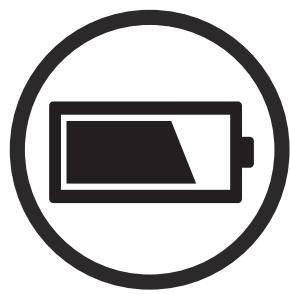


Workshop manual

40-C1000X4



English

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# 1 Introduction

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## 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

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

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## 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:** Read the warning instructions that follow before you use the product.



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

The service center that repairs the product must have safety devices that obey local regulations. Warnings and cautions are used to point out specially important parts of the workshop manual.

### 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.

- Only use the battery charger 40-C1000X4 to charge Husqvarna original 36 V batteries.
- Keep all cables and extension leads away from water, oil and sharp edges. Make sure that the power cord is not caught between doors, fences or equivalent.
- Do not clean the battery or the battery charger with water.
- Do not put a cover on the battery charger during operation.

### 2.4 To prepare for charger repair work



**WARNING:** Use tools with insulation when you do the repair work on the electrical system.



**WARNING:** Do not touch a battery that have a leak or if there has been explosions.



**WARNING:** Do not try to stop a fire in a lithium battery if you do not have the right competence and personal protective equipment.



**CAUTION:** ESD can cause damage to the components in the product. Wear ESD wristbands and make sure that the workbench has ESD protection.

1. Disconnect the charger from the mains outlet.
2. Make sure that there is no battery in the charger.

### 2.5 Symbols on the product



Be careful and use the product correctly. This product can cause serious injury or death to the operator or others.



Read the operator's manual carefully and make sure that you understand the instructions before use.



The product or package of the product is not domestic waste. Recycle it at an applicable disposal location for electrical and electronic equipment.

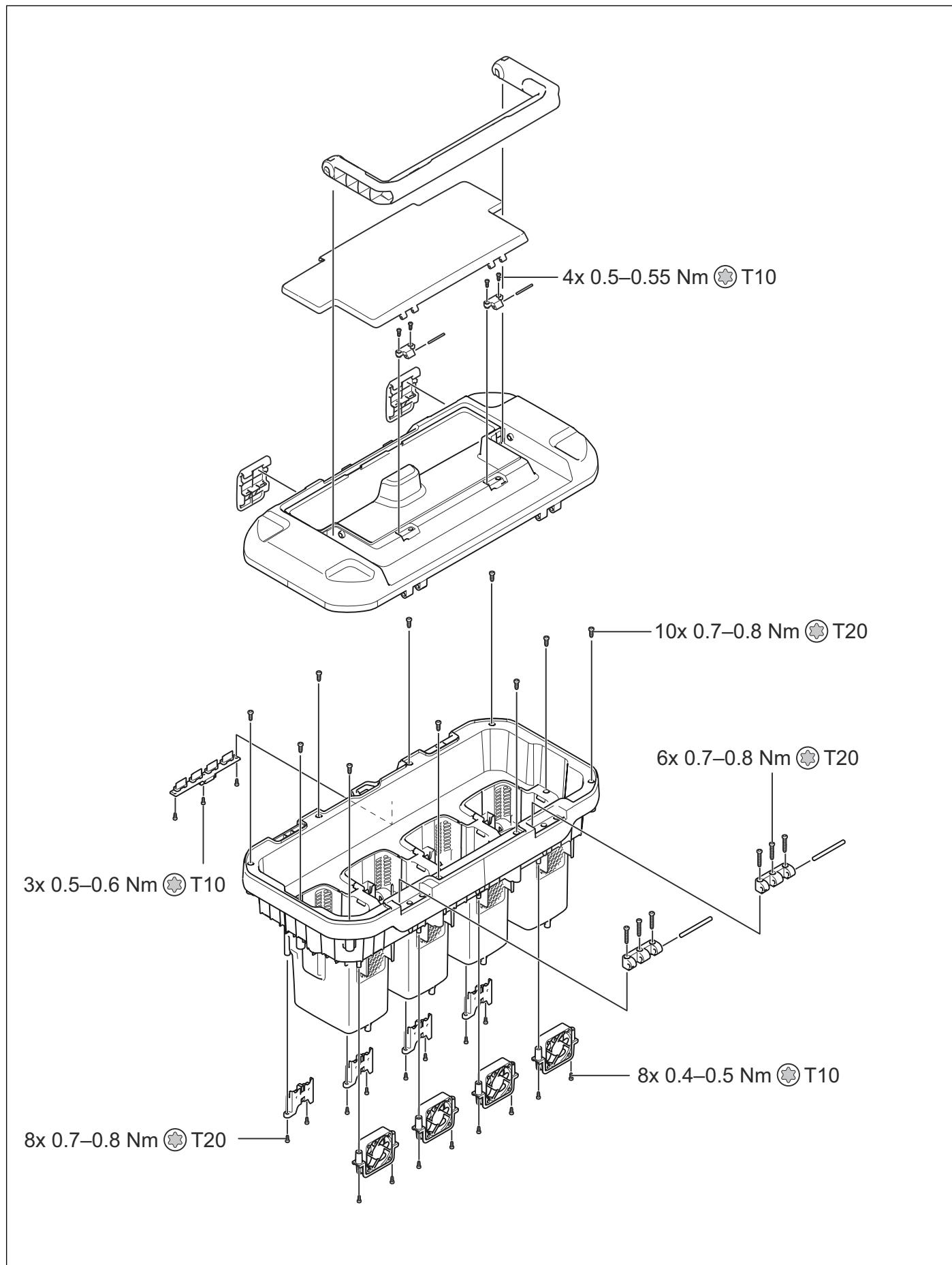
**IPX4**

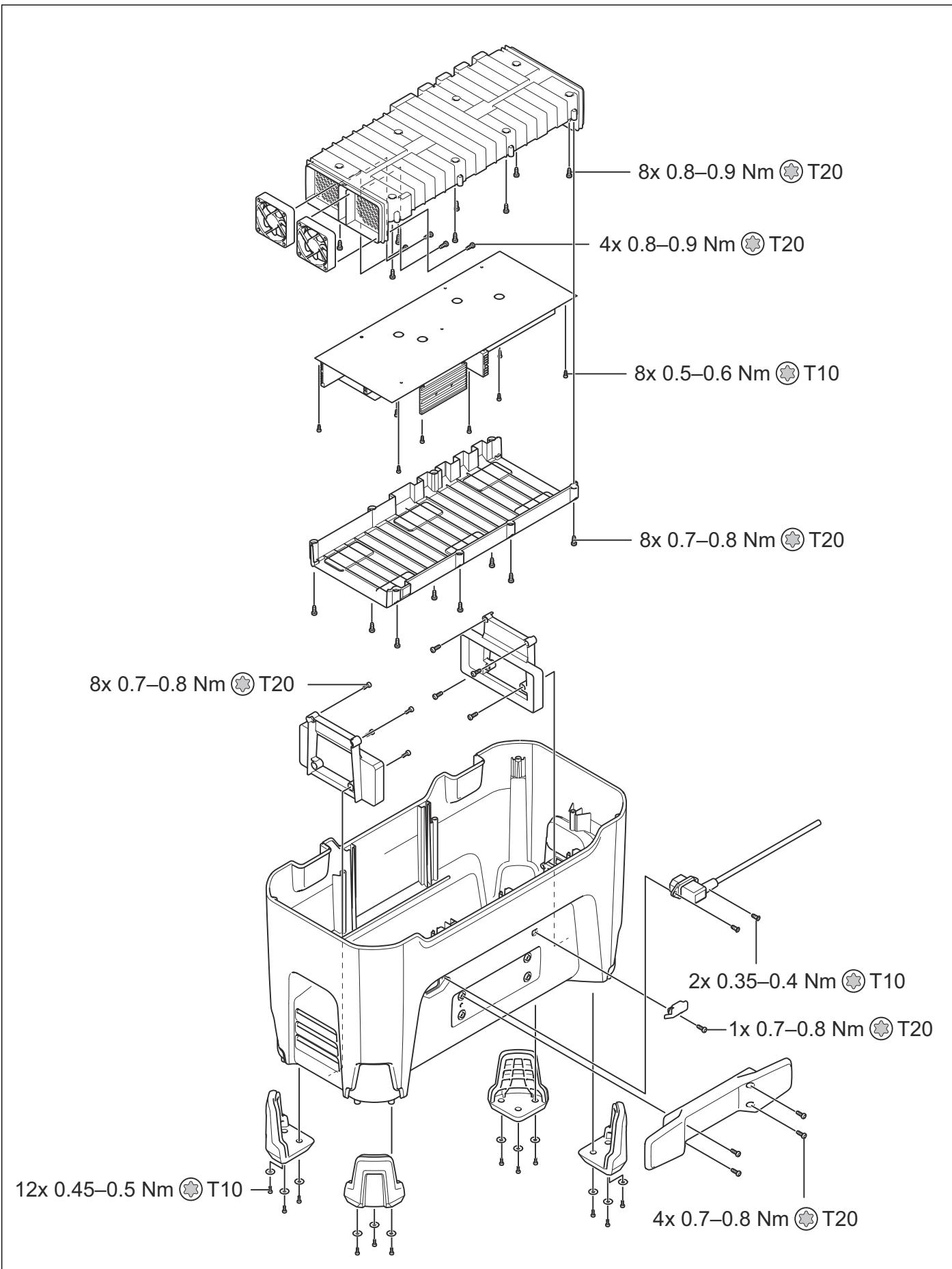
Protection against splashing water.

