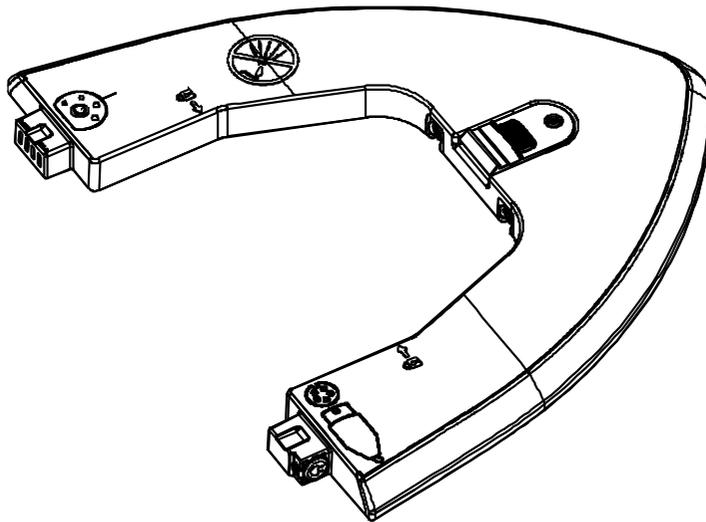


LI-ION BATTERIE - SCRUBMASTER B5



USER MANUAL



Emergency contact information:

Hako GmbH
Hamburger Straße 209-239
D- 23843 Bad Oldesloe
Tel: 0049-4531-806-0
www.hako.com

INTRODUCTION

Thank you for purchasing a Hako batterypack.

This manual contains information on how to use it; please carefully read the manual before using the batterypack.

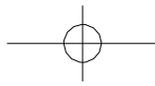
If a problem should arise, or if you have any questions about your product, consult your servicing dealer.

The product pictured in this owner's manual may not match your actual product.

This manual should be considered a permanent part of the battery pack and should remain with the battery pack if resold.

CONTENTS

INTRODUCTION.....	2
SAFETY MESSAGES.....	3
BATTERY PACK SAFETY	3
IMPORTANT SAFETY INFORMATION.....	3
COMPONENT & CONTROL LOCATIONS.....	4
OPERATION	5
SAFE OPERATING PRECAUTIONS	5
CHECKING THE CHARGE LEVEL.....	5
CHARGING THE BATTERY PACK.....	5
ATTACHING THE BATTERY PACK.....	5
TRANSPORTING.....	6
CARRYING THE BATTERY PACK.....	6
LOADING IN A VEHICLE.....	6
WHEN TRANSPORTING BY SHIP OR AIRCRAFT.....	6
CLEANING	7
STORAGE.....	7
TROUBLESHOOTING.....	8
DEFECTIVE BATTERIES.....	9
USE AND STORAGE	10
DANGER:.....	10
WARNING:.....	10
STORAGE:.....	10
FIRST AID MEASURES.....	11
FIREFIGHTING MEASURES.....	11
SPECIFICATIONS.....	12
DISPOSAL.....	12



SAFETY MESSAGES

Your safety and the safety of others are very important. We have provided important safety messages in this manual. Please read these messages carefully.

A safety message alerts you to potential hazards that could hurt you or others. Each safety message is preceded by a safety alert symbol  and one of three signal words, DANGER, WARNING, or CAUTION.

These signal words mean:



DANGER

Failure to follow the instructions may result in serious injury or even death.



WARNING

Failure to follow the instructions may result in serious injury or even death.



CAUTION

Failure to follow the instructions may result in injury.

You will also see other important messages that are preceded by the word NOTICE.

This word means:

NOTICE

Information to help you avoid damage to your battery pack, other property, or the environment.

BATTERY PACK SAFETY

IMPORTANT SAFETY INFORMATION

Read this manual carefully before using this product. Before using this product, understand how to handle this product properly.

DANGER

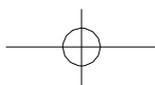
Failure to follow the instructions below may result in excessive heat, fire, and/or bursting (explosion), etc.

Do not heat, or place into fire. Do not use, charge, or leave in a hot place.

