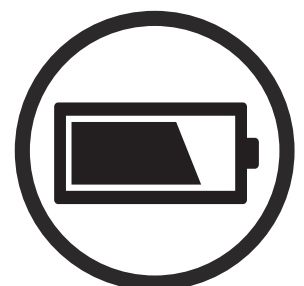


Workshop manual

100-B380X, 100-B750X



English

Contents

1 Introduction

1.1 Document description.....	3
1.2 Target group.....	3
1.3 Revisions.....	3
1.4 Safety.....	3
1.5 Servicing tools.....	3

2 Safety

2.1 Safety definitions.....	4
2.2 General safety instructions.....	4
2.3 Important safety instructions.....	4
2.4 Symbols on the product.....	4

3 Servicing data

3.1 Servicing data.....	5
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4 Servicing tools

4.1 Servicing tools.....	6
4.2 Service interface box.....	6
4.3 Husqvarna Service Hub.....	7
4.4 Data in Husqvarna Service Hub.....	7

5 Product overview

6 Repair instructions

6.1 Battery terminals.....	11
6.2 To replace the casing.....	11
6.3 To replace the keypad.....	12
6.4 To replace the vibration damping units.....	12
6.5 Battery cells.....	13

7 Troubleshooting

7.1 Troubleshooting.....	14
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8 Technical data

8.1 Technical data.....	15
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1 Introduction

1.1 Document description

This manual gives a full description of how to do maintenance and repair on the product. It also gives safety instructions that the personnel must obey.

1.2 Target group

This manual is for personnel with a general knowledge of how to do repair and do servicing. All personnel that do repair or do servicing on the product must read and understand the manual.

1.3 Revisions

Changes to the product can cause changes to the maintenance work and spare parts. Separate information is sent out for each change.

Read the manual together with all received information about changes to maintenance and spare parts for the product.

1.4 Safety



WARNING: All personnel that repair or do servicing on the product must read and understand the safety instructions in this workshop manual.

1.5 Servicing tools

The manual gives information about necessary servicing tools. Always use original tools from Husqvarna.

2 Safety

2.1 Safety definitions

Warnings, cautions and notes are used to point out specially important parts of the manual.



WARNING: Used if there is a risk of injury or death for the operator or bystanders if the instructions in the manual are not obeyed.



CAUTION: Used if there is a risk of damage to the product, other materials or the adjacent area if the instructions in the manual are not obeyed.

Note: Used to give more information that is necessary in a given situation.

2.2 General safety instructions



WARNING: Apply a new warning label if a warning symbol on the product is damaged or missing.

2.3 Important safety instructions



WARNING: Read all safety warnings and all instructions. Failure to obey the warnings and instructions may result in electrical shock, fire and/or serious injury.

Note: Save all warnings and instructions.

- Only use the battery chargers, 100–C900X or 100–C1800X to charge Husqvarna original PACE batteries. The batteries are software encrypted.
- Use the 100–B380X, 100–B750X batteries that are rechargeable as a power supply for the related Husqvarna products only. To prevent injury, do not use the battery as a power supply for other devices.
- Keep the battery away from sunlight, heat or open flame. The battery can cause burns and/or chemical burns.
- Do not cause mechanical shock to the battery.
- Do not let battery acid touch your skin. Battery acid causes injuries to the skin, corrosion and burns. If you get battery acid in your eyes, do not rub but flush with water for a minimum of 15 minutes. If battery acid has touched your skin, you must clean the skin with a large quantity of water and soap. Get medical aid.
- Keep the battery away from children.
- Keep the battery clean and dry.
- Do not keep the battery in the battery charger when it is fully charged.
- Do not short circuit the battery.

2.4 Symbols on the product



Charging error LED.



Charging LED.



Fast charge button.



The product agrees with the applicable EC directives.



Recycle the product at an applicable disposal location for electrical and electronic equipment.



The product or package of the product is not domestic waste.



Do not put the battery in water.



Keep the battery away from sunlight, heat or open flame.

