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| --- | --- | --- |
| **GCT 4120**  **GCT4150** | Handleiding  Manual  Mode d’emploi  Betriebsanleitung  Manual  Manual | NL  EN  FR  DR  ES  PT |



|  |  |  |
| --- | --- | --- |
|  | ***ISO 9001***  ***CERTIFIED*** |  |

|  |  |  |
| --- | --- | --- |
| 29 | EN | To read the manual, please fold out the first and the last page of the cover. |

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| Fig. 1 |
| Fig. 2 |

|  |  |
| --- | --- |
| Fig. 3 | |
| Fig. 4 | Fig. 5 |
| Fig. 6 |  |

# Introduction

## Disclaimer

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## About this manual

The original instructions in this manual are written in English. Other language versions of this manual are a translation of the original instructions.

## Definitions

|  |  |
| --- | --- |
| System: | the assembly of power source, optional power cable(s) and tool(s). |
| Battery pack: | device that supplies electric current and voltage. |
| Tool: | hydraulic device such as a cutter, spreader, combi tool, ram or cylinder. |
| Equipment: | tool(s), cable(s), battery pack or accessories. |
| Mains connector: | device that transforms and supplies electric current and voltage. |
| Charger / battery charger: | an electronic device for charging a rechargeable battery pack. |

## General

Congratulations on your purchase of this Holmatro product. This user manual provides instructions on the operation, maintenance, malfunctions and safety of the equipment concerned. Safety regulations for the use of a complete Holmatro system are also described in this user manual. Illustrations in this user manual can differ slightly, depending on the model.

Everyone involved in putting the equipment into operation, using it, maintaining it and solving malfunctions must have read and understood this user manual, particularly the safety regulations.

To prevent errors of operation and ensure that the equipment works trouble-free, the user manuals must always be available to the operator.

## Application

This product is part of the equipment intended for use by emergency services, for cutting, spreading or forcing aside structural parts of vehicles or structures.

### System requirements

Only use this tool with the prescribed type of battery pack, or with the Holmatro mains connector. In case of doubt about the compatibility of the system, always consult the Holmatro dealer.

## Qualified personnel

The system may only be operated by people trained in its use. Always obey local legislation, safety and environmental regulations. Repair work may only be performed by a Holmatro Certified Technician.

## Guarantee

Refer to the general terms and conditions of sale for the guarantee conditions, available from your Holmatro dealer on request.

Holmatro draws your attention to the fact that every guarantee on your piece of equipment or system will lapse and that you must indemnify Holmatro against any possible product liability and responsibility if:

* service and maintenance are not carried out strictly in accordance with the instructions, repairs are not performed by a Holmatro Certified Technician or are performed without prior written consent;
* self-made changes, structural changes, deactivation of safety devices, injudicious adjustment of hydraulic valves and faulty repairs have been carried out;
* non-genuine Holmatro parts or lubricants other than the types prescribed are used;
* the piece of equipment or the system is used injudiciously, through errors of operation, improperly, negligently or not in accordance with its nature and/or purpose.

## Declaration of Conformity

The equipment is CE certified. It means that the equipment complies with the essential requirements concerning safety. The original Declaration of Conformity is supplied with the equipment.

The standards and directives that have been taken into consideration in the design are listed in the section Technical Specifications in this document.

# Safety regulations

## Explanation of the symbols used in this manual

In the rest of the user manual the symbols below are used to indicate possible dangers.

|  |  |
| --- | --- |
|  | **DANGER** or **WARNING**  Symbol: warning of unsafe working conditions if the instructions are not followed.  This symbol is displayed with all safety regulations related to situations that are life-threatening (danger), present a danger of personal injury (warning), or both. |

|  |  |
| --- | --- |
|  | **Caution**  Symbol: warning of danger of operational safety of the product or the system.  This symbol is displayed in the user manual with all regulations related to preventing damage to the product or the system. |

|  |  |
| --- | --- |
|  | **Note**  Symbol: emphasizes important information for optimal product use.  This symbol is displayed in the user manual with all regulations related to product use or maintenance. |

Always adhere to these regulations and to the locally prevailing safety regulations, and proceed very carefully.

Inform all people involved in the activities of the operation about these safety regulations.

## Model plate and CE marking on the equipment

See Fig. 1.

All pictograms attached to the equipment pertaining to safety and danger must be complied with and remain clearly legible.

|  |  |
| --- | --- |
|  | **WARNING**  Not following these instructions can result in serious personal injury, fatal accident, damage to the system or consequential loss. |

|  |  |  |  |
| --- | --- | --- | --- |
| **Type of mark** | **Pos.** | **Description** | **Part no.** |
| Warning | A | Danger of cutting or pinching parts of the body. | If the pictograms are illegible, have the protective sleeve replaced by the Holmatro dealer. |
| Instruction | B | * Wear personal means of protection. * Read the user manual before use. |
| Model plate | C | Manufacturer's information stating: name, address, CE marking, model indication, serial number and date of construction, maximum operating pressure, weight if heavier than 25 kg. |  |

If the pictograms are illegible, have the protective sleeve replaced by a Holmatro Certified Technician.

