

# Grapple Tong



**Original Operator's Manual** Copyright by Binderberger GmbH



Read the operating instructions carefully before  
commissioning the machine!

**This manual is valid for:**

<b>Model</b>	<b>Article number</b>
RZ 1200 light	RZ-M12L-1
RZ 1400 light	RZ-M14L-1
RZ 1600 light	RZ-M14L-1
RZ 1400	RZ-M14-1
RZ 1600	RZ-M16-1
RGZ 2300	RZ-M23-1
RZ 1200 plus	RZ-M12P-1
RZ 1400 plus	RZ-M14P-1
RZ 1600 plus	RZ-M16P-1
Radio controlled cable winch RZ	RZ-ZAL-08

**Version of this manual:** RZ 2.0

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## **1 EC Declaration of Conformity**

We hereby declare that the machine, in its different technical implementations, corresponds to the regulations of the Machinery Directive 2006/42/EC and any additionally related standards.

Each of the respectively included safety regulations and manuals are applicable to these machines.

The machines may not be altered. In the case of an alteration to the machine that is not verified by us, this declaration is rendered invalid.

Operation without the appropriate safety devices is not permitted, as the lack of safety devices would no longer comply with the CE directives and would additionally increase the risk of injury.

The name and address of the person who is authorised to compile the technical documentation is as follows:

CEO Karl Binderberger  
Binderberger Maschinenbau GmbH  
Fillmannsbach 9  
AT-5144 St. Georgen am Fillmannsbach

St. Georgen am Fill., 20.05.2015  
Place, Date



Signature

## 2 Safety instructions

### 2.1 Explanation of symbols

Please pay attention to the meaning of the following symbolic explanations and instructions description. They are divided into levels of risk and classified in accordance with ISO 3864- 2

#### **DANGER**



*Indicates an immediate threat of danger.  
If the information is not followed, death or serious bodily injury (invalidity) is the result.*

#### **WARNING**



*Indicates a potentially dangerous situation.  
If the information is not followed, death or serious bodily injury (disability) are the result*

#### **CAUTION**



*Indicates a potentially dangerous situation. If the information is not followed, material damage as well as minor or moderate physical injuries are the result.*

#### **NOTICE**



*Indicates general instructions, useful operator instructions and working recommendations that have no influence on the safety and health of personnel.*

2.2 Pictograms and their meaning:

	<p>Read the operating instructions carefully before starting up!</p> <p>Ear protection and safety glasses are to be worn during operation!</p> <p>Safety shoes (with steel cap) are to be worn during the operation!</p> <p>Gloves are to be worn during the operation</p> <p>The machine may only be operated by one person.</p> <p>Hot surfaces warning Rotating parts warning</p> <p>Intake warning danger</p>
	<p>Switch the machine off before servicing and secure against restarting.</p> <p>The machine may only be serviced by one person</p> <p>Allow the machine to cool down before servicing</p>
	<p>Lubrication points</p>

### 2.3 General safety instructions

The machine may only be operated by people who are trained, instructed and authorised for its use. These people must know the operating instructions and act in accordance with them. The respective competences of the operating personnel are clearly defined.

Operating personnel undergoing training may only initially work with the machine under the supervision of an experienced person. The completed and successful instruction is to be confirmed in writing.

### 2.4 Intended use

The grapple tongs (RZ light, RZ1400 / 1600 and RZ Plus) are designed for forestry use for pulling and lifting logs.

The brushwood gripper (RGZ 2300) is designed exclusively for the transport of brushwood, branches, scrub, shrubbery and bushes. All other forms of usage do not comply with the intended use. The manufacturer is not responsible for any personal injury or material damage that originates from non-compliant usage, but rather the operator of the machine is!

The reading of this manual as well as the observance of all instructions contained within it, particularly the safety instructions, also comply with the intended use. Also included is the fact that all inspection and servicing work is to be conducted in the prescribed time intervals.

### 2.5 Operators requirements

No special knowledge of mechanical or electrical engineering is necessary for the operation of the machine. Nevertheless, the operator must be at least **18 years** old. Before the machine is operated for the first time, the user must be trained by the operator of the machine and instructed accordingly. Protective shoes and close-fitting clothing are to be worn during the operation of the machine.