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

### 3 Servicing data

#### 3.1 Servicing data



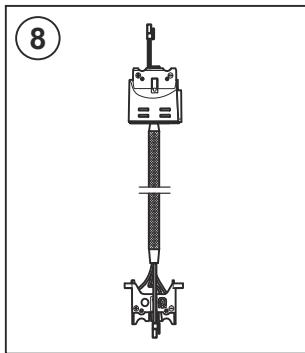
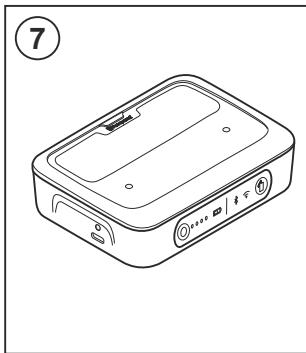
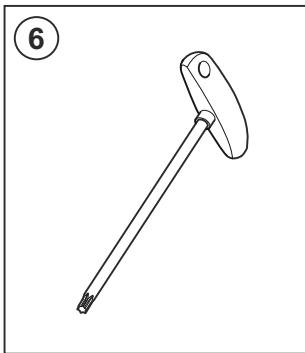
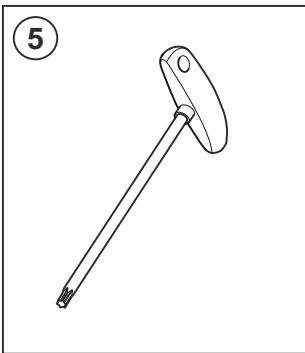
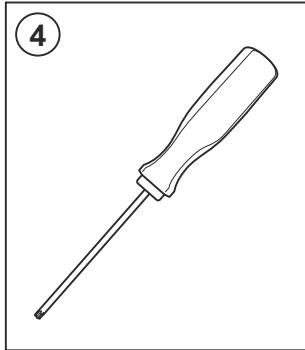
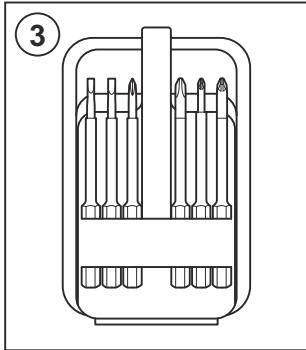
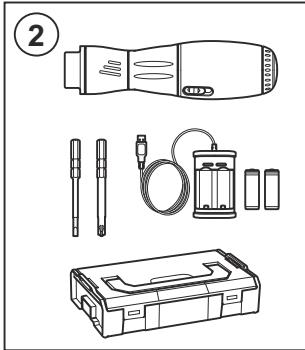
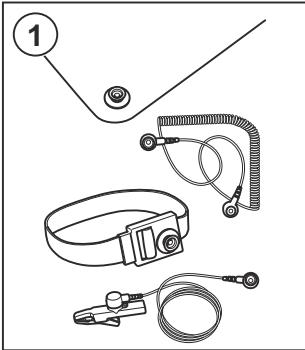


# 4 Servicing tools

## 4.1 Servicing tools



**WARNING:** Use tools with insulation when you do the repair work on the electrical system.



Position	Description	Use	Article No.
1	ESD protection kit	To prevent ESD.	523 05 92-01
2	Electric E-screwdriver (insulated)	To remove and install screws.	546 17 75-01
3	Bit set (insulated)	To remove and install screws.	546 17 76-01
4	Screwdriver torx, T20	To remove and install Torx screws.	502 51 67-01
5	T-handle torx, T10	To remove and install Torx screws.	588 52 41-01
6	T-handle torx, T20	To remove and install Torx screws.	588 59 85-01
7	HSH Interface Box Kit	To do a check of the product and install updates to the firmware.	598 07 28-02 (Europe, Australia, New Zealand) 598 07 28-05 (USA, Canada) 598 07 28-07 (Japan)
8	Adapter cable for battery products	To do a check of battery products with Husqvarna Service Hub (HSH).	579 62 13-01

## 4.2 Diagnostic tools

### 4.2.1 Husqvarna Service Hub (HSH)

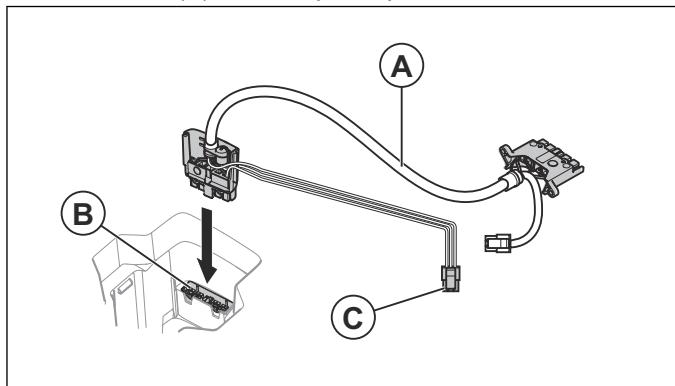
The Husqvarna Service Hub (HSH) is used with a computer (not included) for Husqvarna products.

The HSH Interface Box transmits data from the product and the battery to the Husqvarna Service Hub (HSH), for example Husqvarna Identification Number (HID) for the product. There is also a diagnostic tool list and a list of saved error codes. The Husqvarna Service Hub (HSH) is also used to update the software in battery products.

#### 4.2.2 To connect the Husqvarna Service Hub (HSH)

Products with serial number 20242400009 or higher can be connected to the Husqvarna Service Hub (HSH).

1. Remove the battery from the product.
2. Connect the product to a power outlet.
3. Connect the adapter cable (A) to the battery slot connector (B) in battery compartment 3.



