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MANUAL : GreenSpirit II

EXTRICATION TOOLS

2 combi
2 cutter
1 ram
1 spreader

www.scorpe.net
SCORPE Technologies,
5 route de Laon, 08190 Saint-Germainmont

WELCOME

Thank you for choosing a tool from our GreenSpirit II range. Please read this manual carefully before using the product. This range has been specially designed for road rescue extrication operations. Please refer to the user manual for proper usage of this device!



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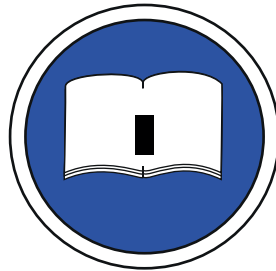
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1.0 GENERALITIES



Read this entire manual before use

Thank you for purchasing this Scorpe Technologies product. This manual is intended to explain how to use our product and how to maintain it. This manual is an integral part of the product and must be kept in a location known to the staff and to which the staff can access at any time. To ensure your safety that of the others and to guarantee the life of the product, we ask you to respect scrupulously what is noted there. Every user or operator who uses our product must have read and understood this manual. This notice must remain available to anyone to use or manipulate our product.

This manual provides important notes about handling Greenspirit equipment. Safe work requires compliance with all safety instructions and defined handling instructions. In addition, the local accident prevention regulations in force at the place of use of the equipment and the general safety regulations must also be observed.

All elements in this manual (information, specifications, graphics and illustrations) are based on the latest information at the time of writing.

In addition to reading these instructions carefully, we recommend that you contact our qualified trainer who will train you in the handling of life-saving equipment (possibilities of use, strategy of use, etc.).

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1.1 ABOUT THE SYMBOLS

In this manual, warnings are accompanied by symbols. The different instructions begin with signaling terms that emphasize the extent of the danger.

The instructions must be observed to prevent accidents, injuries and property damage.



Danger !

Indicates the presence of immediate danger, which, if not avoided, can lead to serious injury or death.



Warning

Indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury.



Be careful

Indicates a potentially hazardous situation, which, if not avoided, may result in minor or moderate injury.



Attention !

Indicates a potentially hazardous situation, which, if not avoided, may result in property



Remark

Emphasizes useful advice and recommendations, as well as information for efficient and irreproachable use.

1.2 LIMITATION OF LIABILITY AND WARRANTY CONDITIONS

All information and instructions contained in this manual have been compiled in the light of current standards and regulations, the latest technical advances, as well as our knowledge and experience gained over many years.

Greenspirit tools should only be used for extrication. Any other use is potentially dangerous and leads to the automatic loss of warranty in the event of equipment damage. If in doubt, please contact us.

The manufacturer declines all liability and the warranty cannot be applied to any damage occurring in the following circumstances:

- Non-compliance with instructions.
- In case of deterioration by misuse of the use of the product defined by Scorpe Technologies (for a use not validated by Scorpe Technologies for example).
- Intervention by unqualified operator.
- In case of modification of the product in any form whatsoever.
- Technical modification(s).
- Use of unauthorized spare parts.
- In case of maintenance not realized or poorly done.
- In case of deterioration by the use of defective parts or accessories; not compatible or not recognized by Scorpe Technologies.
- In the event of shunting or disruption of the safety devices.

The detailed warranty conditions are contained in a separate document from this manual.

The service and maintenance of level 2 and 3 can only be achieved by Scorpe Technologies or technician trained and authorized by Scorpe Technologies.

Due to the existence of special versions and possible technical modifications, the material delivered to you may vary somewhat from the explanations and illustrations described in this manual.



Remark

For more information, images and diagrams, see our website

1.3 COPYRIGHT

All elements of these operating instructions (texts, illustrations, diagrams and photos) may be used without restriction and without the need for prior authorization.

1.4 AFTERSALES SERVICE

If you wish to obtain information, do not hesitate to contact our after-sales service. The details of the after-sales service can be found on our website: www.scorpe.net

To contact the aftersales service department by phone, please dial: +33 (0) 3 26 84 70 94. The fax number is : +33 (0) 3 26 08 24 11

For any return of equipment, please contact our after-sales service who will indicate you the procedure of return as well as the address to which it is necessary to return the material.



Remark

When contacting our after-sales service, please specify the designation, type and year of construction of the equipment. This information can be found on the equipment nameplate.

2.0 SAFETY

This section of the manual provides a complete overview of all aspects of important safety, ensuring optimal protection of operating personnel, as well as a safe and flawless operation of the equipment.

Any non-compliance handling and safety instructions contained in this manual may result in significant danger.

2.1 PROPER USE

Wireless hydraulic equipment have only been designed and tested for use in accordance with the compliant application areas described herein.

All other activities are strictly prohibited.

- All wireless equipment was designed to be used by one person.
- Wireless cutting elements only serve to cut the doors and roof pillars, columns and beams, the round of the front axle and the steering wheel spokes.
- When it comes to cut solid material, it is advisable to use, as far as possible, the rear blade part as it has a special cut for round material.
- In a context of industrial use, this equipment can also be used to cut pipes, structural steels, profiles, sheets and cables.
- Wireless spreaders can be used to open doors, lift or push vehicles or other moving loads and crush hoses and rails.
- To crush, always use the spreader tips whenever possible.
- Spreader end tips can be used for stripping.
- The chain set should only be used for traction.

Special mention concerning the rams (CLASS SR Greenspirit II)

- All emergency rams have been designed so that they can be used by a single person.
- This equipment has been exclusively designed to lift steering columns, vehicle roofs and other obstacles, and to push vehicle parts.
- Moreover, they can be used to support and strengthen.



Warning

Any use of the equipment beyond the limits of correct and / or divergent use of these instructions may lead to dangerous situations! Therefore, the following instructions must be observed: the equipment must only be used for the purposes mentioned above.