In instances where - servicing works is to be carried out; the operator must possess the necessary technical expertise.



## 2.6 Alterations to the machine

For safety reasons, no unauthorised alterations may be conducted on the machine, this is also valid for welding work on load-bearing parts. All planned alterations must be approved in writing by the Binderberger company.

Only use original replacement parts / original wear parts / original accessories - these parts are specially designed for the machine. With externally manufactured parts, it is not guaranteed that they have been designed and manufactured to fulfil the operational stress and safety demands.

Parts and additional equipment that have not delivered by us are also not authorised by us for use in the machine.

## 2.7 Residual risks

Despite the correct application of all the machine's safety regulations, residual risks can still occur. These mostly result from incorrect use of the machine.

- Touching rotating or moving components
- Injury from falling wood or machine parts
- Hearing damage from working without hearing protection
- Human misconduct
  - Excessive physical exertion
  - Mental overload
  - Entering a danger area
  - Distractions
  - Neglected control activities

### **3 Machine description**

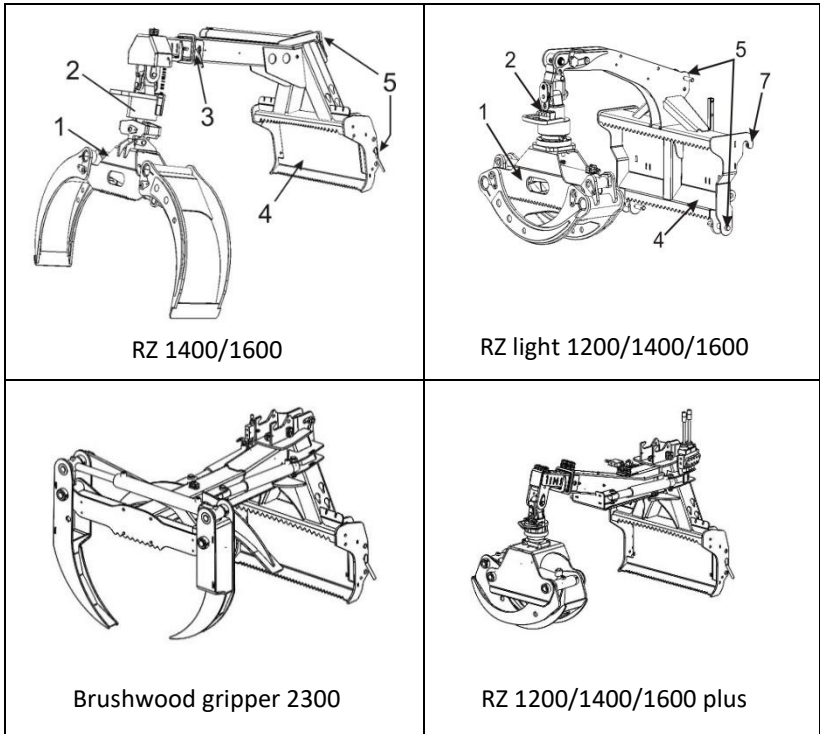
#### **3.1 Functionality**

The Binderberger grapple tong is an inexpensive way of pulling and lifting logs, branches and brushwood.

The log grapple can be attached to the three-point hitch of the tractor or to the front loader. The operation takes place via the tractor controls.



**3.2 Overview**




Pos.	Part Name
1	Grapple
2	Hydraulic rotator
3	Mechanical / hydraulic extension
4	Back-end shield
5	Three-point hitch
6	Swivel cylinder
7	Front loader attachment point

### 3.3 Technical Data

<b>Model</b>	<b>RZ 1400/1600</b>	<b>RZ light 1200/1400 /1600</b>	<b>RGZ 2300</b>	<b>RZ plus 1200/1400 /1600</b>
<b>Opening width [mm]</b>	1400 / 1600	1200 / 1400 / 1600	2300	1200 / 1400 / 1600
<b>Weight [kg]</b>				
<b>Max. Hydraulic operating pressure [bar]</b>	180	180	180	180