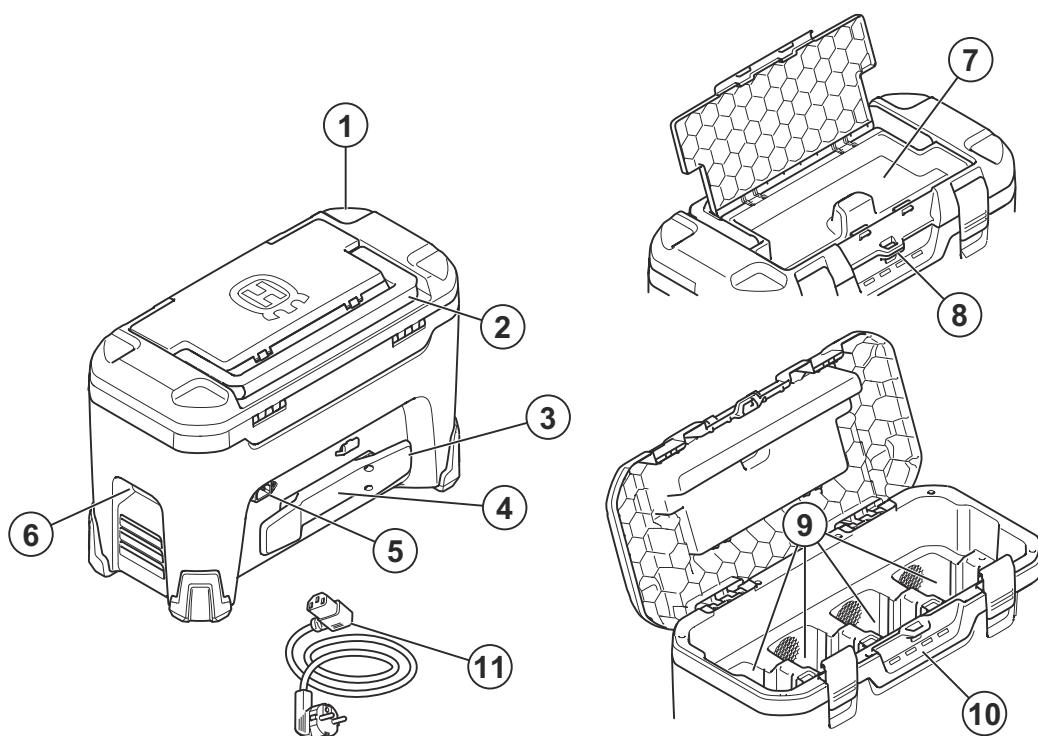
4. Start the Husqvarna Service Hub (HSH) on the computer.
5. Connect the cable (C) to the computer.
6. Obey the instructions on the computer screen and in the related chapter in this manual.



**CAUTION:** Do not disconnect the product until the update is completed.

# 5 Function overview

## 5.1 Product overview



1. Charger
2. Top handle
3. Power cord holder
4. Storage for tracking device
5. Power connector
6. Side handles
7. Storage section
8. Padlock eye
9. Battery slots
10. Charging indicators
11. Power cord

## 5.2 Operation

- Use the product only when the ambient temperature is between -10°C/14°F and 40°C/104°F.
- The battery does not charge if the battery temperature is more than 50°C/122°F.
- The battery does not charge if the battery temperature is less than 0°C/32°F.
- The batteries are charged in parallel.
- Keep the battery charger away from sunlight.
- Always keep the lid closed when it is possible.

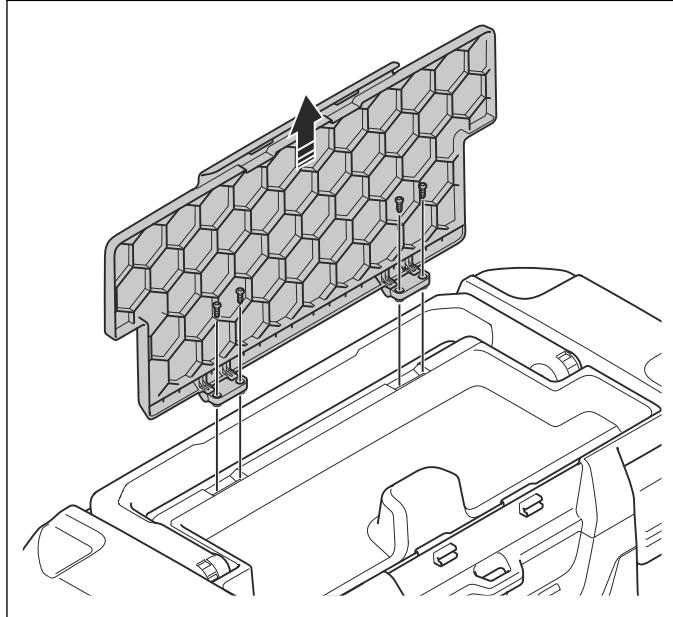
## 5.3 Charge indicators

Procedure	Green indicator	Red indicator	Yellow indicator	Description
Automatic function test	X	X	X	Indicators flash in sequence.
State of charge 0–79%	X			Indicator flashes fast.
State of charge 80–100%	X			Indicator flashes slowly.
The temperature of the battery is out of range.			X	Continuous light.
The battery is fully charged.	X			Continuous light.
There is an error in the battery compartment.		X		Continuous light.
Battery error		X		Indicator flashes.
Battery charger error		X		4 indicators come on at the same time.

# 6 Repair instructions

## 6.1 To remove and install the lid for the storage section

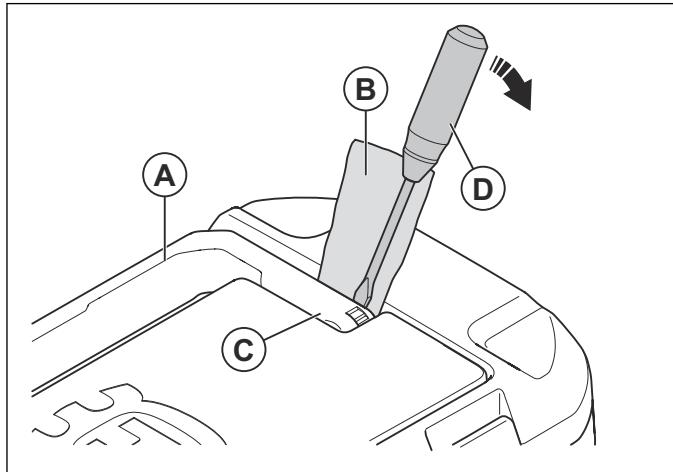
1. Open the lid for the storage section.
2. Remove the 4 screws.



3. Remove the lid for the storage section.
4. Install in the opposite sequence.

## 6.2 To remove the top handle

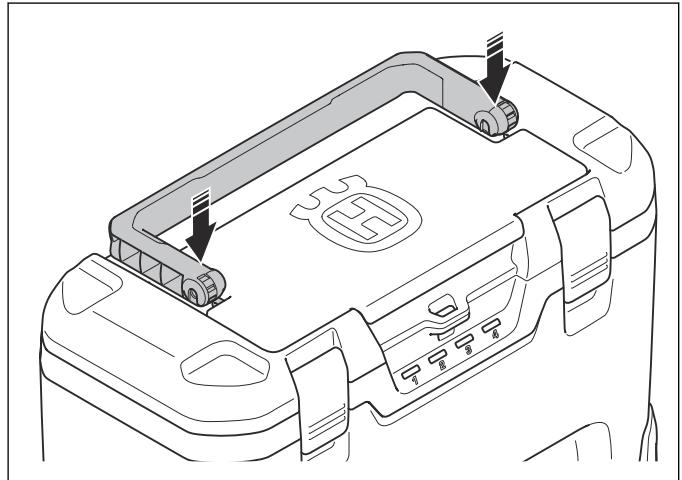
1. Fold down the top handle (A).