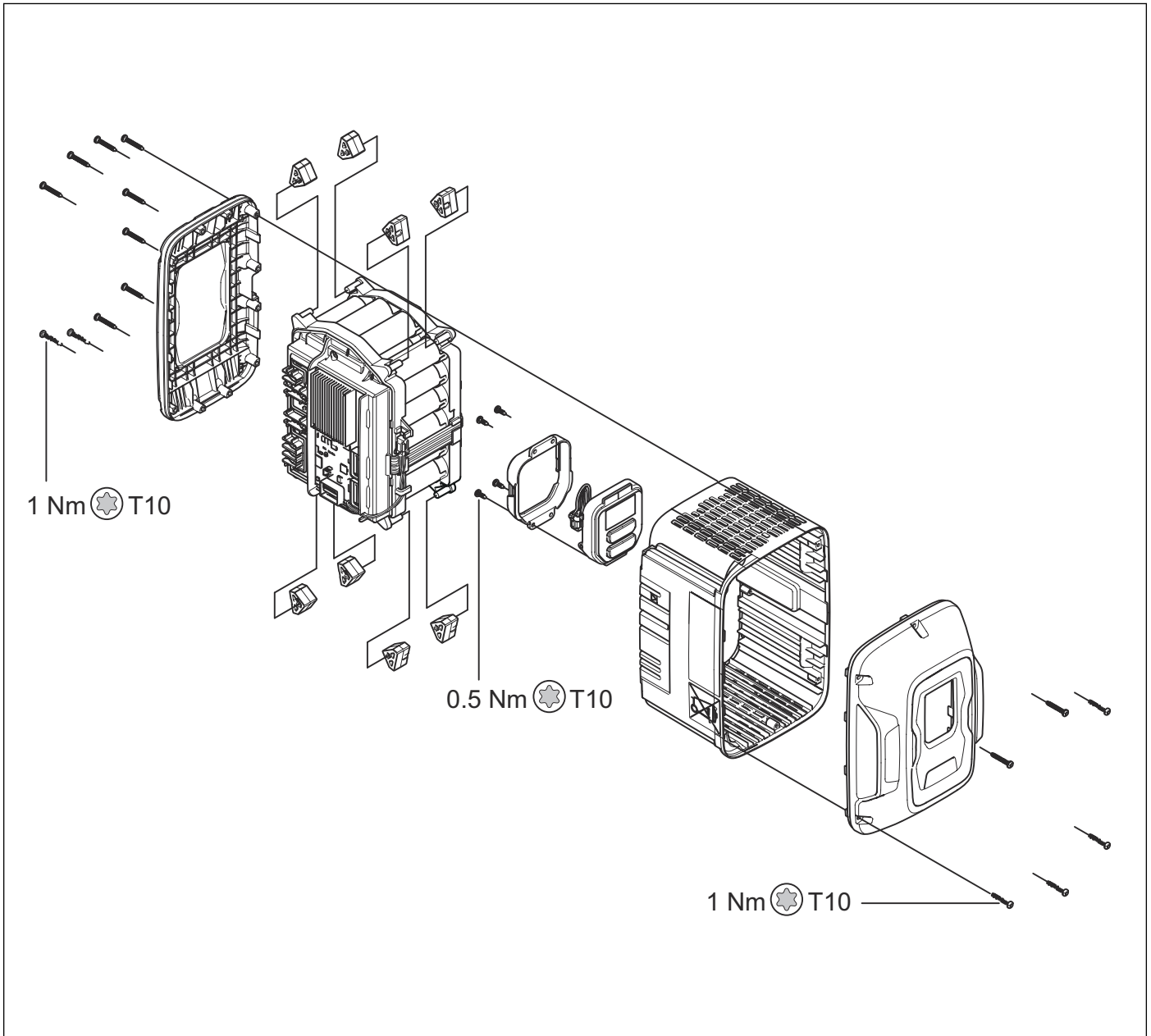
yyyywwxxxx

The rating plate shows serial number. **yyyy** is the production year, **ww** is the production week.

Note: Other symbols/decals on the product refer to certification requirements for some commercial areas.

3 Servicing data

3.1 Servicing data

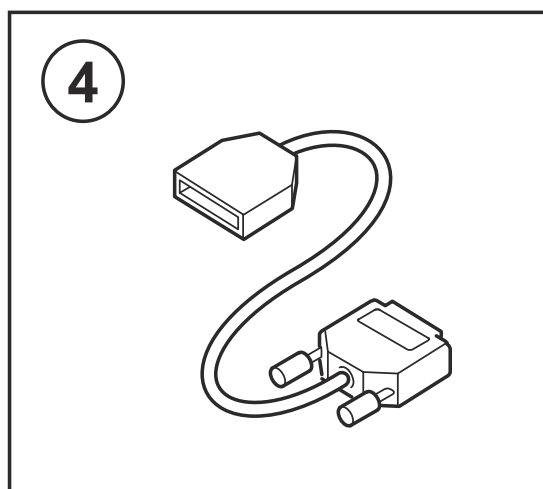
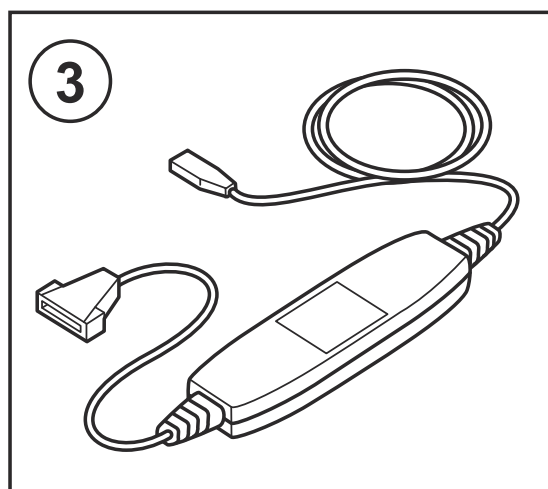
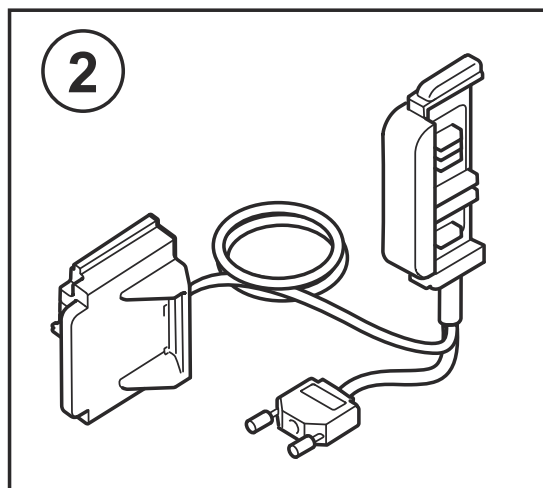
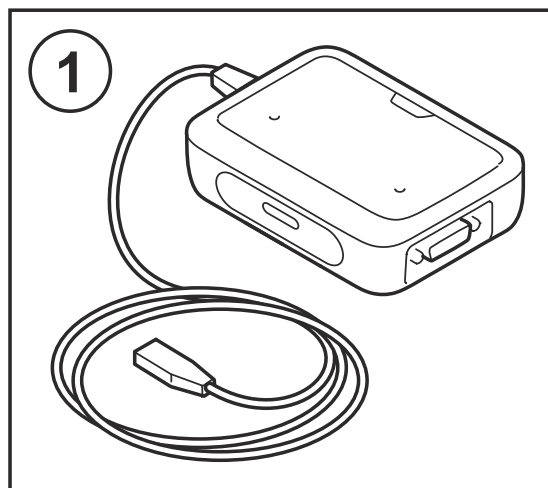