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2.2 OPERATOR RESPONSIBILITY

Besides the work safety instructions in this manual, all safety regulations, accident prevention and environmental protection applicable to the area of use of the equipment must be respected. In particular:

- The operator must inquire about the provisions in force concerning safety at work and determine a risk assessment subsidiary hazards arising from the unique working conditions, instead of own equipment installation.
- The operator must clearly regulate and determine skills in installation, operation, maintenance and cleaning.
- The operator must ensure that all persons handling the equipment have fully read and understood the instructions for use.
- In addition, he will regularly organize staff training and inform him about the dangers associated with the use of equipment.

It is the operator's responsibility to ensure that the equipment is in perfect condition.

In particular:

- After each use, and at least once a year, a visual inspection of the equipment should be performed by a qualified person (in accordance with GUV-G 9102 or applicable national guidelines).
- Every three years or when in doubt about the safety or reliability of the equipment, a functional check and stress test shall be performed (in accordance with GUV-G 9102 or applicable national guidelines).

2.3 STAFF

In this manual, the following qualifications are designated for the different fields of activity:

- Qualified staff: staff trained by the operator about possible dangers and related to its tasks for improper behaviour.
- Specialized staff: staff who, because of his specialized training, knowledge and experience as well as his mastery of the manufacturer's provisions, is able to perform the tasks entrusted to it and recognize himself potential dangers.



Warning

Risk of injury in the event of insufficient qualification! Improper handling of equipment can result in personal injury and property damage. Special activities should only be carried out by the persons mentioned in the relevant chapters of these operating instructions. If in doubt, consult a specialist immediately.



Remark

The equipment must not be handled by a person under the influence of alcohol, medication or drugs!

2.4 PERSONNAL PROTECTIVE EQUIPMENT

When handling life-saving equipment, personal protective equipment (PPE) must be worn to reduce the risk of injury. **Failure to wear this equipment can result in serious injury.**



During all work, wearing safety clothing is mandatory. Wear tight work clothes with narrow sleeves and without protruding parts. These garments offer protection against moving parts of the equipment.



For protection against the fall of heavy work pieces and to avoid skidding on a slippery ground, always wear safety footwear with steel tips.



For protection against sharp edges and broken glass, wear work gloves during equipment operation.



For protection against splashes and falling parts and broken glass, it is imperative to wear a visor helmet.



In addition to the visor, wearing protective glasses is mandatory for eye protection against splinters.

During the specific work, also carry the following elements:



To protect against hearing loss, wearing hearing protection is required in addition to the basic protective equipment.

2.5 SPECIFIC DANGERS

The following section lists the dangers arising from the risk assessment.

Observe the safety instructions in this section and the warnings in the following chapters of this manual to minimize health risks and avoid dangerous situations.

Electric power



Danger !

Danger of death due to electric current!

Any contact with live parts is accompanied by an immediate danger of death. Damage to the insulation or the individual components can be life threatening.

For this reason:

If the insulation is damaged, immediately interrupt the power supply and repair the damage. Work on the electrical installation are for electricians.

When working on the electrical system, disconnect it from the power grid and ensure the absence of voltage.

Before any maintenance, cleaning and repair work, disconnect the power supply and secure it to avoid restarting.

Never bridge the fuses or put them out of service. In case of replacement of the fuses, use fuses with the same amperage.

Keep parts energized away from moisture. They could otherwise cause a short circuit.

Noise



Warning

Hearing damage because of the noise!

Noise in the work area can seriously damage hearing.

For this reason:

During particularly noisy work, additionally use a hearing protection. Do not stay in the danger zone for longer than necessary.

Hydraulic power



Warning

Danger from hydraulic energy!

Releasing hydraulic forces and possible leakage of hydraulic oil can cause serious injury.

For this reason: During the whole operation, always keep an eye on the equipment and get ready to stop.

- After each use, make sure that equipment are not damaged.
- Avoid contact of the oil under high pressure with the skin (protective glove port).
- Immediately remove the oil from open wounds and immediately consult a doctor.

2.6 BEHAVIOUR IN CASE OF DANGER AND ACCIDENTS

Preventive measures:

- Always be prepared for accidents.
- Define a security perimeter that allows you to operate quickly, without embarrassment and serenely.
- Making trainings to acquire the necessary automation to hardware deployment.
- Keep first aid equipment (first aid kit, lids, etc.) within reach.
- Familiarize staff with the accident signalling, first aid and rescue devices.
- Ensure that the access lanes for rescue vehicles are always free.

In case of accident:

- Immediately put the equipment out of service.
- Initiate first aid measures.
- Evacuate people out of the danger zone.
- Inform the managers on the site.
- Notify a doctor and / or firefighters.
- Clear access lanes for life-saving vehicles

3.0 TECHNICAL CHARACTERISTICS

Refer to the product datasheets available on our website www.scorpe.net

3.1 OPERATING CONDITIONS

The temperature range admissible for the equipment Greenspirit II is between -20°C and +80°C. Outside this range, it is impossible to ensure reliable operation.

3.2 NAMEPLATE

All Greenspirit II equipment has a nameplate on the equipment cover. This plate indicates the reference of the article; designation; serial number, date of manufacture.



4.0 STRUCTURE AND OPERATION

4.1 OVERVIEW OF GREENSPIRIT II EQUIPMENT

DESCRIPTION OF COMBINED TOOLS

Combined battery tools are life-saving equipment that have been specifically designed to cut or remove parts of a car body. They are used to extricate victims of accidents trapped or locked up. The combined tool is particularly suitable for cutting door and roof pillars, columns and spars, but, also, for opening doors, lifting vehicle parts and loads, and, crushing pipes and studs.

Thanks to the internal electrohydraulic drive, they do not need to be connected to a module and can, also, be used in hard to reach locations.

A slight tilting of the control handle lever is used to change the speed of the blades / arms. Maximum force requires full actuation of the handle lever.

DESCRIPTION OF CUTTERS

Cutting battery tools have especially been designed to cut car body parts. They are used to extricate the victims of accidents trapped or locked up. The cutters are particularly suitable for cutting the amounts of doors and roofs, columns and posts.

Thanks to the internal electrohydraulic drive, they do not need to be connected to a module and can, also, be used in hard to reach locations.

