

Workshop Manual
436LiB / 536LiB / 536LiBX
Up to S/N: 20180100001



English

Workshop Manual

Husqvarna 436LiB / 536LiB / 536LiBX

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Husqvarna AB has a policy of continuous product development and therefore reserves the right to modify the design and appearance of products without prior notice.

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2 Introduction and safety regulations

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2 Introduction and safety regulations

2.1 General

This Workshop Manual provides a comprehensive description of how to trouble shoot, repair and test the machine. A description of different safety steps that must be taken during repair work is also given.

2.2 Safety

Note! The section dealing with safety must be read and understood by all those carrying out repair work or service on the machine.

Warning symbols can be found in this Workshop Manual and on the machine. See "Symbols on the machine" and "Symbols in the Workshop Manual". A new warning symbol decal must be applied as soon as possible if a warning symbol on the machine has been damaged or is missing so that the greatest level of safety can be maintained when using the machine.

2.3 Target group

This Workshop Manual is written for personnel with general knowledge about the repair and service of Husqvarna machines.

The Workshop Manual must be read and understood by personnel who will carry out repair work and service on the machine. The Manual is also suitable for use when training new employees.

2.4 Changes

Any modifications to the machine will be gradually introduced into ongoing production. As these modifications affect service and/or spare parts, specific service information will be sent out on each occasion. This means that in time this Workshop Manual will become out of date. In order to prevent this, the Manual should be read together with all service information concerning the machine in question.

2.5 Tools

Special tools are required for some stages. All service tools are listed in the Workshop Manual. Usage is made evident in each section.

Always use original Husqvarna:

- Spare parts
- Service tools
- Accessories

2.6 Structure

This Workshop Manual can be used in two different ways:

- For the repair of a particular system on the machine.
- Dismantling and assembly of the entire machine.

Repair of a particular system

When a particular system on the machine is to be repaired, proceed as follows:

1. Look up the page for the system in question.
2. Carry out the following steps:
 - Dismantling
 - Cleaning and inspection
 - Assembling

Dismantling and assembly of the entire machine

When taking apart the whole machine and assembling it again, proceed as follows:

1. Open the chapter "Basic dismantle" and carry out Dismantling in the order set out in the sections.
2. Open the chapter "Repair instructions" and carry out Dismantling in the order set out in the sections.
3. Carry out Cleaning and inspection in the order set out in the sections.
4. Carry out Diagnostic troubleshooting if a fault in the electrical system is suspected.
5. Order or collect all requisite spare parts from the stores.
6. Carry out Assembly in the order set out in the sections.

2.7 Numbering

Position references to components in the figures are designated A, B, etc.

The figures are numbered 1, 2 etc.

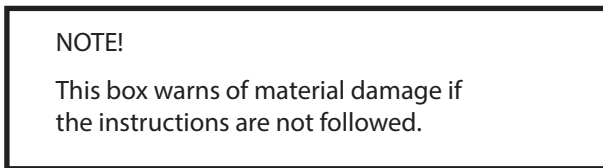
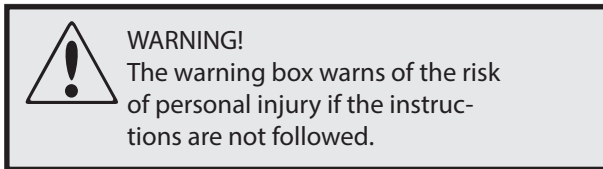
The position references and figure numbers restart in each new section.

2.8 General instructions

The workshop where the machine is to be repaired must be equipped with safety equipment in accordance with local regulations.

No one may repair the machine without having read and understood the contents of this Workshop Manual.

This Workshop Manual contains the following warning boxes in relevant places.



2.9 Special instructions

Remove the battery from the machine before dismantling and troubleshooting.

The battery must not be connected while the machine is dismantled.

Never unscrew the battery. Replace a damaged battery.

Use only brush, rag and compressed air when cleaning the machine.

When using compressed air, do not direct the air jet toward your body. Air can penetrate into the blood circulation, which means mortal danger.

Use ear protection during testing.

2.10 Limitations

This workshop manual is intended for repair work on the 436LiB/536LiB/536LiBX leaf blower.

2.10 Symbols on the machine

The machine keypad has the following symbols.



Activating/Deactivating



Throttle adjuster



Boost

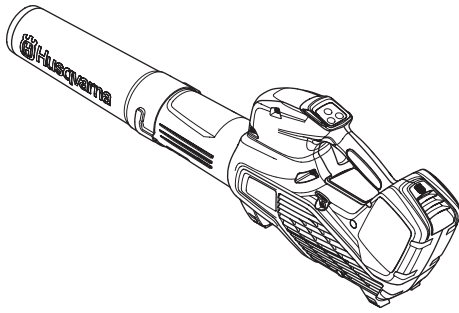


Warning indicator/Fault indicator



This symbol warns of personal injury when the instructions are not followed.

3 Technical data



Weight without battery
lbs/kg

436LiB

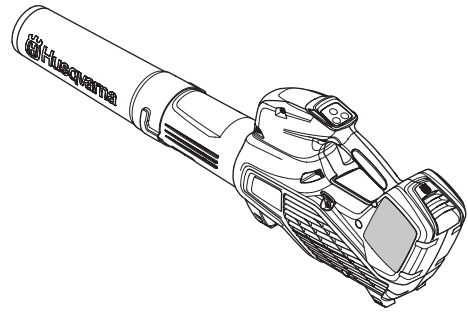
5.1/2.4

536LiB

5.1/2.4

536LiBX

6.7/2.8 (inc. cable)

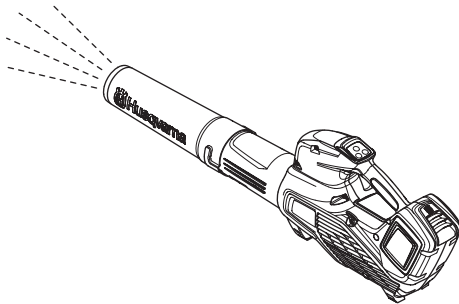


Weight with battery (4.2 Ah)
lbs/kg

7.6/3.7

7.6/3.7

-



Airflow at
normal operation
cubic meters/hour

436LiB

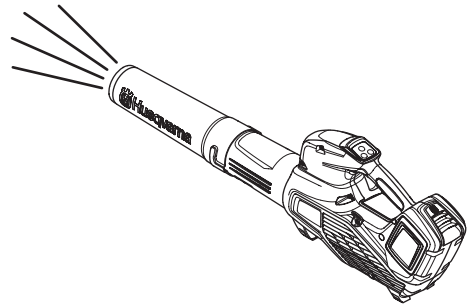
660

536LiB

700

536LiBX

730



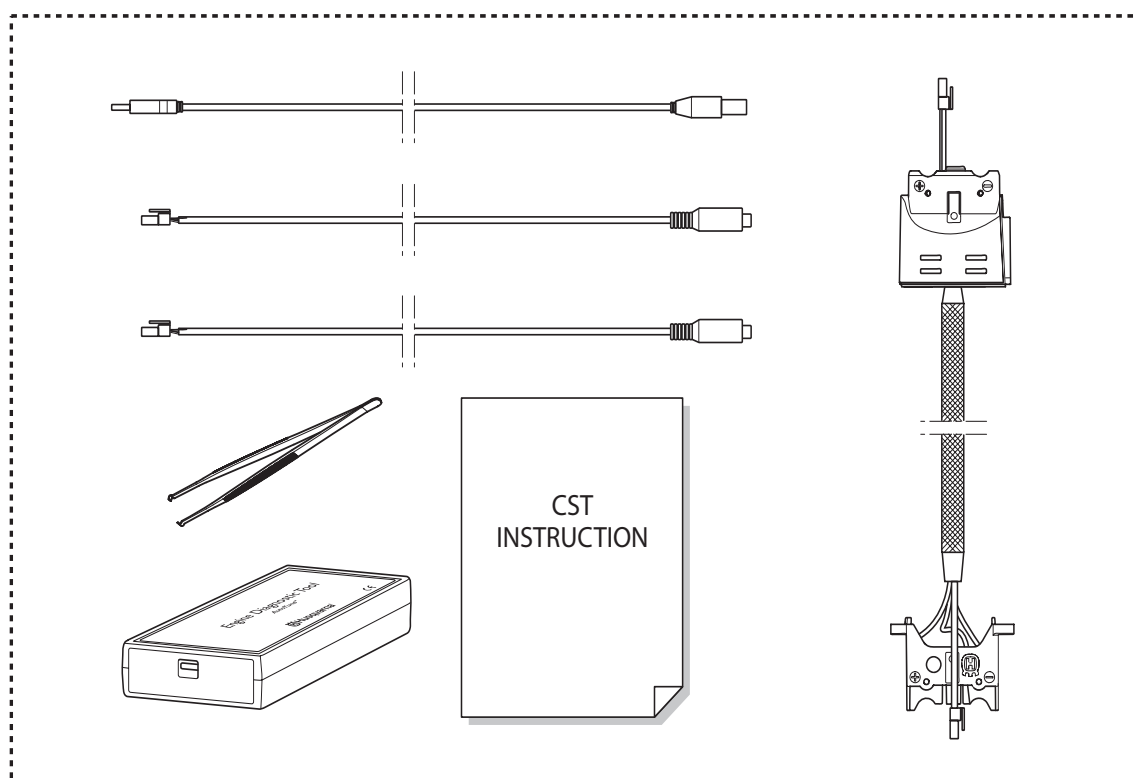
Airflow at
Turbo-boost
cubic meters/hour

700

800

850

4 Service tools



Common Service Tool

The Common Service Tool (CST) is a service tool for Husqvarna products comprising Diagnostic Tool Kit (583 89 71-01) and software for the installation of a PC (can be downloaded from the support site).

If you have the previous "Engine Diagnostic Tool - AutoTune™" (576 69 23-01), it can be supplemented with the "Adapter Cable for Battery Products" (581 19 23-01) to upgrade to the Diagnostic Tool Kit.

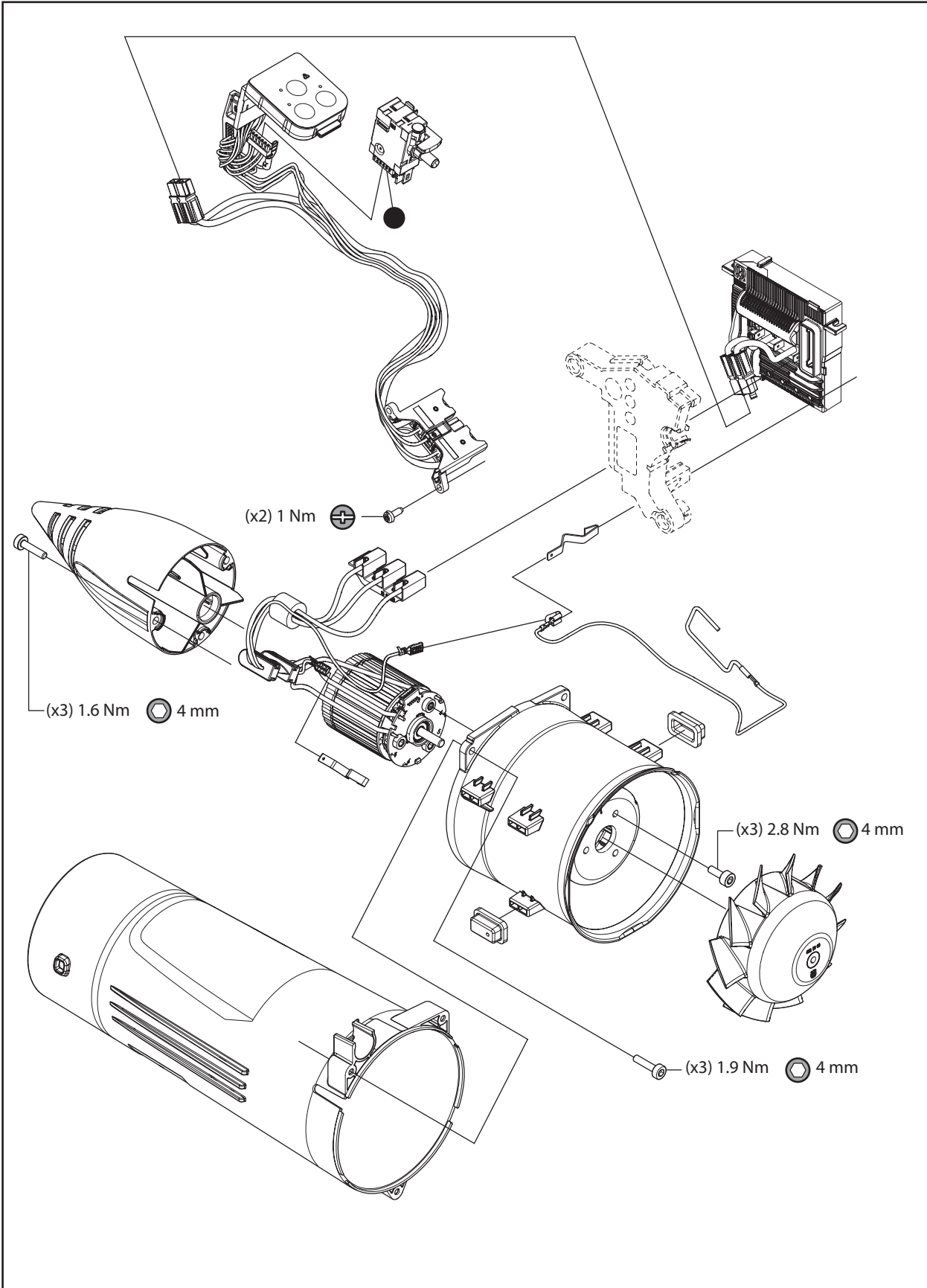
CST transmits various data from the product and battery to the computer, such as product ID. There is also a troubleshooting guide in the form of a diagnostic tool and a list of saved error codes.