4 Servicing tools

4.1 Servicing tools



WARNING: Use tools with electric insulation. The battery cells contain much energy.



Item	Description	Use	Article number
1	Service interface box.	To do a check of the product and install updates to the firm-ware.	598 07 28-01
2	Adapter cable for battery products.	To do a check of battery products with the diagnostic tool kit.	529 47 15-01
3	Kvaser can adapter.	To do a check of the product and install updates to the firm-ware.	574 03 57-02
4	Cable assy adapter.	To do a check of the product and install updates to the firm-ware.	529 67 70-01

4.2 Service interface box

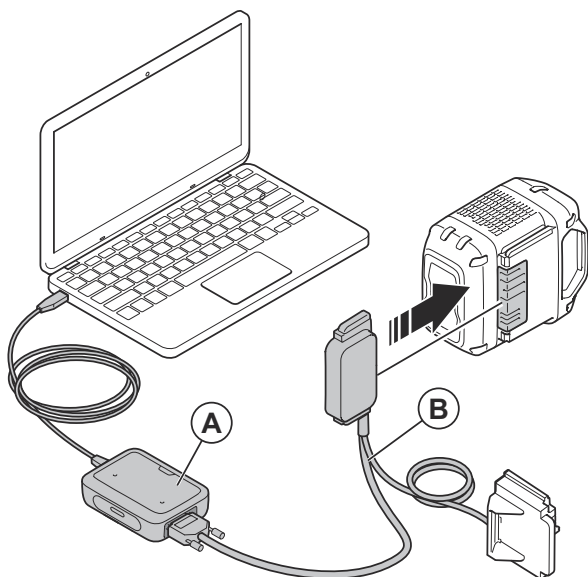
The service interface box (SIB) is used with a computer (not included) for Husqvarna products.

The service interface box transmits data from the product and battery to the computer, for example

product ID. There is also a diagnostic tool list and a list of saved error codes. The service interface box is also used to update the software in battery products.

4.2.1 To connect the service interface box

1. Start the service interface box and connect it to your computer (A).
2. Connect the battery to the adapter cable for battery products (B).



3. Connect the adapter cable for battery products to the service interface box.
4. Start the product to do a software update.

Note: The service interface box can only be used to update software.

Note: The Husqvarna service hub can also be used to update software.

Note: Refer to the manual of the service interface box for instructions and obey the instructions.

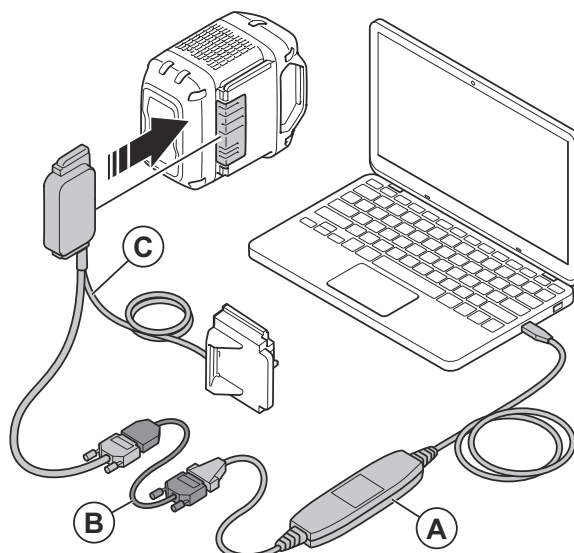
4.3 Husqvarna Service Hub

The Husqvarna Service Hub (HSH) is used with a computer (not included) for Husqvarna products. You can connect the product to HSH with the Service interface box or with the Kvaser can adapter.