## General safety regulations

* Use this equipment solely for the activities for which it was designed. If you are in doubt or uncertain, always consult your Holmatro dealer.
* Replace illegible safety symbols, pictograms and information labels with identical ones, available from your Holmatro dealer.
* Varnished, plastic and rubber parts are not resistant to corrosive acid or liquid. Except for electrical parts, rinse parts that have come into contact with corrosive acid or liquid with a lot of water. Consult your Holmatro dealer for a resistance list.
* Prevent dirt in and on the couplers.
* Protect equipment against sparks during welding or grinding activities.
* Avoid an unhealthy posture while working. It can result in physical complaints.
* Follow the inspection and maintenance instructions.
* Conversion of the piece of equipment or the system may only be performed by a Holmatro Certified Technician. In case of a conversion, retain the original manual and the conversion manual.
* Use only genuine Holmatro parts and maintenance products prescribed by Holmatro.

## Personal safety

Rescue personnel must wear all personal means of protection as prescribed in the standard work procedure. Negligent use of personal means of protection can result in serious injury. During use wear at least the following personal means of protection:

* Helmet;
* Safety goggles or full face shield;
* Safety gloves;
* Safety clothing for the entire body with reflective material;
* Safety shoes with good ankle support and toe protection;
* Mask with filter for use when cutting glass or certain plastics.

## Safety regulations with respect to the equipment

* Never change the setting of any safety device.
* Store the cutter with the blade tips over each other to prevent injury.
* Make sure a protective flexible shield is inserted between the place where the cutting or spreading will be made and the victim(s).
* Make sure the material to be cut is placed as deeply as possible in the blade opening.
* Avoid cutting with the blade tips.
* Avoid contact with the blade tips and cutting edges of the blades so you do not injure yourself.
* Never cut sections that are under hydraulic, pneumatic, electrical or mechanical pressure.
* If the blades are not perpendicular to the material to be cut, the blades may separate. This is a dangerous situation that can result in serious damage to the equipment and serious injury. Stop immediately if the blades separate.
* Do not submerge the tool in water or expose it to large amounts of water or other liquids (inside or outside of the tool).

## Safety regulations with respect to the operation of the system

* Make a risk assessment of the procedure before you start work (EN-ISO 12100).
* Keep bystanders at a distance and be extra careful in the vicinity of people and animals.
* Make sure the work area is clearly laid out and has good lighting.
* Avoid stress and work in a structured way. This reduces the risk of errors, combinations of dangers and accidents.
* Before use, check the equipment for damage. Do not use the equipment if it is not in good condition and consult your Holmatro dealer.
* Stand on a stable base and use both hands to hold the equipment.
* Hold the equipment only by its carrying handle. Never use any part of the hose as carrying handle.
* During operation, never get between the object and the equipment.
* Monitor the situation of the equipment and the structure continuously while using the equipment.
* Parts of an object that could fly off must be secured.
* Never couple or uncouple couplers while the system is under pressure.
* Use only genuine Holmatro accessories and ensure that they have been attached correctly.
* Make sure that parts of the body never come between moving parts. There is a risk that parts of the body may be crushed or cut.
* Make sure that the deadman's handle does not become jammed.
* Stop immediately if the system makes strange noises or displays aberrant behaviour.
* Stop immediately if the equipment leaks oil. Oil escaping under pressure can penetrate the skin and cause serious injury. Go immediately to a hospital with a person who is injected with oil for medical help. Give a specification of the oil to the medical staff.
* Return inactive equipment immediately to the tool station.
* Always adhere to the safety regulations that apply to other equipment that is used in the operation.

## Safety regulations with respect to maintenance

* Wear personal means of protection when performing maintenance tasks.
* Never work in a way that could jeopardize safety.
* Make sure that the equipment cannot roll away or tip over. The control and drive must be switched off and safeguarded against unexpected activation.
* Make sure that moving parts do not move unexpectedly.
* Used or leaked fluids, and any other products consumed during the activities, must be collected and disposed of in a environmentally responsible way.

## General safety regulations with respect to battery packs

|  |  |
| --- | --- |
|  | **WARNING**   * Avoid explosive gases, open flames and sparks. Explosion risk. * Do not submerge the battery pack in water or expose it to large amounts of water or other liquids (inside or outside of the tool). * Avoid short-circuiting the battery pack. Make sure that the connections do not come in contact with metal objects or water. * Do not attempt to charge a wet battery pack. * Do not use damaged battery packs. Stop using the battery pack and contact your Holmatro dealer for instructions. * Do not strike, crush, drop or throw the battery pack. * Do not make direct solder connections on the battery pack. * Do not open the battery pack. * Protect the battery pack against direct solar radiation and other sources of heat. * Do not put the battery pack into a microwave or a high-pressure container. * When not in use, store the battery pack in a dry place, locked up securely and out of reach of children. * When disposing the battery pack, always observe the local regulations and/or the instructions in this manual. |

|  |  |
| --- | --- |
|  | **Note**   * Use the battery pack only with the specified battery charger. * Use the battery pack only in the original application. * Battery packs should be stored in well-ventilated, cool rooms. The maximum storage temperature of 60 °C (140 °F) may not be exceeded. * Avoid exposing battery packs to long-term, direct sunlight during storage. * Persons who are not able to use the device in a safe way because of their physical, sensory or mental competence, or because of their inexperience, should not use the battery pack without guidance or instruction from a skilled person. * Make sure children do not play with the battery pack. |