The software in battery powered products can also be updated with CST.

| Pos | Description | Used with | Order No. |
|-----|------------------------------------|--|--------------|
| 1 | Diagnostic Tool Kit | Diagnosis and troubleshooting | 583 89 71-01 |
| 2 | Adapter Cable for Battery Products | Supplement/upgrade for Engine Diagnostic Tool - AutoTune™ (576 69 23-01) | 581 19 23-01 |

Service data

436LiB: S/N XXXXXXXXX-, 536LiB: S/N YYYYYYYYY-, 536LiBX: S/N ZZZZZZZZ-



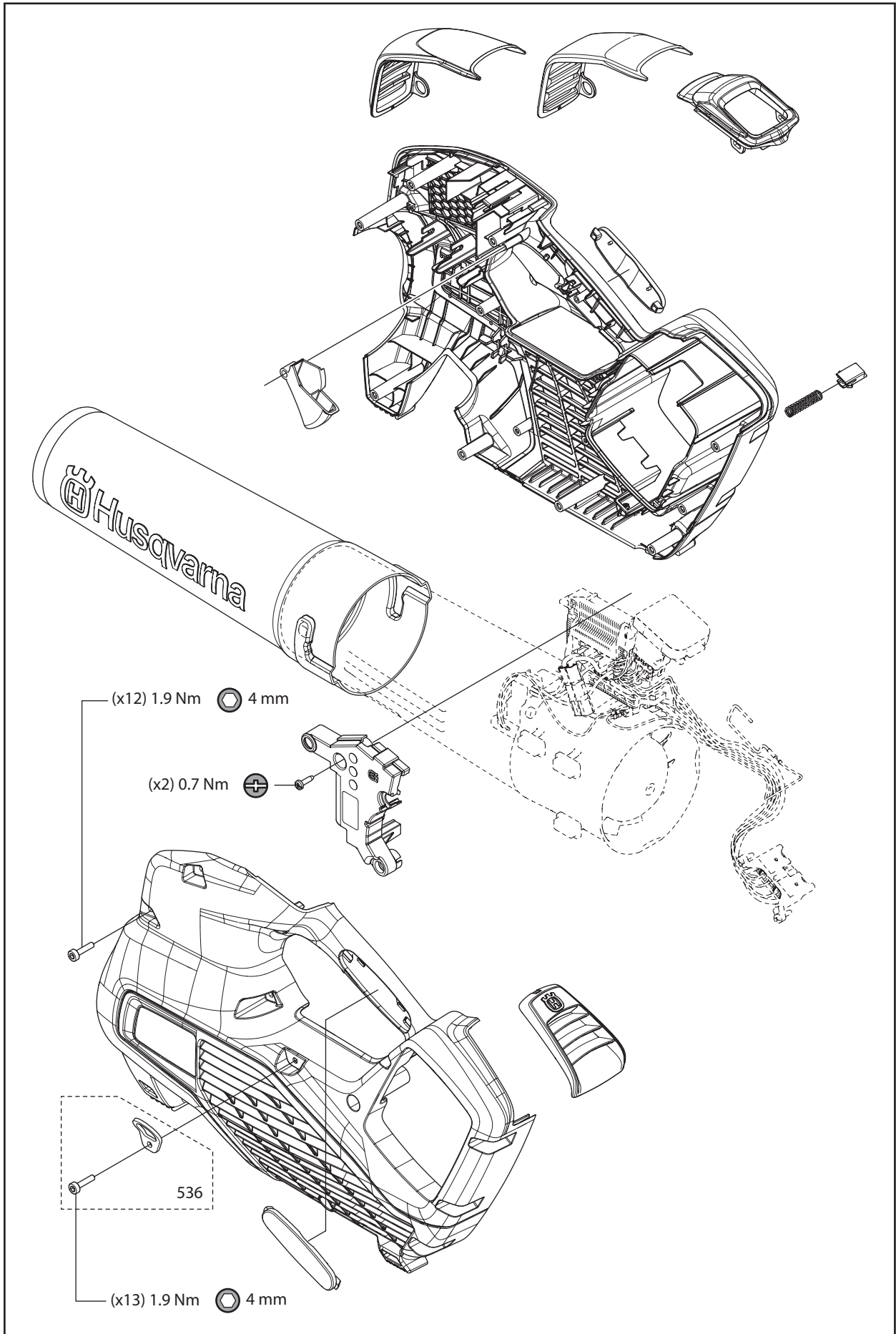
Key

The numbers by bolted components represent the tightening torque in Nm.

● Lubricate with water resistant grease.

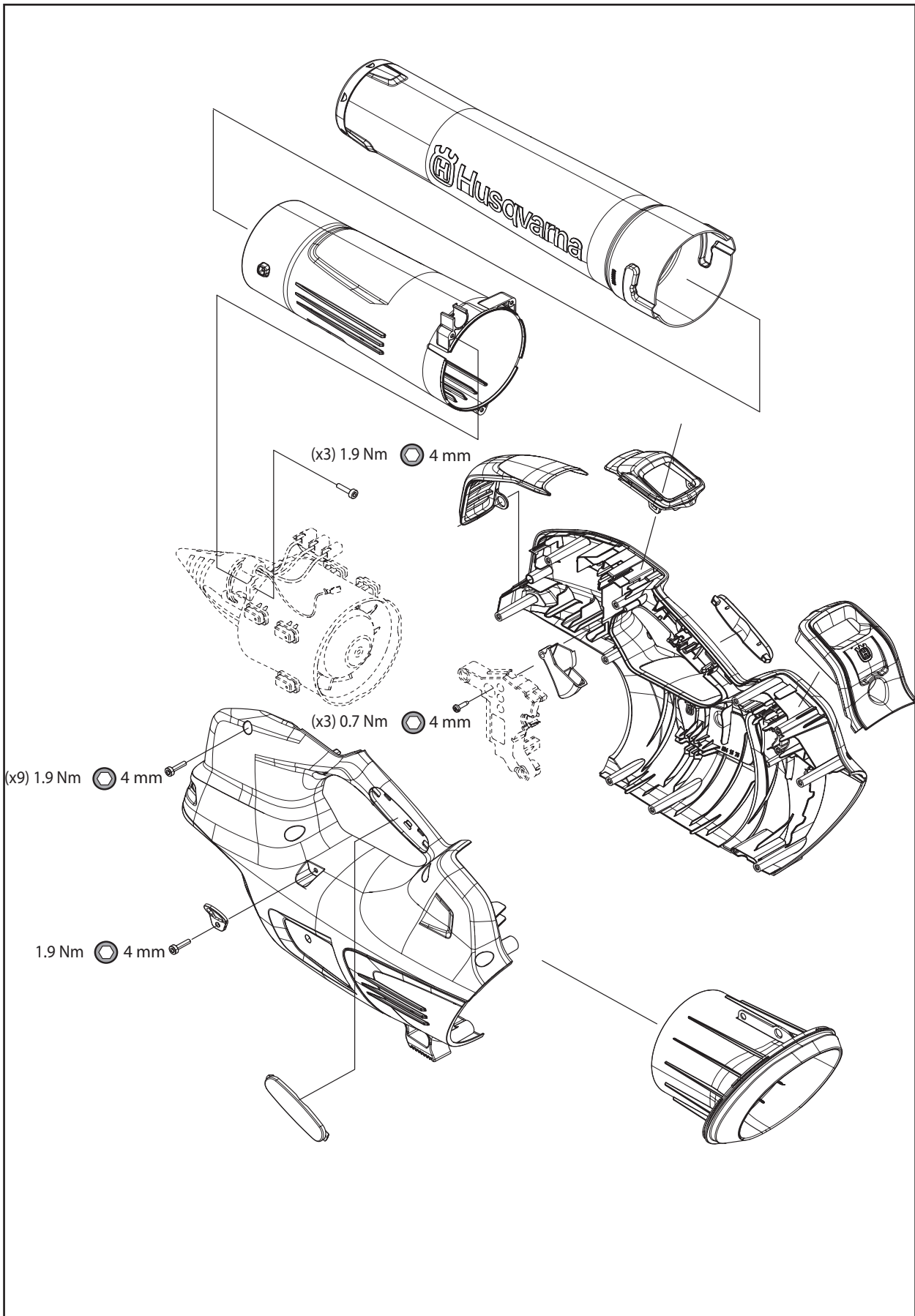
Service data

436LiB: S/N XXXXXXXXX-, 536LiB: S/N YYYYYYYYY-, 536LiBX: S/N ZZZZZZZZ-



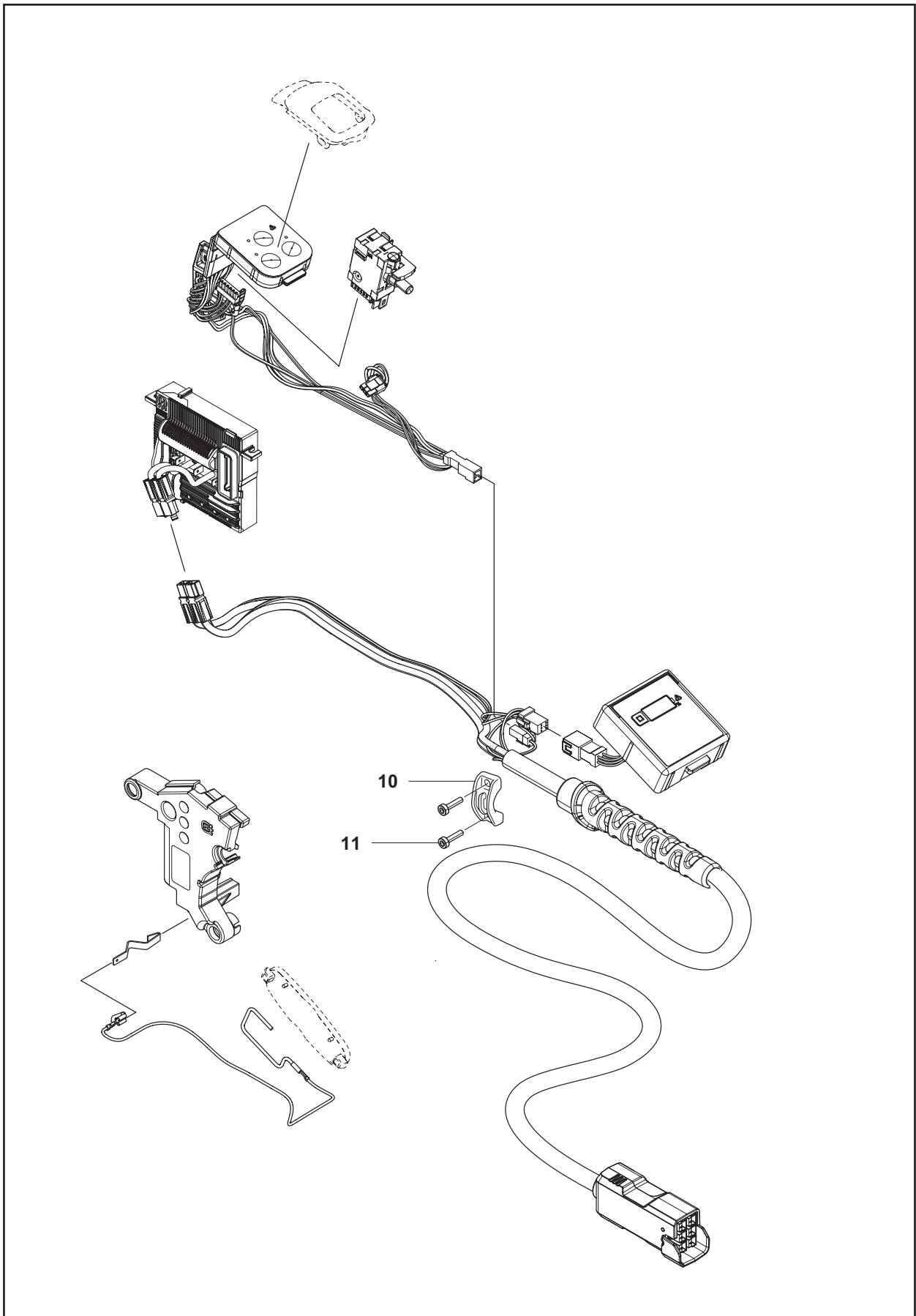
Service data

436LiB: S/N XXXXXXXXX-, 536LiB: S/N YYYYYYYYY-, 536LiBX: S/N ZZZZZZZZ-



Service data

436LiB: S/N XXXXXXXXX-, 536LiB: S/N YYYYYYYYY-, 536LiBX: S/N ZZZZZZZZ-



6 Basic dismantle/assembly

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6 Basic dismantle/assembly

The steps described below are the basic steps that must be carried out before any other service or repair work or final assembly is possible.

6.1 Battery

Press in the catches and remove the battery.
See figure 1.

Replace the battery once assembly has been completed.



WARNING!
The battery must always be removed for service/repair work and may only be replaced once the machine has been completely assembled again!

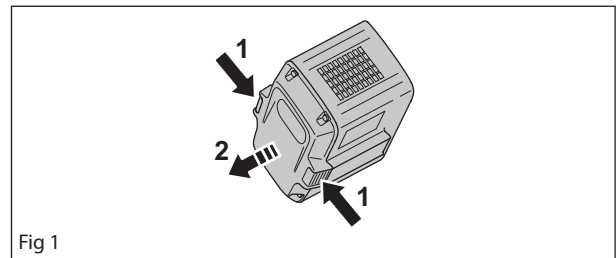


Fig 1

6.2 Nozzle

Turn the nozzle to loosen it from the blow pipe.
See figure 2

Cleaning and inspection

Clean and check the nozzle thoroughly. It must always be replaced with a new one if cracked or showing signs of other defects. Always use original spare parts.

