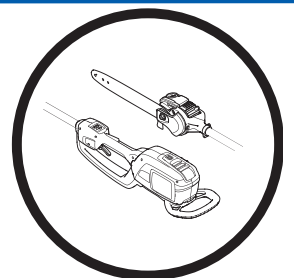


Workshop Manual
536LiP4/530iP4,
536LiPT5/530iPT5,
536LiPX/530iPX



English

Workshop Manual

Husqvarna 536LiP4530iP4, 536LiPT5/530iPT5, 536LiPX/530iPX

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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.

1 Introduction and safety regulations

1.1 General

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

1.2 Safety

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

Warning symbols can be found in this Workshop Manual and on the pole saw. See "1.11 Symbols on the pole saw" and "1.12 Symbols in the Workshop Manual". A new warning symbol decal must be applied as soon as possible if a warning symbol on the pole saw has been damaged or is missing so that the greatest level of safety can be maintained when using the pole saw.

1.3 Target group

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

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

1.4 Modifications

Any modifications to the pole saw 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 This means that in time this Workshop Manual will become out of date.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 pole saw in question.

1.5 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

1.6 Structure

This Workshop Manual can be used in two different ways:

- For the repair of a particular system on the pole saw.
- For the dismantling and assembling of the entire pole saw.

Repair of a particular system

When a particular system on the pole saw 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 assembling the entire pole saw.

When taking apart the whole pole saw and putting it back together again, proceed as follows:

1. Open the chapter "6 Basic dismantle/assembly" and carry out Dismantling in the order set out in the sections.
2. Open the chapter "8 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.

1.7 Numbering

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

The figures are numbered 1, 2 etc.

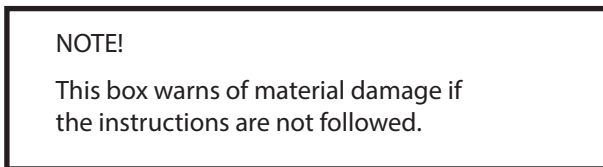
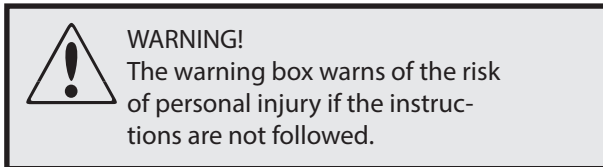
The position references and figure numbers restart in each new section.

1.8 General instructions

The workshop where the pole saw is to be repaired must be equipped with safety devices in accordance with local regulations.

No-one may repair the pole saw unless they have read and understood the content of this Workshop Manual first.

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



1.9 Special instructions

Remove the battery from the pole saw before dismantling and troubleshooting.

The battery must not be connected while the pole saw is dismantled.

Never unscrew the battery. Replace a damaged battery.

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.

1.10 Limitations

This Workshop Manual is intended mainly for the repair of pole saw 536LiP4/iP4, LiPT5/iPT5, LiPX/iPX.

1.11 Symbols on the pole saw

The pole saw keypad has the following symbols.



Starting/Stopping



savE / Battery saver mode

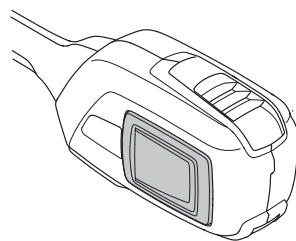
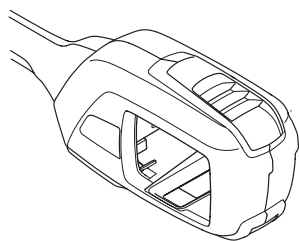


Warning lamp/Fault indicator

1.12 Symbols in the Workshop Manual



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



Weight without battery
lbs/kg

Weight with battery (4.2 Ah)
lbs/kg

536LiP4/530iP4

6.8 / 3.4

10.1 / 4.7

536LiPT5/530iPT5

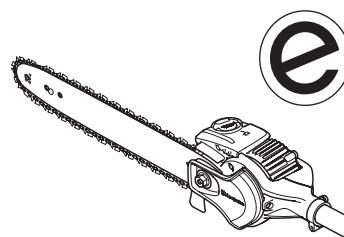
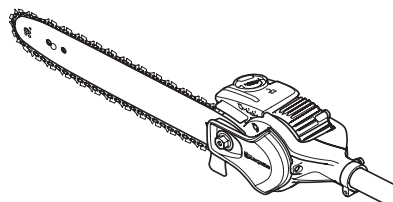
11.0 / 5.0

13.7 / 6.3

536LiPX/530iPX

6.8 / 3.1

9.7 / 4.4



Chain speed, normal
operating rpm m/sec

Chain speed, savE
rpm m/sec

536LiP4/530iP4 1/4"

18

536LiP4 1/4"

14.6

536LiPT5/530iPT5 1/4"

