust the crane with the outriggers so that the jib is put on the ground.

3. Pull the release on the boom to the back (a).
4. Push the release to the side so that the release stays open (b).
5. Adjust the connector plate of the jib so that the boom can move out of the plate.

**Note**

Put the jib on the two supports.



6. Slowly move the boom DOWN.
  - Make sure that the jib doesn't fall.
  - Make sure that the hoses or the cable don't catch.
7. Disconnect the hydraulic hoses and the power plug.
8. Move the hydraulic hoses and the power cable to a safe position.



9. Fully retract the boom.

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# 6.

## Operation

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### 6.1 Control limitations

You cannot:

- extend the jib and slew the multitool jib at the same time,
- extend the jib and tilt the multitool jib at the same time,
- tilt and slew the multitool jib at the same time,
- rotate the multiclaw and move the multiclaw jaws at the same time,
- lift the multitool and move the multiclaw jaws at the same time,
- lift the multitool and rotate the multiclaw at the same time,
- lift the multitool and rotate the vacuum adapter at the same time.



#### Caution

The automatic leveling of the pallet fork does not work when the boom and / or the jib is raised above 45°.

If you raise the boom and / or the jib above 45° then the pallet fork will tilt rearward.

### 6.2 Using the multiclaw

Use the multiclaw to lift beams and pipes



#### Caution

Refer to the load chart in the appendix for the maximum load when you use the multitool.



#### Caution

Be aware that the maximum load of the multiclaw is also limited by the maximum that the multiclaw can hold by the friction between the jaws.

**Caution**

Make sure that the clamping plates are in good condition, dry and clean so that they keep a good hold on the load.

Use the procedures given in this guide to operate the multitool correctly.

### 6.2.1 Lifting a beam

**Note**

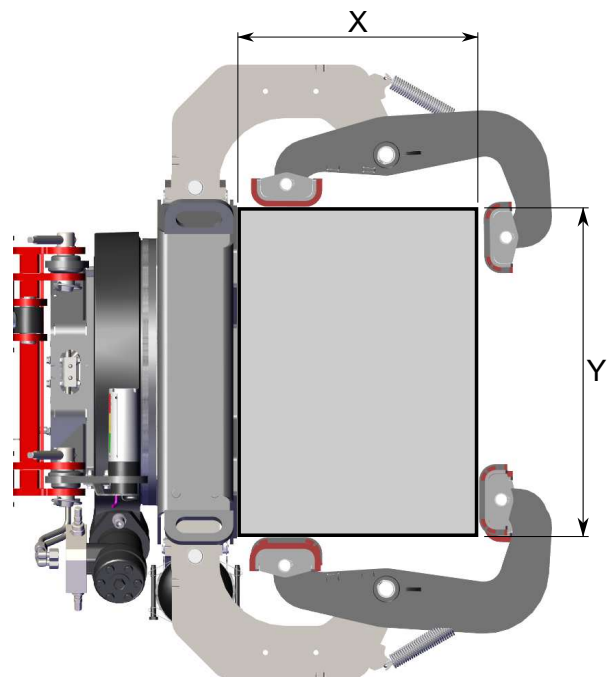
Use the clamping plates on the clamping jaws.

Clamping plates distribute the pressure better.

The maximum dimensions of a beam that can be lifted in the multitool are:

- $x = 400$  mm
- $Y$  is between 600 mm and 800 mm

The maximum weight is 3 ton.



### 6.2.2 Procedure

**Caution**

Refer to the load chart in the appendix for the maximum load when you use the multitool.

1. Attach the multitool jib and the multiclaw to the crane.
2. Move the multiclaw so that it is close to the center of gravity of the beam.
3. Push the **Lock/unlock function** button once before moving the joystick.
4. Open the clamping jaws of the multiclaw.
5. Move the multiclaw forwards.

6. Close the clamping jaws of the multiclaw with the joystick (forwards).
  - Grip the beam on its center of gravity (in the middle),
  - Use maximum clamping force.
7. Lift the beam carefully.
  - Make sure that it is level,
  - Make sure that it is gripped tightly.
8. Use the levers and joystick on the remote control to move the beam in position.

### 6.2.3 Unloading beams

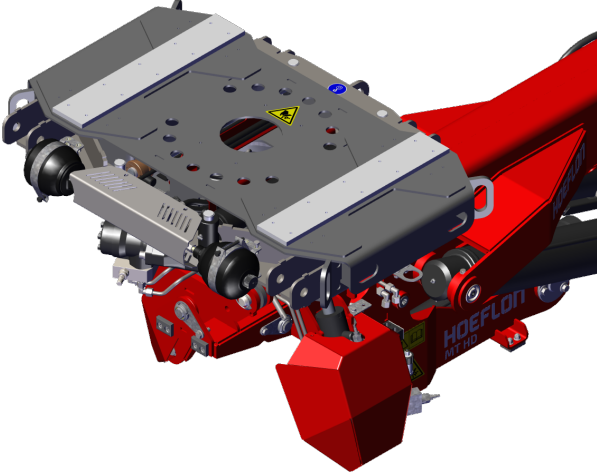


#### Caution

Make sure that the is correctly positioned and safe before you stop the clamping function of the multiclaw.

1. Push the **Lock/unlock function** button once before moving the joystick.
2. Open the clamping jaws of the multiclaw.
3. Move the multiclaw away from the beam.

### 6.2.4 Use the multiclaw as a lifting platform

1. Remove the clamping jaws.
  2. Turn the multiclaw so that it points UP.
- 
3. Put the load in a stable position, at least 120 cm above the ground.
  4. Push the **Lock/unlock function** button once before moving the joystick.
  5. Fully close the multiclaw.
  6. Turn the multiclaw so that the lifting table points UP.

7. Move the multiclave under the load.
  - Make sure that the multiclave is exactly under the center of gravity of the load.
  - Make sure that the load is secure.
8. Slowly lift the multiclave until it touches the load. Do not apply pressure to the load.
9. Lift the load carefully. Make sure that it.
  - is horizontal,
  - is not crushed,
  - does not move on the multiclave.
10. Use the levers and joystick on the remote control to move the load in position.
11. Attach the load in position.
12. Move the multiclave away from the load.