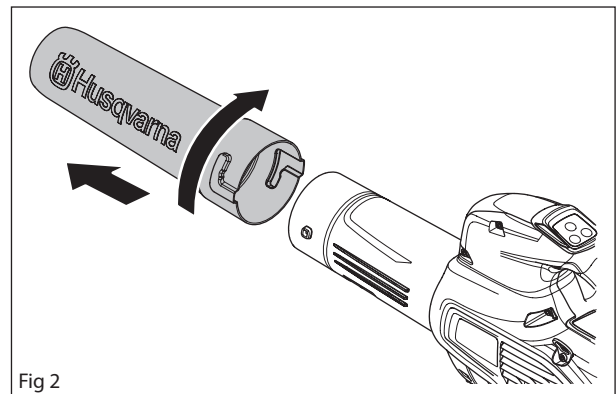


Fig 2

Assemble in the reverse order.

NOTE!

Note how wires, components, etc., are positioned before dismantling. Make sure to position them correctly to avoid pinching when the machine is reassembled.

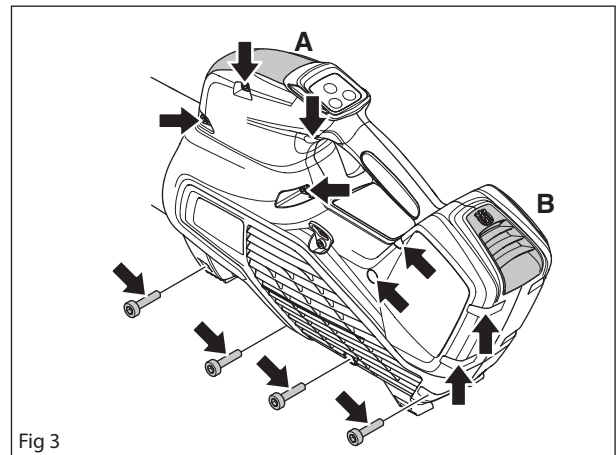


Fig 3

6.3 Chassis (436LiB, 536LiB)

Loosen the screws (x12) and lift off the left chassis half, front (A) and rear (B) ventilation covers.
See figure 3

Cleaning and inspection

Carefully clean and inspect the chassis halves (including hand grip), ventilation covers and the eyelet. Parts must be replaced if cracked or showing signs of other defects. Always use original spare parts.
See figure 4

Assemble in the reverse order.
Tightening torque 1.9 ± 0.1 Nm.

NOTE!

It should be easy to put together the chassis halves. Make sure cables and such are positioned correctly if this is difficult.

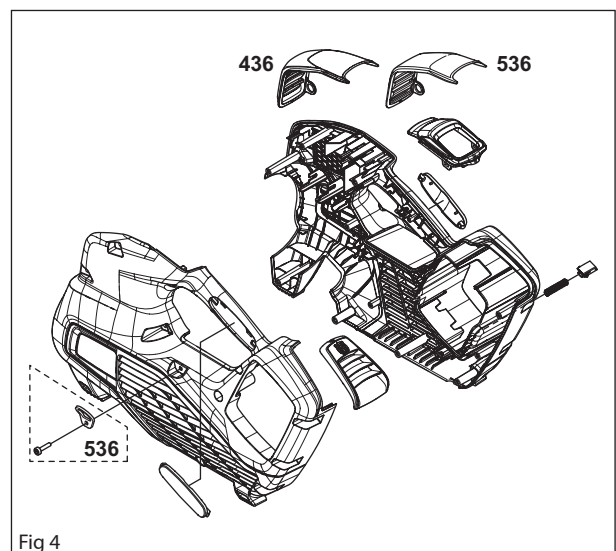


Fig 4

6 Basic dismantle/assembly

6.3 Chassis (536LiBX)

Loosen the screws (x9) and lift off the left chassis half (A) and ventilation cover (B).
See figure 3b.

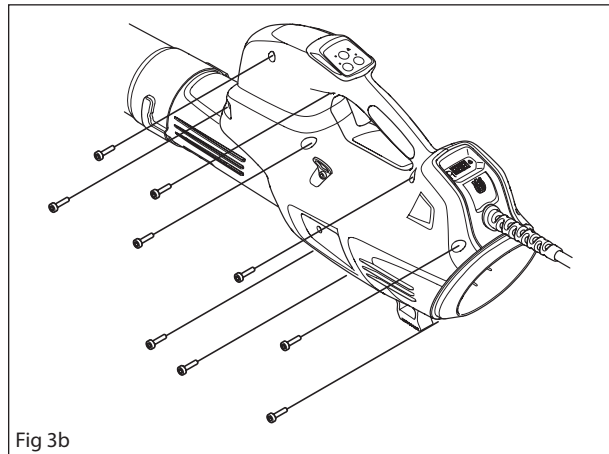


Fig 3b

Loosen the service cable fastened to the left chassis half. Use tweezers or a small pair of pliers, see figure 3c.

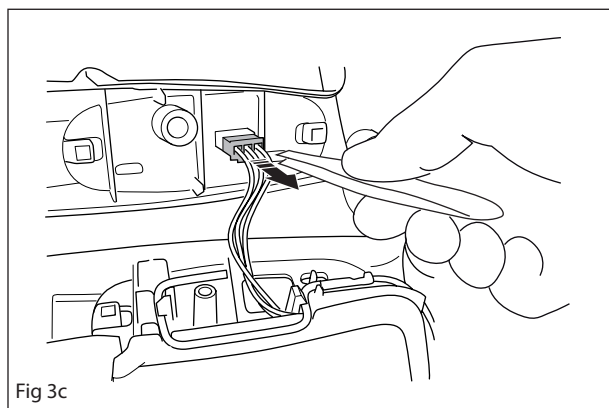


Fig 3c

Cleaning and inspection

Carefully clean and inspect the chassis halves (including hand grip), ventilation covers and the eyelet. Parts must be replaced if cracked or showing signs of other defects. Always use original spare parts.
See figure 4b.

Assemble in the reverse order.
Tightening torque 1.9 ± 0.1 Nm.

NOTE!

It should be easy to put together the chassis halves. Make sure cables and such are positioned correctly if this is difficult.

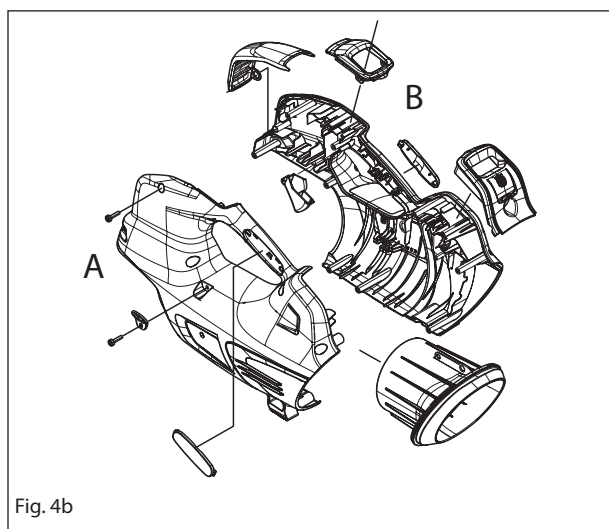


Fig. 4b

7 Repair instructions

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7 Repair instructions

7.1 General repair instructions



WARNING!
The battery must always be removed for service/repair work and may only be replaced once the machine has been completely assembled again!

NOTE!

Note how wires, components, etc., are positioned before dismantling. Make sure to position them correctly to avoid pinching when the machine is reassembled.

7.2 Dismantling the throttle

Lift the throttle control out of the chassis.
See figure 1.

Cleaning and inspection

Clean and check all parts thoroughly. Parts must be replaced if cracked or showing signs of other defects. Always use original spare parts.
See figure 2

7.3 Assembling the throttle

Press in the pin (A) on the main switch a few mm to facilitate assembling the throttle control in its fastening on the chassis.
Make sure the rear "lip" (B) on the throttle control enters into the chassis.
See figure 3

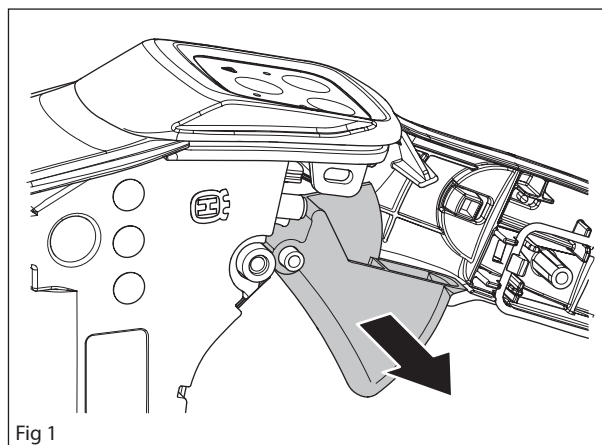


Fig 1

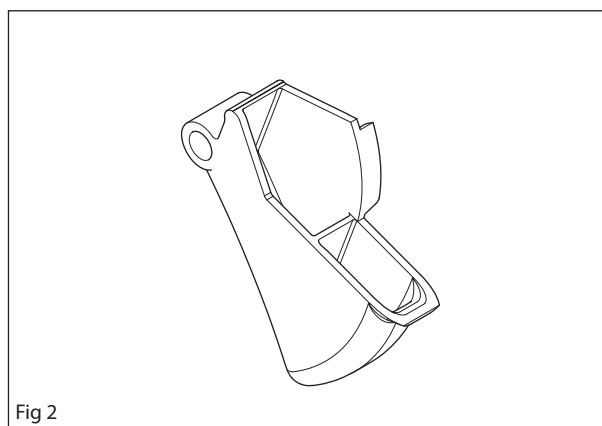


Fig 2

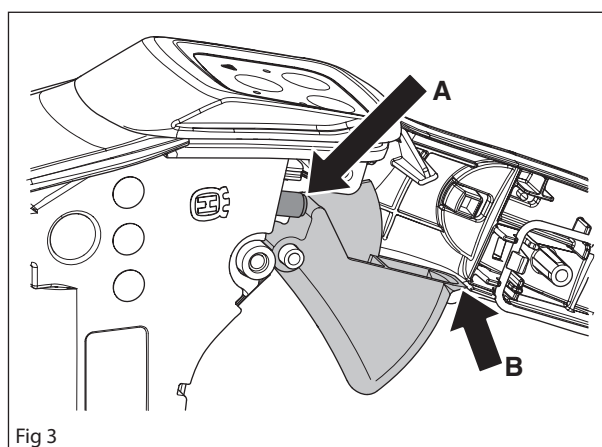


Fig 3

7.4 Dismantling ESD cables

1

Loosen contact (B) from the motor and contact (C) from the ESD cable from the contact spring. See figure 4

2

Unhook the ESD clasp from the handle and carefully loosen the cable from its attachments in the chassis. See figure 5.

Cleaning and inspection

Clean and check all parts thoroughly. Parts must be replaced if cracked or showing signs of other defects. Always use original spare parts. See figure 6

7.5 Assembling ESD cables

1

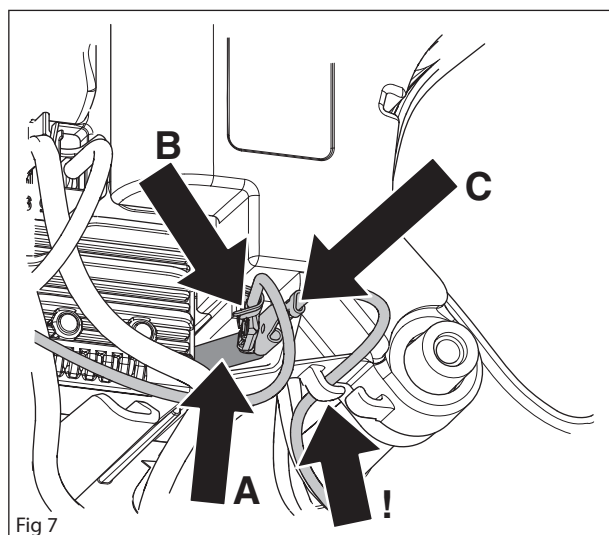
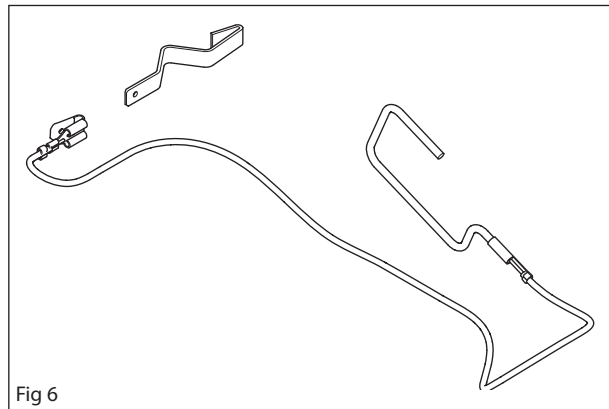
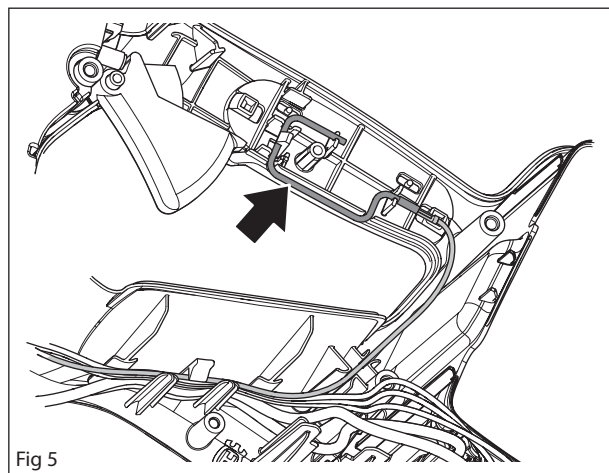
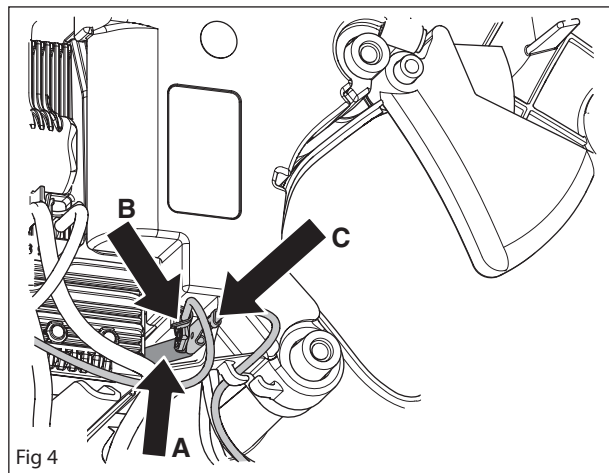
Hook the ESD clasp onto the handle. Make sure the cable is placed in the attachments in the chassis. See figure 5.