## 4 Transportation

### 4.1 Safety instructions during transport

<h1>WARNING</h1>	
	<p style="text-align: center;"><u>Risk of injury during transport!</u></p> <ul style="list-style-type: none"><li>• <i>Care must be taken to ensure that nobody is in the danger area and a sufficiently safe distance is kept!</i></li><li>• <i>Due to inclined positions during transport, the drawn log can leave the track and become a great danger.</i></li><li>• <i>It may not be allowed to pull logs on public roads.</i></li><li>• <i>Suspended loads can fall, then there is danger to life do not stand under suspended loads!</i></li><li>• <i>Always use suitable lifting tools to load the machine</i></li><li>• <i>The machine may only be lifted at the designated holding points</i></li></ul>

### 4.2 Transport journeys and journeys on public roads

When driving on public roads, the statutory provisions must be observed!


- Keep reflectors and lamps of the towing vehicle clean.
- When driving the vehicle, the driving speed must be adapted to the surface conditions. In this way you protect the grappling tongs from strong vibrations, which have an unfavourable effect on the connections.
- Pay attention to reduced manoeuvrability due to the additional weight.


For the time being, follow the instructions for decommissioning.

**ATTENTION!** Pulling logs on public roads may not be allowed!

## 5 Set up of the machine

### 5.1 Safety instructions for installation of the machine

<b>WARNING</b>	
	<p><b><u>Risk of injury in the event of improper installation of the machine!</u></b></p> <ul style="list-style-type: none"><li>• <i>Check the machine for transport damage before each installation!</i></li><li>• <i>Ensure that nobody is endangered by the installation!</i></li><li>• <i>Lay the hoses so that there are no tripping points!</i></li><li>• <i>The machine may only be operated if it is in perfect condition!</i></li><li>• <i>Do not attach or detach hoses under pressure!</i></li><li>• <i>Hoses that are under pressure must not be laid in the operating area! If this is not possible, it must be ensured that the operator cannot be injured if the hose ruptures!</i></li></ul>

<b>NOTICE</b>	
	<p><b><u>Conduct the following actions before starting operation:</u></b></p> <ul style="list-style-type: none"><li>• <i>Assembly and connection must be carried out according to the instructions.</i></li><li>• <i>Before starting work, check all hoses, couplings, bolts and screw connections for tight fit.</i></li></ul>

## 5.2 Hydraulic supply

Use only the hoses supplied with the grapple tongs.

Connect the hydraulic hoses for the rotator as well as the hoses for the grapple to two double-acting control units on the tractor.

## 5.3 Electrical supply

(in case of an attached cable winch)

The safeguarding and dimensioning of the electrical power supply are to be chosen by an electrical expert in accordance with the national standards and to be dependent upon the line length!

**Never perform work on electrical systems if you do not have the necessary technical expertise!**

## 5.4 Mounting on a 3-point-hitch

The device is to be attached to the three-point hitch of the tractor. The bolts supplied correspond to Cat. 1 and Cat. 2.

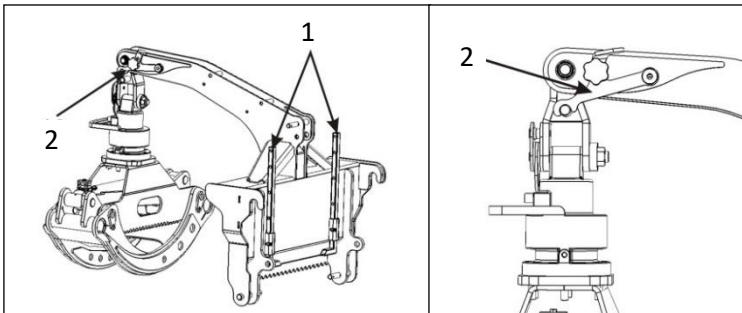
With several attachment points you have the possibility to find out the optimal type of attachment for your tractor.

After each hitching process, check whether the upper and lower link pins are secured with a cotter pin. In addition, the tractor must be designed for the total weight of the grapple tong.

When transporting the grapple tong at three points, the gripper must be closed, otherwise it can swing up while driving.

### Support feet and parking lock (only with RZ light)

With the RZ-light, the support feet (1) must be retracted after the attachment and the parking lock (2) of the gripper must be released!