A slight tilting of the control handle lever is used to change the speed of the blades / arms. Maximum force requires full actuation of the handle lever.

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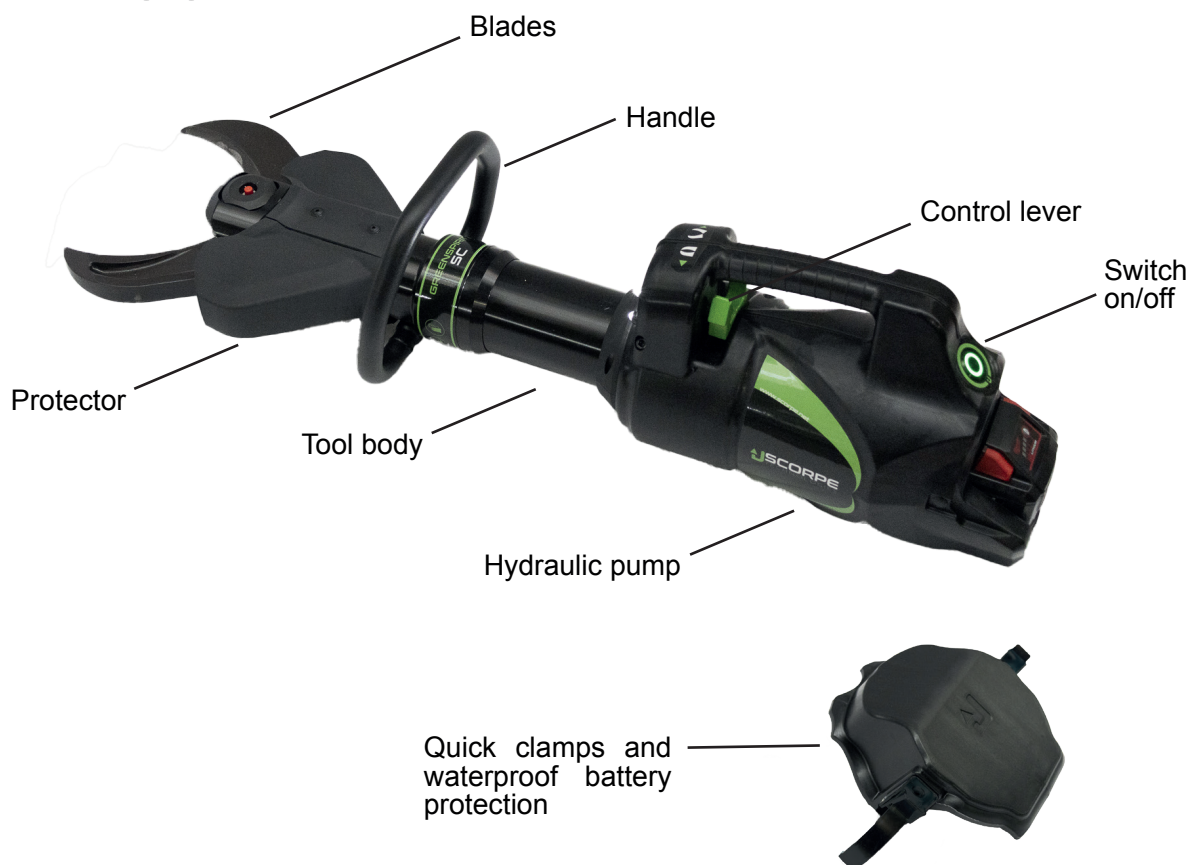
The rams are equipment that have been specially designed to push car body parts. They are used to extricate the victims of accidents trapped or locked up. The ram is particularly suitable for lifting steering columns, vehicle roofs and other obstacles.

Thanks to the internal electrohydraulic drive, they do not need to be connected to a module and can, also, be used in hard to reach locations.

The rams can be used in addition to spreaders, for example when the scope of the spreader arm is inadequate.

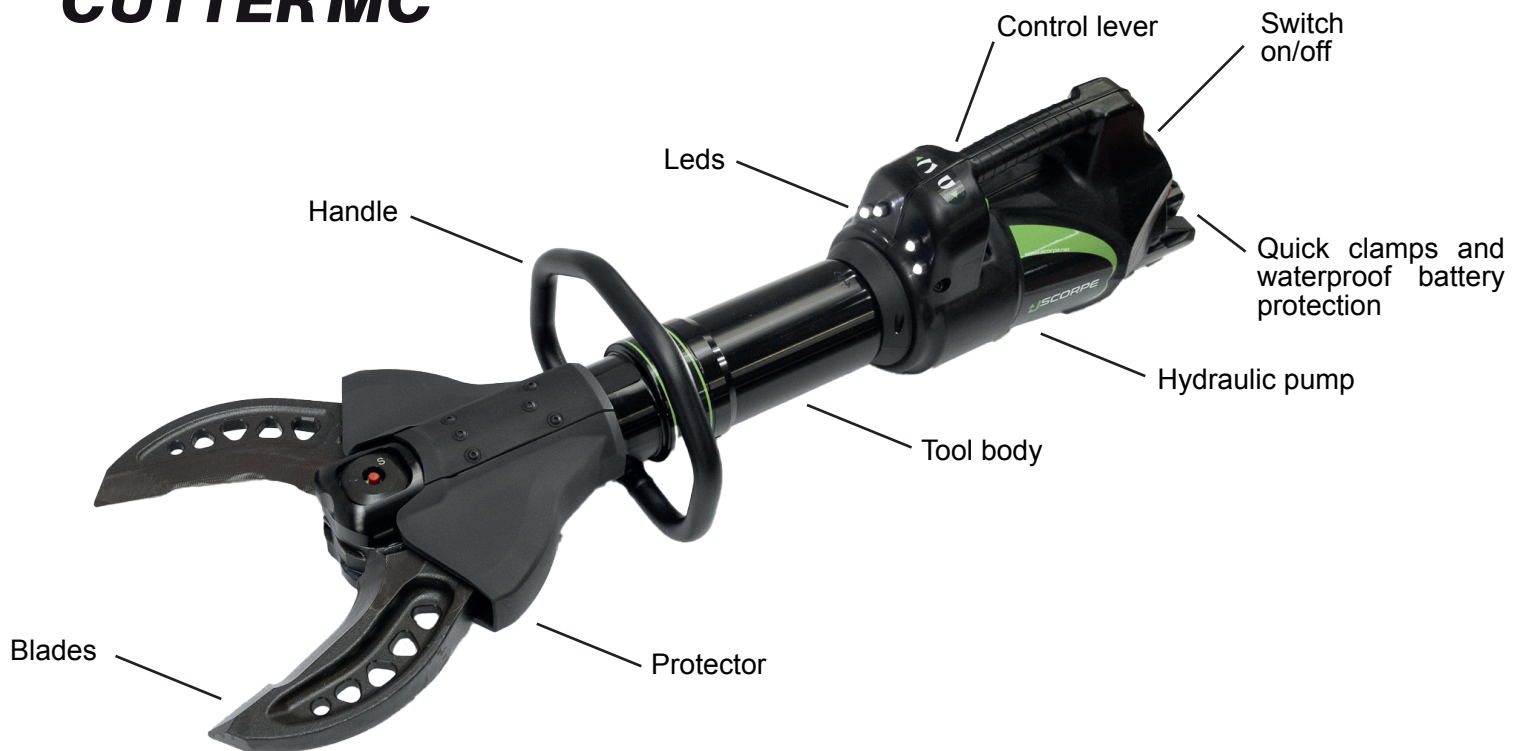
A slight tilting of the control handle lever is used to change the speed of the blades / arms. Maximum force requires full actuation of the handle lever.