4.3.1 To connect the product to Husqvarna Service Hub (Kvaser can adapter)

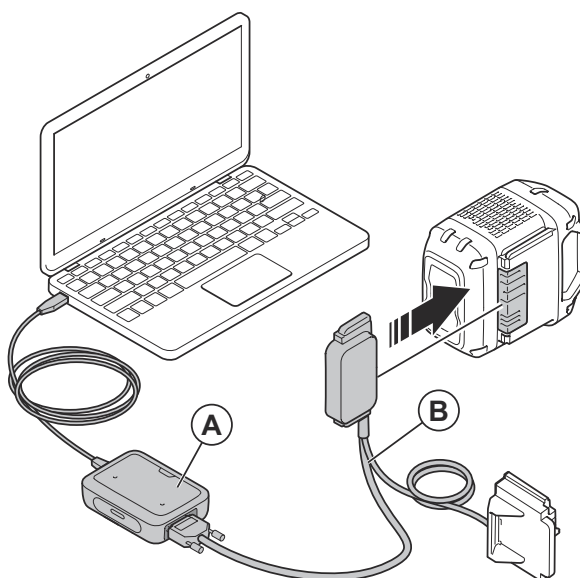
1. Connect the Kvaser can adapter to the computer (A).
2. Connect the Cable assy adapter to the Kvaser can adapter (B).
3. Connect the Cable assy adapter to the adapter cable for battery products (B).

4. Connect the adapter cable for battery products to the battery (C).



4.3.2 To connect the product to Husqvarna Service Hub (Interface box)

1. Start the Service interface box and connect it to your computer (A).
2. Connect the adapter cable for battery products to the Service interface box (B).
3. Connect the adapter cable for battery products to the battery (B).



4.4 Data in Husqvarna Service Hub

The service interface box transmits data from the battery to the computer. There are 4 sections available in HSH:

- Overview - Firmware and service history.

- Troubleshooting - Diagnostic tests, refer to *Diagnostic test on page 8*. Operating history, refer to *Operating history on page 9*.
- Documents - Operator's Manuals, Workshop Manual and Service Bulletins related to the connected product.
- Spare Parts - Illustrated part list.

4.4.1 Diagnostic test

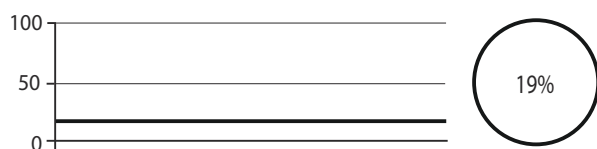
In the section Diagnostic test you will find charts showing the condition of the battery.

4.4.1.1 State of charge (SoC)

The graph shows the charge level of the battery.

State of charge

Battery

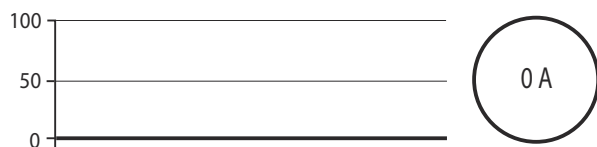


4.4.1.2 Current

The graph shows the current that is drained from the battery or the charging current into the battery.

Current

Battery

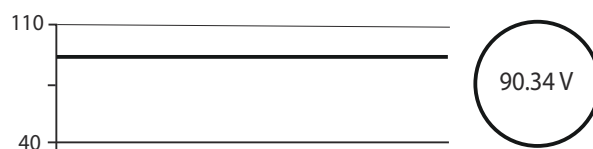


4.4.1.3 Voltage

The graph shows the battery voltage. The voltage difference between cells must not be >1V. The lowest voltage level for a cell must not be <2V. The highest voltage level for a cell must not be >4.25V. If the voltage level is >4.25V, use a tool to drain the battery.

Voltage

Battery



⚡	Cell min. voltage	3.47 V
⚡	Cell max voltage	3.48 V

If the battery has a voltage difference between the cells:

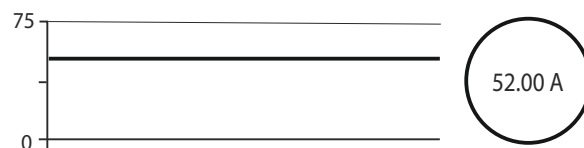
1. Charge the battery
2. Make sure all cells have a voltage level >3.6V.
3. Wait 12 h before the battery is connected to a power tool or a charger.
4. Do a check of the voltage difference.

4.4.1.4 State of Power - Discharge

The graph shows maximum recommended current that the tool can drain from the battery. The recommended current will be adjusted if the temperature, charge level or the condition of the cells change.