2. Put a piece of cardboard (B) near the hinge (C) of the top handle.
3. Put a flat screwdriver (D) between the top handle and the cardboard.
4. Push the handle of the screwdriver until the hinge comes off.
5. Do the procedure above on the opposite side of the top handle.
6. Remove the top handle.

## 6.3 To install the top handle

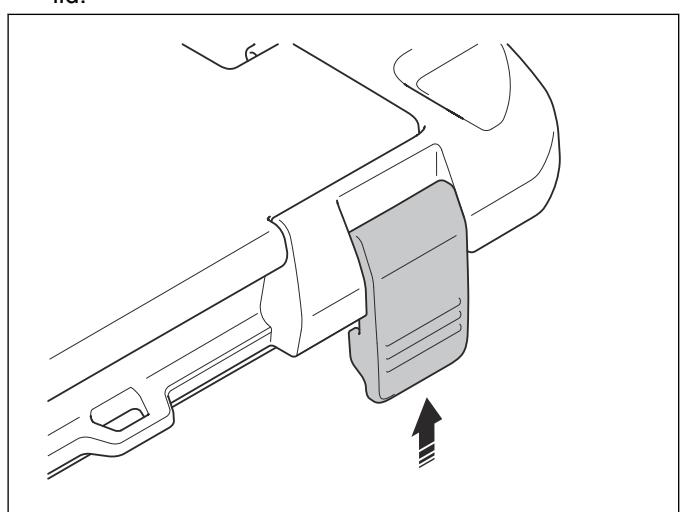
1. Put the top handle in the correct position.



2. Push the hinges towards the lid until you hear a click sound.

## 6.4 To remove a snap lock

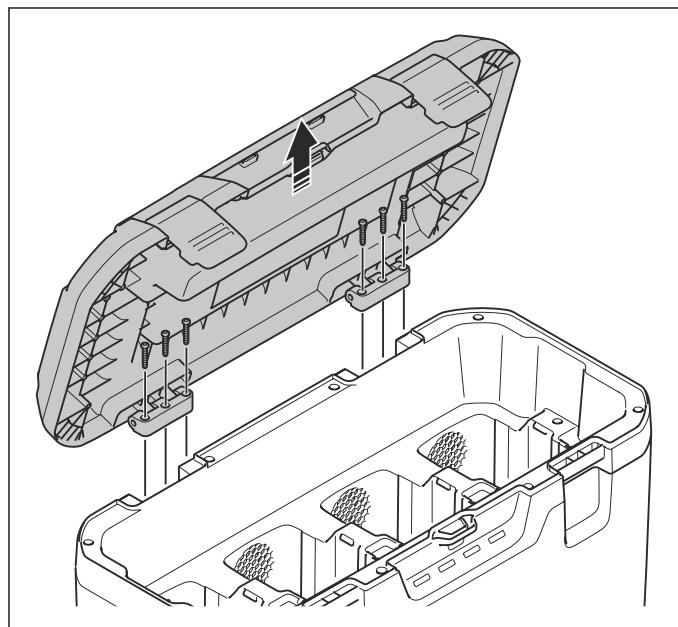
1. Open the lid.
2. Push the snap lock in the direction of the top of the lid.



3. Remove the snap lock.
4. Install in the opposite sequence.

## 6.5 To remove and install the lid

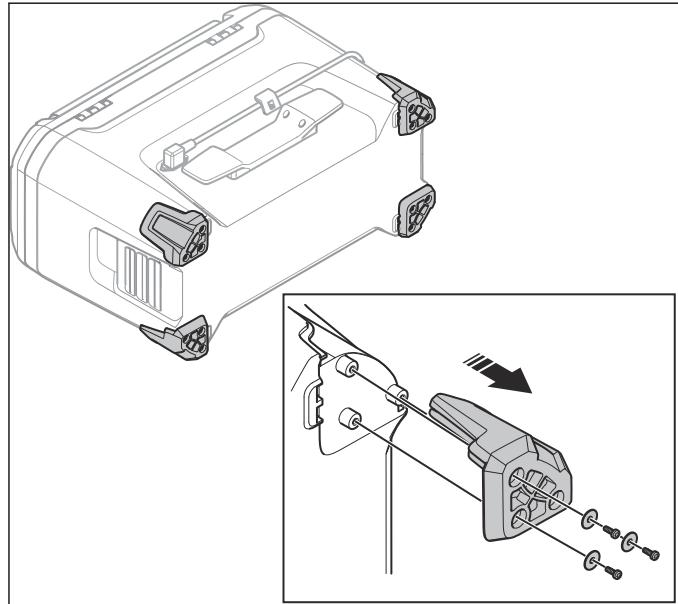
1. Open the lid.
2. Remove the 6 screws.



3. Remove the lid.
4. Install in the opposite sequence.

## 6.6 To remove and install a rubber foot

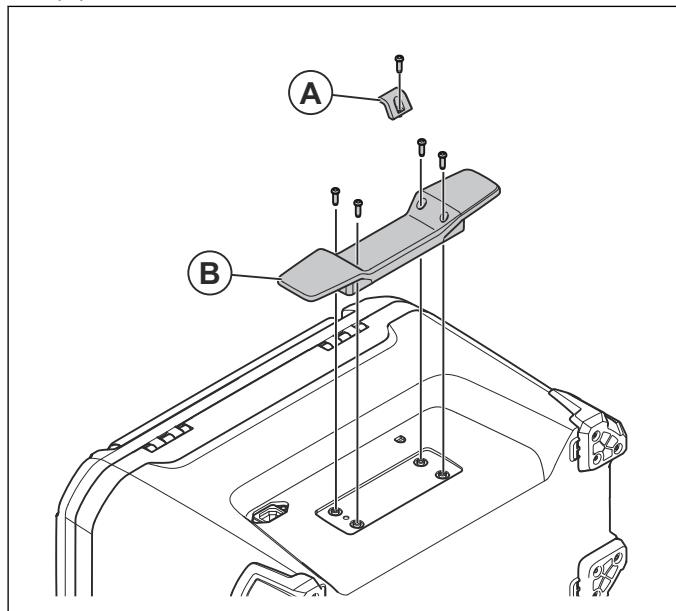
1. Turn the product on its side.
2. Remove the 3 screws and the 3 washers.



3. Remove the rubber foot.
4. Install in the opposite sequence.

## 6.7 To remove and install the power cord holders

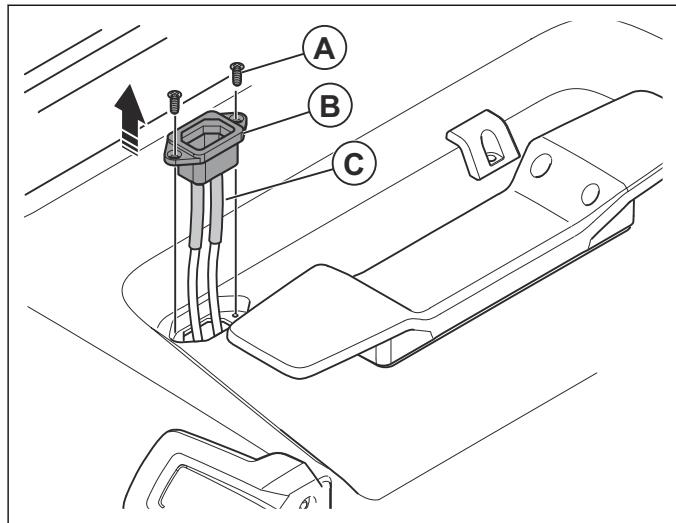
1. Remove the power cord.
2. Remove the screw and the small power cord holder (A).