## 6.3 Using the pallet fork



### Caution

The automatic leveling of the pallet fork does not work when the boom and / or the jib is raised above 45°.

If you raise the boom and / or the jib above 45° then the pallet fork will tilt rearward.



### Caution

The crane can become unbalanced if you slew the pallet too far to a side.

The remote control will give an acoustic warning.

Move the pallet fork back to a safe position.

### 6.3.1 Lifting and moving a pallet



### Caution

Refer to the load chart in the appendix for the maximum load when you use the multitool.



### Caution

Make sure that the load on the pallet cannot move.

Safety the load to the pallet fork.

- The pallet fork has attaching holes for straps.

1. Attach the multitool jib and pallet fork to the crane.
2. Lower the pallet fork with the boom.

3. Make sure that the tines are level.
4. Adjust the width of the tines (see 5.6 Setting the tines on the pallet fork).
5. Slowly move the tines fully under the pallet until the pallet touches the backrest.
6. Carefully lift the pallet
7. Make sure that the pallet:
  - stands on both tines
  - is straight on the tines
  - cannot move.

### 6.3.2 Put the pallet in position.



#### Caution

Make sure that the tines of the pallet fork stay close to the ground when you move the crane.

1. Use the levers and joystick on the remote control to move the pallet into position.
2. Make sure that it is stable.
3. Slowly move the pallet fork back until the tines are no longer under the pallet and the pallet is fully free.



---

# 7.

## Maintenance

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### 7.1 Introduction

The maintenance intervals and tasks are shown in the maintenance schedule. The lubrication points and intervals are shown in the lubrication chart.

Obey these instructions and make sure that your equipment stays in good condition.

Unusual noises or vibrations can indicate a defect in the multitool. Speak to your Hoeflon dealer immediately and schedule a servicing.

### 7.2 Maintenance work

The risk of accidents increases during maintenance, cleaning and service. Let your Hoeflon dealer do the maintenance on the multitool.

The lubrication and maintenance schedules show all maintenance work and intervals. Make sure that you do the maintenance on time.

In the Netherlands, a sticker gives the date when the next inspection is necessary.

Refer to your local authorities for the rules and guidelines on the inspection of the Hoeflon Multitool HD.



### 7.2.1 First use

Make sure that you do the daily inspection before using the multitool for the first time .

### 7.2.2 Scheduled servicing

1. The first scheduled servicing is after 2 weeks or 50 hours of operation. Whichever comes first.
2. After that do the servicing of the multitool every two weeks or every 50 hours of operation. Whichever comes first.
3. Scheduled servicing and inspections must be done by your Hoeflon dealer.

## 7.3 Daily inspection of the multitool

This is in addition to the daily inspection described in the user manual for the compact crane.

1. Clean the multitool.
2. Make sure that:
  - all rotating and moving parts are not worn or damaged,
  - all nuts and bolts are in position and tight,
  - the safety stickers are not missing, worn or damaged,
  - there are no oil leaks,



#### WARNING

Stop work immediately if you find any hydraulic leaks. Repair a leak immediately.

Hydraulic oil under pressure can penetrate the skin.

- the hoses and cables are not damaged,
    - Replace them if the inner steel core is visible.
  - the lifting hook is not worn or damaged.
  - the anti-slip material on the multiclaw jaws is not damaged or loose,
  - the suction cups of the glass vacuum lifter are not worn or damaged.
  - the pallet fork is not worn or damaged,
3. Examine the clamping plates each day before you start work.
    - Replace a clamping plate if a connection point is broken.
    - Replace the anti-slip material on the clamping plates if it is damaged down to the metal.
    - The anti-slip material is not part of the warranty of Hoeflon International B.V..
    - Buy new anti-slip material from Hoeflon International B.V.

## 7.4 Maintenance schedule

The maintenance schedule indicates which maintenance must be done and at what interval.

Description	Action	Hours interval							
		Daily	First 50	50	100	250	500	1000	4000
o = dealer, ● = owner									
the multitool	Clean		●	●					
	General inspection	●							
	Lubricate		●	●					
Safety provisions (emergency stop, sensors, stickers etc.)	Inspect	●							
Oil level in crane hydraulic tank	Inspect / Fill	●							
Oil leaks	Inspect	●							
Hoses and cables	Inspect	●							
Anti-slip material on multiclaw	Inspect	●							
Pallet fork	Inspect	●							
Lifting aids (straps etc.)	Inspect	●							