State of power discharge

Battery

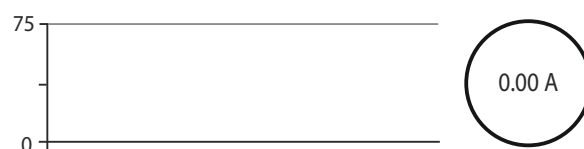


4.4.1.5 State of Power - Charge

The graph shows the maximum recommended current that the tool can drain from the battery. The current will be adjusted if the temperature, voltage level or battery condition change.

State of power charge

Battery



4.4.1.6 State of Health (SoH)

The value shows the condition of the battery cells. The value drops to 70% after long term use. When the SoH gets lower, the run time will be less.

State of health

Battery





 State of health	100%
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4.4.1.7 Temperature

The values show the minimum and maximum temperature of the battery pack and electronics.

Temperature

Battery

 Min. battery pack temperature	21°C
 Max. battery pack temperature	21°C
 Min. electronics temperature	21°C
 Max. electronics temperature	21°C





4.4.2 Operating history

In the section Operating history you will find information about the operating history of the battery.

4.4.2.1 Battery

The values show the number of times high or low voltage has occurred in the battery pack and battery cells.





Battery

 Battery pack high voltage	0
 Battery pack low voltage	30
 Battery cell high voltage	18
 Battery cell low voltage	30

4.4.2.2 Temperature

The values show the number of times high or low temperature has occurred in the battery pack and battery cells during charge and discharge.


Temperature

 High temp. during charge	6
 Low temp. during charge	6
 High temp. during discharge	0
 Low temp. during discharge	9

4.4.2.3 Over current

The values show the number of times over current has occurred during charge, precharge and discharge.

Over current

 Over current during charge	5
 Over current during precharge	0
 Over current during discharge	0

4.4.2.4 Charge cycles

The values show the number of times the battery was charged. Charge cycles started: Number of times the battery was charged. Charge cycles completed: Number of times battery was fully charged.


Charge cycles

 Charge cycles started	10
 Charge cycles completed	10

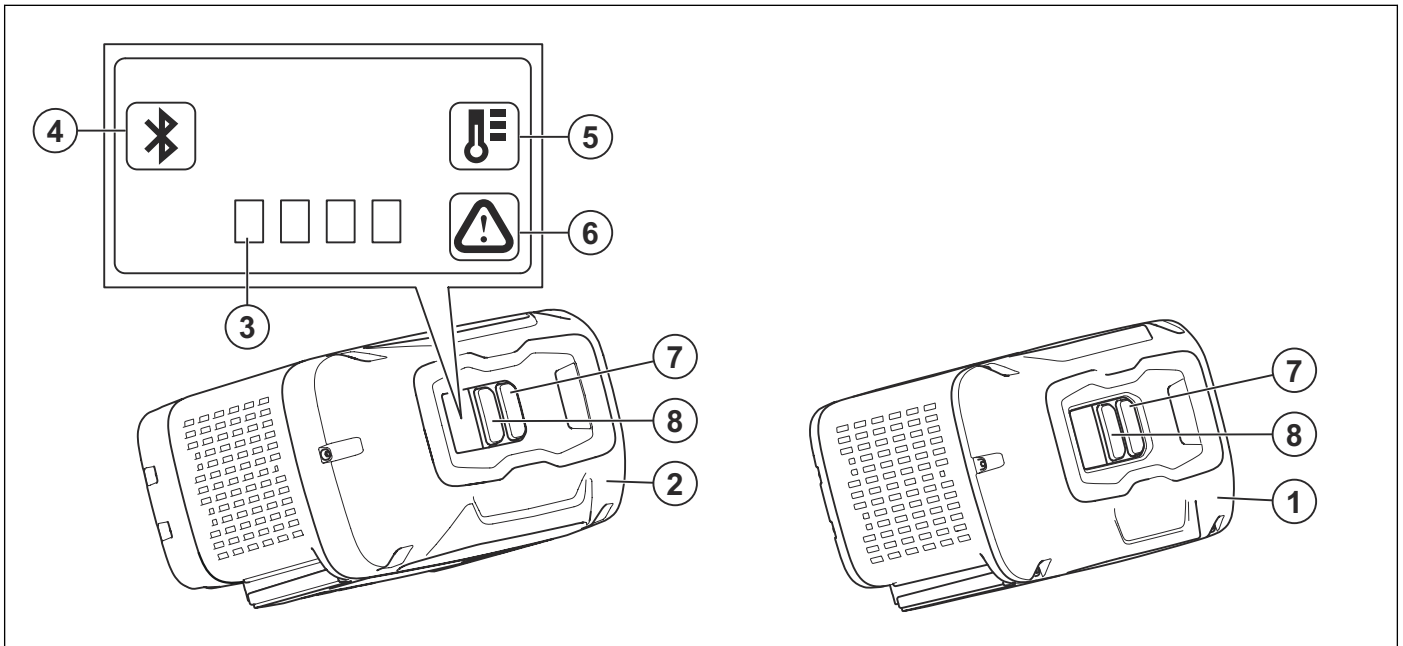
4.4.2.5 Energy

The value shows the lifetime of the battery in operating hours.