## Safety regulations with respect to Li-Ion battery packs

Li-Ion battery packs are entirely different from NiCad and NiMH battery packs and must be handled differently. Before and after every use of your Li-Ion battery pack, inspect the battery pack carefully to ensure no physical damage is evident, such as loose plugs and wires. Such signs often indicate that a problem exists with the battery pack that could lead to failure.

## Safety regulations with respect to battery chargers

|  |  |
| --- | --- |
|  | **WARNING**   * Read all instructions carefully before you use the battery charger. * Only use a power supply with the correct voltage and frequency. See the electrical specifications on the model plate. * Use the battery charger only indoors. * Do not expose the battery charger to damp or wet conditions. * Never carry the battery charger by its power cord. Never pull the power cord to disconnect the battery charger from the power outlet. Keep the power cord away from heat, oil and sharp edges. * Do not use the battery charger on a highly inflammable surface or in an inflammable environment. * Do not attempt to charge a wet battery pack. * When not in use, store the battery charger in a dry place, locked up securely and out of reach of children. * Persons who are not able to use the battery charger in a safe manner, due to their physical, sensory or mental condition, or due to their inexperience, must not use the battery charger without the supervision or instruction from a skilled person. * Strictly observe the minimum and the maximum charging temperature. See section 3.6. * Do not use a damaged battery charger (e.g. when it has been dropped, or when the power cord or the power plug have been damaged). * Do not disassemble the battery charger. * Risk of short-circuit: protect the battery charger against metal objects. |

## Safety regulations with respect to mains connectors

|  |  |
| --- | --- |
|  | **WARNING**   * Do not expose the mains connector to damp or wet conditions. * Never carry the mains connector by its cord. Never pull the cord to disconnect the mains connector from the power outlet. Keep the cord away from heat, oil and sharp edges. * When not in use, store the mains connector in a dry place, locked up securely and out of reach of children. |

# Description

## Equipment

The combi tool can be used independently because of the battery-driven hydraulic system.

The tools are produced as hand tools that can be operated by one person.

The tools are suitable for cutting, spreading and squeezing constructional elements of vehicles during rescue operations. They can squeeze material tightly or squash it and thus create weak pivots or places that are easier to cut. They can also push parts apart. By placing accessories on the points, materials can be pulled together.

## Type designation

Example: GCT 4120

|  |  |  |
| --- | --- | --- |
| **Digit** | **Example** | **Description** |
| 1-3 | GCT | Greenline (=Battery) Combi Tool |
| 4-7 | 4120 | Type indication |

## Product identification

See Fig. 2.

|  |  |  |  |
| --- | --- | --- | --- |
| 1 | Blades | 11 | Battery pack fitting / adapter fitting |
| 2 | Blade cutting edge | 12 | Battery pack |
| 3 | Centre bolt | 13 | State Of Charge (SOC) indicator (see |
|  |  |  | section 3.4) |
| 4 | Snap ring | 14 | Light switch |
| 5 | Blade tips | 15 | Battery for LED lights |
| 6 | Centre nut | 16 | Battery pack lock |
| 7 | Hinge pins | 17 | Deadman's handle |
| 8 | Protection hood | 18 | Strap for carrying belt (option) |
| 9 | Carrying handle | 19 | On/off switch |
| 10 | LED lights | 20 | LED on/off indicator |
|  |  | 21 | SOC indicator button |

## State Of Charge (SOC) indicator

The battery pack has a LED indicator that indicates:

* the approximate battery level (the State Of Charge).
* the condition of the battery pack.

### State Of Charge indication

Each LED accounts for approximately 25% of the full charge. The SOC indication is activated by pushing the SOC indicator button for a few seconds.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Position and color of the LED** | | | | **soc** | **Action / Solution** |
| 1 | 2 | 3 | 4 |  |  |
| green | green | green | green | > 75% | Use battery pack |
| green | green | green | green blinking | > 62% | Use battery pack |
| green | green | green | - | > 50% | Use battery pack |
| green | green | green blinking | - | > 37% | Use battery pack |
| green | green | - | - | > 25% | Charge battery pack |
| green | green blinking | - | - | > 12% | Charge battery pack |
| green | - | - | - | > 5% | Charge battery pack |
| green blinking | - | - | - | < 5% | Charge battery pack |