WARNING

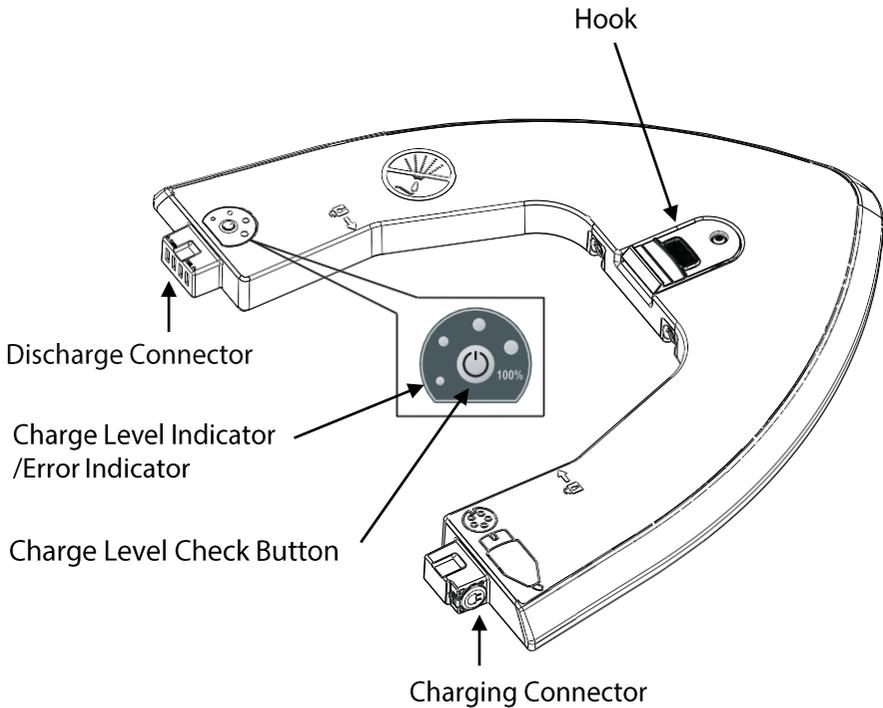
Failure to follow the instructions below may result in the battery pack excessive heat, fire, or electric shock, etc.

- Do not drop or impact the battery pack.
- Only use the specified charger when charging.
- Do not disassemble, modify, or repair the battery pack.
- Do not allow water to contact the battery terminals or get inside the battery pack.



- Only use the genuine Hako battery charger when charging.
- Do not touch the battery pack's connectors with metal objects or insert metal objects through openings into the battery pack.
- If the battery pack leaks fluid or smells strangely, immediately move it away from any heat sources or flame. There is a risk of fire or rupturing if the leaked liquid or gas ignites. Also, if the liquid gets into your eyes, rinse them with plenty of water. After that, immediately seek medical care. battery pack contains combustible organic solvents as an electrolyte solution.
- Do not allow children to use the battery pack. Store the battery pack out of the reach of children.
- Do not store the battery pack in a damp location. Doing so can cause a malfunction.
- When the battery pack is not in use, keep it away from other metal objects, like paper clips, coins, keys, nails, screws or other small metal objects, that can make a connection from one terminal to another. Shorting the battery terminals together may cause burns or a fire.
- In case of fire, stop using the machine immediately and extinguish with dry chemical, sandy soil, carbon dioxide or appropriate foam.

COMPONENT & CONTROL LOCATIONS



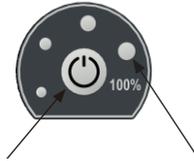
OPERATION **⚠ DANGER**

SAFE OPERATING PRECAUTIONS

- Before using the battery pack, use a genuine Hako battery charger to charge it.
- If a battery pack is cracked or damaged, do not use it.
- Make sure there is no dust or dirt on the battery connector. Using it while it is dirty can cause a malfunction.
- The battery pack deteriorates if it is repeatedly charged and discharged, as well as if it is stored and not used.
- As the battery pack deteriorates, its full-charge capacity decreases and the length of time it can be used shortens. Once the full-charge capacity is reduced by deterioration, it cannot be recovered and cannot reach the charging capacity of a new battery pack.

CHECKING THE CHARGE LEVEL

When the charge level check button is pressed, the charge level indicator lights or flashes so you can confirm the charge level of the battery pack.