2

Couple the connector (C) from the ESD cable and connector (B) from the motor to the contact spring (A). NB! Make sure the ESD cable is hooked onto the attachment on the cover. See figure 7

NOTE!

Ensure cables, etc., are positioned correctly to avoid pinching.



7.6 Dismantling motor and blow pipe

1

Loosen the contact (A) from the control unit. Take care not to damage the connector (B) and cables. Loosen the connector/cable (C) from the contact spring.

NB! Do not pull the wires.

See figure 8

2

Lift the blow pipe and motor housing straight out of the chassis.

3

Loosen the screws (x3), unhook the brushes/cables (D) and lift off the blow pipe from the motor housing. Make sure the rubber seal (E) comes loose from the pipe.

See figure 9

4

Loosen the screws (x3) and lift the nose cone from the motor housing.

See figure 10

5

Secure the shaft (F) on the motor. Use an M4 screw (part no. 5811431) as a puller and screw it onto the shaft (G) to press off the fan.

See figure 11

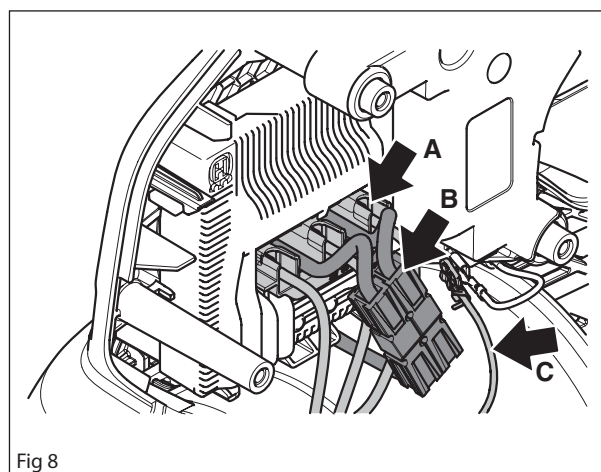


Fig 8

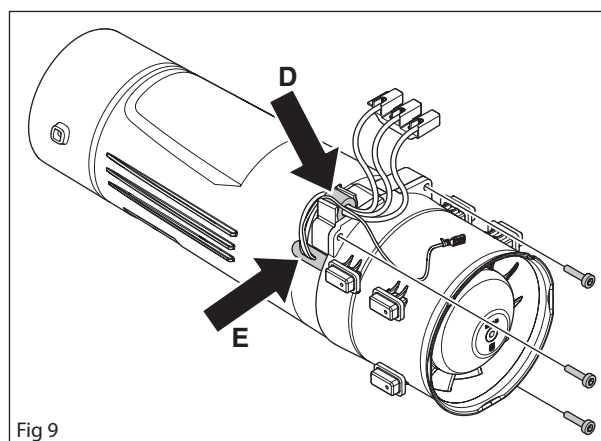


Fig 9

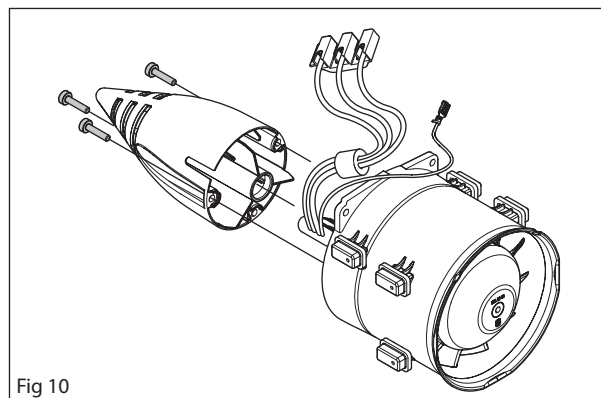


Fig 10

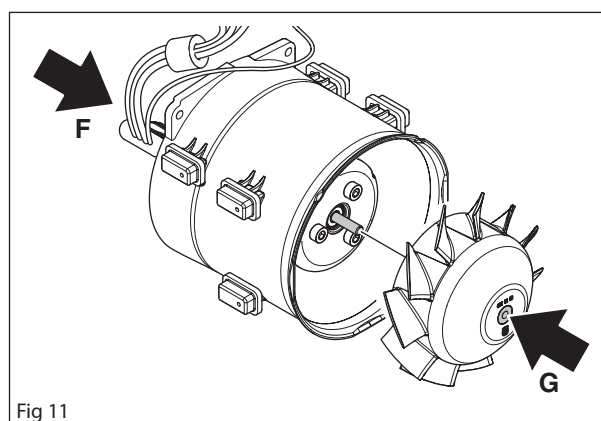


Fig 11

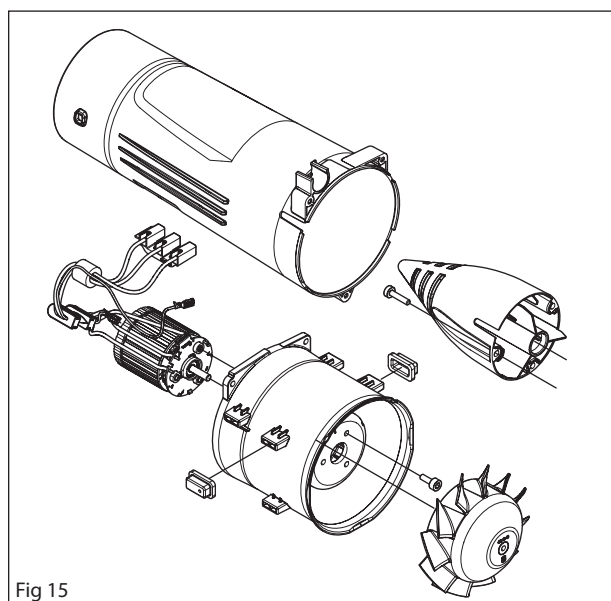
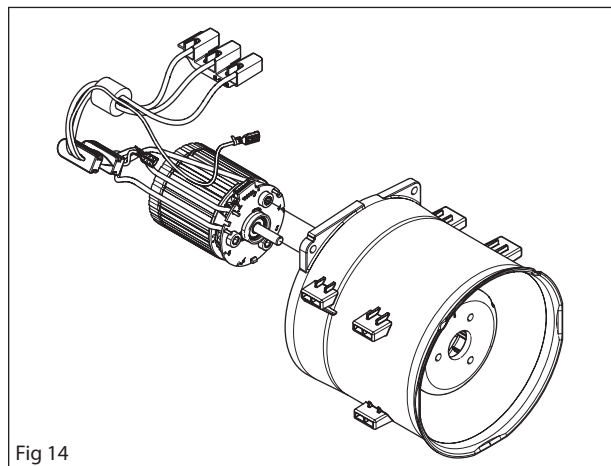
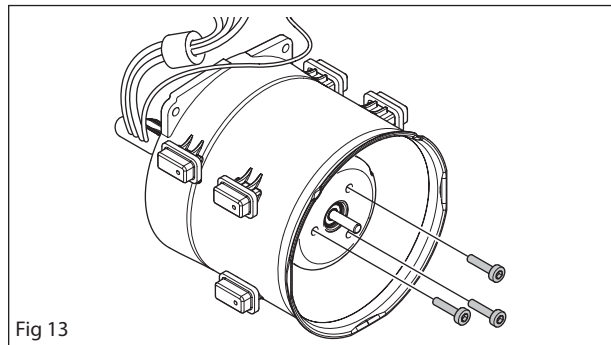
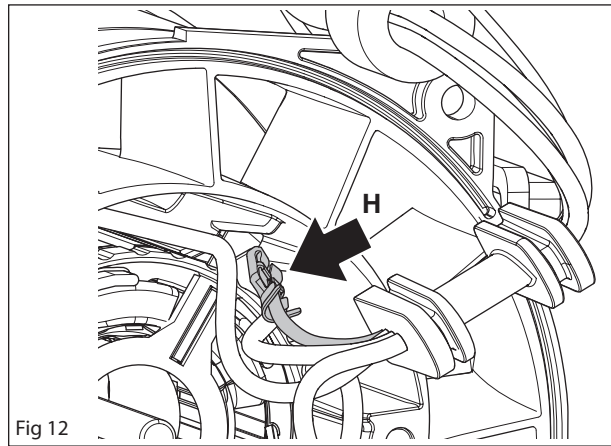
6
Loosen connector (H) from the contact spring in the motor housing.
NB! Do not pull the wires.
See figure 12

7
Loosen the screws (x3) securing the motor in the motor housing.
See figure 13

8
Lift the motor out of the motor housing.
NB! Do not pull the wires.
See figure 14

Cleaning and inspection

Clean and check all parts thoroughly. Parts must be replaced if cracked or showing signs of other defects. Always use original spare parts.
See Figure 15



7.7 Assembling motor and blow pipe

1

Place the motor with cables and contact spring into the motor housing. It is very important that the motor is positioned correctly. Check that the red (X) and blue (Y) cables are positioned to the right of the contact spring (H) and the white (Z) cable to the left.

NOTE!

Ensure cables, etc., are positioned correctly to avoid pinching.

See Figure 16.

2

Fasten the motor in the motor housing with the screws (x3).

Tightening torque 2.8 ± 0.2 Nm.

See figure 17

3

Couple connector (H) to the contact spring in the motor housing.

See figure 18

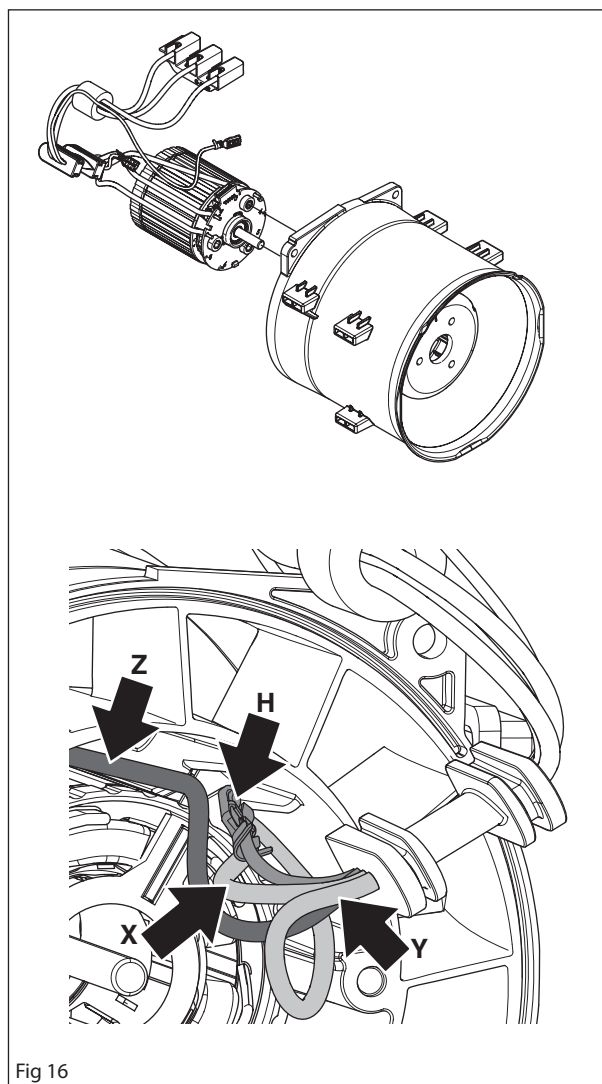


Fig 16

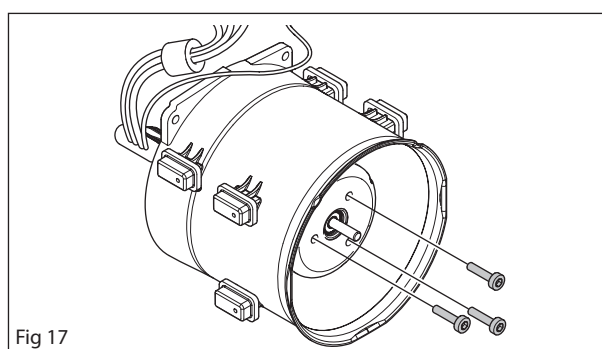


Fig 17

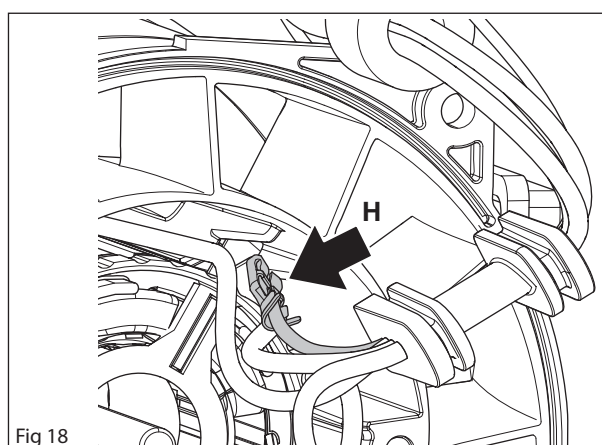


Fig 18

4

Secure the shaft (F) on the motor and press on the fan (G) with a maximum force of 9 kN and a minimum force of 2 kN. The fan is pressed on until it is 1 mm outside or at most in line with the edge of the motor housing.