## 5.5 Mounting on a front-loader (RZ light)

The grapple tongs for front loader operation are equipped with a Euro mount.


These pliers are to be attached to the front loader as usual. Always make sure that the two bolts at the bottom of the Euro mount are secured.


The front loader grapple must be closed while driving. In addition, it should be noted that the grapple tong must under no circumstances obstruct the view of the traffic.




## 6 Operation

### 6.1 Safety instructions during operation


<h1>DANGER</h1>	
	<p style="text-align: center;"><u>Risk of injury while operating!</u></p> <ul style="list-style-type: none"><li>• <i>Keep a sufficiently safe distance away from moving machine parts!</i></li><li>• <i>Do not stand under the grippers with wood, it can fall down!</i></li></ul>

<h1>WARNING</h1>	
	<p style="text-align: center;"><u>Risk of injury while operating!</u></p> <ul style="list-style-type: none"><li>• <i>Ensure that nobody is in the danger area and that a sufficiently safe distance is kept!</i></li><li>• <i>Make yourself familiar with the operating elements of the grappling tong!</i></li><li>• <i>The grapple tong must always be connected to a tractor to work!</i></li></ul>

<h1>CAUTION</h1>	
	<p style="text-align: center;"><u>Tripping over parts lying around!</u></p> <ul style="list-style-type: none"><li>• <i>All parts that do not belong to the machine are to be removed from its area.</i></li></ul>

<h1>CAUTION</h1>	
	<p style="text-align: center;"><u>Risk of injury through negligent use of personnel protective equipment!</u></p> <ul style="list-style-type: none"><li>• <i>Wear protective gloves and safety shoes with steel caps.</i></li><li>• <i>Wear safety glasses and hearing protection.</i></li></ul>

## 6.2 Important instructions during operation

<h1>NOTICE</h1>	
	<ul style="list-style-type: none"><li>• <i>The operating personnel must take care to ensure that no unauthorised people remain in the working area of the machine</i></li><li>• <i>Before turning the machine on, make yourself familiar with the correct conduct in the event of a failure.</i></li><li>• <i>Before the turning the machine on, perform the points cited in the section "Duties before starting operation".</i></li><li>• <i>After switching off the machine, the working steps from the following section "Shutdown" must always be carried out.</i></li><li>• <i>If the operating personnel leave the machine so that it is unattended, it must be switched off and secured against unauthorised restarting.</i></li></ul>

### 6.3 The grab

The grab is operated from the tractor via a double-acting control device. If you pull brushwood with your grapple tong, it may happen that you have to close the gripper a little while driving, as the bumpy ride loosens the brushwood and loses its hold.

### 6.4 Rotator

(RZ1400, RZ1600, RZ light and RZ plus)

The rotator allows you to turn the pliers into any position. This is very convenient when picking up wood.

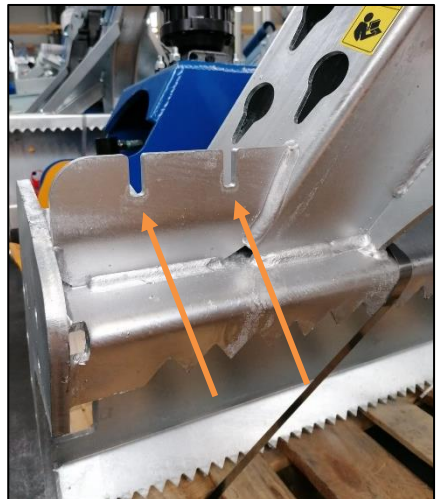
When pulling wood, however, you must always make sure that the control unit for the rotator is in the floating position, as otherwise very large forces act on it. This can damage the rotator.

### 6.5 Pulling with a chain

(RZ1400 / 1600, RGZ 2300 und RZ plus)

As standard, the grapple tong also offers the option of pulling the wood using forest chains.

For this purpose, there are some chain slits on the base frame.