Energy

 Lifetime (Wh)	20
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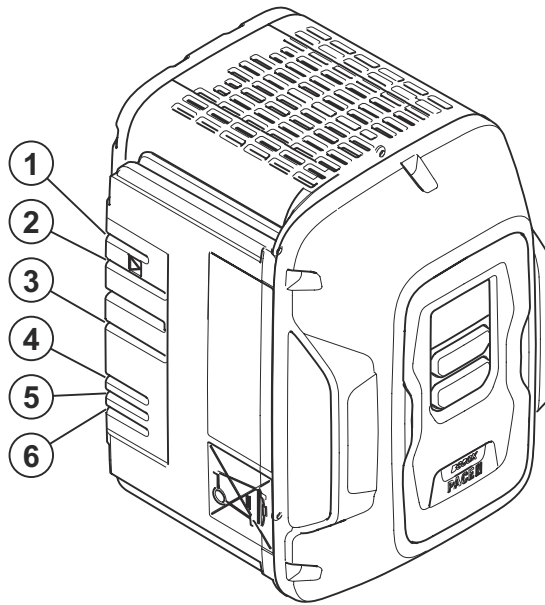
5 Product overview



1. Battery (100-B380X)
2. Battery (100-B750X)
3. LED indicator for the state of charge (SoC)
4. Bluetooth® LED indicator
5. Battery temperature LED
6. Error LED on battery
7. Stop Bluetooth® transmission
8. "Wake up" button

6 Repair instructions

6.1 Battery terminals



1. Charge +
2. Discharge +
3. GND/Minus
4. "Wake up"
5. CAN Low
6. CAN High



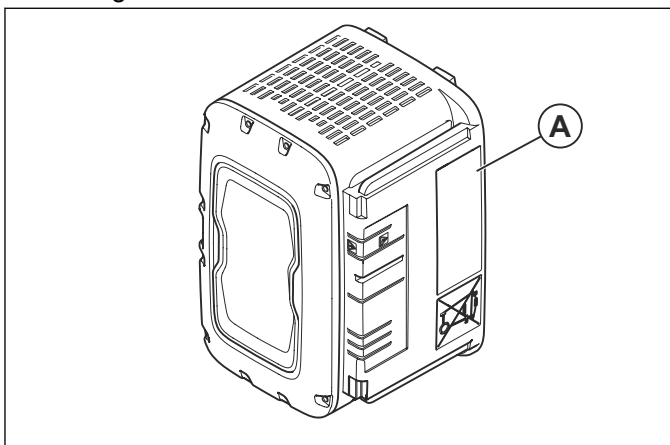
WARNING: The battery pack can not be de-energized if the "wake up" button does not operate correctly. Do not touch the live contact surfaces if the battery pack cannot be de-energized.

6.2 To replace the casing



WARNING: The battery cells contain much energy. Use tools with electrical insulation.

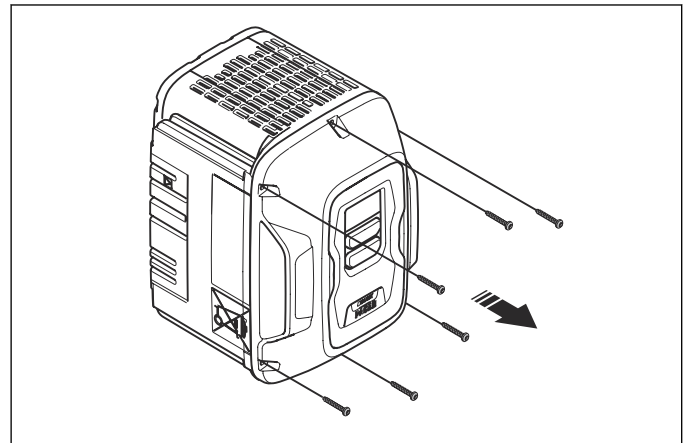
1. Write the Husqvarna Identity number (HID) and production year on the label on the new casing. The Husqvarna Identity number (HID) and production year are found on the label (A) on the removed casing.



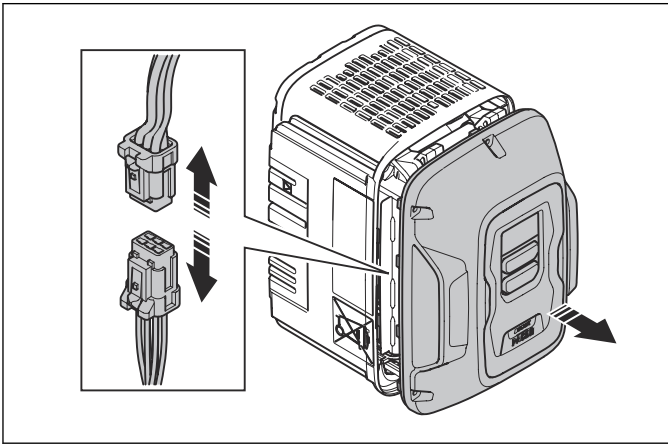
2. Push the "wake up" button to make sure that the "wake up" button operates correctly.