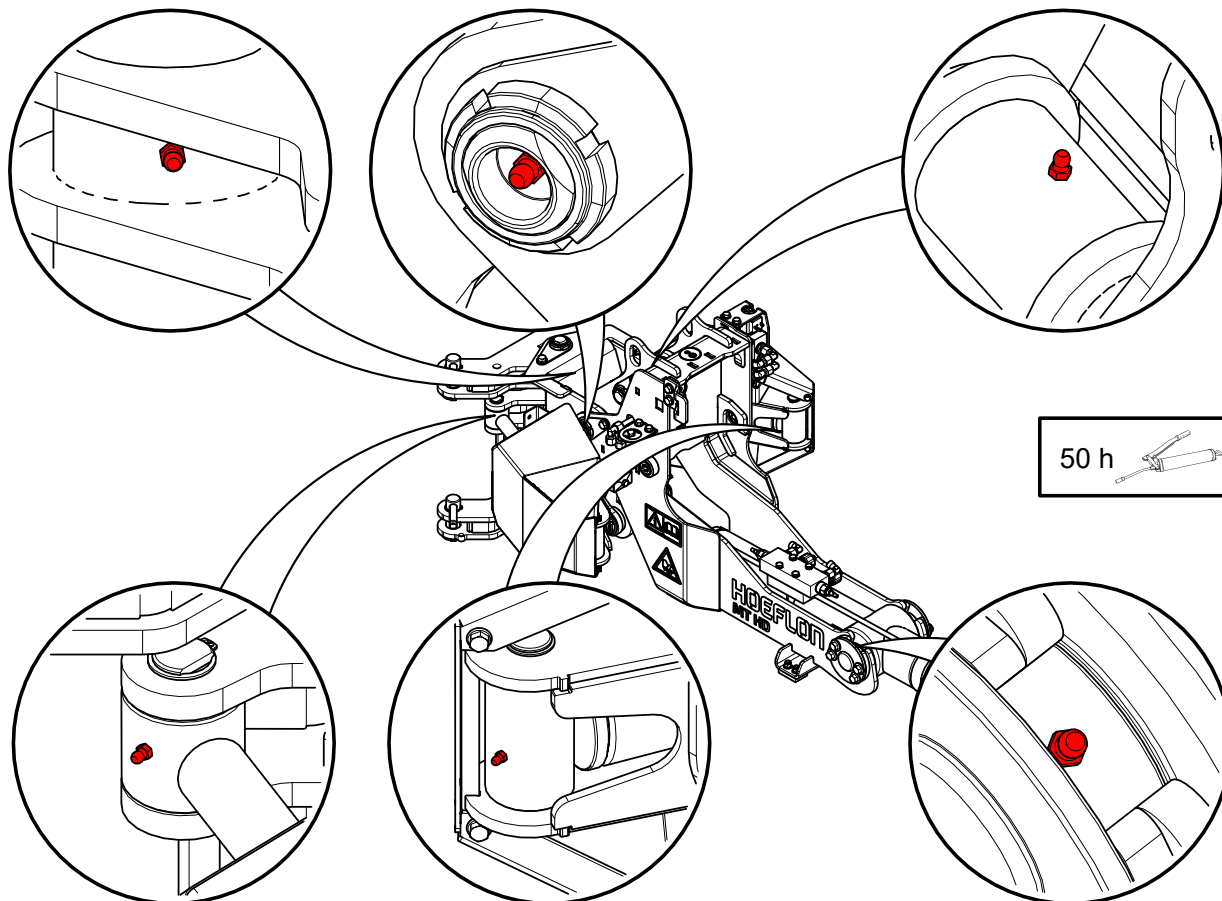
## 7.5 Lubrication

Lubricate the multitool as shown in the lubrication chart:

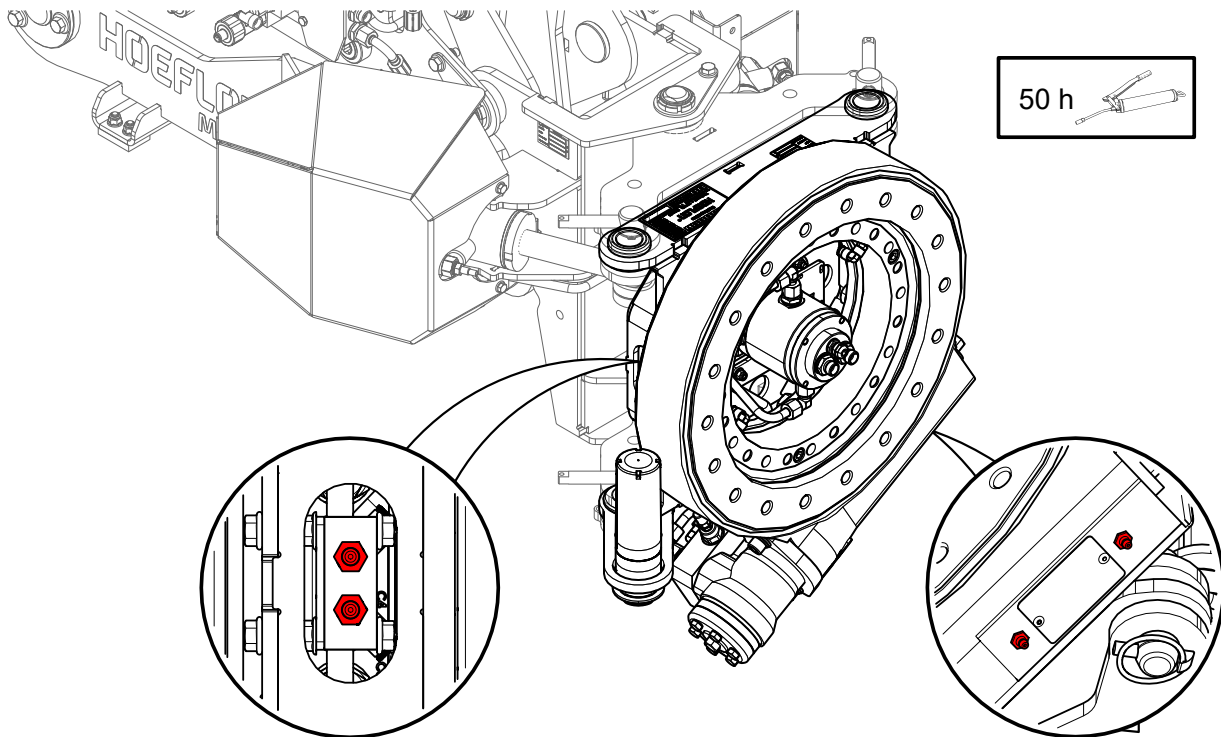
- Clean the grease nipples before lubrication.
- Use clean greases, stored in sealed packaging.
- Use only prescribed greases (see 7.5.2 Oil).