3. Remove the 4 screws and the large power cord holder (B).
4. Install in the opposite sequence.

## 6.8 To remove and install the power connector

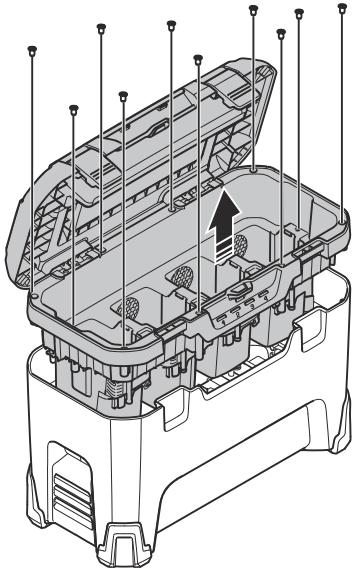
1. Remove the power cord.
2. Remove the 2 screws (A).



3. Pull out the power connector (B).
4. Disconnect the 2 wires (C).
5. Install in the opposite sequence.

## 6.9 To remove and install the charger unit

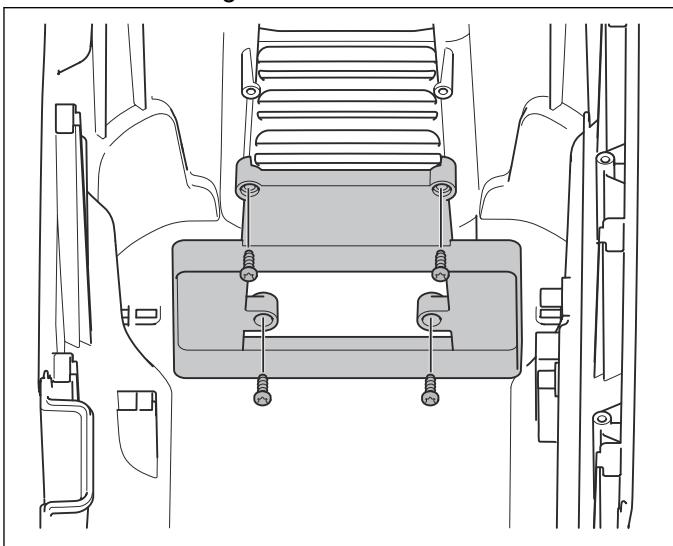
1. Remove the power connector. Refer to *To remove and install the power connector on page 11*.
2. Open the lid.
3. Remove the 10 screws.



4. Remove the charger unit.
5. Install in the opposite sequence.

## 6.10 To remove and install an air conductor

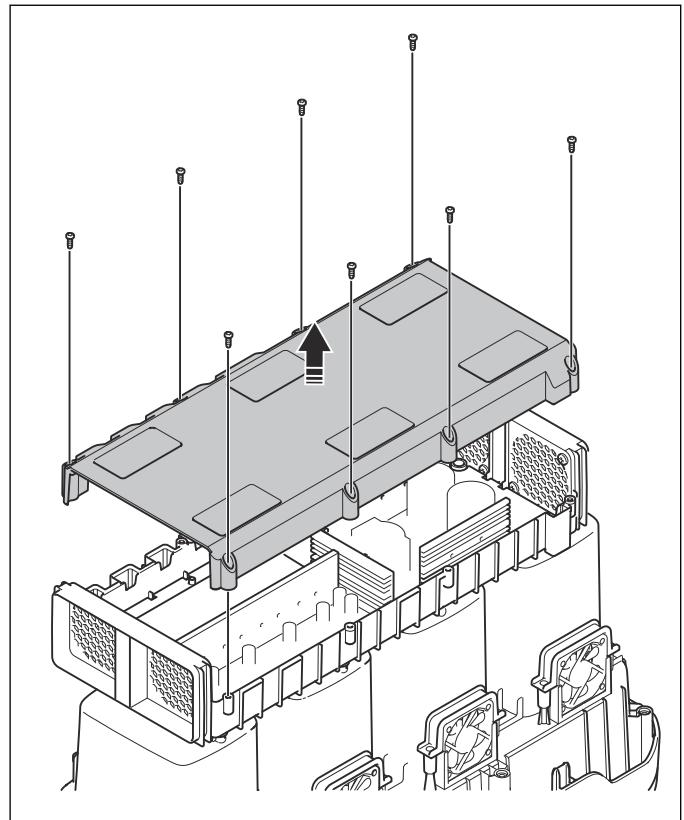
1. Remove the power connector. Refer to *To remove and install the power connector on page 11*.
2. Remove the charger unit. Refer to *To remove and install the charger unit on page 12*.
3. Remove the 4 screws that hold the air conductor inside the charger cover.



4. Remove the air conductor.
5. Install in the opposite sequence.

## 6.11 To remove and install the control unit cover

1. Remove the power connector. Refer to *To remove and install the power connector on page 11*.
2. Remove the charger unit. Refer to *To remove and install the charger unit on page 12*.
3. Put the charger unit up side down.
4. Remove the 8 screws.

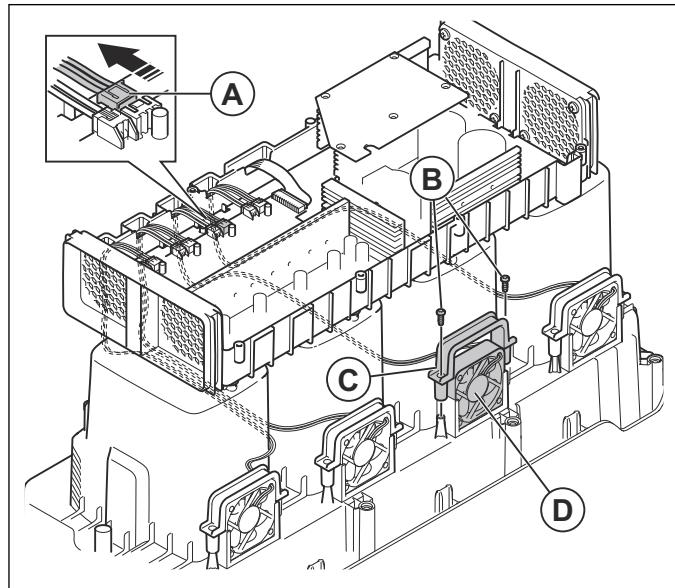


5. Remove the control unit cover.
6. Install in the opposite sequence.

## 6.12 To remove and install a battery cooling fan

1. Remove the power connector. Refer to *To remove and install the power connector on page 11*.
2. Remove the charger unit. Refer to *To remove and install the charger unit on page 12*.
3. Remove the control unit cover. Refer to *To remove and install the control unit cover on page 12*.
4. Make a note of the position of the cables and components.

- Disconnect the connector (A) for the battery cooling fan.



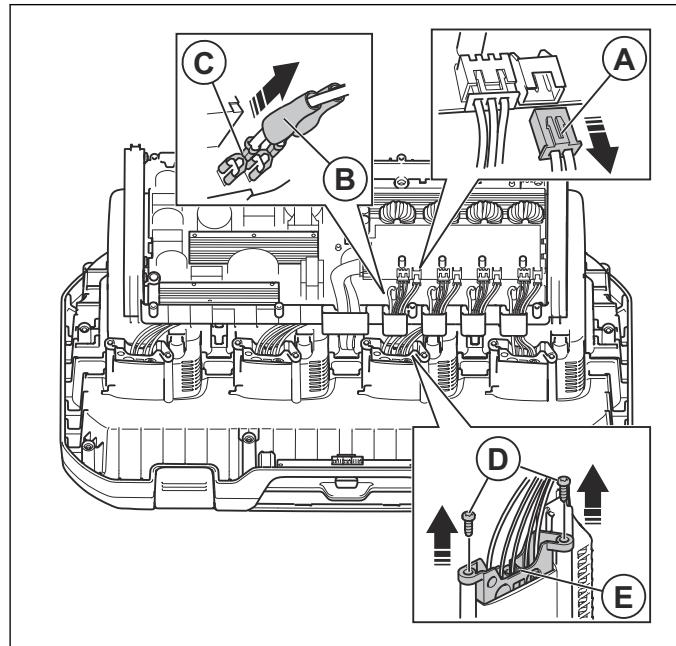
- Remove the 2 screws (B) and the bracket (C) for the battery cooling fan (D).
- Remove the battery cooling fan (D).
- Install in the opposite sequence.
- Fold access wire and attach a cable tie to the wire.