3. Push and hold the "wake up" button for 3 seconds to de-energize the battery.

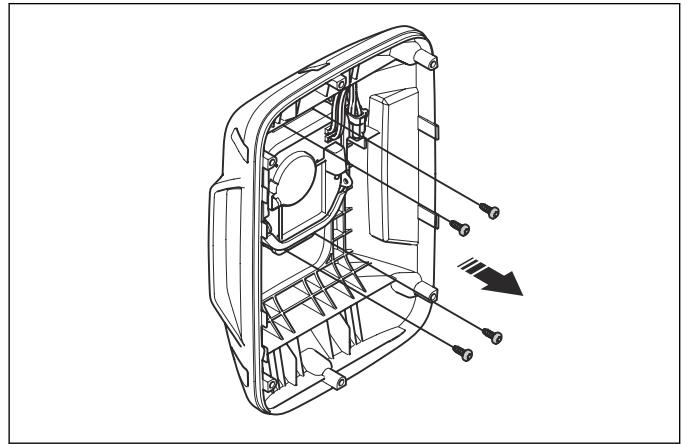
4. Remove the 6 screws.



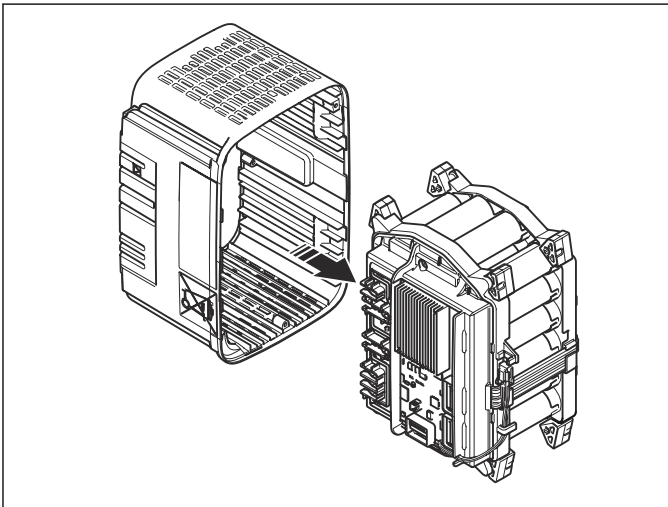
5. Remove the top cover and disconnect the keypad connector.



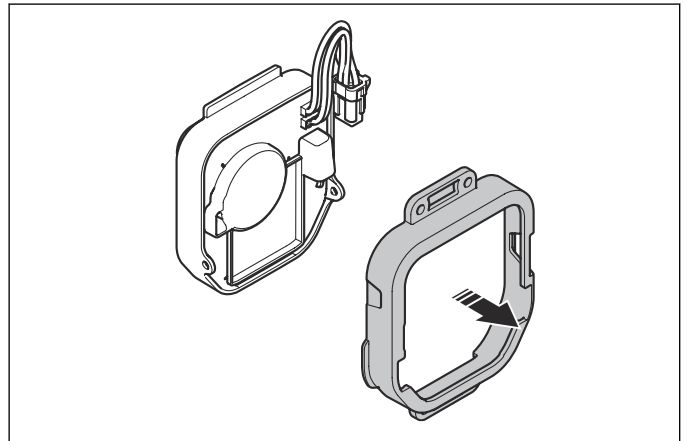
3. Remove the 4 screws and the keypad from the top cover.



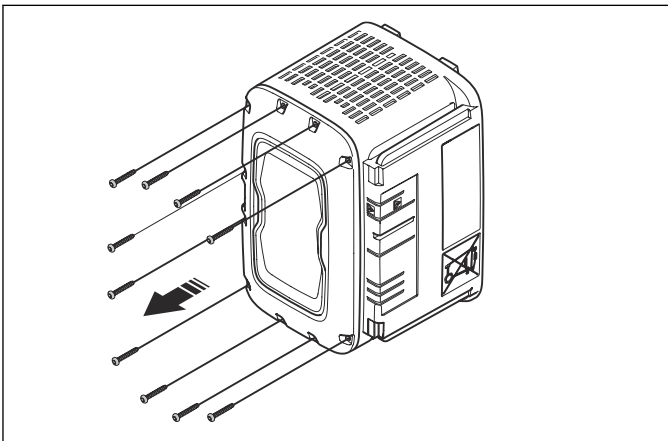
6. Remove the battery pack.