### 7.5.1 Lubrication chart

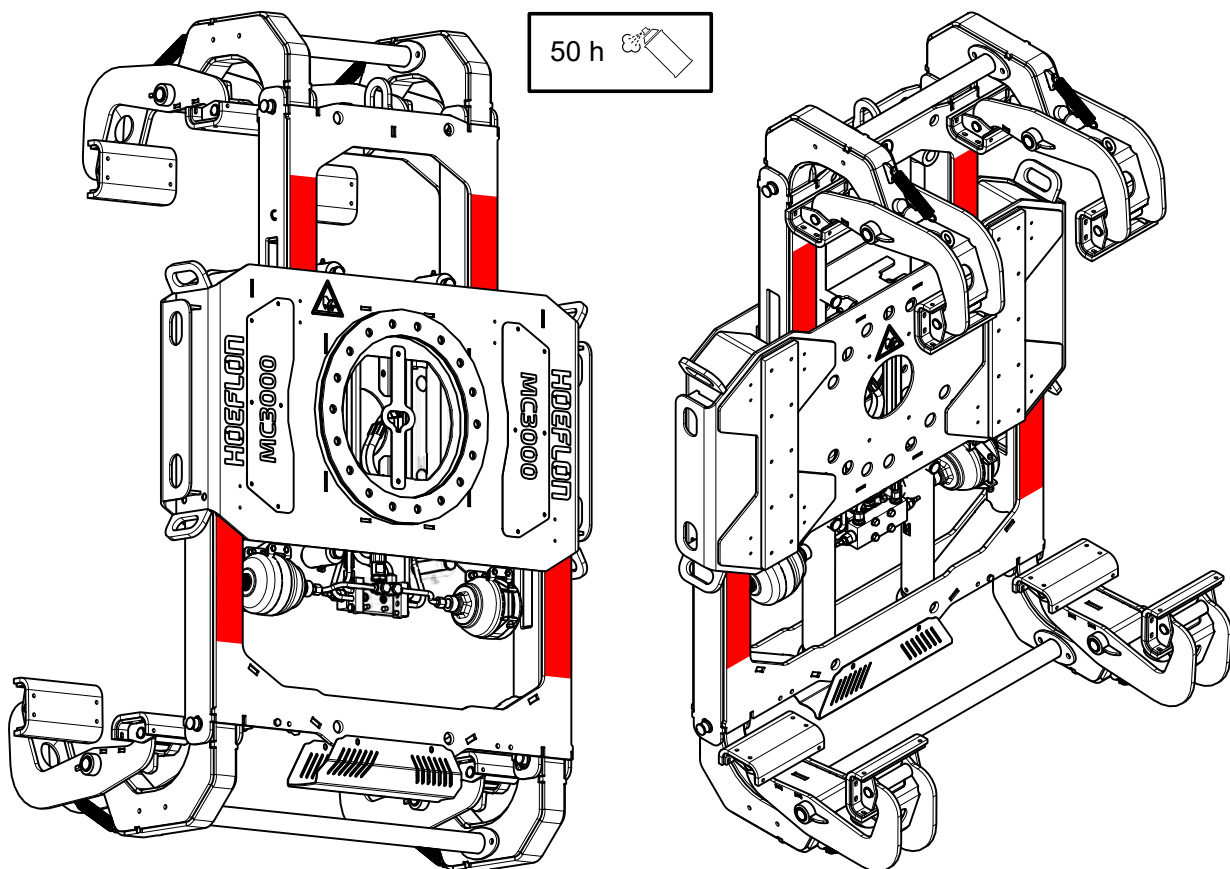
#### Multitool



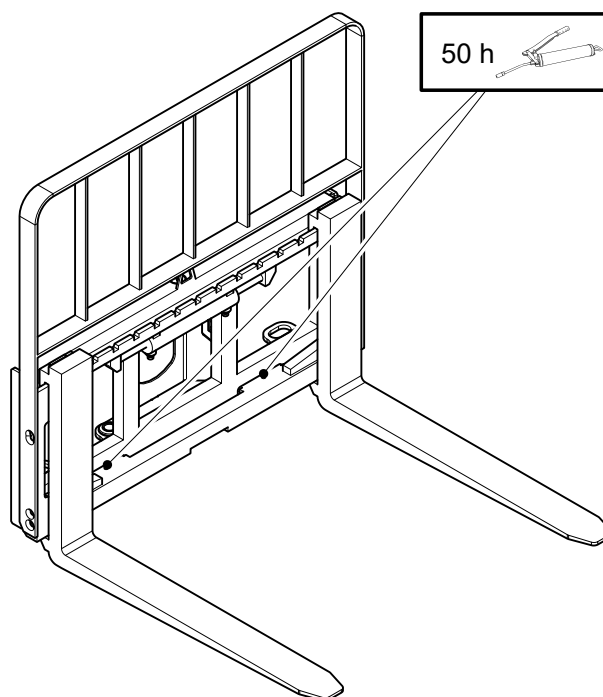
Rotator



Gripper



## Pallet fork



### 7.5.2 Oil

Use one of the following recommended oil types.

Manufacturer	Hydraulic oil
Q8	Heller 46
Total	Equavis ZS 46
Shell	Shell Tellus S2/S3
Kroon oil	Perlus ZF 46

### 7.5.3 Grease

Grease fittings: EP2

Aerosol grease: Use INTERFLON GREASE OG or comparable

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# 8.

## Troubleshooting

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### 8.1 Troubleshooting the multitool

Malfunction	Possible cause	Solution
You cannot attach the multitool jib to the boom.	The release or locking pin is dirty.	Fully clean the boom head.
The remote control is not responding.	An emergency stop button is pushed IN.	1. Make sure that the situation is safe. 2. Unlock the emergency buttons.
The multitool is not recognized by the crane (C30e only).	The RFID tag is broken or missing.	Put the RFID tag back in position. Replace the RFID tag.
The multitool responds differently than expected.	The hydraulic hoses to the multitool are not connected correctly.	Make sure that the hydraulic hoses are connected correctly. Use the color coding on the hydraulic hoses.
Electrical components (e.g. stack light, sensors) do not work.	The electrical cable is not connected correctly.	Make sure that the electrical cable is connected correctly.
Hydraulic malfunction.	Oil level in the crane too low.	Make sure that there is enough hydraulic oil in the hydraulic oil tank of the crane. Fill the tank if necessary.
	Leak in the hydraulic system.	Stop work immediately if you find any hydraulic leaks. Repair a leak immediately.

If your problem is not listed, please speak to your dealer or to Hoeflon dealer.

### 8.2 Error codes

The table contains has the error codes that can appear on the display.

Do the correction procedure first.