NB! Do not press down the fan any further!

See figure 19

5

Fasten the nose cone in the motor housing with the screws (x3).

Tightening torque $1.6 \pm 0.2 \text{ Nm}$.

See figure 20

6

Place the bushing/cables (E) into the groove in the blow pipe. Fasten the blow pipe in the motor housing with the screws (x3).

Tightening torque $1.9 \pm 0.1 \text{ Nm}$.

Place the brushes/cables (D) in the attachment on the blow pipe.

See figure 21

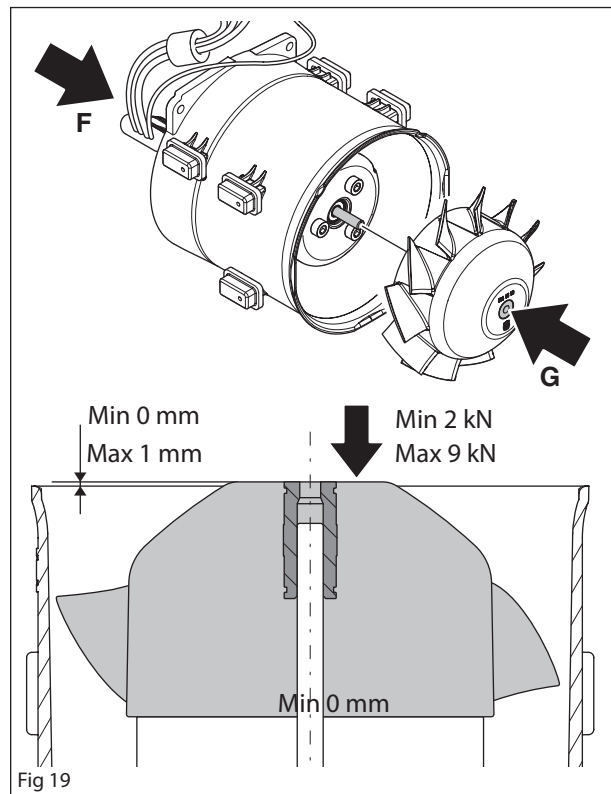


Fig 19

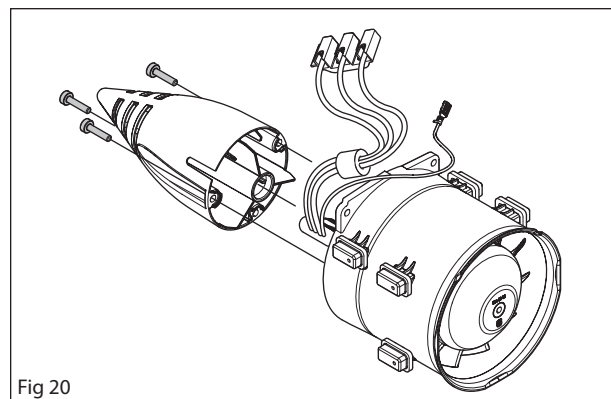


Fig 20

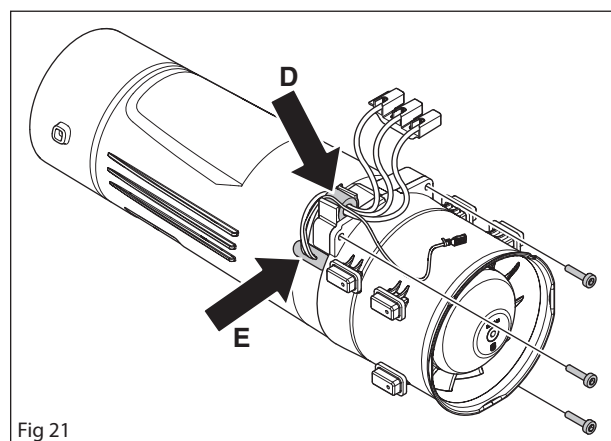


Fig 21

7

Place the blow pipe and motor housing in the chassis.
Make sure the rubber pads are positioned correctly.
See figure 22

NOTE!

Ensure cables, etc., are positioned correctly
to avoid pinching.

8

Couple connector (A) to the control unit. Take care
not to damage the connector (B) with cables.
Couple connector (C) to the contact spring.
NB! Do not pull the wires.
See figure 23

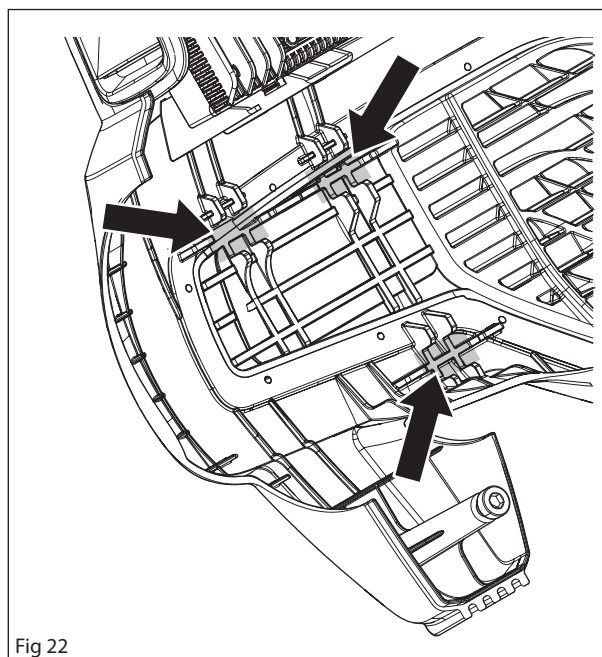


Fig 22

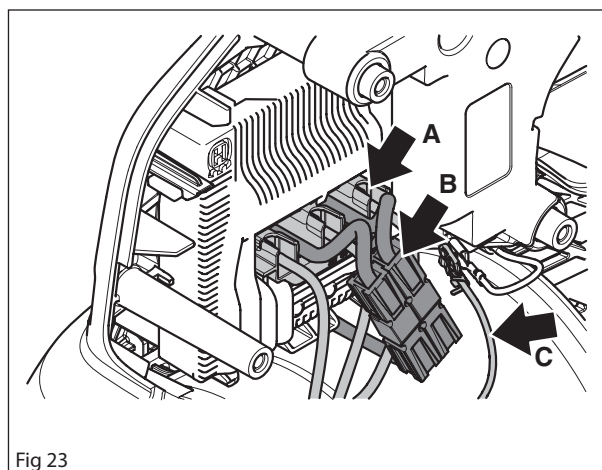


Fig 23

7.8 Dismantling the main cable

1

Loosen the contact spring that is located in the cover over the electronics.
See Chapter 7.4.

2

Dismantle the motor housing/blow pipe.
See Chapter 7.6.

3

Loosen the screw and lift off the cover.
See figure 24

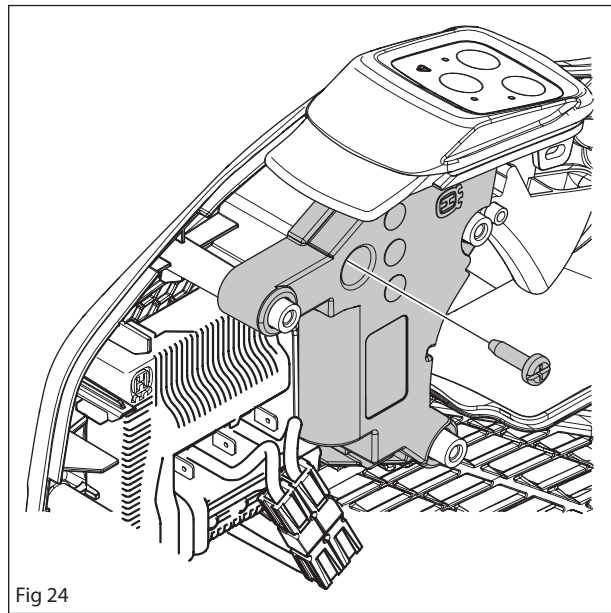


Fig 24

4

(436LiB, 536LiB)
Loosen the screws (2x) for the battery contact.
See figure 25a.

(536LiBX)
Loosen the screws holding the battery cable.
See figure 25b.

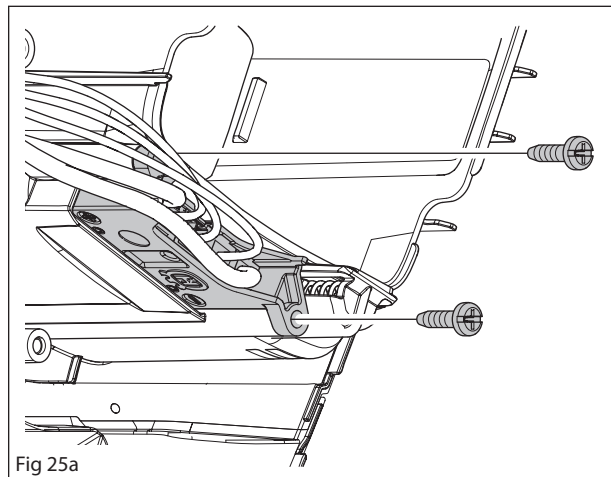


Fig 25a

NOTE!
The flat cable to the keypad is very fragile.

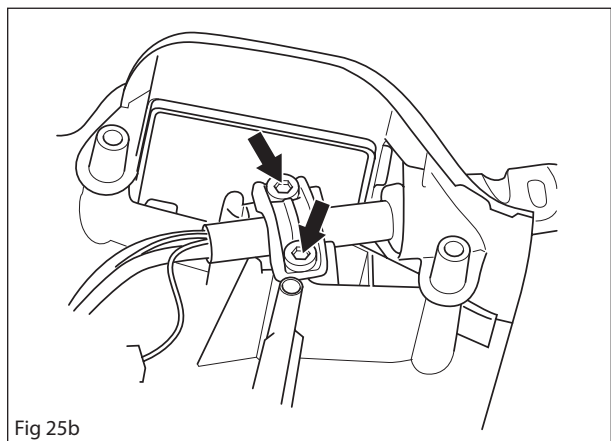


Fig 25b

5

(436LiB, 56LiB)

Unhook all the cables from their attachments and lift the control unit, main switch and main cables straight out of the chassis.

NB! Do not pull the wires.

See figure 26a (436LiB, 536LiB).

(536LiBX)

Unhook all the cables from their attachments and uncouple the connector on the signal cables. Remove the connector from the control card with a screwdriver, see figure 32, and lift the cables out of the chassis. Insert the cables through the display cover.

NB! Do not pull the wires.

See figure 26b (536LiBX).