CUTTERSC

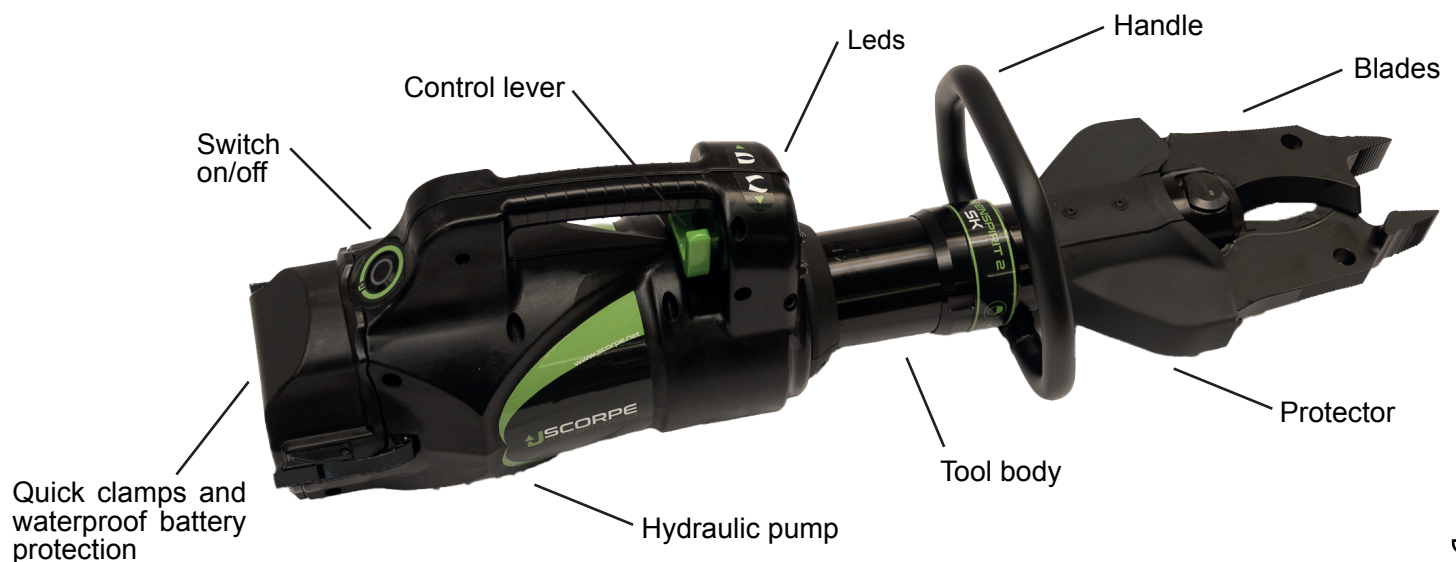


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CUTTER MC

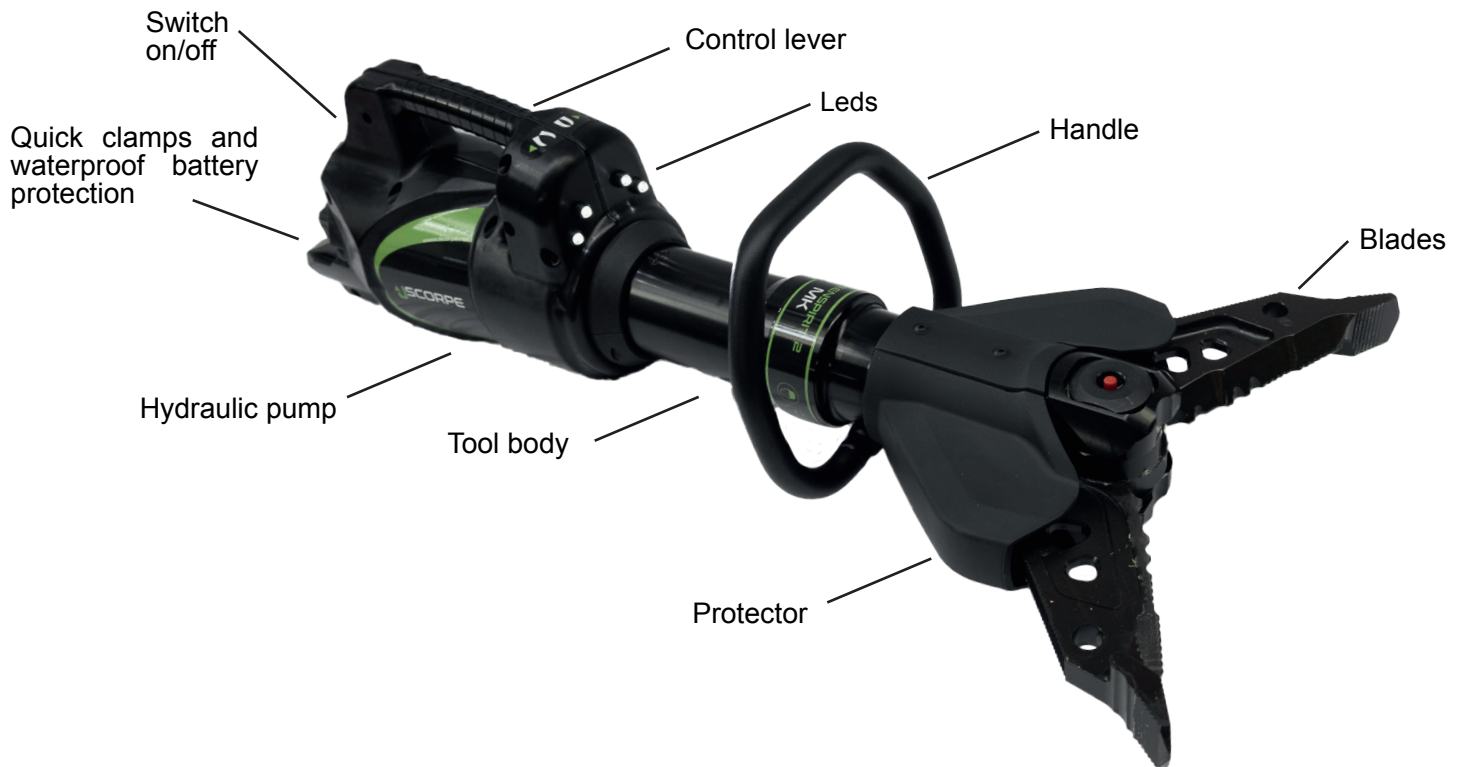


COMBISK



SCORPE

COMBI MK



SPREADER MS



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RAM SR



4.2 HYDRAULIC SUPPLY

Motor drive

The battery-powered equipment are driven by a DC motor with a voltage of 18 V. The drive motor operates as long as the handle lever is operated.

Hydraulic pump

A high-pressure pump (inside the pump unit) generates hydraulic high pressure. As for the pump, it is an axial piston pump and oblique discs with four pistons. The pressure acts directly on the service cylinder and makes the hose lines unnecessary.

Oil tank

Oil volume required for operation is taken from a piston accumulator. The hydraulic pump unit is fully enclosed in the housing and does not contain air. The tank pressure is 0.5 bar. Any oil volume expansions due to heat are compensated by the tank.

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Hydraulic oil

It is recommended to use a special hydraulic oil for rescue equipment according to WN 4841751 for all battery-powered equipment. It is not necessary to change the oil. If, however, should be necessary, imperatively call our after-sales service.

4.3 ELECTRIC SUPPLY

Battery insertion

Connect the battery (1) to the rescue equipment (2). Slide the battery into the rails of the housing (3) until it clicks into place. To detach it, simultaneously press both push buttons on both sides of the battery (4). The battery can then be removed from the top.



To remove the battery, press the buttons on the side and slide the battery upwards



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4.4 GREENSPIRIT II EQUIPMENT USE



To start the battery powered equipment, press the on / off switch (1). The switch turns green. The battery powered equipment is controlled by the handle lever / control handle. The speed of movement is adjusted by pressing more or less. The maximum cutting or spreading force / pressure requires a full operation of the handle lever.