If the problem persists, speak to your Hoeflon dealer.

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Error code	Possible cause	Solution
174	The jib angle sensor of the multitool has a malfunction	Make sure that the sensor is connected correctly.
175	The tilt angle sensor of the multitool has a malfunction	Make sure that the sensor is connected correctly.
176	The pressure sensor of the multiclaw has a malfunction	Make sure that the sensor is connected correctly.

# 8.

## Transport and storage

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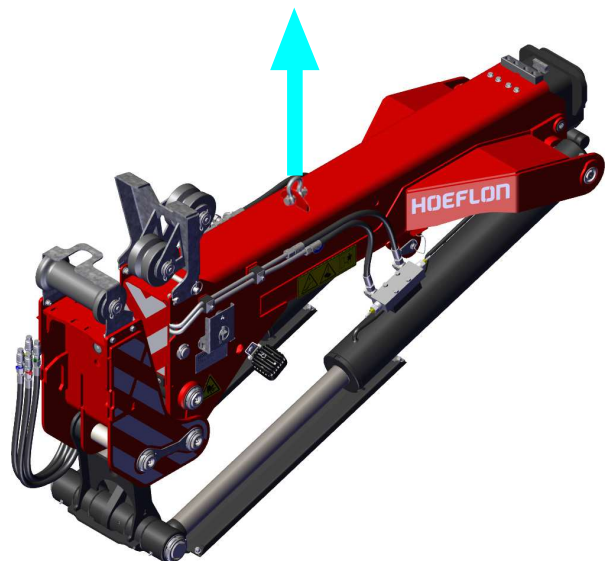
### 8.3 Lifting the jib

**Caution**

Make sure that the crane, the hoist and the lifting slings are correctly rated.

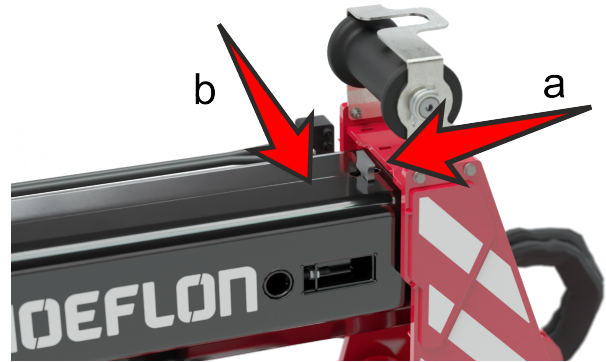
#### 8.3.1 Removing the jib from the crane

1. Fully turn the jib OUT.
2. Fully retract the jib.
3. Attach a lifting sling to the lifting eye.



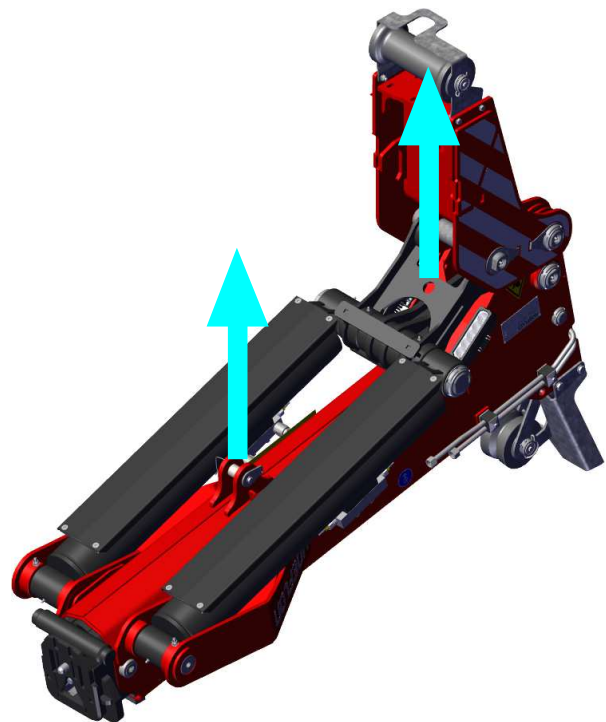
Identification of a lifting point.

4. Pull the release on the boom to the back (a).
5. Push the release to the side so that the release stays open (b).
6. Carefully lift the jib.



### 8.3.2 Lifting the jib after it is removed off the crane

1. Remove the jib off the compact crane (see 5.8 Removing the Jib).
2. Attach a lifting sling to:
  - the hoisting point between the lift cylinders,
  - the lifting eye on the hinge plate of the quick connect.



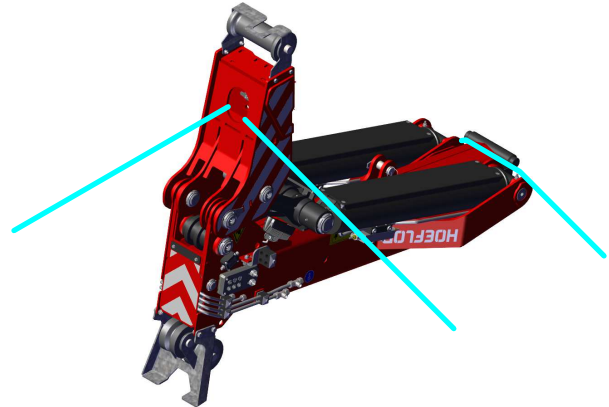
#### Note

These lifting points are not identified with a label.

3. Lift the jib.

## 8.4 Transporting the jib

1. Remove the jib from the crane (see 5.8 Removing the Jib)
2. Attach the jib to the pallet with lashing straps.
  - Attach two straps to the hole in the quick connect plate.
  - Put one strap over the jib section.
3. Make sure that the jib cannot:
  - slide off the pallet,
  - roll off the pallet.