### Condition of the battery pack

The Battery Management System (BMS) protects the battery pack against internal damage. The following LED combinations show the condition of the battery pack and the proposed action/ solution.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Position and color of the LED** | | | | **Condition** | **Action / Solution** |
| 1 | 2 | 3 | 4 |  |  |
| red | - | - | green | Under voltage | Charge battery pack |
| red | green | green | - | Electronics over temperature | Cool battery pack |
| red | green | green | green | Cells over temperature | Cool battery pack |
| red / green | - | - | - | Cells under temperature | Warm battery pack |
| red / green | - | - | green | Under voltage and under temperature | Charge and warm battery pack |

## Weight and dimensions

See Fig. 3.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Model** | **Part no.** | **Weight1**  **(kg)** | **Length(A) (mm)** | **Width (B) (mm)** | **Height (C) (mm)** |
| GCT 4120 | 150.052.038 | 14.7 | 789 | 297 | 207 |
| GCT 4150 | 150.052.032 | 19.7 | 902 | 297 | 207 |

1. Battery pack included.

## Technical specifications

| **Model** | **Unit** | **GCT4120** | | **GCT 4150** |
| --- | --- | --- | --- | --- |
| Description |  | Combi, battery operated | | |
| Allowable operating pressure | bar / MPa | 720 / 72 | | |
| Spreading opening | mm | 268 | | 360 |
| Max. spreading force | kN / t | 220 / 22.4 | | 211 / 21.5 |
| Spreading force (EN13204) | kN / t | 26 / 2.7 | | 35 / 3.6 |
| Spreading force (NFPA 1936 HSF) | kN / t | 30 / 3 | | 33.5 / 3.4 |
| Spreading force (NFPA 1936 LSF) | kN / t | 23 / 2.3 | | 29.3 / 3 |
| Min. spreading force1 | kN / t | 26 / 2.7 | | 35 / 3.6 |
| Cutting force | kN / t | 247 / 25.2 | | 380 / 38.8 |
| Squeezing force | kN / t | 46 / 4.7 | | 76 / 7.8 |
| Max. pulling distance | mm | 181 | | 416 |
| Pulling force (EN13204) | kN / t | 44 / 4.5 | | 44 / 4.5 |
| Pulling force (NFPA 1936 HPF) | kN / t | 61 / 6.2 | | 63.9 / 6.5 |
| Pulling force (NFPA 1936 LPF) | kN / t | 44 / 4.5 | | 36.6 / 3.7 |
| Type of hydraulic oil |  | ISO-L HV VG 15/22 | | |
| Pump type |  | 2 stage axial piston pump | | |
| Opening / closing time  - No load: open / close | s | 4 / 5 | | 7 / 9 |
| - Loaded: open / close | s | 14 / 18 | | 25 / 35 |
| Standards |  | NFPA1636 | | |
| Cutting classification (EN13204) |  | E | | H |
| Cutting classification (NFPA 1936) | | A5B6C5D6E3 | A7B8C7D8E7 | |
| Motor type | | Brushed electric motor | | |
| Max. power | W | 750 | | |
| Battery pack type | | Li-Ion | | |
| Nominal voltage | VDC | 25.2 | | |
| Maximum voltage | VDC | 28 | | |
| Capacity | Ah | 3.0 or 4.1 (depending on model of battery pack) | | |
| Energy content | Wh | 75.6 or 103.3 (depending on model of battery pack) | | |
| Battery pack weight | kg | 0.95 | | |
| Noise level unloaded (@ 1 m ISO3744) | dB(A) | 71 | 73 | |
| Noise level loaded (@ 1 m ISO3744) | dB(A) | 72 | 74 | |
| Vibration level | m/s2 | < 2.5 | | |
| Temperature range (operating) | °C | -20 to +55 | | |
| Temperature range (battery pack charging) | °C | 0 to +45 | | |
| Temperature range (storage) | °C | -30 to +60 | | |
| Battery type for light | | AA 1.5 V | | |
| Type of light | | LED | | |
| Country of manufacture | | The Netherlands | | |

1. Spreader closed and 25 mm from the tips and over the entire spreading path in accordance with standard EN 13204.

The actual values can differ slightly from these specifications because of specific conditions of use.

## Accessories

The table below shows the available accessories for each model with the corresponding part numbers.

| **Description** | **GCT 4120** | **GCT 4150** |
| --- | --- | --- |
| Manual | 916.001.298 | |
| Manual of battery pack BPA283 / BPA284 | 916.001.270 | |
| Spare blade set | 150.113.153 (weight: 2.74 kg) | 150.113.169 (weight: 4.88 kg) |
| Molylube 26 HD-EP | 150.014.031 | |
| Torque wrench, 40 - 200 Nm | 150.581.671 | |
| Click-on ratchet head for torque wrench | 150.581.672 | |
| Teflon spray | 150.581.095 | |
| Battery pack BPA283 28 V - 3 Ah | 150.005.823 | |
| Battery pack BPA284 28 V - 4.1 Ah | 150.005.214 | |
| Battery charger BCH1 220 - 240 V, 50/60 Hz | 150.182.208 | |
| Battery charger BCH2 110 - 120 V, 50/60 Hz | 150.182.209 | |
| Mains connector BMC 1 220 - 240 V, 50/60 Hz - 28 V | 150.182.206 | |
| Mains connector BMC 2 110 - 120 V, 50/60 Hz - 28 V | 150.182.207 | |
| Carrying belt | 150.553.055 | |
| Carrying back pack | 150.553.115 | |
| Carrying case | 150.182.228 | |
| Battery pack pouch | 150.182.214 | |
| Set of pulling attachments | 150.582.551 | 150.582.026 |
| Set of pulling chains | 150.582.152 | 150.582.152 |