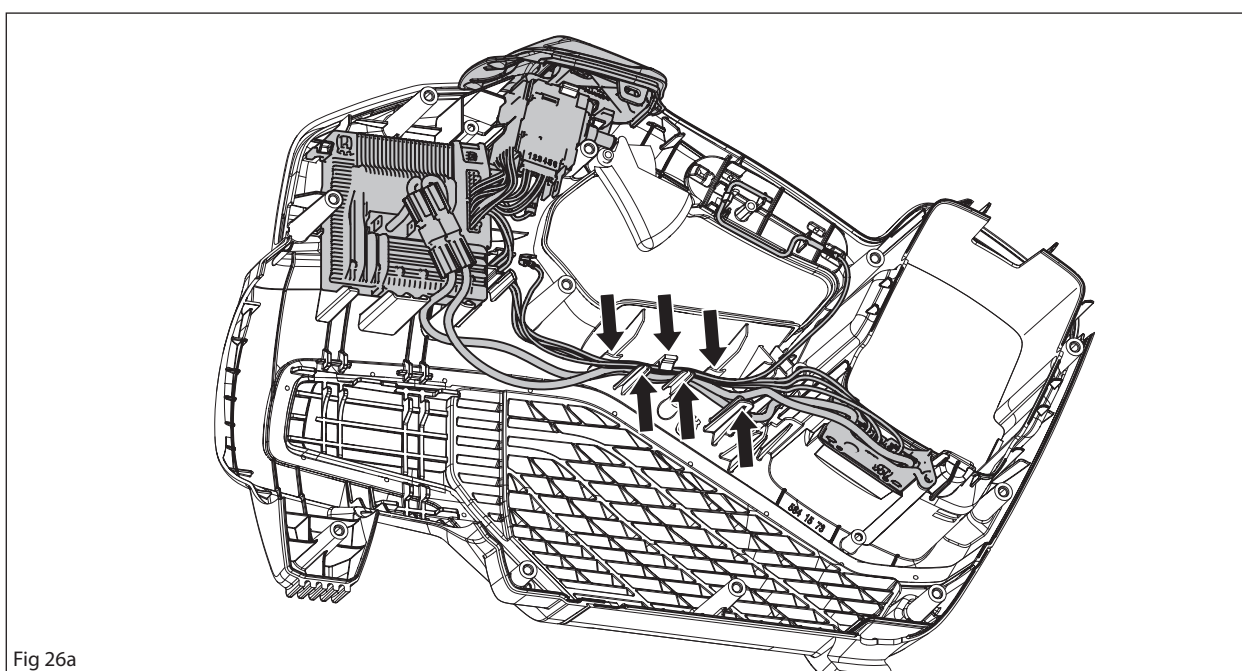


Fig 26a

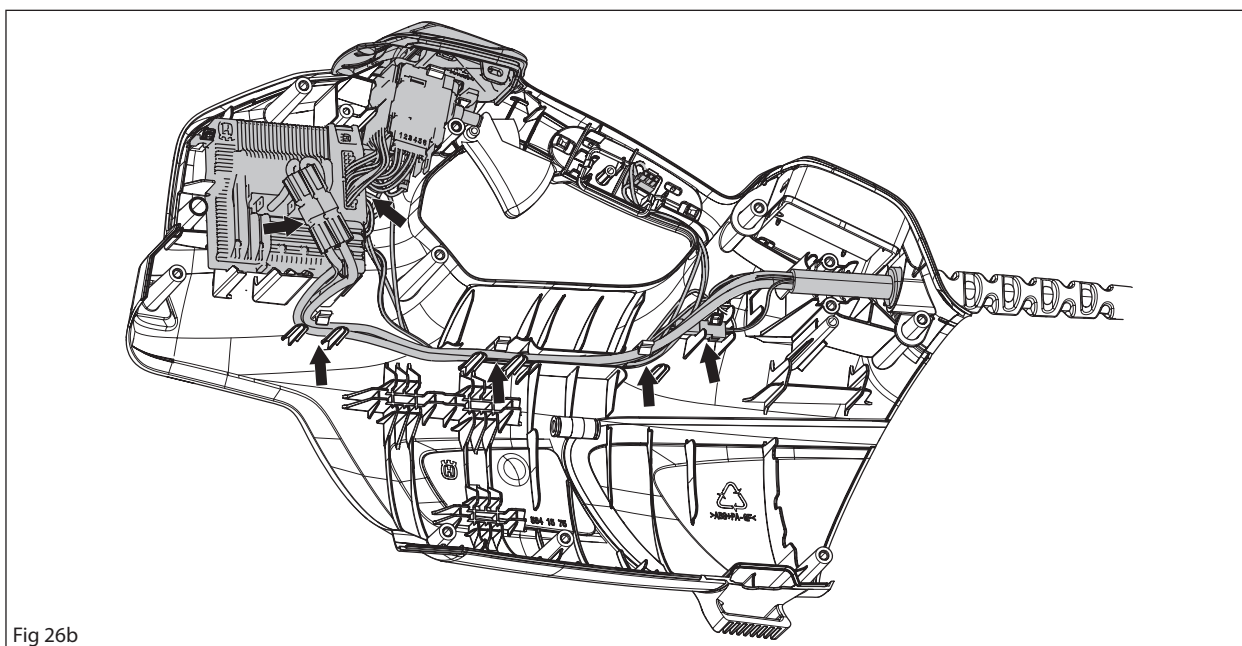


Fig 26b

6
Unhook the cover from the keypad.
See figure 27

7
Dismantle the control unit.
See Chapter 7.10.

8
Dismantle the main switch.
See Chapter 7.12.

Cleaning and inspection

Clean and inspect all parts. They must always be replaced with new ones if cracked or showing signs of other defects. Always use original spare parts.
See figure 28

7.9 Assembling the main cable

1
Assemble the main switch.
See Chapter 7.13.

2
Assemble the control unit.
See Chapter 7.11.

3
Hook the cover onto the keypad.
See figure 27

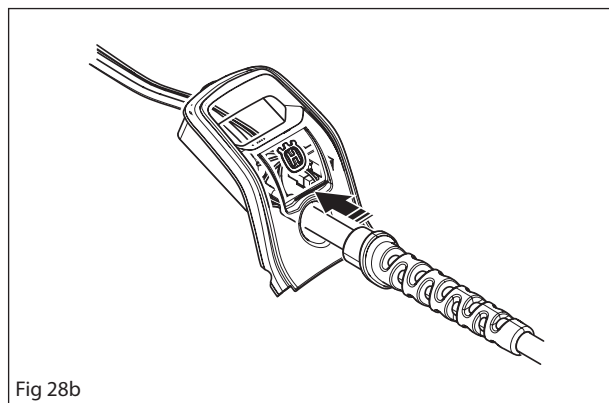
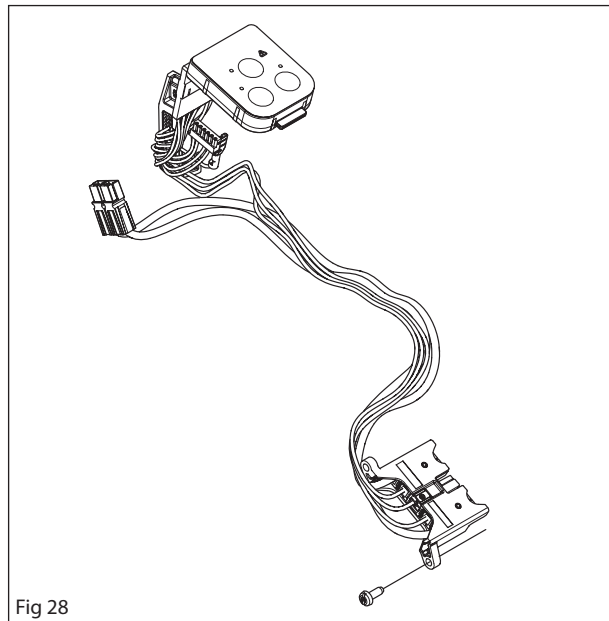
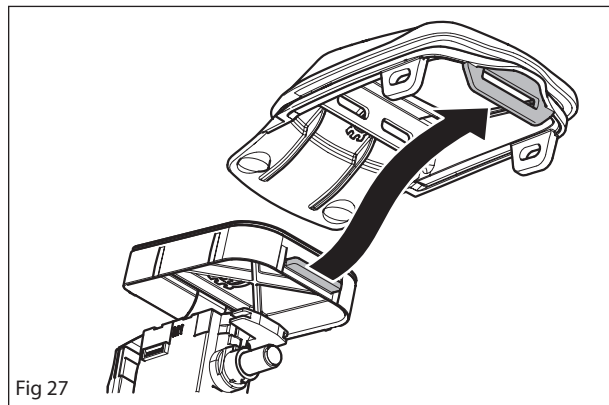
4
(536LiBX)
Pull the main cables through the display cover.
Ensure there is no play between the cables and the cover. See figure 28b.

Place all cables (in their attachments), control unit, main switch and main cables into the chassis.
See figure 26a (436LiB, 536LiB).
See figure 26b (536LiBX).

NOTE!
Ensure cables, etc., are positioned correctly to avoid pinching.

5
(436LiB, 536LiB)
Fasten the screws (A) for the battery contact.
Tightening torque 0.7 ± 0.1 Nm.
See figure 25a (436LiB, 536LiB).

Fasten the screws holding the battery cable.
Tightening torque 1.9 ± 0.1 Nm.
See figure 25b (536LiBX).



6
Assemble the cover over the electronics.
Tightening torque 0.7 ± 0.1 Nm.
See figure 24

7
Assemble the motor housing/blow pipe.
See Chapter 7.7.

8
Assemble the contact spring.
See Chapter 7.5.

7.10 Dismantling the control unit

- 1
Dismantle the main cables.
See Chapter 7.8.
- 2
Unplug the connector between the main cables and the control unit.
See figure 31
- 3
Lift the cover (A) and loosen the connector (B) from the control unit. Carefully use a screwdriver to help to prise loose the connector if it sticks.
NB! Do not pull the wires.

NOTE!

Use the screwdriver only on the outer side of the connector. Take care not to press in the screwdriver too far so it damages the connector or the control unit.

See figure 32

Cleaning and inspection

Clean and inspect all parts. They must always be replaced with new ones if cracked or showing signs of other defects. Always use original spare parts.
See figure 33

7.11 Assembling the control unit

- 1
Connect connector (B), make sure the seal closes tightly to the control unit and then hook on the cover (A).
See figure 34
- 2
Connect the connector to the control unit.
See figure 31
- 3
Assemble the main cables in the chassis.
See Chapter 7.9.

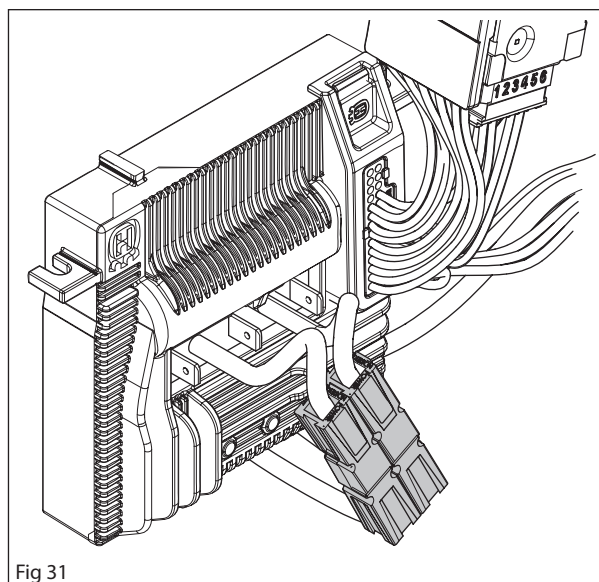


Fig 31

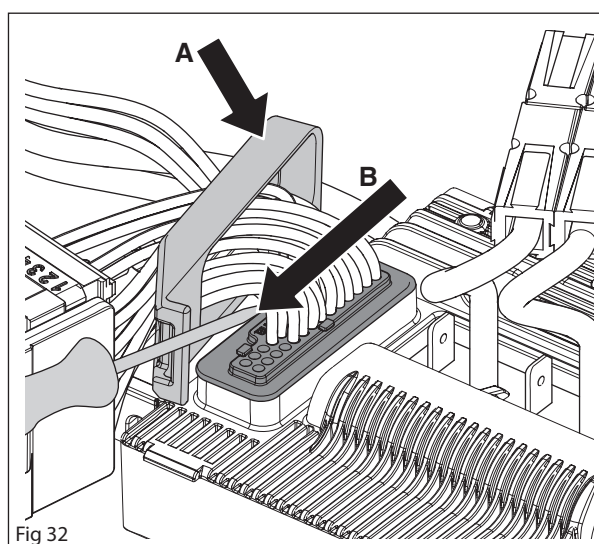


Fig 32

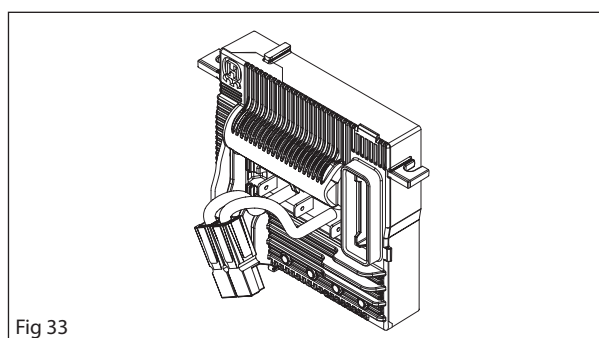


Fig 33

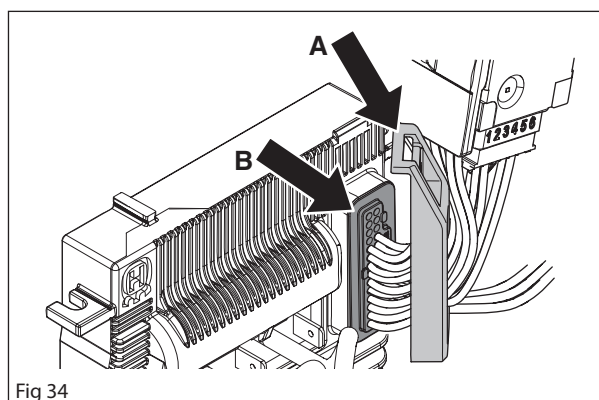


Fig 34

7.12 Dismantling the main switch

1

Dismantle the main cables.
See Chapter 7.8.

2

Loosen contact (A) from pin B+ on the main switch.
NB! Do not pull the wires.
See figure 35

3

Take loose the connector (B) using a small screwdriver to carefully free the heels (C) on each end of the connector and main switch from each other.

NOTE!

Do not pull the wires. Take special care to avoid damaging the contact (B).

See figure 36

Cleaning and inspection

Clean and inspect the main switch and cables.
They must always be replaced with new ones if cracked or showing signs of other defects.
Always use original spare parts.
See figure 37

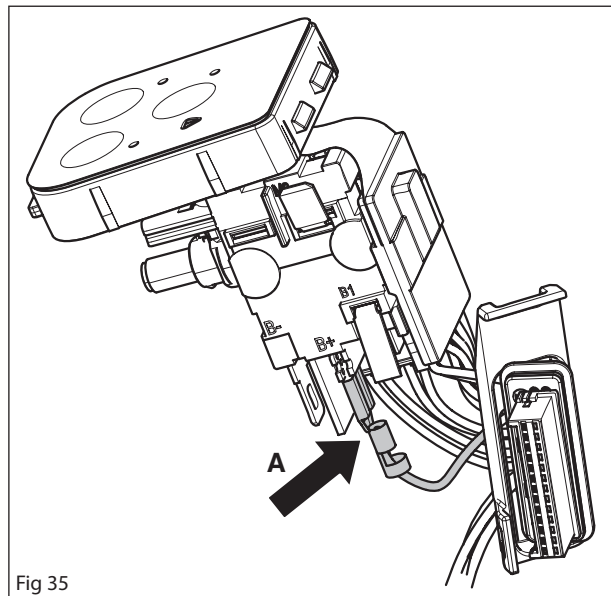


Fig 35

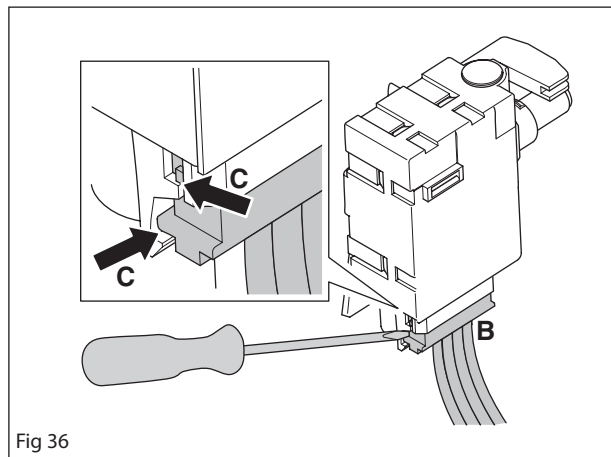


Fig 36



WARNING!