Closing of: the cutting tool / the spreader / the ram

The direction of movement is triggered by moving the handle lever to the left.

Opening of: the cutting tool / the spreader / the ram

The direction of movement is triggered by moving the handle lever to the right.



Deadman device

When you release the handle lever, it automatically returns to the zero position. The equipment then retains its position, even at load.

5.0 POSSIBLE APPLICATIONS

5.1 SAFETY INSTRUCTIONS



Warning

Never insert body members between the blades and the spreader arms

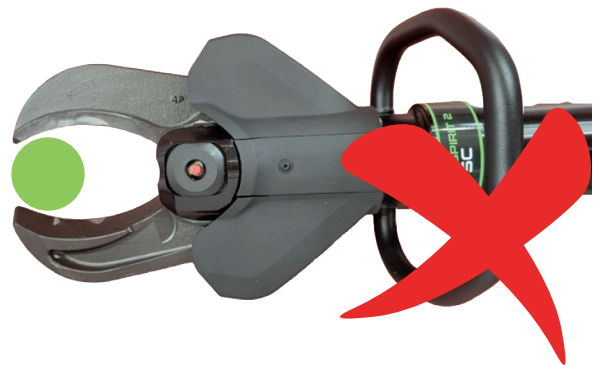


Warning

During all work with battery powered equipment, live parts can break or be projected, endangering people. Therefore, anyone not taking part in the work must respect a safe distance and not stay in the danger zone more than necessary.

5.2 CUTTING (CUTTING AND COMBINED

The optimal use of the cutting power of the equipment requires an application as close as possible to the pivot of the blades (Fig. 1). To do this, it may also be necessary to reposition the equipment. The equipment reaches its maximum cutting power only when the handle lever is fully pressed. In addition, it may take a few seconds until the maximum operating pressure is available.



To prevent damage to the blades, they must always be positioned at right angles to the work piece. In addition, the shear blades must not be more than 5 mm apart from each other at the tips during the cutting cycle. If this value is exceeded, the cutting cycle must be interrupted and the blade must be repositioned.

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Be careful

Do not separate parts with the ends released because otherwise people may be injured by the projection of parts.



Attention !

Cutting heavy-duty body parts such as dampers, hinges or steering columns can severely damage blades.

5.3 LIFTING/LOWERING (RAM)

To lift or push body parts, the ram must be installed in its closed position. The ram should be placed below the load as far as possible in the middle and perpendicularly to the load.