Charge Level Check Button

Charge Level Indicator / Error Indicator

Indicator Display	Charge Level
● ● ● ●	Fully charged.
● ● ● ○	Sufficiently charged.
● ● ○ ○	Remaining battery power is low. Charge the Battery Pack.
* ○ ○ ○	Empty
* * * *	Error

●: On, *: Flash, ○: Off

CHARGING THE BATTERY PACK

For how to charge the battery pack, refer to the manual for the battery charger.

ATTACHING THE BATTERY PACK

For how to attach the battery pack, refer to the manual for the specified device.

TRANSPORTING **⚠ WARNING**

CARRYING THE BATTERY PACK

Note the following precautions when carrying the battery pack.

- To carry the battery pack, remove it from the specified device or battery charger.
- Hold the battery pack and grasp it firmly.
- Do not swing the battery pack around or throw it.

LOADING IN A VEHICLE **⚠ CAUTION**

When loading the battery pack in a vehicle, place it in a level location inside the vehicle or load bed, and secure it so it does not move. If there are regulations that stipulate transportation methods, such as requirements for storage in a specified storage case, then follow those regulations.

- Remove the battery pack from the specified device or battery charger and protect it with cushioning material.
- Do not throw the battery pack into or out of the load bed of a vehicle.
- Avoid direct sunlight, and do not load or secure the battery pack in a location that can become very hot, such as in an enclosed vehicle.
- Do not stack battery packs when loading them.
- Do not place baggage on top of the battery pack. Also, be careful that other baggage does not slide and collide with the battery pack.

WHEN TRANSPORTING BY SHIP OR AIRCRAFT

When shipping by third parties (e.g.: by air transport or forwarding agency), special requirements on packaging and labelling must be observed. For preparation of the item being shipped, consulting an expert for hazardous material is required.

Ship battery packs only when undamaged. Please also observe the possibility of more detailed national regulations.



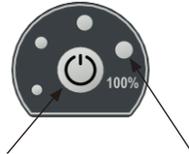
CLEANING **⚠ WARNING**

- Before dry cleaning the battery pack, remove it from the specified device or the battery charger.
- If the battery pack and connector are dirty, wipe them off with a clean dry cloth.

STORAGE **⚠ CAUTION**

Inappropriate long-term storage can cause the battery pack to deteriorate quickly. And it may become unusable.

- Before storing the battery pack, remove it from the specified device or the battery charger, to prevent unintended operation.
- Storing the battery pack in a very warm location can cause the battery pack to deteriorate quickly.
 - Optimal storage at room temperature. See "SPECIFICATIONS" for the storage temperature range.
- Before putting the battery in long-term storage, refer to the following table to confirm whether the charge level of the battery pack is suitable for long-term storage. Also, check the charge level of the battery pack every two month while it is in storage.



Charge Level Check Button

Charge Level Indicator / Error Indicator

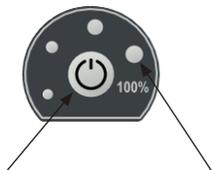
Indicator Display	Charge Level
● ● ● ●	Long-term storage is not possible. The battery pack will deteriorate if it is stored like this. Use the battery pack to discharge it to a charge level suitable for long-term storage.
● ● ● ○	Long-term storage is possible.
● ● ○ ○	Check the charge level every two months. If only 1 charging level indicator is flashing, replenish the charge until from 1 to 3 indicators are lit.
● ○ ○ ○	
* ○ ○ ○	

●: On, *: Flash, ○: Off



TROUBLESHOOTING **⚠ WARNING**

Check the indicators and follow the instructions below when there is a malfunction. If a problem is not resolved or the symptoms do not improve, contact an authorized Hako servicing dealer.



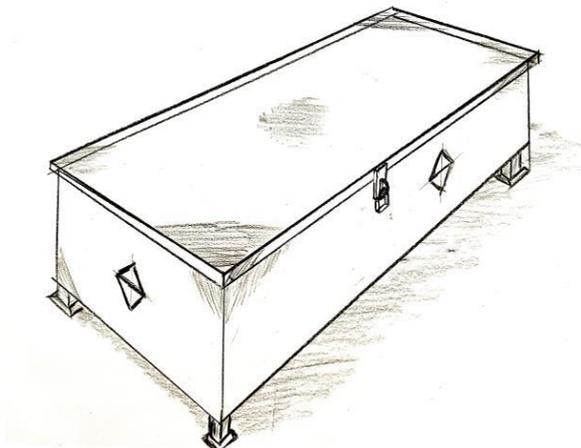
Charge Level Check Button Error Indicator (4 Led lights flash)