## Safety features of the battery pack

The battery pack is protected against:

* Short-circuit
* Deep discharge
* Over- and under-voltage (of the battery pack and the individual cells)
* Over-current during charging and discharging
* Overcharging
* Over temperature (of individual cells and electronics)
* Charging and discharging outside the allowed temperature range

# Preparation for first use

## General

* Check the equipment for completeness and damage. Do not use the equipment if it is damaged; in that case contact the Holmatro dealer.
* Check the operation of the deadman's handle. The handle must return to the neutral position when you release it.
* Before first use, always charge the battery pack completely. See section 5.2.
* Check the battery level by pressing the SOC indicator button for a few seconds. See section 3.4.
* Slide the battery pack in the battery pack fitting / adapter fitting until the battery pack lock snaps tight.
* Check the battery pack to ensure that the lock mechanism works correctly.

## Installing the battery for the LED light

See Fig. 4.

The battery for the LED light is placed in the carrying handle. This battery has a working life of ± 6 hours.

* Remove the cover (C) by unscrewing both screws (B).
* Install the battery (A) in the battery holder of the carrying handle.
* Re-install the cover and fasten the screws.

# Operation

## System operation

The GCT is a tool where the hydraulic pump is integrated in the tool. The hydraulic pump is driven by a battery pack or from an external electric power source. This pump displaces hydraulic oil and is capable of building up pressure. The hydraulic pump is connected directly to the hydraulic cylinder.

The hydraulic cylinder contains a piston that can move axially. If the cylinder is pumped full from the bottom, pressure builds up beneath the piston so that it is pushed to the outside. If the cylinder is pumped full from the top, the piston is forced back into the cylinder.

The direction of the movement of the cylinder is determined by a control valve, the so-called deadman's handle.This deadman's handle can be turned to the left or the right, thus determining the direction the piston moves in. In the neutral position no pressure is built up in the cylinder and the oil flows without pressure back to the pump. If the deadman's handle is released, it returns automatically to the neutral position and stops the movement of the piston.

In tools like cutters, spreaders and combi tools the axial movement of the piston starts a mechanism that then makes a cutting or spreading movement.

## Charging the battery pack

* Study the instructions of the charger before charging the battery pack.
* Only use one of the prescribed Holmatro battery chargers to charge the battery pack.
* Best results and longest life of the battery pack are achieved by charging in a dry environment at a temperature between 18 °C and 24 °C (64.4 °F and 75.2 °F).

|  |  |
| --- | --- |
|  | **Caution**  The battery pack can be damaged if charged at a temperature below 0 °C or above 45 °C (below 32 °F or above 113 °F). |

* The SOC indicator on the battery pack will indicate the charging level of the battery pack when the SOC indicator button is pushed.
* The maximum capacity of the battery pack is only achieved once it has been charged and discharged several times.
* Always charge the battery pack, even if it has only been used for a short time.
* The battery pack can remain connected to the battery charger for an indefinite period of time, because it is protected against overcharging.

|  |  |
| --- | --- |
|  | **Note**  When the battery pack is not in use, it is advised to keep it connected to the battery charger (connected to a power source) at all times. When the battery pack is full, the battery charger automatically switches on and off at regular intervals to keep the battery level at 100%.  After deep discharge of the battery pack, charge the battery pack for 24 hours. If the battery pack is not completely charged after 24 hours, contact your local Holmatro dealer. |

## Installing the battery pack

* Slide the battery pack in the battery pack fitting / adapter fitting until the battery pack lock snaps tight.

## Connecting to an external power source

See Fig. 5.

Apart from using the battery pack, the tool can also be connected to the mains by the special mains connector. Use only the original mains connector for this purpose.

* Slide the adapter of the mains connector in the battery pack fitting / adapter fitting until the battery pack lock snaps tight.
* Insert the plug of the mains connector into the appropriate power outlet.

## Starting the tool

* Briefly operate the on/off switch to activate the tool. The green LED will light.
* If the deadman's handle is in the position  or  the electric motor runs.
* If the deadman's handle is in neutral position, the electric motor will stop.

|  |  |
| --- | --- |
|  | **Note**  The battery pack will switch to the sleep mode when the tool is not used for about 10 minutes. The green LED will not light anymore.  To activate the battery pack again:   * Press the SOC indicator button, or * Operate the on/off switch again, or * Reinstall the battery pack. |

## Operating the deadman’s handle

The deadman's handle is used to determine the movement of the blades. If the deadman's handle is released, it returns automatically to the neutral position and stops the movement of the blades.