To facilitate the approach, the ram head can be rotated on the piston rod.

Raised parts must be immediately underpinned and supported as required. It is forbidden to stay under suspended loads.



Remark

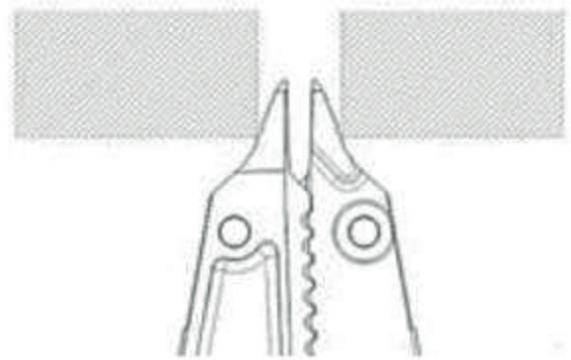
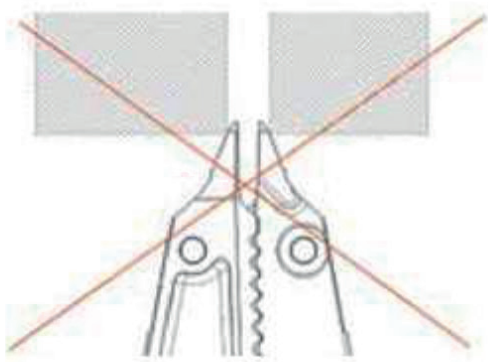
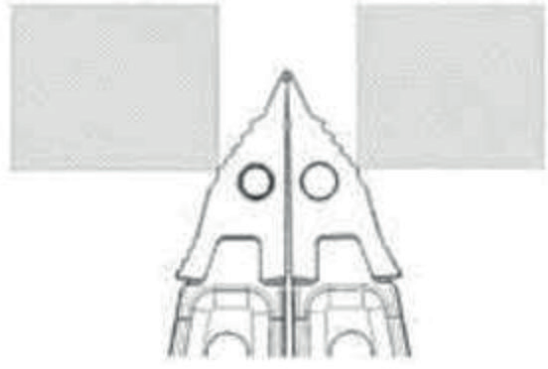
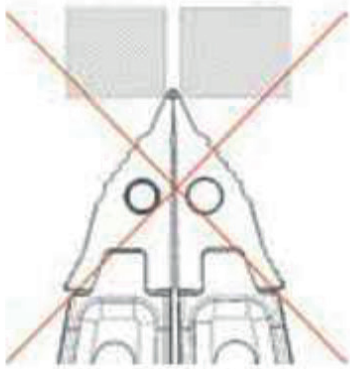
Before any use of the ram, the point of contact must be supported so that the generated power is in the desired direction.

5.4 SPREADING (SPREADERS, COMBINED TOOLS)

The spread feature includes opening doors, lifting vehicles and other moving loads, pushing vehicle parts, and crushing pipes and rails. To do this, it is necessary to use a stable attachment and to support the vehicle.

To prevent slippage in the gap, the arms of the spreaders have streaks on the outside and on the inside.

Whenever possible, the tips should only be used to enlarge a slot. You will avoid any slippage by repositioning the spreader.



5.5 PULLING (SPREADERS, COMBINED TOOLS)

Once the set of chains is positioned at the spreader tips, the combined tool can also be used to pull.

To do this, the chains must always be strained and can only be loaded in the lending direction. To tighten the chain, you can press a locking device so that the chain can be pulled through the bracket. If the pulling path is not enough, secure it with tension chains or other devices so that the spreader can be opened again and the chain can be re-tensioned.



Danger !

Stop using pulling chains in the following cases:

- Appearance of deformations, cracks, traces of corrosion.
- The chain link has lost 10% of its nominal thickness.
- A chain link has remained dilated.
- A chain link has expanded by more than 2%.
- Over an evaluation length of more than 11 links, the internal spacing has increased by more than 2%.

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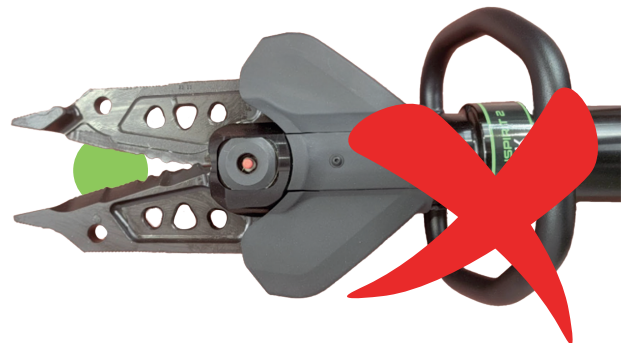
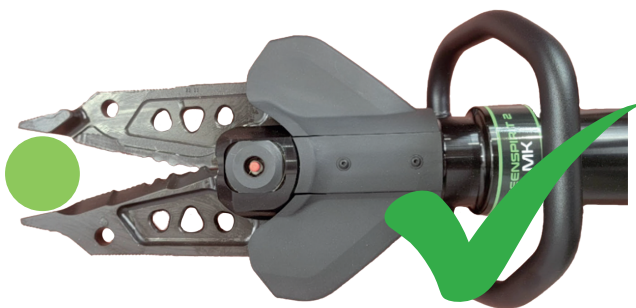
Attention !

Always have traction chains with joints at approx. 10 to 20 cm from the end. Before each use, check the channels. Make sure that the weight is not supported by the tip of the hook, but is in the middle of it.

- Do not repair yourself.
- Do not subject chains to a load greater than their capacity.
- Avoid sudden charges.
- Do not paint the chains.
- Do not shorten chains by tying them.
- Do not expose the chains to thermal stress.
- Only use chains and accessories provided that the temperature is between - 40 ° C and + 200 ° C.
- During all maintenance work, observe the accident prevention regulations in force as well as the provisions of DIN EN 818-7 and DIN 685-5.
- Chains should not be used as a docking device. It is forbidden to use them to lift loads.