18

536LiPT5/530iPT5 1/4"

14.6

536LiPX/530iPX 3/8

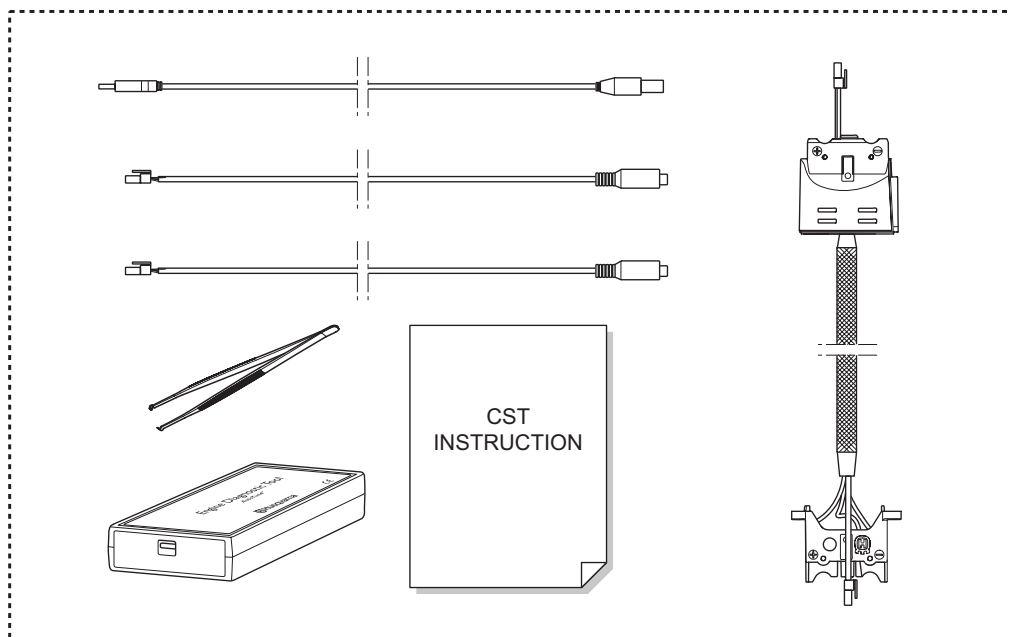
18

536LiPX/530iPX 3/8

14.6

2 Technical data

3 Service tool



3.1 Diagnostic Tool Kit

3.2 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.

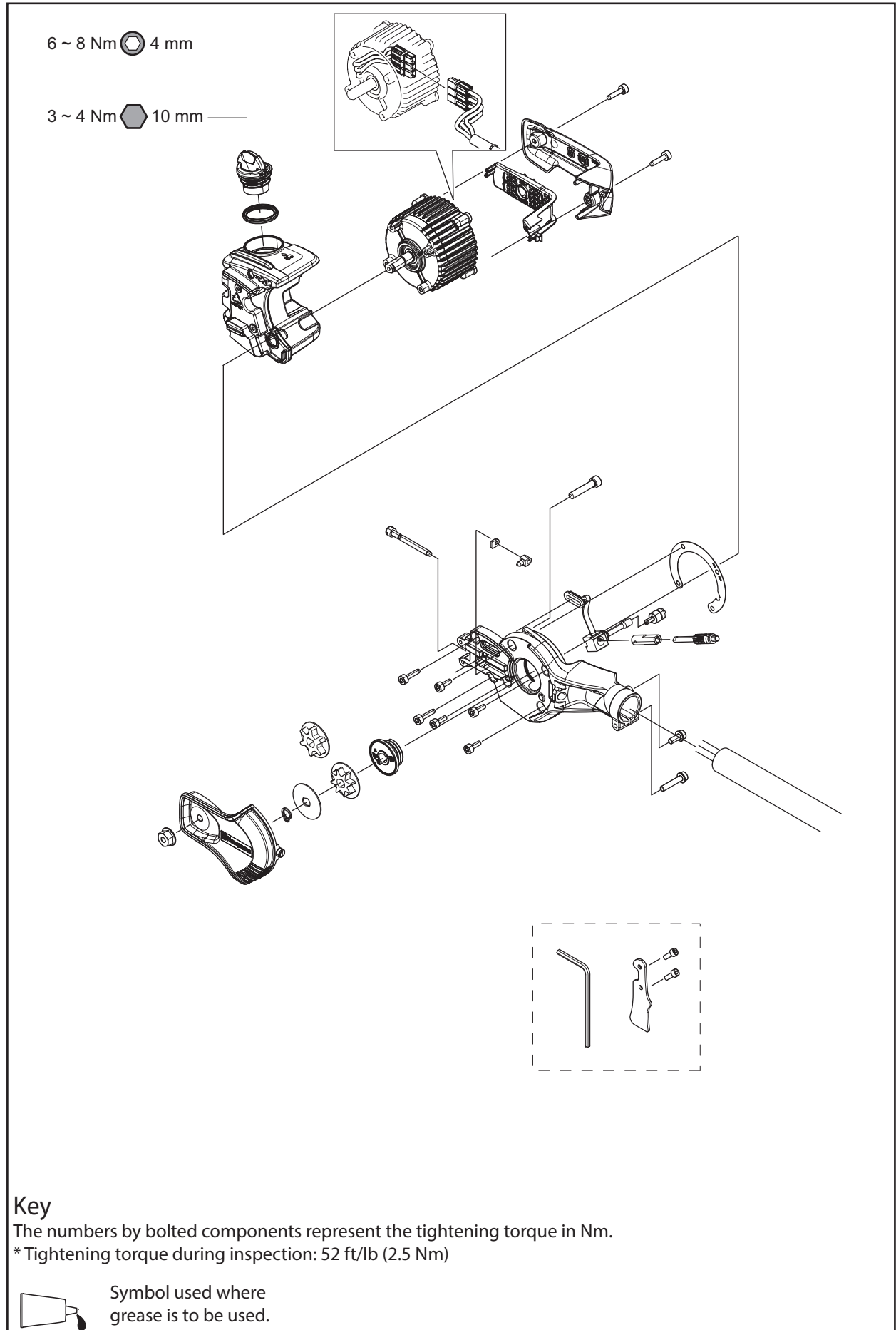
If you have the previous "Engine Diagnostic Tool - AutoTune™" (576 69 23-01), it can be supplemented with the "Adapter Cable for Battery Products" (579 62 13-01) to upgrade to the Diagnostic Tool Kit.