* Hold the deadman's handle in the  position to open the blades.
* Hold the deadman's handle in the  position to close the blades.

## Operating the light switch

On the carrying handle there is a light switch for the integrated LED lights.

* Press the light switch to turn the LED lights on and off.
* The battery for LED lights should be replaced when the LED lights no longer turn on when the light switch is pressed.

## Attaching pulling accessories

See Fig. 6.

Pulling accessories (pulling attachments and pulling chains) make it possible to use a combi tool for pulling. The pulling attachments must be placed on the blades, and may only be used in combination with the corresponding set of pulling chains. These pulling chains consist of two parts, each with a shortening hook that only grabs the chain. The chains are 1.5 m and 3 m long respectively.

|  |  |
| --- | --- |
|  | **WARNING**  The pulling accessories are intended solely for the horizontal movement of loads. Hoisting is not permitted with these pulling accessories. |

* Make sure that the blades are slightly open.
* Place the pulling attachment (B) over the blade tip (C).
* Use the lock pin (A) to lock the pulling attachment to the blade tip.
* Attach the pulling chain to the pulling attachment.
* Repeat the action for the second pulling attachment.

# Use

## General

The equipment of a rescue system must always be ready for use. That means the equipment must be checked and inspected directly after use, before it is put away.

|  |  |
| --- | --- |
|  | **WARNING**  Make sure you are up to date on all safety regulations and that you have mastered the use of all equipment of the system you are going to work with. |

## Before use

* Before use, always check the State Of Charge of the battery pack. See section 3.4.

## During use

The battery pack has a LED indicator that indicates the approximate battery level (the State Of Charge). No lit LED indication will be shown during the operation of the tool.

|  |  |
| --- | --- |
|  | **Caution**   * Many cycles in a short time may cause temperature increase above allowed limits. The battery protection will shut down the battery until the temperature lowers to a value within allowed limits. * Using the battery pack at temperatures above 45 °C (113 °F) reduces the life time of the battery pack. |

### Changing the ba ttery pack

See Fig. 11.

* Switch off the tool using the on/off switch.
* Remove the battery pack.
* Place a new battery pack on the tool.
* Switch on the tool using the on/off switch.

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|  | **WARNING**  If the battery pack is removed without stopping the tool, the tool might start directly after the new battery pack is installed. |

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|  | **Note**  It is highly recommended to have at least one fully charged spare battery pack available at all times. |

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|  | **Note**  To protect the battery pack, the tool will stop as soon as the battery pack gets empty. It might happen that at that time the tool is fixated in the vehicle structure. To remove the tool it is best to replace the battery pack by a fully charged one. When this is not possible the battery pack can be activated again by pushing the SOC indicator button. To prevent damaging the battery pack, this can only be done a limited number of times. |

## Tool movement

The cutting blades open and close relatively quickly until they encounter resistance. Then the pump will build up the required pressure for spreading, cutting, pulling or squeezing.

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|  | **WARNING**  Take extreme care during tool movement. Because of the enormous power of the tool parts of the body can easily be crushed or pinched. |

## Cutting See

Fig. 8 and Fig. 9.

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| --- | --- |
|  | **Caution**  Do not cut hardened fastenings, bolts, etc. because this can damage the blades. |

* Open the blades.
* Place the tool with opened blades perpendicular to the object to be cut.
* Place the object to be cut as deeply as possible in the cutting opening.
* Close the blades.

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|  | **WARNING**  Stop immediately if the blades are out of line. Danger of serious injury and of serious damage to the equipment. |

## Squeezing

* Open the blades of the tool.
* Place the blade tips over the object to be squeezed.
* Close the blades of the tool.

## Spreading

### Initial opening is sufficient

* Close the blades completely.
* Place both blade tips between the parts to be spread.
* Force the parts apart by opening the spreading arms.

### Initial opening is insufficient

* Open the blades.
* Place one blade tip in the opening.
* Close the blades until the material is clamped.
* Bend the clamped material out of the way.
* Repeat this procedure until there is sufficient space to place both blade tips.
* Force the parts apart by opening the spreading arms.

### No initial opening

* Use a different tool or accessory to make an opening.
* Continue with the steps above, depending on the opening created.

## Pulling

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|  | **Note**  Not all tools have been designed for pulling. See section 3.7 for the tools that can be used for pulling. |

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|  | **WARNING**  The pulling accessories are intended solely for the horizontal movement of loads.  Hoisting is not permitted with these accessories. |

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| --- | --- |
|  | **WARNING**  Make sure that the load is always supported from underneath. Continuously check the behaviour of the load. Make sure that the tool can move freely during pulling and always remains in a straight line between both pulling attachments. |

* Fully open the blades.
* Correctly place the pulling attachments, so that the shortening hooks point with their openings up.
* Attach the pulling chains to the objects so that they cannot slip off.
* Pull the chains tight and hook them to the pulling attachments.
* Close the blades.