Indicator		Possible Cause	Solution
ERROR	Charge Level		
4 Led lights flash	—	Problem was detected.	Remove all equipment connected to the battery pack, wait for about 5 minutes and reload the battery pack. <ul style="list-style-type: none"> When the Error indicator does not flash the battery pack can be used normally.
4 Led lights flash	—	Problem was detected: <ol style="list-style-type: none"> Overvoltage protection Overcurrent protection Lower temperature protection high temperature protection 	After following the instructions for the Battery pack problem, connect the specified device and check if it works properly. <ul style="list-style-type: none"> When the device works, the battery pack can be used normally.
4 Led lights flash	—	Problem was detected. (Low voltage protection)	After following the instructions for the battery pack problem, connect the battery Charger and check if the charging starts properly. <ul style="list-style-type: none"> When the charging starts, the battery pack can be used normally.
4 Led light Flash	—	Problem with the specified device or battery charger, or malfunction in the battery pack was detected.	Remove all equipment connected to the battery pack, wait until all indicators turn off and press the Charge Level Check Button. <ul style="list-style-type: none"> When the ERROR indicator does not flash, the battery pack can be used normally. Check that there is no foreign material around the battery pack. Connect the specified device or battery charger. <ul style="list-style-type: none"> When the ERROR indicator illuminates, there is a problem with the specified device or battery charger.
1 Led light Flash	Empty	Cell deep discharge	Battery pack is dead.



DEFECTIVE BATTERIES **▲ DANGER**

1. If a customer wants to return a battery to a supplier, the supplier has to arrange the collection of the battery. Faulty batteries must not be returned by mail or other courier services.
2. If a battery suspected of being defective shows signs of damage such as impact marks, bending, blistering, loose parts or leaks, after being returned to the supplier or to a customer's site, it must not be presented for inspection. It must be considered defective, and therefore the procedures described in point 8 below must be carried out.
3. If a battery suspected of being defective shows no signs of damage, such as impact marks, bending, blistering, loose parts, or leaks, after being returned to the supplier or to a customer location, it may be presented for inspection of its condition. The check must be performed with a suitable battery tester operated by a qualified person.
4. If the test reveals that the battery is defective, perform the procedures described in point 8 below.
5. If the battery is found to be serviceable during the test, a single charge cycle may be attempted under supervision using the appropriate Hako charger.
6. If the battery is properly charged during this charge cycle, it can be considered intact.
7. If the battery is not properly charged during this charging cycle, it must be considered faulty and the procedures described in point 8 below must be carried out. **Under no circumstances should further charging attempts be made. Damaged batteries must not be stored indoors under any circumstances.**
8. Defective batteries should be stored in a container filled with salt water in a well-ventilated area. This container must contain at least 25 liters of salt water at a concentration of 15 g of common salt/liter. The container must be closed with a locked lid, but not sealed. The battery must be kept completely submerged in water (at least 100 mm below the water surface) for at least 2 weeks. After completion of the discharge process, the water must be disposed of as hazardous waste.
9. The damaged discharged battery can then be stored in a locked battery waste holder. This container should be made of plastic or coated with plastic and placed away from buildings and marked with appropriate warning signs as a battery waste holder.
10. The batteries should then be taken to a waste collection point in compliance with the disposal regulations of the respective country.



Example of a waste battery container that should be located at a great distance from buildings.



USE AND STORAGE **▲ DANGER**

DANGER:

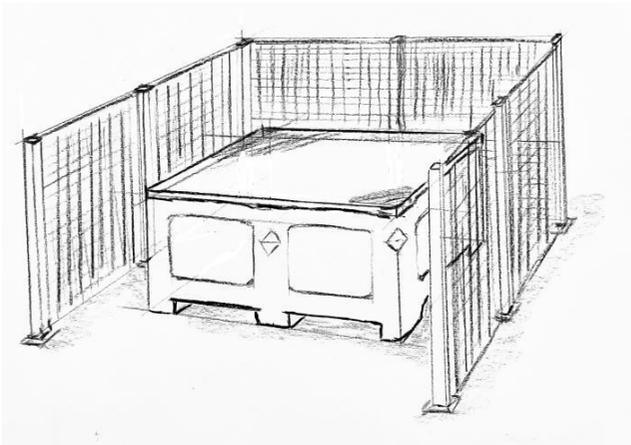
- Improper handling can lead to an explosion or ignite a fire!
- Store batteries out of reach of children.
- Only insert the battery when the machine is in use.
- For transport and storage, the battery should always be removed from the machine.
- Temperature range for storage: -10 °C to 55 °C.
- Temperatures above 55 °C are not permissible.
- Relative humidity range: 45 to 80 %.
- Optimal temperature for maintaining the functionality: 15 °C to 25 °C.

WARNING:

- Do not open, disassemble or drop the battery from a great height.
- Protect battery from short circuit - risk of explosion!
- Protect battery from rain; do not immerse in liquids - risk of short circuit!
- Protect battery from direct sunlight, heat and fire.
- Do not burn the battery - risk of explosion!
- Do not use damaged or deformed batteries.
- The battery may only be charged with an original Hako charger.

STORAGE:

- The batteries must be stored in a protected area away from direct heat and sunlight and kept dry.
- The temperature should not exceed 55 °C and should not exceed 25 °C to maintain its performance.
- Storage should be in a dust-free place with low humidity and a non-corrosive atmosphere.



- Example of a well-protected area with mesh enclosure protecting against shocks heat, shocks and liquid splashes.
- When handling or transporting batteries with forklifts or pallet trucks, always proceed with care to avoid damaging the batteries.
- If an intact battery is mishandled or exposed to conditions where it could be damaged (see enclosed battery instructions), that battery should be considered defective and subjected to the procedures described in item 1 on the surrounding page of this document.



FIRST AID MEASURES

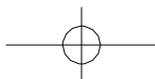
- In case of contact with leaked electrolyte or electrolyte vapors:
- Contact with eyes: Flush eyes with plenty of clean water for at least 15 minutes without rubbing and seek medical attention.
- Contact with skin: wash affected areas of skin with plenty of soap and water; if irritation persists, seek medical attention.
- Inhalation: Breathe fresh air immediately (through an oxygen mask if necessary) and seek medical attention.
- Ingestion: If you swallow Electrolyte, seek medical attention immediately.

Notes to the physician:

- Contains caustic alkaline electrolytes in cells with lithium oxide, nickel oxide and cobalt/lithium manganese oxide cathodes - WITHOUT LITHIUM METAL OR ALLOY.

FIREFIGHTING MEASURES **▲ DANGER**

- In case of fire: Keep away from escaping vapors and gases (observe wind direction). If safely possible, remove the batteries from the area of the source of the fire. Cooling or extinguishing with water is possible in principle, but should only be carried out by trained personnel with a sufficient quantity of water.
- If the hazardous situation is unclear, extinguish only with ABC powder extinguishers (particularly suitable: Class D extinguishers containing metals).
- Persons fighting the fire must approach the source of the fire only wearing protective clothing and independent breathing apparatus.
- Once the fire is extinguished, the following rules must be observed: The area must be inspected by the fire department and cleaned by trained, properly equipped personnel; burned material must be collected and disposed of properly.



SPECIFICATIONS

Model	B5
Description code	BL8057
Length	465 mm (18.31 in)
Width	417 mm (16.42 in)
Height	36 mm (1.42 in)
Mass	2.3 kg (14.1 lbs)
Type	Rechargeable lithium ion battery
Voltage	DC 25.2V
Power capacity	322 Wh
Rated capacity	12.8 Ah
Charging temperature range	5 to 35 °C Battery packs cannot be charged at temperatures of 5 °C or colder
Operating temperature range	 5 to 45°C
Optimum storage temperature range	15 to 25 °C

DISPOSAL

To protect the environment, do not dispose of this product using standard waste collection. Observe the local laws and regulations or consult your authorized Hako dealer for disposal.



Do not dispose of electric equipment together with household waste material.

If electrical appliances are disposed of in landfills or dumps, substances can leak and react and enter into the food chain, damaging your health and well-being. For further information on the disposal of this product, please contact your dealer or your nearest domestic waste collection service.