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.

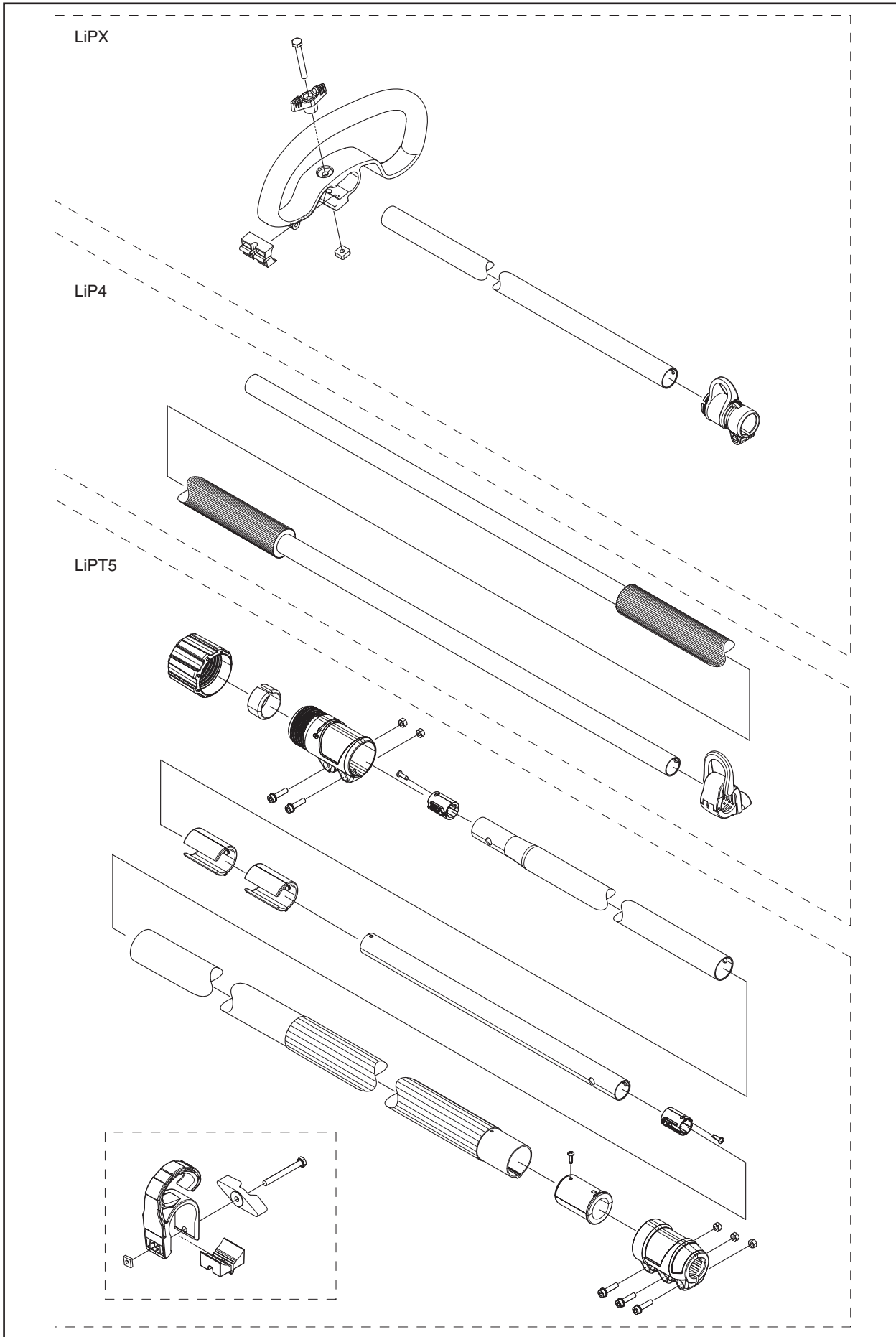
The software in battery powered products can also be updated with CST.