The "button" on the main switch may only be tested when it is assembled in the machine!

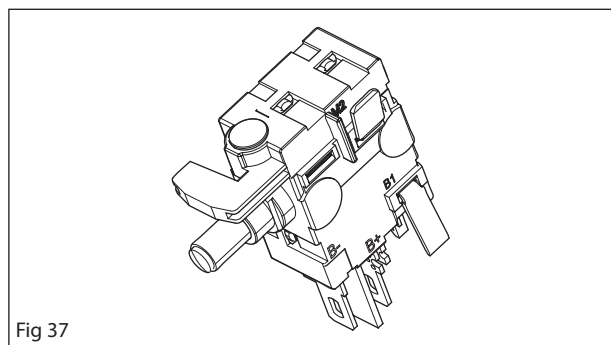


Fig 37

For products with S/N: 20170000000- (LiPX),
20170000000- (LiP4), 20170000000- (LiPT5).

1

Dismantle the control handle as described in
"6 Basic dismantle/assembly" on page 16.

2

Dismantle the throttle trigger lock and throttle trig-
ger as described in "7.1 Dismantling the throttle
trigger lock and throttle trigger" on page 18.

3

Lift out the main switch and disconnect cable (A).
See figure 52.

4

To disconnect the cable (A), free the catch (D) with
a small screwdriver and pull the contact (C) out..
NB! Do not pull on the wires. Hold the contact
only when you pull it out.
See figure 53.

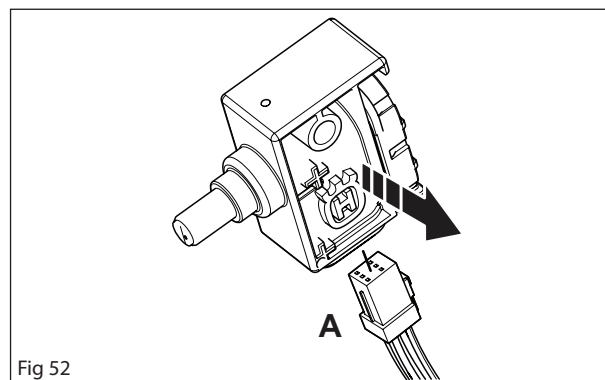


Fig 52

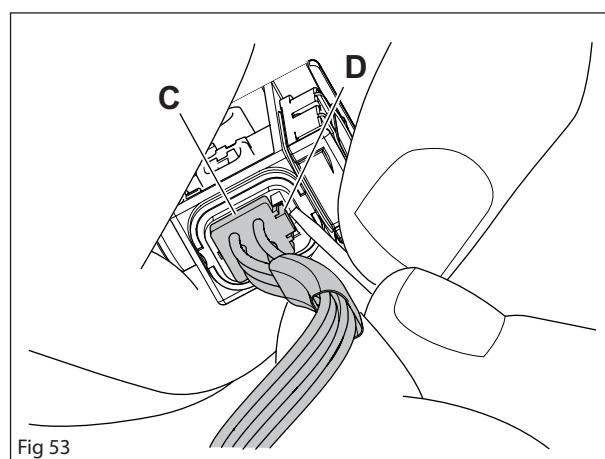


Fig 53

8.14 Cleaning and inspection of the main switch

Clean and check the main switch. The main switch
must always be replaced with a new one if cracked
or showing signs of other defects.

Always use original spare parts.

See figure 54 for products with S/N: -20170000000
(LiPX), -20170000000 (LiP4), -20170000000
(LiPT5).

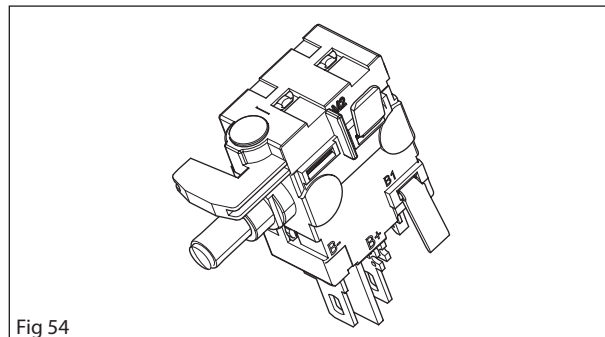


Fig 54

See figure 55 for products with S/N: 20170000000-
(LiPX), 20170000000- (LiP4), 20170000000-
(LiPT5).

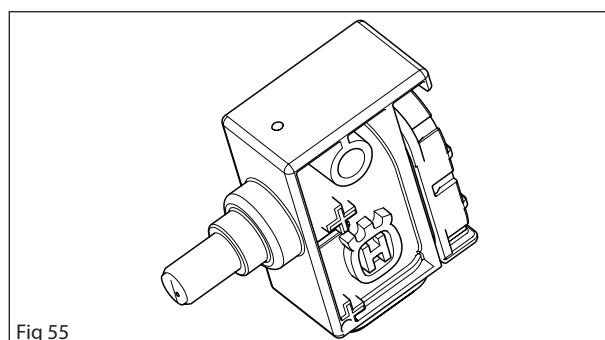


Fig 55

7.13 Assembling the main switch

1

Lubricate the connector (B) with water resistant grease and connect it to the main switch. Also lubricate the outside of the connector after assembling to ensure it is watertight.

See figure 38

2

Connect the contact (A) to the main switch.

See figure 39

3

Assemble the main cables in the chassis.

See Chapter 7.9.

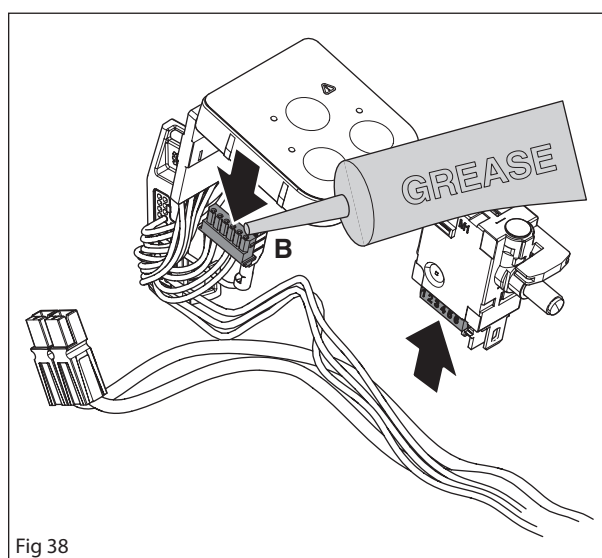


Fig 38

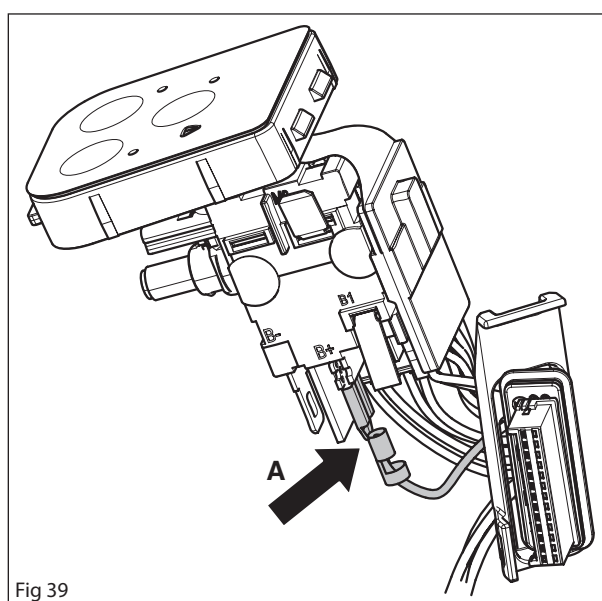


Fig 39

7.14 Repairing damaged threads

If the plastic threads in the chassis are damaged, drill out the hole with a 4.5 mm drill bit.

Then replace the original screw with screw:
503 21 74-16 - IHSCT MT5x16.

8 Diagnosis and troubleshooting


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8 Diagnosis and troubleshooting

8.1 Remove the battery

Press in the catches and remove the battery.
See figure 1.

 **WARNING!**
The battery must always be removed for service/repair work and may only be replaced once the machine has been completely assembled again!

 **WARNING!**
Do not short circuit the battery!
Never unscrew the battery!
Never fit a damaged battery!
Replace a damaged battery!

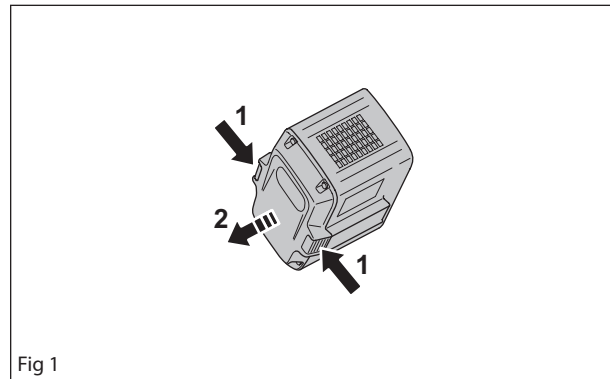


Fig 1

8.2 Connect Common Service Tool

1
(436LiB, 536LiB)

Connect the Common Service Tool (CST) adapter cable to the battery and the battery connector on the machine. Connect cable (A) to CST for troubleshooting the machine.

Connect cable (B) to CST for troubleshooting the battery.

See figure 2

(536LiBX)

Connect the product with the battery.

Remove the plastic cover and use tweezers to extract the service cable. See figure 3

Couple together the adapter cable for the Common Service Tool (CST) with the product service cable.

2

Diagnose/troubleshoot according to the CST instructions and make any necessary repairs as instructed in the relevant chapter in this manual.

8.3 No signal to CST

1

Check that the contact on the battery and the battery contact on the machine are intact and clean. Replace the battery or alternatively the main cable on the machine if there is any damage to the contact.

2

Check that the cable to CST is intact and clean. Replace the cable if it is damaged.

3

Restart the computer/Reinstall the software.

8.4 Overhaul

Inspect the component parts of the machine. Replace damaged parts as described in the relevant chapter.

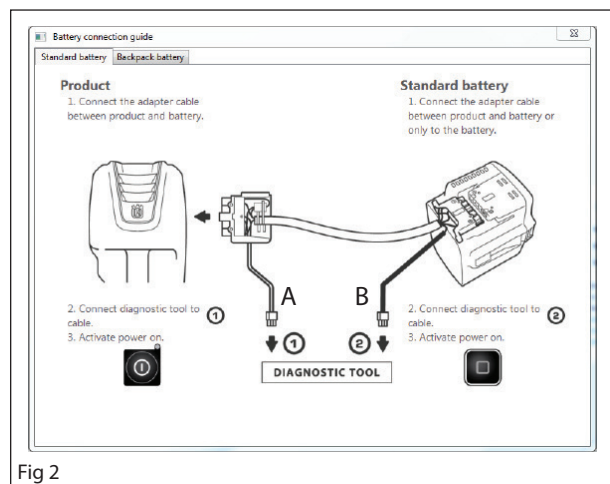


Fig 2

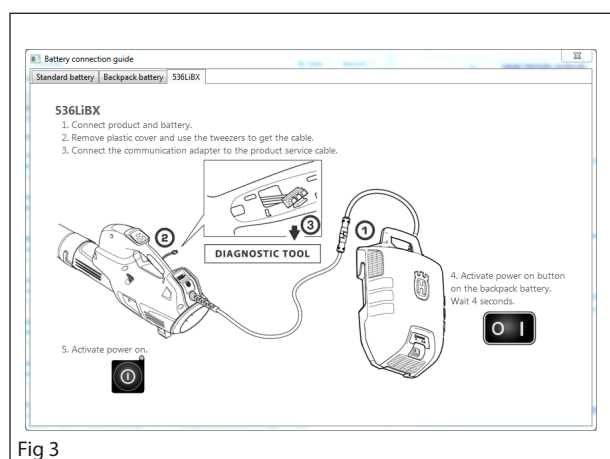


Fig 3

5.4 Troubleshooting the main switch

For products with S/N: -20170000000 (LiPX), -20170000000 (LiP4), -20170000000 (LiPT5). See figure 3.

The switch used in professional battery products from Husqvarna has two functions, to supply current to the control unit and the electric motor, and act as a position sensor for the variable speed control. All these functions can easily be tested and verified using a resistance meter.