## After use

### Inspection

* Check the battery level. Recharge the battery pack, if necessary. See section 3.4.
* Check the unit for completeness, leaks and damage. Do not use the unit if it leaks or is damaged and contact the Holmatro dealer.
* Check the accessories used for completeness and damage. Replace them if the damage is considerable.
* Inspect the blade tips. Replace them if the damage is considerable.
* Check the operation of the deadman's handle. The handle must return to the neutral position when you release it.
* Check that the carrying handle is firmly attached.

### Storing the battery pack

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|  | **Note**  When the battery pack is not in use, it is advised to keep the battery pack connected to the battery charger (connected to a power source) at all times. When the battery pack is full, the battery charger automatically switches on and off at regular intervals to keep the battery level at 100%. |

* Store the battery pack in a dry and well-ventilated area. The maximum storage temperature (see section 3.6) may not be exceeded.
* Make sure the equipment can not fall over during transport.

### Shutdown

* Close the blades with the blade tips over each other to prevent injury. Do not fully close the blades so that the tool can be stored without pressure.
* Switch the tool off.
* Remove the battery pack and place it in the battery charger.

### Cleaning and storage

* Clean the unit and any accessories before storage.
* Dry the unit if it was used in wet conditions. Apply a thin coat of preservative oil to the external steel parts.
* Store the unit in a dry and well-ventilated area.

# Troubleshooting

## General

Consult the Holmatro dealer if the listed solutions do not give the desired result, or in case of other problems. For malfunctions or repair, always specify the model and serial number of the equipment.

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|  | **Note**  If the battery pack has to be returned to the dealer for repairs, make sure that the battery pack is packaged according to the specific instructions applicable for Li-Ion battery packs. See section 8.7. |

## The tool does not work when the deadman's handle is operated

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| --- | --- |
| **Possible cause** | **Solution** |
| The battery condition is poor. | * Check the battery condition by pressing the SOC indicator button. See section 3.4. * Replace the battery pack by a fully loaded battery pack. |
| The tool is not activated. | Activate the on/off switch. The green LED should light up. |
| The battery pack is in the sleep mode. This happens when the tool is not used for about 10 minutes. | To activate the battery pack again:   * Press the SOC indicator button, or * Operate the on/off switch again, or * Reinstall the battery pack. |
| The electric motor does not work. | Have it repaired by a Holmatro Certified Technician. |

## The green LED of the tool does not light up when the tool is switched on

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| --- | --- |
| Possible cause | Solution |
| The battery pack is not locked. | Remove the battery pack and slide it in the tool again until the battery pack lock snaps tight. |
| The battery pack is in the sleep mode. This happens when tool is not used for about 10 minutes. | To activate the battery pack again:   * Press the SOC indicator button, or * Operate the on/off switch again, or * Reinstall the battery pack. |

## The useful operating time between the individual charging cycles of the battery pack is less than 5 minutes

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| --- | --- |
| Possible cause | Solution |
| The battery pack is defective. | Replace the battery pack. |

## The deadman's handle is jammed or doesn't return automatically to the neutral position

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| --- | --- |
| Possible cause | Solution |
| The deadman's handle is damaged externally. | Have it repaired by a Holmatro Certified Technician. |
| The deadman's handle is faulty. | Have it repaired by a Holmatro Certified Technician. |

## The cutting is poor

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| --- | --- |
| Possible cause | Solution |
| The spreading arms/blades are damaged. | Sharpen or file the cutting edge of the blades in the correct shape. |
| The tightening torque of the centre bolt is incorrect. | Tighten the bolt to 50 Nm. |

## The light is weak or gives no light at all

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| --- | --- |
| Possible cause | Solution |
| The battery is (almost) empty. | Replace the battery. |

# Maintenance

## General

Meticulous maintenance of the equipment preserves the operational safety and extends the life of the equipment.

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|  | **WARNING**  When performing maintenance activities, always comply with the relevant safety regulations. Wear the prescribed personal protection equipment. |

## Dangerous substances

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|  | **WARNING**  Used or leaked fluids, and any other products consumed during the activities, must be collected and disposed of in a environmentally responsible way. |

## Maintenance materials

| **Application** | **Type of maintenance material** | **Amount** |
| --- | --- | --- |
| Steel parts | WD-40 preservative oil | As required |
| Hinge pins | Teflon lubricating oil | As required |
| Long-term preservation | Tectyl ML from Valvoline | As required |

Contact the Holmatro dealer for information on spare parts.

## Maintenance schedule

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Object | Action | Time interval | | | |
| After every use | Every month or after first 10 working hours | Every 3 months or after every 25 working hours | Yearly or after every 100 working hours |
| Battery pack | Check | x |  |  |  |
| Recharge | x |  | x |  |
| Light | Check | x |  |  | Holmatro dealer maintemance1. |
| Blades | Check | x |  |  |
| Snap ring of hinge pin | Check | x | x |  |
| Centre bolt | Lubricate | x | x |  |
| Accessories | Check | x |  |  |
| Lock pins for accessories | Check |  | x |  |
| Lubricate | x |  |  |
| Carrying handle | Check |  | x |  |
| Deadman's handle | Check |  | x |  |

1. The equipment must be thoroughly inspected, checked, set and tested. We recommend to have this extensive maintenance performed by the Holmatro dealer (see also section 1.7).