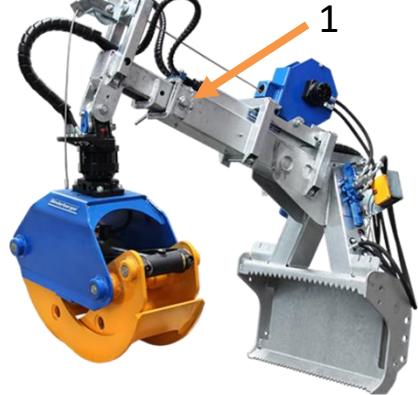
## 6.6 Mechanical extension

(RZ1400, RZ1600 and RZ plus)

In order to pull out the mechanical extension, the grapple tong must be placed on the ground.

Now you can remove the bolt (1) and pull the extension out to the desired length. Make sure, however, that you do not pull the extension completely out of the shaped tube. Serious injury could result.

Afterwards it has to be locked again in its new position with the bolt (1).



## 6.7 Hydraulic extension (optional)

(RZ1400 / 1600 and RZ plus)

The hydraulic extension is operated from the tractor via a double-acting control unit.

With this function you can move the grapple forwards and backwards over half a meter. This is particularly useful for picking up logs.

## 6.8 Swivel cylinder

(RGZ 2300 and RZ plus)

The entire jib can be moved left and right using the swivel mechanism. This can be beneficial when the wood is difficult to reach.

In addition, you can use this function to swivel the wood comfortably outwards when cornering, making it more manoeuvrable.



## 6.9 Widened Shield (optional)

(RZ14/16, RGZ 2300, RZ plus)

It is possible to extend the back-end shield by 30cm on the left and right. This can be necessary, for example, when pushing brushwood together.

The shield extensions are to be fixed to the back-end shield with 3 screws each.

### 6.10 Cable winch (optional)

(radio controlled)

With the winch, heavy pieces of wood can be pulled in and lifted without any problems.

It is controlled via a radio remote control.


In order to be able to pull out the rope, it is only necessary to switch on the return of the winch. The drive is disengaged and the rope can be easily pulled out. The winch comes with skidding tongs as standard. This is applied to the wood and the winch is switched to advance.


It is particularly important to ensure that neither you nor other people are in the area of the rope. A sufficiently large safety distance must also be maintained.




## 7 Maintenance


### 7.1 Safety instructions during maintenance

<b>DANGER</b>	
	<p><u>Risk of severe injury by switching on the driving mechanism during maintenance work!</u></p> <ul style="list-style-type: none"><li>• <i>Switch off machine!</i></li><li>• <i>Secure against unintentional restart!</i></li></ul>

<b>CAUTION</b>	
	<p><u>Lubricants!</u></p> <ul style="list-style-type: none"><li>• <i>Avoid contact with skin and eyes.</i></li><li>• <i>Use the appropriate protective equipment (gloves, safety glasses)</i></li><li>• <i>Use appropriate collection containers.</i></li><li>• <i>Immediately clear up any oil that has leaked.</i></li></ul>

<b>CAUTION</b>	
	<p><u>Risk of injury! Scalding due to hot machine components and media!</u></p> <ul style="list-style-type: none"><li>• <i>Allow the machine to cool down to ambient temperature before carrying out any maintenance.</i></li></ul>

## 7.2 Important instructions during maintenance

<h1>NOTICE</h1>	
	<ul style="list-style-type: none"><li>• <i>Immediately exchange all impaired machine parts.</i></li><li>• <i>Only use original replacement parts.</i></li><li>• <i>Only use the fuels specified.</i></li><li>• <i>Self-securing bolts and nuts are always to be replaced.</i></li><li>• <i>All fuels and lubricants that are not re-used are to be disposed of in an environmentally sound manner.</i></li><li>• <i>The installation of incorrect replacement or wear parts can result in serious motor damage.</i></li><li>• <i>fire extinguishers at the ready.</i></li><li>• <i>Never enable the machine without the factory-provided safety equipment for the operation.</i></li><li>• <i>It is strictly forbidden to remove safety instructions attached to the machine.</i></li><li>• <i>Do not carry out any repairs if you are not qualified to do so.</i></li></ul>



### **7.3 Instructions for work on electrical equipment**

All work on the electrical equipment (cable winch) of the machine may only be carried out by trained electricians.