**Note:** The spare part cooling fan, comes in only one wire length.

### 6.13 To remove and install a battery connector

- Remove the power connector. Refer to *To remove and install the power connector on page 11*.
- Remove the charger unit. Refer to *To remove and install the charger unit on page 12*.
- Remove the control unit cover. Refer to *To remove and install the control unit cover on page 12*.
- Make a note of the position of the cables and components.

- Disconnect the connector for the battery communication cables (A).



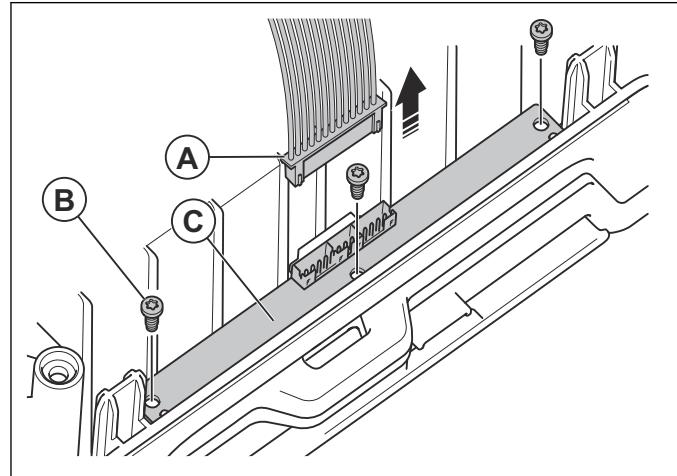
- Move the insulators (B) away from the cable shoes (C).
- Push the lock plate on the cable shoes (C) and disconnect the 2 cable shoes.
- Remove the 2 screws (D).
- Remove the battery connector (E).
- Install in the opposite sequence.
- Fold access wire and attach a cable tie to the wire.

**Note:** The spare part battery connector, comes in only two wire length.

### 6.14 To remove and install the charging indicators

- Remove the power connector. Refer to *To remove and install the power connector on page 11*.
- Remove the charger unit. Refer to *To remove and install the charger unit on page 12*.
- Put the charger unit up side down.

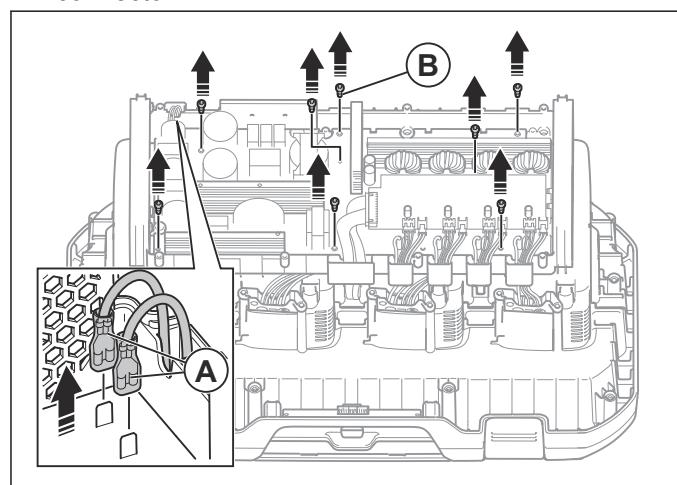
4. Disconnect the connector for the charging indicators (A).



5. Remove the 3 screws (B).
6. Remove the charging indicators (C).
7. Install in the opposite sequence.

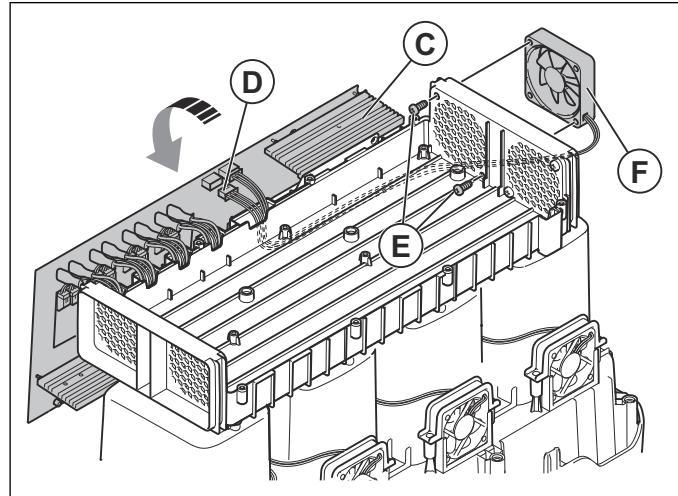
#### 6.15 To remove and install the cooling fan for the control unit

1. Remove the power connector. Refer to *To remove and install the power connector on page 11*.
2. Remove the charger unit. Refer to *To remove and install the charger unit on page 12*.
3. Remove the control unit cover. Refer to *To remove and install the control unit cover on page 12*.
4. Make a note of the position of the cables and components.
5. Disconnect the 2 cable shoes (A) for the power connector.



6. Remove the 8 screws (B).

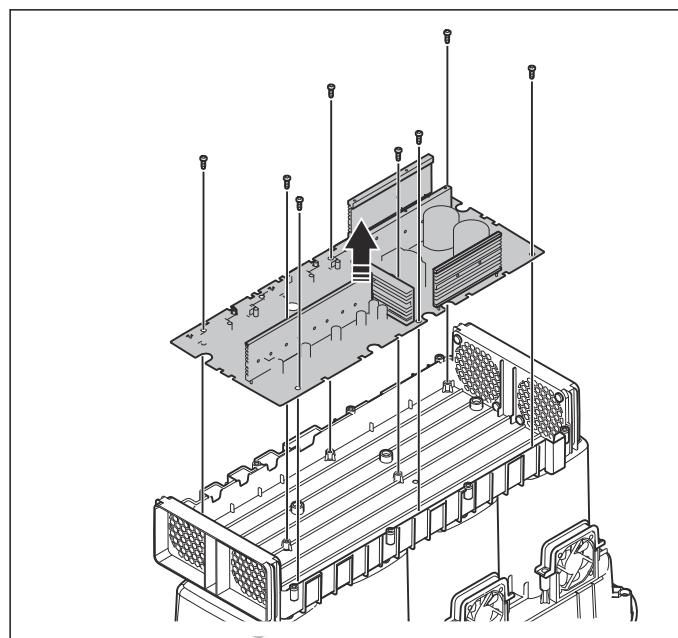
7. Tilt the control unit (C) in the direction of the battery connectors.



8. Disconnect the connector (D) for the cooling fan for the control unit.
9. Remove the 2 screws (E).
10. Remove the cooling fan (F) for the control unit.
11. Install in the opposite sequence.