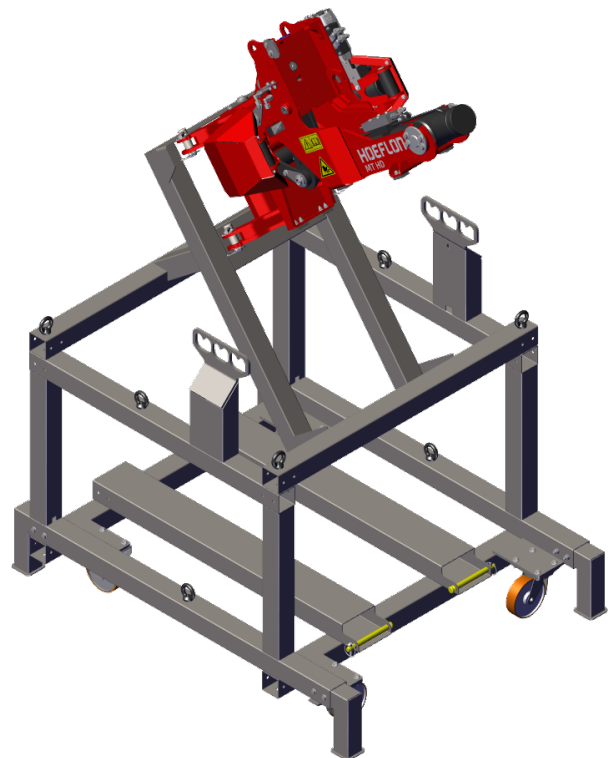


## 8.5 Using the storage trolley

### 8.5.1 Multitool only

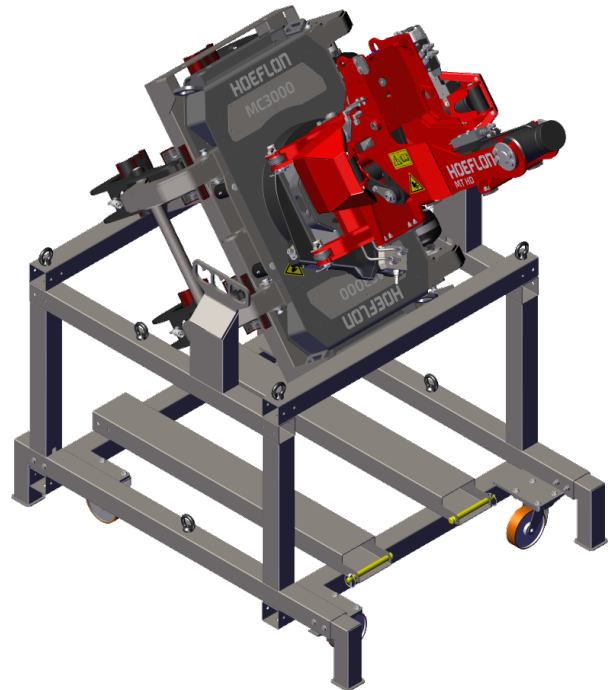
Store the multitool on the slanted beams on the storage trolley.

- Make sure that bracket of the multitool is over the bar at the end of the storage trolley.



### 8.5.2 Multitool with multiclaw

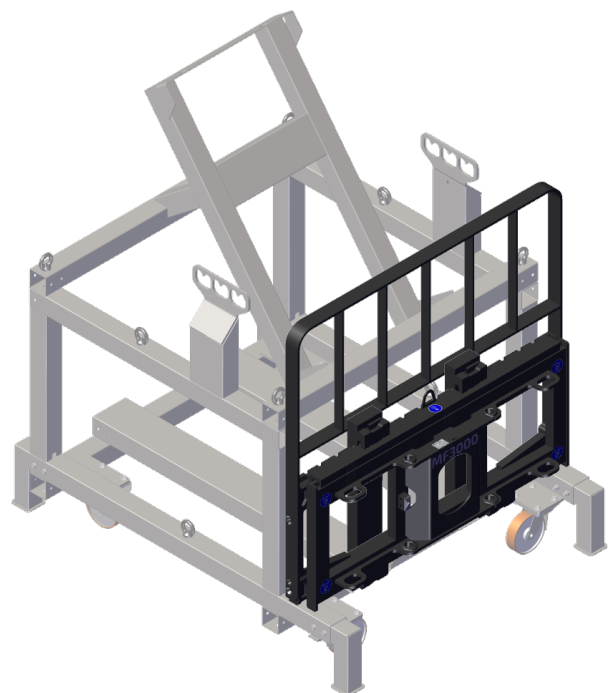
Store the multitool with the multiclaw on the slanted beams on the storage trolley.



### 8.5.3 Pallet lifter

Store pallet lifter on the side of the storage trolley.

- Make sure that the pallet tines go into the rectangular storage profiles



## 8.6 Putting the multitool in storage

1. Fully clean the multitool.
2. Put the multitool in its storage receptacle.
3. Grease the multitool (see 7.5 Lubrication)
4. Repair all damaged paintwork.
5. Apply a thin layer of grease to the parts that may rust.
6. Keep the multitool in a dry and cool area with good airflow.
7. Make sure that only approved persons are permitted to enter the storage area.



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# 9.

## Disposal

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### 9.1 Prepare the Multitool HD



#### **WARNING**

Hydraulic oil under pressure can penetrate the skin.

Before working on or removing hydraulic cylinders:

- Support lifted parts.
- Make sure there is no residual pressure in the cylinder.



#### **Caution**

Make sure that you

Only release pressure from the multitool if you are authorized to do so.



#### **Caution**

Make sure that all energy sources are disabled and made safe before you start to disassemble the Multitool HD.

1. Release the pressure from the Multitool HD.
2. Empty and clean the Multitool HD.
3. Discard all waste in an environmentally friendly manner.
4. Discard all components in an environmentally friendly manner.

### 9.2 Waste disposal



#### **Note**

Refer to local regulations when you discard waste material.

Incorrect disposal of waste is harmful to the environment.

Environmentally harmful waste includes but is not limited to:

- engine oil,
- diesel fuel,
- hydraulic oil,
- coolant,
- filters,
- greases.