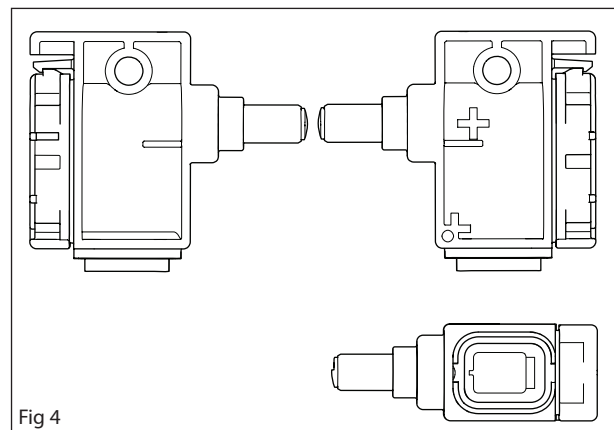
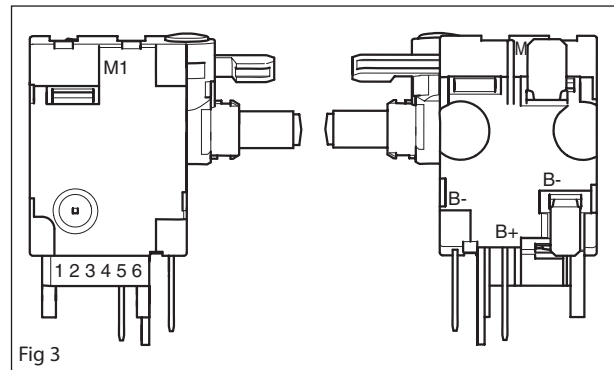
Note: The switch should not be depressed more than 6 mm and not to its end position when testing.

- Measure between B+ and B1 when the switch is not depressed. The result should be open circuit.
- Measure between B+ and B1 when the switch is depressed. The result should be closed circuit.
- Measure between pin 2 and pin 5 when the switch is not depressed. The result should be closed circuit.
- Measure between pin 2 and pin 5 when the switch is depressed. The result should be $50\text{ k}\Omega \pm 25\%$.
- Measure between B1 and Pin 1. The result should always be closed circuit.

If all readings are within specified limits, the switch is OK.

For products with S/N: 20170000000- (LiPX), 20170000000- (LiP4), 20170000000- (LiPT5). See figure 4.

Use the Common Service Tool to check the functionality of the main switch.



5.5 Troubleshooting the BLDC control unit

Check that the blade terminals and associated wires are not bent or damaged.

- (A) 4.8x0.8mm M phase (Gray wire)
- (B) 4.8x0.8mm M phase (Black wire)
- (C) 4.8x0.8mm M phase (Red wire)

See figure 5.

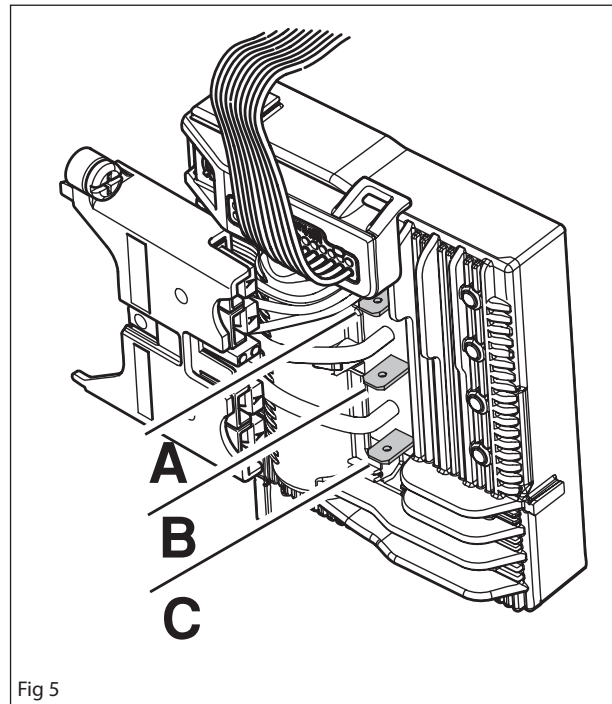


Fig 5

5.6 Overhaul

Inspect the component parts of the product. Replace damaged parts as described in the relevant chapter.

8.5 Troubleshooting - product

| Symptom | Possible causes | Recommended action |
|---|--|--|
| The product cannot be activated. No LEDs come on after pressing the on/off button. | Faulty battery. | 1. Check the battery by pressing the status button. At least one green LED should light up. See also Battery and Charger. |
| | Bad contact between battery and product. | 2. Make sure the power connectors between the battery and the product are not dirty or damaged. See figure 1 in the appendix. |
| | Bad contact to keypad connector/faulty multicables between control unit and keypad/throttle control. | 3. Check that the cables are fitted correctly and not damaged in any way. Replace the cables if damaged. |
| | Short circuit in control unit. | 4. Replace the control unit. |
| The product cannot be activated and batteries that are inserted are immediately ruined. | Short circuit in control unit. | Replace the control unit. |
| The electric motor does not react after pressing the control. | Bad contact in breaker signal connector. | 1. Make sure the breaker signal connector is correctly assembled, is not damaged and is corrosion-free. See figure 2 in the appendix. |
| | Motor contacts not correctly fitted. | 2. Make sure the motor contact/motor contacts are correctly fitted. See figure 3 in the annex. |
| | Interior damage to breaker. | 3. Replace the breaker. |
| | Short circuit in control unit. | 4. Replace the control unit. |
| Electric motor stutters for a short period when pressing the control, after which it stops. | Short circuit in control unit. | Replace the control unit. |
| The product turns off under load. | Bad contact between battery and product. | Make sure the power connectors between the battery and the product are not dirty or damaged. See figure 1 in the appendix. |
| Keypad illumination flickers. | Short circuit in keypad. | Replace the cabling. |
| Uneven motor speed. | Bad contact in breaker signal connector. | 1. Make sure the breaker signal connector is correctly assembled, dry, is not damaged and is corrosion-free. See figure 2 in the appendix. |
| | Damaged or worn out breaker. | 2. Replace the breaker. |

| | | |
|--|--|---|
| Warning triangle flashes continually on keypad. | Temperature too high. | 1. Wait for the product to cool down (max. 5 minutes). |
| | Temperature of control unit or battery too low. | 2. Make sure neither the product nor the battery is colder than -10 C |
| | Water in breaker signal connector. | 3. Dismantle and dry the breaker signal connector and then reassemble it. See figure 2 in the annex. |
| | Short circuit in keypad. | 4. Replace the cabling. |
| | Short circuit in breaker. | 5. Replace the breaker. |
| | Defective control unit. | 6. Replace the control unit. |
| A warning triangle on the keypad flashes briefly after activation. The product then shuts down. | The breaker is pressed in during activation. | 1. Activate the product without pressing the breaker at the same time. |
| | Water in breaker signal connector. | 2. Dismantle and dry the breaker signal connector and then reassemble it. See figure 2 in the appendix. |
| | Short circuit in keypad. | 3. Replace the cabling. |
| | Short circuit in breaker. | 4. Replace the breaker. |
| A warning triangle on the keypad flashes briefly after activation. The product subsequently hangs while the green LED is on. | Bad communication signal between battery and product. | 1. Make sure the power connectors between the battery and the product are not dirty or damaged. See figure 1 in the appendix. |
| | | 2. Make sure the small cables between connector and the control unit are not loose or damaged. See figure 4 in the annex. |
| Product is activated but LED on keypad does not come on. | Defective keypad. | Replace the cabling. |
| The product is activated directly when the battery is inserted without pressing the keypad. | Short circuit in keypad. | Replace the cabling. |
| A warning triangle on the keypad lights up solid red. | Defective control unit. | Replace the control unit. |
| The product is not activated after installing a new control unit. | Spare parts are delivered without software. | Use the diagnostic tool to install new software. |
| The product can not be coupled to Common Service Tool (CST). | Old diagnostic tool. | 1. Use Common Service Tool. Make sure the Internet connection is in order to download auto-updates. |
| | The communication cable may be faulty or not connected to the diagnostic tool. | 2. Repair or replace the cable. |

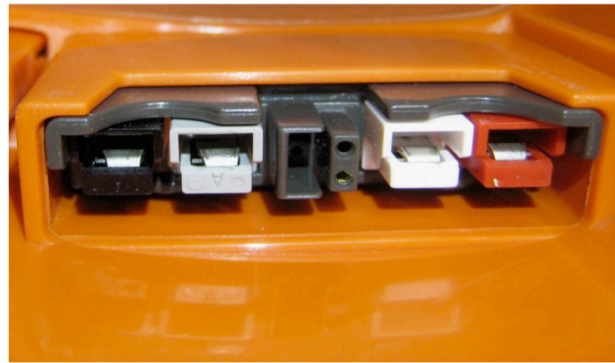
8.6 Troubleshooting - battery and charger

| Symptom | Possible causes | Recommended action |
|--|--|--|
| No LEDs come on on the battery after pressing the status button. | Faulty battery. | Replace the battery. |
| A warning triangle lights up solid red on the battery when the status button is pressed. | Faulty battery. | Replace the battery. |
| A warning triangle flashes red on the battery when the status button is pressed. | Temperature too high. | 1. Wait until the battery has cooled down (or insert it in the charger so that it cools down faster). |
| | Undervoltage. | 2. Charging. |
| | Temperature too low. | 3. Make sure the battery temperature is higher than -10 C |
| | Faulty battery. | 4. Replace the battery. |
| The battery backpack indicates less than 100% after a full charge. (Usually 96–97%). | As the battery is used for a while after charging has completed, a few percent of the charge may be consumed by the electronics. | None. Charge is still close to 100%. Charger starts to charge again if the charge status drops below 95%. |
| Charger does not start and no LEDs light up when the battery is inserted. | Poor connection between charger and battery. | 1. Make sure the power connectors between the charger and the battery are not dirty or damaged. See figure 1 in the appendix. |
| | Faulty battery. | 2. Check battery status (see above). |
| | Defective charger. | 3. Disconnect the charger from the mains voltage for at least one minute and then reconnect to the mains outlet again. Make sure the fan starts and that the green LED comes on for approx. 3 seconds. If they do not start, change the charger. |
| A red warning triangle flashes on the charger when the battery is inserted. | Poor connection between charger and battery. | 1. Make sure the power connectors between the charger and the battery are not dirty or damaged. See figure 1 in the appendix. |
| | Battery temperature too high. | 2. Allow the battery to cool down in the charger. (1-5 minutes.) |
| | Ambient temperature too low. | 3. Make sure the ambient temperature is over 5°C. |
| | Battery temperature too low. | 4. Make sure the battery temperature is higher than 5 °C |
| | Faulty battery. | 5. Make sure the battery is in working order by pressing the battery status button. At least one green LED should light up. If not, the battery should be changed. |
| | Defective charger. | 6. Disconnect the charger from the mains voltage for at least one minute and then reconnect to the mains outlet again. Make sure the fan starts and that the green LED comes on for approx. 3 seconds. If they do not start, change the charger. |
| A warning triangle with a solid red light is visible on the charger when it is connected to the mains. | Defective charger. | Replace the charger |
| A warning triangle with a solid red light is visible on the charger when charging. | Defective charger. | Replace the charger |
| A green lamp on the charger comes on for approx. 5–15 seconds when the battery is inserted. Thereafter flashing red warning triangle. This procedure is then repeated. | Faulty battery. | Place the battery in a QC330 charger you know is in working order. If the same problem occurs, replace the battery. |
| | Defective charger. | Place a battery you know is in working order in the charger. If the same problem occurs, replace the charger. |

8.7 Troubleshooting - annexe

1. Current contacts

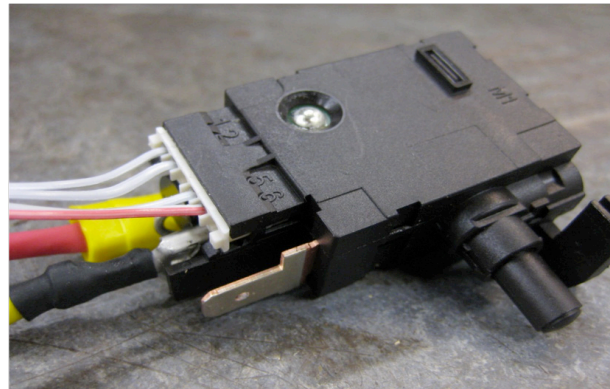
Make sure the contacts are clean and that none of the metal surfaces are damaged. Take extra care in checking the connection tabs. The current contacts have the same basic design for product, battery and charger. It is only the colors that can differ.



Picture 1

2. Breaker signal contact

Make sure the female contact is securely connected to the breaker. Look for damaged and loose cables. Look also for signs of water, corrosion and short circuiting on the contact and pins when they are dismantled.



Picture 2

3. Motor contact

Make sure the motor contact is secure and assembled correctly, and that the connecting pins are not damaged.

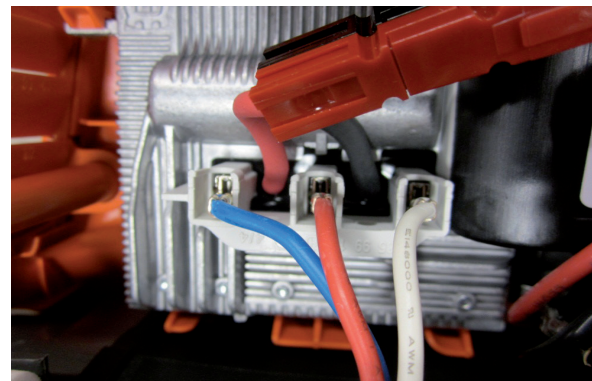


Figure 3

4. Communication cables

Make sure the three small communication cables are secure and not damaged.

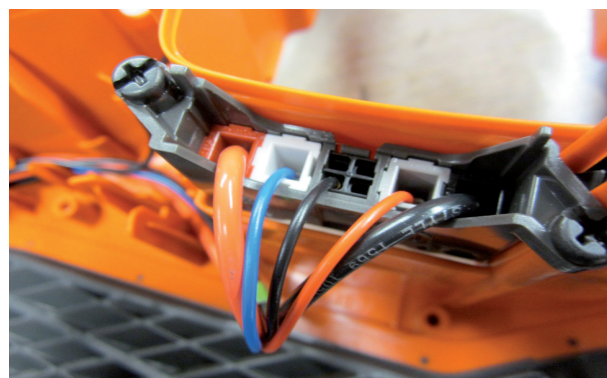


Fig. 4



www.husqvarna.com