4. Remove the keypad holder from the keypad.



7. Remove the 10 screws and the bottom cover.



5. Install in the opposite sequence.

6.4 To replace the vibration damping units

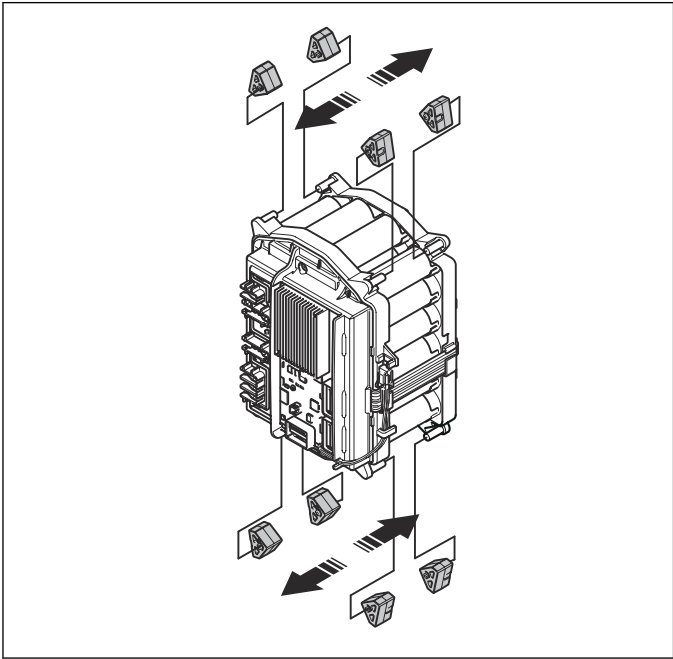
1. Remove the top cover. Refer to *To replace the casing on page 11*.
2. Remove the battery pack. Refer to *To replace the casing on page 11*.

8. Install in the opposite sequence. Push the top cover in the direction of the casing when you install the screws.

6.3 To replace the keypad

1. Remove the top cover. Refer to *To replace the casing on page 11*.
2. Disconnect the keypad connector.

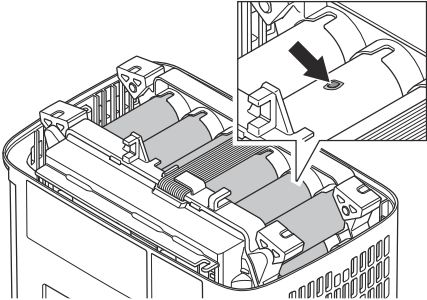
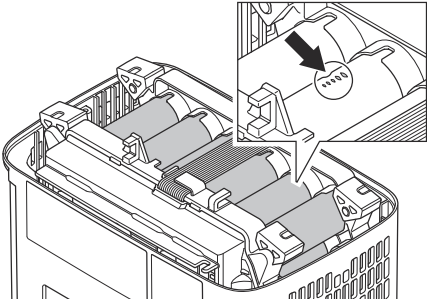
3. Remove the 8 vibration damping units.



4. Install in the opposite sequence. Push the top cover in the direction of the casing when you install the screws.





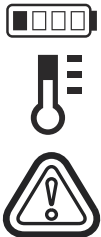
6.5 Battery cells

Do a check of the battery cells to know if you must change the battery.

Issue	Description	Battery condition
	Small scratch on the shrink tube around the battery cells.	Functional battery.
	Deformation of the battery cells.	Damaged battery. Must not be used or repaired.

7 Troubleshooting

7.1 Troubleshooting

Symptoms		Cause	Solution
	Battery temperature LED constant light.	The battery is too hot or cold.	If the battery is too hot, let it cool down for a minimum of 15 minutes. If the battery is too cold, move it indoors (+10C) for a minimum of 15 minutes.
	Error LED flashes.	Temporary error.	Reset the battery. Hold the "wake up" button for 3 seconds, wait 20 seconds and start the battery again. If the fault occurs with a specified tool or charger, do a check of the tool or charger.
	Error LED constant light.	Permanent error.	Connect the battery to HSH and read the error message. If the error message gives a warning for high voltage protection, no servicing is permitted and do not use the battery. If the error message gives a warning for a damaged MOSFET, no servicing is permitted and do not use the battery.
	Error LED flashes together with the first flashing state of charge (SoC) LED.	Temporary error.	Put the battery in the charger and charge the battery. If the battery is drained to a low voltage the time to charge is longer than usual.
	Low charge level, battery temperature and Error LED.	Temporary error. The battery is too hot or cold.	If the battery is drained and warm: Put the battery in the charger and let the charger cool down the battery. Charging will start automatically when the battery is cold. If the battery is drained and colder than 0°C: Put the battery in the charger indoors (+10°C). Charging will start automatically when the battery temperature is >+10°C.
Discharge/charge port is open but there is no voltage.		Permanent error.	The short circuit fuse is broken. Do not use the battery. Do a check of the tool and the charger that were used together with the battery before the problem occurred.



Note: Multiple symbols can be lit at the same time.

8 Technical data

8.1 Technical data

	(100-B380X)	(100-B750X)
Capacity, Ah	4	8
Cell configuration	26S1P	26S2P
Voltage, V	93.6	93.6
Energy, Wh	374.4	748.8
Weight, g	3100	5100
Dimensions, mm (WxLxH)	121×151×184	121×223×184
Discharge protection, A	50	70
Charge current protection, A	8	16
Temperature protection discharge/charge, °C	70/60	70/60



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2022-10-07