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# Appendix

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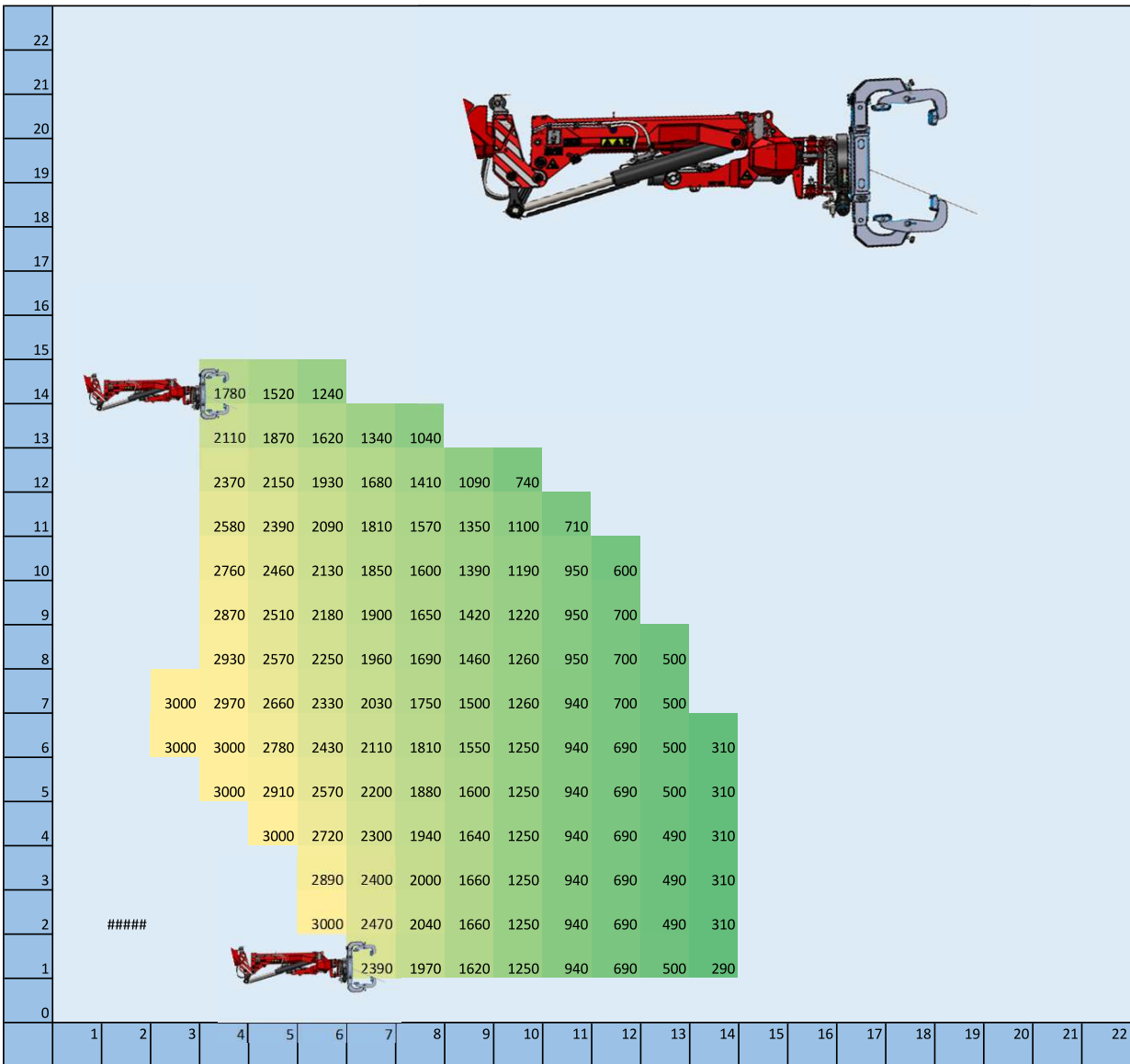
**C30e loadchart MT HD**