#### 6.16 To remove and install the control unit

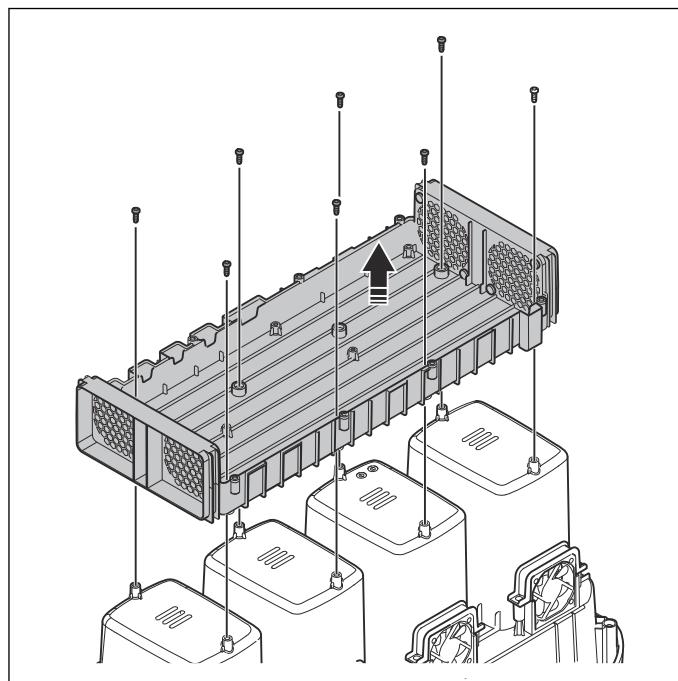
1. Remove the power connector. Refer to *To remove and install the power connector on page 11*.
2. Remove the charger unit. Refer to *To remove and install the charger unit on page 12*.
3. Remove the control unit cover. Refer to *To remove and install the control unit cover on page 12*.
4. Make a note of the position of the cables and components.
5. Disconnect all the cable shoes and connectors from the control unit.
6. Remove the 8 screws.



7. Lift the control unit.
8. Install in the opposite sequence.

## 6.17 To remove and install the control unit holder

1. Remove the power connector. Refer to *To remove and install the power connector on page 11*.
2. Remove the charger unit. Refer to *To remove and install the charger unit on page 12*.
3. Remove the control unit cover. Refer to *To remove and install the control unit cover on page 12*.
4. Remove the control unit. Refer to *To remove and install the control unit on page 14*.
5. Remove the 8 screws.

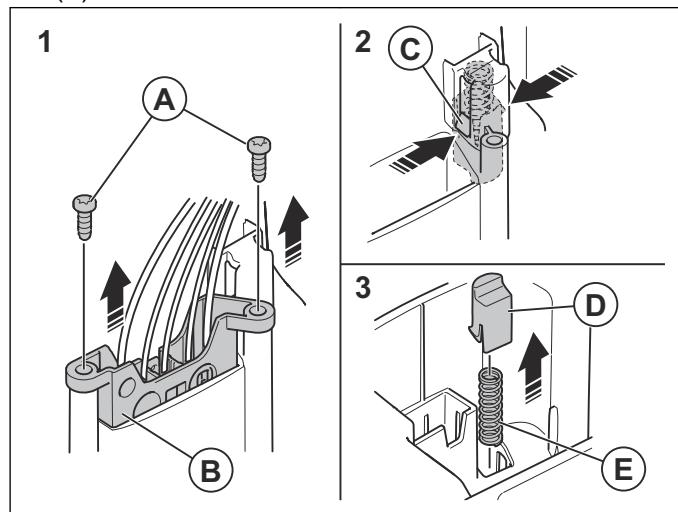


6. Remove the control unit holder.
7. Install in the opposite sequence.

## 6.18 To remove and install the battery ejector

1. Remove the power connector. Refer to *To remove and install the power connector on page 11*.
2. Remove the charger unit. Refer to *To remove and install the charger unit on page 12*.

3. Remove the 2 screws (A) and the battery connector (B).



4. Push the 2 tabs (C) to release the battery ejector (D).
5. Remove the battery ejector and the spring (E).
6. Install in the opposite sequence.

# 7 Troubleshooting

## 7.1 Troubleshooting

Symptoms	Cause	Solution
One or more indicators flash red.	Battery error.	Disconnect the battery charger from the power outlet for a minimum of 2 minutes. Connect the battery charger to the power outlet. If the indicators continue to flash red, put a different battery in the charger.
One or more indicators show a continuous red light.	Battery charger error.	Disconnect the battery charger from the power outlet for a minimum of 2 minutes. Connect the battery charger to the power outlet. If the indicators continue to be red, connect the battery charger to Husqvarna Service Hub (HSH) and do a check for error codes.  Do troubleshooting on the components related to the battery compartment with the red light indicator. If all four indicators come on, do a check of the control unit and replace it if it is damaged.
One or more indicators show a continuous yellow light.	The battery temperature is out of range.	Use the battery charger when the ambient temperature is between -10°C/14°F and 40°C/104°F.  Clean the cooling slots of the battery and the battery charger.  Make sure that the cooling fans are not damaged or blocked.
The charging process suddenly stops.	The battery type is not approved for the battery charger.	Make sure that the battery is approved for the battery charger.
	The battery connector or cables are damaged.	Do a check of the battery connectors and cables. Replace all damaged parts.

## 7.2 To do troubleshooting of Husqvarna Service Hub (HSH)

If there is no signal to Husqvarna Service Hub (HSH) when it is connected to the product, do the procedure that follows.

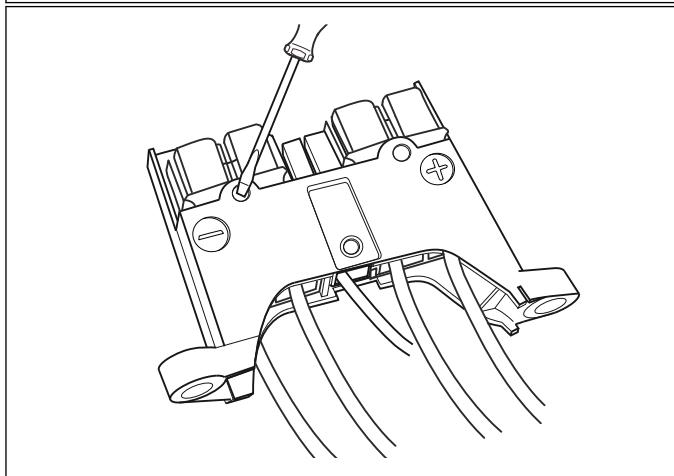
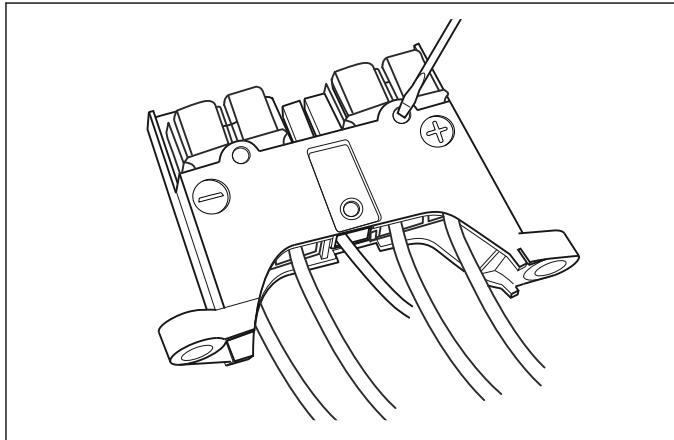
1. Make sure that the connectors on HSH Interface Box and on the product are clean and not damaged. Replace all damaged parts.
2. Make sure that the cables connected to the computer, HSH Interface Box and the product are clean and not damaged. Replace all damaged cables.
3. Restart the computer.
4. Install the software again.