## Maintenance activities

### General

* After every use:

1. Check the battery pack for damage and function.
2. If the battery pack is damaged or does not function correctly, replace the damaged battery pack.
3. Check the operation of the unit.
4. Check the unit for damage and leaks. If the unit doesn't work properly and/or leaks, have it repaired by a Holmatro Certified Technician.

### Light

* + Check the light.
  + Replace the battery if it gives little or no light.
  + Have a Holmatro Certified Technician repair the light if a new battery does not solve the problem.

### Blades

See Fig. 10.

* Check the blades for damage. Have a Holmatro Certified Technician replace the blades when they are damaged or the blade tips are damaged or worn.
* Check whether the blades are straight. Have a Holmatro Certified Technician replace the blades if there is more than 0.6 mm separation (C).

### Snap rings of hinge pins

See Fig. 10.

* Check that the snap rings of the hinge pins (A) are present and are not damaged.  
  Have a Holmatro Certified Technician mount a new snap ring if it is missing or damaged.

### Centre bolt

See Fig. 10.

* Check that the tightening torque of the centre bolt (B) is 100 Nm (for GCT 4120) or 50 Nm (for GCT 4150).
* Spray Teflon lubricating oil on and between the moving parts of the centre bolt while the tool is opening and closing.

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| --- | --- |
|  | **WARNING**  The centre bolt may not be removed. |

### Hinge pins

See Fig. 10.

* Spray Teflon lubricating oil on and between the moving parts of the hinge pins (A) while the tool is opening and closing.

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| --- | --- |
|  | **WARNING**  The hinge pins may not be removed. |

### Accessories

* Check the accessories for damage, dirt and completeness. Replace damaged accessories and make sure that the accessories are complete.
* Remove dirt with clean running water. Dry the accessories. Apply a thin coat of preservative oil to the external steel parts.

### Carrying handle

* Check the carrying handle for damage. Replace a damaged carrying handle.
* Check the attachment of the carrying handle. If necessary, fasten it firmly by tightening the bolts.

### Deadman’s handle

* Check whether the deadman's handle returns to the neutral position.
* Check the operation of the deadman's handle. Have the Holmatro dealer repair the deadman's handle if it doesn't function properly.

## Yearly dealer maintenance

We recommend having the equipment inspected, checked, set and tested once a year by a Holmatro Certified Technician who has the appropriate knowledge and the necessary tools (see also section 1.7). The Holmatro dealer can organize the yearly maintenance for you on a contract basis.

## Packaging

In many regulations such as IATA (air), ADR (road) and IMO (sea), Li-Ion battery packs are considered as dangerous goods. Please make sure that the goods are packed and transported in accordance with the latest regulations. Consult your Holmatro dealer for detailed instructions.

## Storage

### Temporary storage

* Store the tool and the battery pack in a dry and well-ventilated dust-free area.
* Fasten the tool so it can not fall over to prevent oil leaking.
* Check that the on/off switch is OFF.
* Place the blade tips over each other to prevent injury. Do not fully close the spreading arms / blades so that the tool can be stored without pressure.
* Apply a thin coat of preservative oil to the external steel parts.

### Long-term storage

For long-term storage, carry out the same actions as for temporary storage, as well as the following additional actions:

* Remove the battery pack from the tool.
* Always store the battery packs in a dry and cool area. Temperatures above 60 °C (140 °F) can have a negative affect on the life cycle of the battery packs.

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|  | **WARNING**  Avoid short-circuiting the battery pack. Make sure the connections do not come in contact with metal objects or water. Never try to open a battery pack. |

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|  | **Caution**  If not removed from the tool, a fully charged battery pack will discharge in 3 months. |

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| --- | --- |
|  | **Caution**  If the battery pack is removed from the tool and is not being recharged, it will slowly loose its energy. Make sure that the battery pack is recharged at least once every year. |

# Decommissioning/Recycling

See Fig. 7.

At the end of its service life the equipment can be scrapped and recycled.

* Make sure that the equipment is put out of service to avoid any use.
* Check that the equipment does not contain any pressurized components.
* Recycle the various materials used in the equipment such as steel, aluminium, NBR (Nitrile Butadiene Rubber) and plastic.
* Collect all dangerous substances separately and dispose of them in an environmentally responsible way.
* Consult the Holmatro dealer about recycling.

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|  | **WARNING**  It is prohibited to dispose the battery pack into the house- and residual waste removal (WEEE-Directive 2006/66/EC).  The battery pack falls under the RoHS-directive 2002/95/EC (Restriction of the Use of certain Hazardous Substances in Electrical and Electronic Equipment).  Return the battery pack to your local Holmatro dealer for disposal. |

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| --- | --- |
| Fig. 7 | |
| Fig. 8 | Fig. 9 |

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| --- |
| Fig. 10 |
| Fig. 11 |