5.6 CRUSHING (SPREADERS, COMBINED TOOLS)

Crushing of pipes and other hollow sections is accomplished by closing the arms of the spacer. With the combined tools, however, a crush is only possible at the tips!



Attention !

The item to be crushed can suddenly be ejected. Do not stay in the working area of the spreaders and combined tools!

5.7 LIFTING (SPREADERS, COMBINED TOOLS)

The combined tool can also be used for lifting vehicles or other moving loads. To do this, it must be ensured that the load is protected against slipping and that the spreader tips are far enough below the load to prevent slipping.

You must never look away from the load to be lifted during the process (watch for tipping, unhitching or moving).

In addition, the load lifted must be immediately underpinned and supported as required.

5.8 STRIPPING

To pierce entrance openings in the event of bus, train or silo accidents, the spreader tips can also be used as a stripping tool.

6.0 BATTERY AND CHARGER

6.1 TECHNICAL CHARACTERISTICS OF THE CHARGER

Voltage: 18 V
Charging time: 1h
Weight: 700g



Warning

Do not dispose of used rechargeable batteries in fire or household waste. Your specialist dealer offers you an environmentally friendly disposal of your used batteries.



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Important safety instructions about the battery and charger.

- It is forbidden to charge disposable batteries with the charger.
-
- Do not store batteries with other metal objects (danger of short circuit).
-
- Do not insert metal parts into the battery compartment of the chargers (danger of short circuit).
-
- Do not open batteries and chargers and only store them in dry rooms. To protect it against moisture.
-
- The charger is supplied with mains voltage. Do not insert conductive objects inside the equipment.
-
- Never recharge a damaged battery, replace it immediately.
-
- Before each use, check the equipment, the connection cable, the extension cord and the plug to make sure there is no deterioration or signs of aging. Only a specialist is authorized to repair damaged parts.
-
- This device is not designed for use by people with physical, sensory or mental (including children) or persons with no experience and / or knowledge required, unless these are monitored by a person responsible for their safety or that the operator has initiated them to the proper use of the device. You should supervise children to ensure they do not play with the equipment.

6.2 PROPER USE

This charger is designed for charging the 18V Li-Ion batteries supplied with your battery powered equipment. This equipment should only be used in the proper manner.

6.3 CONNECTION TO THE MAINS

Only to be connected to single phase alternating current and voltage specified on the nameplate. A connection is also possible at the sockets without protective contact, since this is a construction of the protection class II.

6.4 BATTERIE LI-ION

For safety reasons (air transport instructions), the batteries are discharged on delivery. Before first use, the battery must be fully charged.

LED charge status indicator



If the battery is not used for a long time, the battery will switch to standby. To be able to use it again, the battery must be reactivated (charged). The charge status can be accessed by pressing the button on the battery (see fig.). The battery can then remain in the equipment (the equipment must however previously be off for at least 1 minute) (if not the display is imprecise). The number of LEDs lit corresponds to the state of charge.

The following points should always be observed: If the wireless equipment does not work after inserting the battery pack, plug the battery into the charger for control. The indicators on the battery and the charger then inform about the state of the battery.

In the presence of low temperatures, it is possible to continue working at reduced power. For optimal availability, batteries must be fully charged after use.

6.5 CHARGING CYCLE



After inserting the battery into the charging compartment of the charger, the battery is automatically recharged (red LED permanently lit).



If inserting a too hot or too cold battery in the charger (red LED flashes), the charge cycle starts automatically when the battery has reached the required charging temperature (0 ° C to 65 ° C). The maximum charging current circulates when the temperature of the Li-Ion battery is between 0 and 65 ° C.

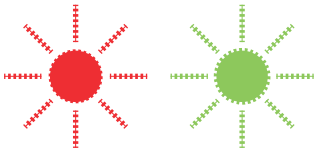


Depending on the battery discharge (3.0 Ah), the charge cycle can last 1 to 60 min. As soon as the battery is fully charged, the red LED on the charger turns green.

The recharged battery should not be removed from the charger immediately. It can stay permanently in the charger.

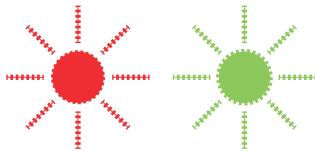
It is not exposed to any overload and thus remains operational.

If both LEDs flash alternately, it means either the battery has not been fully inserted or the battery or charger has a fault. For safety reasons, always switch off the charger and the battery immediately and take them to an authorized service center for repair.



Blinking alternately!

If the power supply is overloaded, all four LEDs flash. To continue the charging cycle, disconnect and reconnect the power supply.



Simultaneous flashing!

The battery can hold about 1000 charge cycles. A partial discharge has no effect on the operation of the tool as the battery maintains its capacity until it is empty.

Each recharge (even partial) counts as a complete charging cycle, so it is recommended to use the battery until it is fully discharged.

The battery is equipped with protection against deep discharge.

6.6 MAINTENANCE

When the mains connection cable is damaged, it must be replaced by an authorized service center.

Only use approved accessories and spare parts. Have non-described components replaced by an authorized service center.

SCORPE

7.0 FORWARDING, PACKAGING AND STORAGE

7.1 SAFETY INSTRUCTIONS



Be careful

In case of improper forwarding, considerable material damage may occur.

For this reason:

- When unloading packages, be very careful and respect the symbols on the packaging.
- Do not open or remove the package before arriving at the depot.

7.2 INSPECTION AFTER FORWARDING

Upon receipt, check the exhaustiveness of the delivery and check for any forwarding damage so that it can be remedied as soon as necessary.

If there is apparent damage, proceed as follows:

- Refuse the delivery or only accept it subject to reservation.
- Note the extent of the damage on the forwarding documents or on the carrier's delivery note.
- File a claim.



Remark

Claim any defect as soon as it is noticed.

7.3 SYMBOLS ON THE PACKAGING



Be careful, fragile !

Handle packages with care, do not drop, throw, bump or compress.



Up !

The package must be forwarded and stored in such a way that the arrow points upwards. Do not roll or tumble.