Outrigger fully extended

Counterweight extended

Jib 5 gen 2 horizontal (0°); retracted

MT HD parallel to Jib 5



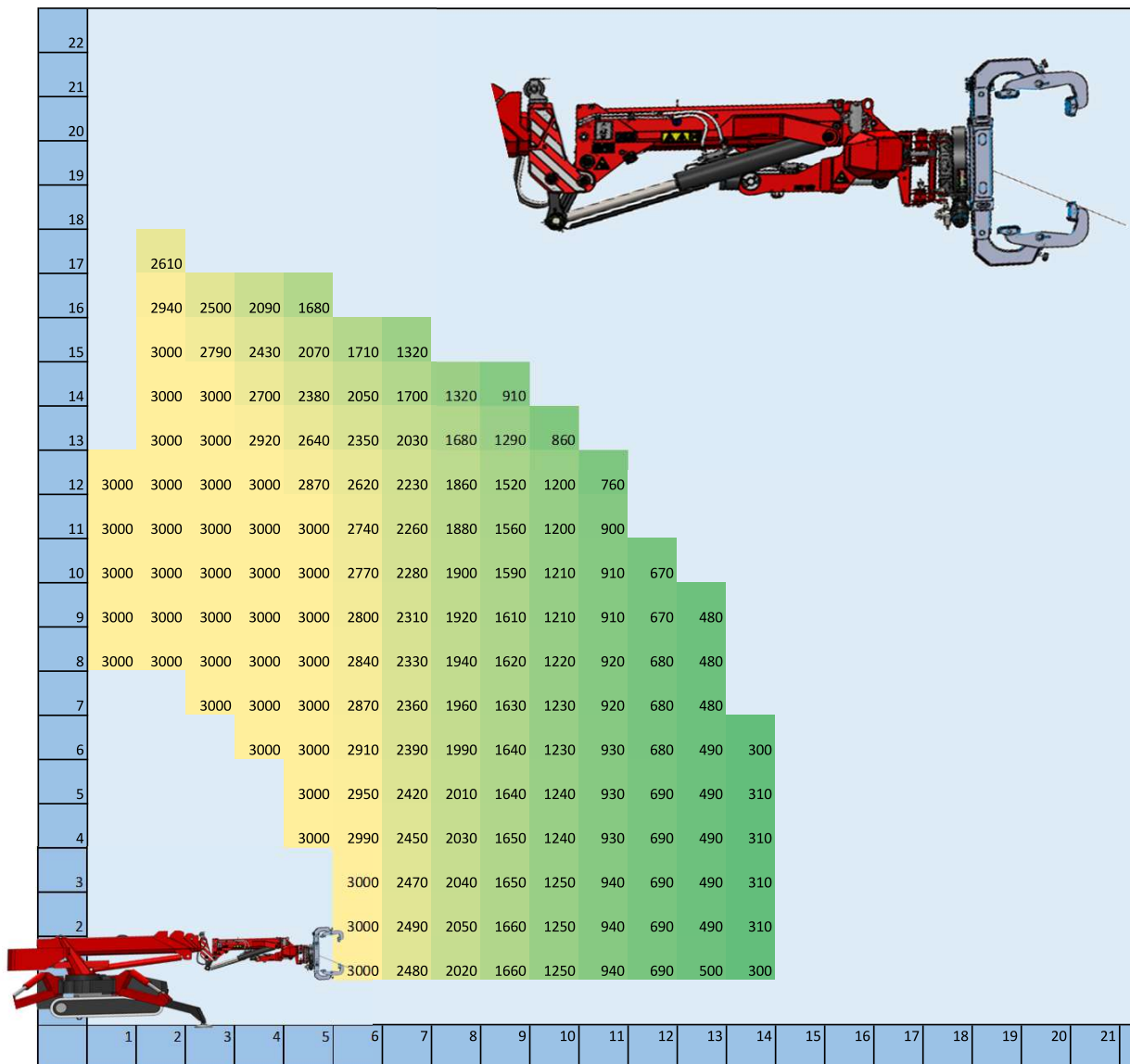
C30e loadchart MT HD

Outrigger fully extended

Counterweight extended

Jib 5 gen 2 parallel to boom; retracted

MT HD parallel to Jib 5



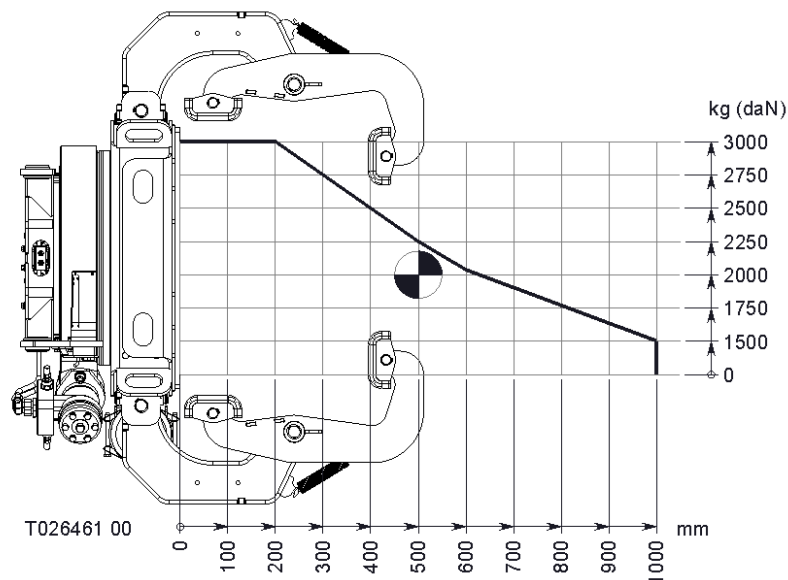
## Load chart - Multiclaw

### Side view

This load chart shows how much weight that you can lift with the jaws of the multiclaw. This is only if the shape of the object fits into the jaws and cannot move. This capacity does not apply when the multiclaw is rotating, because the load changes during the movement.

The chart line is almost horizontal from the contact surface at the back of the multiclaw to a point almost outside the clamping jaws. This means that for an object between 0 and 20 cm across, the maximum lifting capacity is 3000 kg.

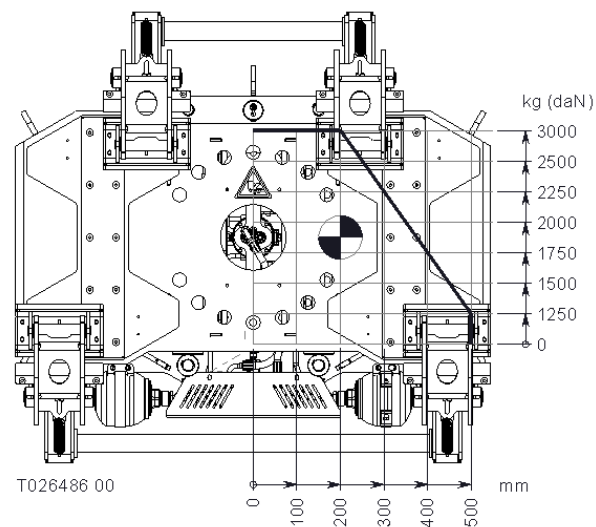
If the diameter of the cross section of the object is more than 20 cm, the permitted weight decreases as shown by the sloping line. If the center of gravity of the load is at 50 cm from the back of the multiclaw you can still lift 2250 kg and at 80 cm 1750 kg.



### Front view

The front view of the multiclaw load chart indicates the lateral mechanical range in the clamping jaws. This only applies if the shape of the object perfectly fits in the jaws and cannot move.

With the center of gravity up to 20 cm from the middle, you can pick up a load of up to 3000 kg.



## Other factors

The shape of the object does not always agree with the shape of the jaws. When it does not, the object that is lifted is held with friction or clamping force. In that case Hoeflon International B.V. cannot guarantee the amount of weight that can be lifted.

Conditions which may decrease lifting capacity are:

- environmental factors (e.g.)
  - wet weather
  - freezing temperatures
- surface properties of the object (e.g. roughness)
- surface condition of the object (e.g. whether it is oily)

## Load chart - Pallet fork

This load chart shows the maximum weight that you can lift with the pallet fork. The lifting capacity decreases with the distance of the center of gravity of the load to heel of the fork.