Check electrical equipment regularly:

- Reattach loose connections.
- Replace damaged lines or cables immediately.
- During all work on live machine parts or lines, a second person must always be present to disconnect the power supply in an emergency.
- Never clean electrical equipment with water or similar liquids.

### **7.4 Instructions for work on hydraulic equipment**

All work on the hydraulic equipment of the machine may only be carried out by trained specialists.

- Before starting work, depressurise all hydraulic systems / system parts.
- Before starting work, make sure that suitable collecting containers are available for all substances hazardous to groundwater (oils, coolants, etc.).

## 7.5 Duties before finishing maintenance

After the end of any maintenance work and before starting the machine, the following points are to be followed:

- Check that all previously loosened screw connections are secure.
- Check whether all protective devices, covers, container lids, ... that were removed before have been properly reinstalled.
- Ensure that all tools, materials and other equipment used have been removed from the work area.
- Clean the work area and remove any liquids and similar substances that may have leaked out.
- Make sure that all safety devices on the machine are working properly again.
- Check the function of the safety devices. Do not approve the machine for use if the safety devices do not work properly.
- Assemble and secure dismantled protective devices.
- Remove any tools, foreign parts and operating materials that have been left behind.
- Carry out a test run with a functional check of the repaired components.
- Secure the machine against unauthorized switching on if you have not completed the work.
- Working with open flames and smoking is prohibited.

## 7.6 Cleaning

The machine must be cleaned of dirt after every work and before every maintenance!

The grapple tong must be lubricated after each cleaning with water!

## 7.7 Daily maintenance

Visually inspect the device. Watch out for errors and defects that could have an impact on safety. Any errors and defects must be corrected.

Check that:

- nothing "abnormal" has occurred on the attachments and hydraulic hoses of the timber trailer.
- no damage or breaks have occurred.
- there are no leaks.

## 7.8 Changing the hydraulic hoses:

All hydraulic hoses must be replaced after 5 years due to aging and durability.

Otherwise, serious injuries can occur due to damage (brittle areas, etc.) to the hoses.

## 7.9 Lubricate the bearings

The grapple tong must be lubricated every 50 operating hours. For this purpose, there are lubrication points on all moving parts. A normal universal grease should be used as.

In addition, the telescopic extensions must be greased with a brush.

## **8 Guarantee and Warranty**

### **Guarantee Terms 950601:**

The Binderberger Maschinenbau GmbH company provides a guarantee for a period of two years on parts that fail to fulfil their intended purpose as the result of material defects or production errors.

A one-year guarantee is provided by our suppliers on goods procured by us, such as hydraulic hoses. The guarantee comes into force with the delivery date.

The guarantee does not cover failures that are due to normal wear, inattentiveness, incorrect use and incorrect assembly. Hydraulic hoses and couplings are excluded from the guarantee.

Costs that originate within the scope of the guarantee procedure for detaching, assembly and delivery are not refunded. The fault should be repaired upon the mutual arrangement of the customer, the appointed dealer and the Binderberger company. The fault should be repaired following a mutual arrangement between the customer, the appointed dealer and the Binderberger company.

For this, the model of the machine, the production number, the delivery date and the name of the owner, as well as the address, must be indicated. For this, the model of the machine, the production number, the delivery date and the name of the owner as well as the address must be presented.

The guarantee is invalid if the machine deviates from the original implementation, e.g., due to changes, set-up, additional constructions or the replacement of parts that have not been delivered by us.

Otherwise, the NL92 delivery regulations are valid.

## **9 Conduct when dealing with accidents**

As a matter of routine, ensure you have up-to-date information about available first aid options.

After the initial care of injured people, immediately inform your supervisor of any personal injuries, damage to the machine or material damages.

In the event of the specific use of emergency vehicles, state the severity of the injury and damage.

In a disaster situation, immediately leave the machine (fire).



### **Note**

In the pursuit of technical advancement, Binderberger Maschinenbau GmbH continually works to improve its products. We reserve the right to make changes from the illustrations and descriptions in this operating manual/replacement parts list. This cannot give rise to any claim to changes on machines that have been already delivered. The technical data, dimensions and weights are not binding.

Errors excepted.

Dealer's stamp:

Name plate:



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