## 7.3 Troubleshooting of the battery connector

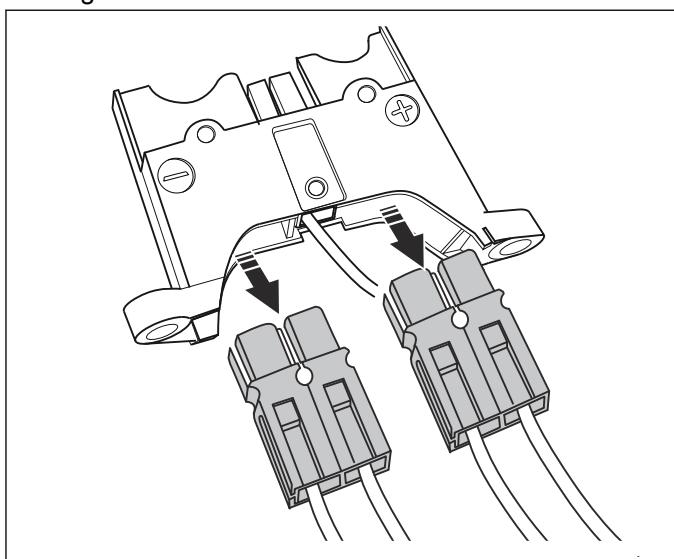
### 7.3.1 To disassemble the battery connector

**CAUTION:** The pin in the connector of the communication cable is loose and can fall out.

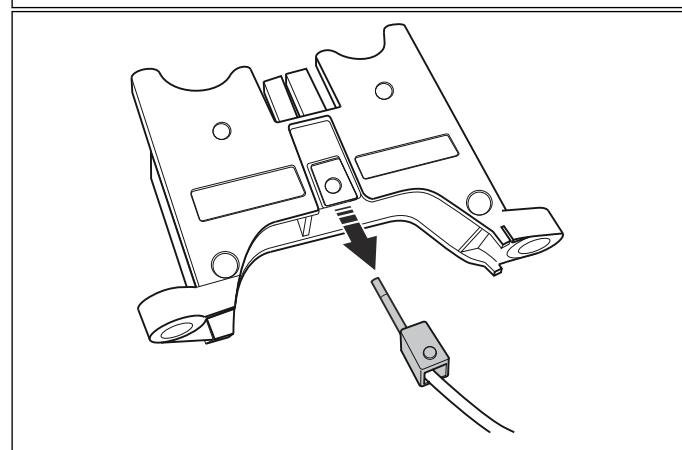
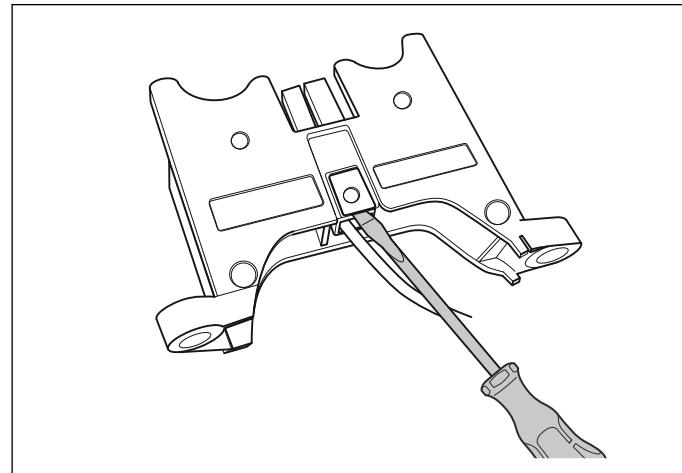
1. Remove the battery connector.
2. Push out the pins with a screwdriver.



3. Pull out the wires and connectors to the positive and negative terminals.



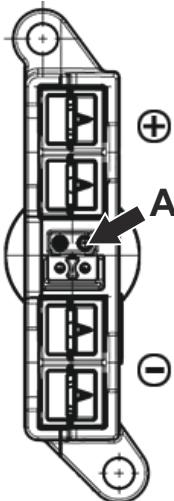
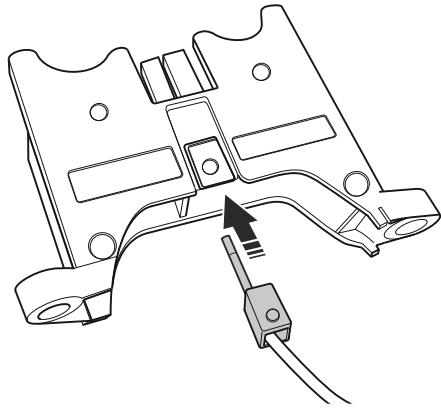
4. Lift the plastic fastener and pull out the communication cable, if installed.



### 7.3.2 To assemble the battery connector

**CAUTION:** The pin in the connector of the wire is loose and can fall out.

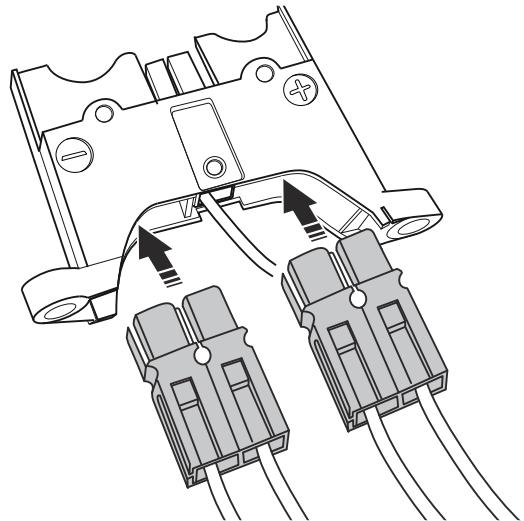
1. Push the communication cable connector into the plastic housing, if the battery connector has a communication cable.



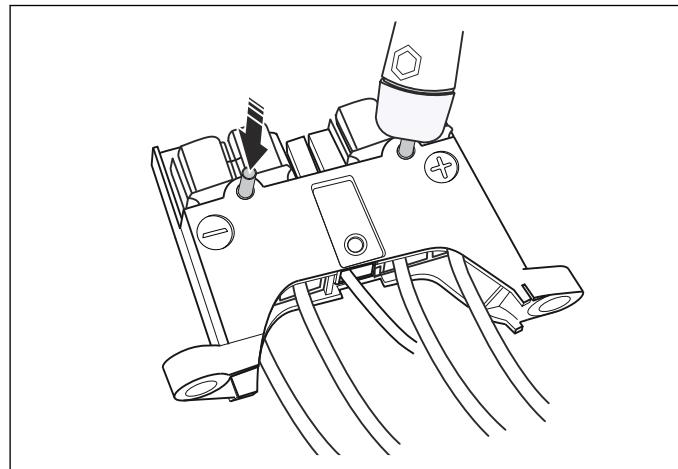
**CAUTION:** Make sure the pin in the communication cable connector is in the correct position (A). The product cannot send information to the common service tool, if the pin is missing or in the incorrect position.

2. Put the battery connector with the red wire into the positive side of the plastic housing. Align the holes for the pins.

3. Put the battery connector with the black wire into the negative side of the plastic housing. Align the holes for the pins.



4. Push the pins into the holes through the housing and the connectors.



**CAUTION:** Make sure that the holes in the connections align with the holes in the housing before you push in the pins.

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## 8 Technical data

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### 8.1 Technical data

For technical data, refer to the rating plate of the battery charger.

	<b>40-B140X</b>	<b>40-B220X</b>	<b>40-B330X</b>	<b>BLi100</b>	<b>BLi200</b>	<b>BLi300</b>
Capacity, Ah	4	6	9	2.5	5	9



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