7.4 DISPOSAL OF PACKAGING



All packaging materials and parts removed (protections used for transport) should be subject to disposal in accordance with local regulations. At end of life, observe the laws and regulations of your country. Get closer to an organization for the recovery and treatment of waste.

7.5 STORAGE

Wherever possible, equipment should be stored in a dry and dust-free environment. Avoid direct exposure to UV rays.



Be careful

To avoid damage to the equipment when it is removed from the packaging, place it in the holders provided for this purpose

8.0 INSTALLATION AND FIRST USE

8.1 SAFETY INSTRUCTIONS



Warning

Risk of injury if used improperly!

Improper use can lead to serious injury or property damage.

Therefore, it is essential to observe the following instructions:

- All work sequences must be performed as described in this manual.
- Before starting work, ensure all covers and guards are in place and working properly.



Remark

Special information is provided if protective equipment is required for certain interventions carried out on or with the tools.

8.2 CONTROLS

Make sure there is no damage to the Greenspirit equipment. If the equipment is not in perfect condition, it is forbidden to use it! In this case, immediately inform your dealer or contact our after-sales service.

Combined tools, cutters and spreaders:

- Blade control (damage)
- Control of the tips of the spreaders (deteriorations)
- Check the handle lever including the tilt lever (operation)
- Control of the handle(s) (correct fixation)
- Control of the protective cover (deteriorations)

Greenspirit II ram:

- Checking the piston rod (damage)
- Check the handle lever including the tilt lever (operation)
- Control of pressure parts (deterioration)
- Check the guide piece (damage)

8.3 COMPLETION OF WORK

Cutters:

Once the interventions are completed, the tips of the blades must be positioned one above the other to avoid any risk of injury.

On the other hand, the blades of the cutting equipment must never be closed completely, otherwise tensions will be generated in the equipment.

Ram:

Once the work is complete, the ram must be fully retracted to free the equipment from any hydraulic load.

Combined tools and spreaders:

Once the work is completed, the arms of the equipment must remain slightly open to free the spreader of its hydraulic load.

9.0 MAINTENANCE

9.1 SAFETY INSTRUCTIONS



Warning

Risk of injury due to improper maintenance!
Improper maintenance of equipment can lead to serious injury or property damage.
Therefore, it is essential to observe the following instructions:

- Maintenance work is exclusively reserved for specialized personnel.
- Ensure that the assembly site is tidy and clean! Loose components and tools are sources of danger.
- Wearing protective gloves is mandatory during all work!

9.2 MAINTENANCE

In order for the equipment to be permanently ready for use, it is essential to take the following measures:

- Visually check equipment and accessories after each solicitation and at least once a year. Pay particular attention to the spreader tips, joints, blades.
- Every three years or when in doubt about the safety or reliability of the equipment, a functional check and stress test shall be performed (in accordance with GUV-G 9102 or applicable national guidelines).
- After each use, check the lubrication of moving parts and bolts, and spray, if necessary, all-purpose lubricant.



Attention !

Before any maintenance activity, clean the equipment so that no impurities enter the hydraulic system.

Cleaning can be done with a commercially available lemon detergent or WD 40.

9.3 MAINTENANCE SCHEDULE

You will find a detailed maintenance schedule, showing the inspection intervals and regulations, in the document GUV - G 9102, item 17 (hydraulically operated rescue equipment).



Remark

In case of problems during the maintenance of the equipment, do not hesitate to contact our after-sales service.

10.0 TROUBLESHOOTINGS

Combined Tools & Cutters

Troubleshooting	Possible cause	Solution
The tool does not work at full power	The tilting levers have not been completely pushed to the side	Completely push the rocker arms on the side
At load, the combination tool works in reverse	Faulty check valve	Make control equipment by an authorized after-sales service
Blades loose and gaping at the detachment	Attaching the blades to the head not in accordance with the instructions	Repair by a specialist workshop
Jaw opening of blades lower than face value	Incorrect adjustment of the head	Repair by a specialist workshop
Opening width of the combination tool less than the nominal value	Incorrect adjustment of the head	Repair by a specialist workshop
Despite pressure rise a movement (open - closed) in vacuum	Hex nut / bolt central too tight	Repair by a specialist workshop
Breaking of the blades	Damage to blades, e.g. due to the cutting too resistant materials	Sharpen up to approx. 2 mm (see repair instructions) or replace
Cracks in the blades	Damage to blades, e.g. due to the cutting too resistant materials	Make replacement blades an authorized after-sales service
Lifesaving equipment does not work	The battery is empty	Snap the battery on the charger. The indicators on the battery and the charger provide information about the state of the battery

Ram

Dysfonctionnement	Cause possible	Solution
The tool does not work at full power	The tilting levers have not been completely pushed to the side	Completely push the rocker arms on the side
At load, the RAM works in reverse	Faulty check valve	Make control equipment by an authorized after-sales service
Lifesaving equipment does not work	The battery is empty	Snap the battery on the charger. The indicators on the battery and the charger provide information about the state of the battery

Spreader

Dysfonctionnement	Cause possible	Solution
The tool does not work at full power	The tilting levers have not been completely pushed to the side	Completely push the rocker arms on the side
At load, the Spreader works in reverse	Faulty check valve	Make control equipment by an authorized after-sales service
Lifesaving equipment does not work	The battery is empty	Snap the battery on the charger. The indicators on the battery and the charger provide information about the state of the battery

11.0 11. DECOMISSIONING/RECY-

At the end of its life, the equipment must be disposed of in accordance with the instructions. The different parts can however continue to be used individually.

The hydraulic oil must be completely drained and collected. Please note that the hydraulic oil must be disposed of separately!

Local disposal conditions apply to the disposal of all equipment components and packaging materials.

Do not dispose of power tools with household waste! In accordance with the European Directive 2002/96 / EC on used electrical and electronic equipment and the transposition into national law, used electrical tools must be collected separately and recycled in an environmentally friendly way.



Remark

To learn how to dispose of your equipment, consult your dealer or our after-sales service department.

12.0 NOTES