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™	579 62 13-01 576 69 23-01

4 Service data

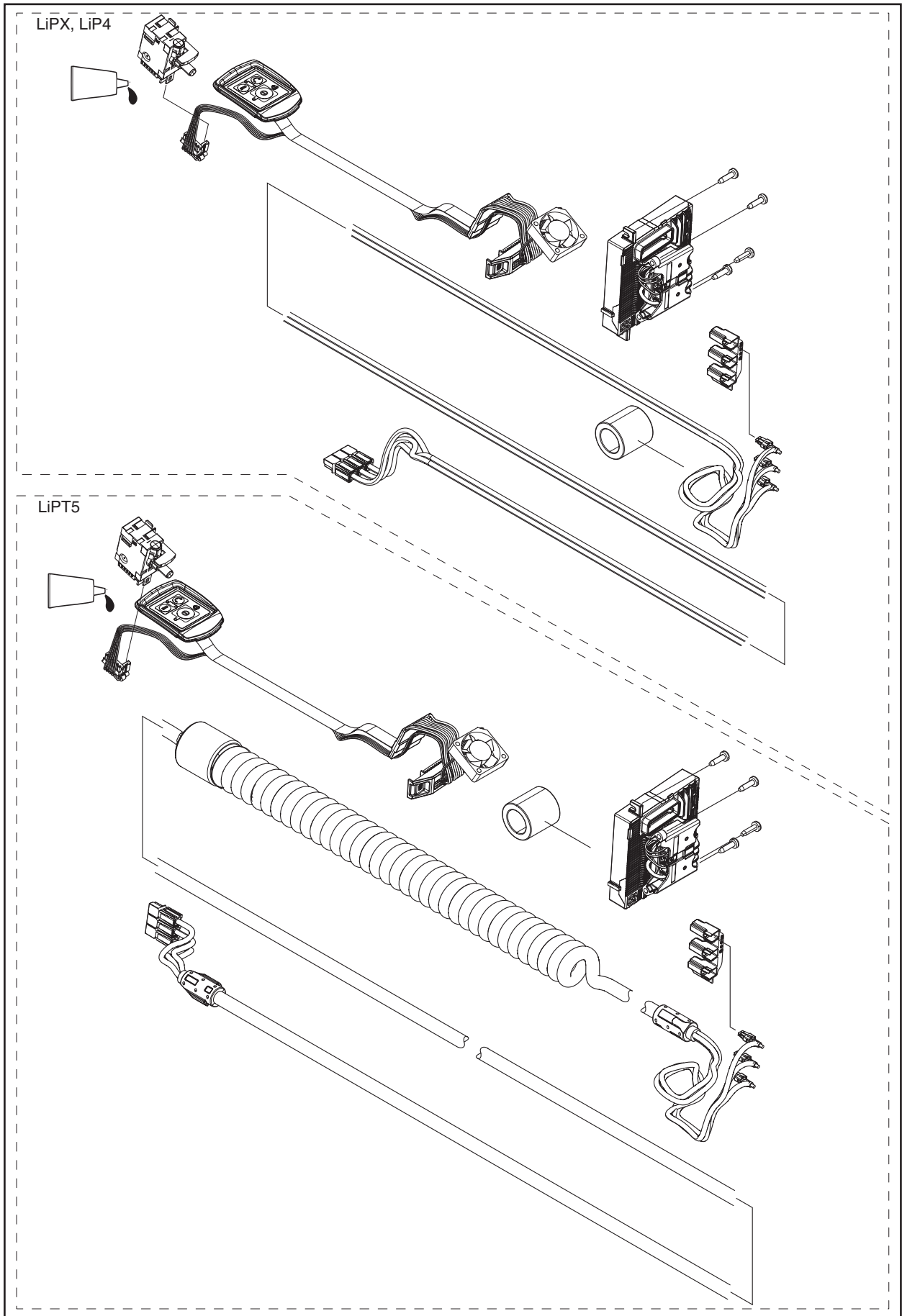


Service data



Service data

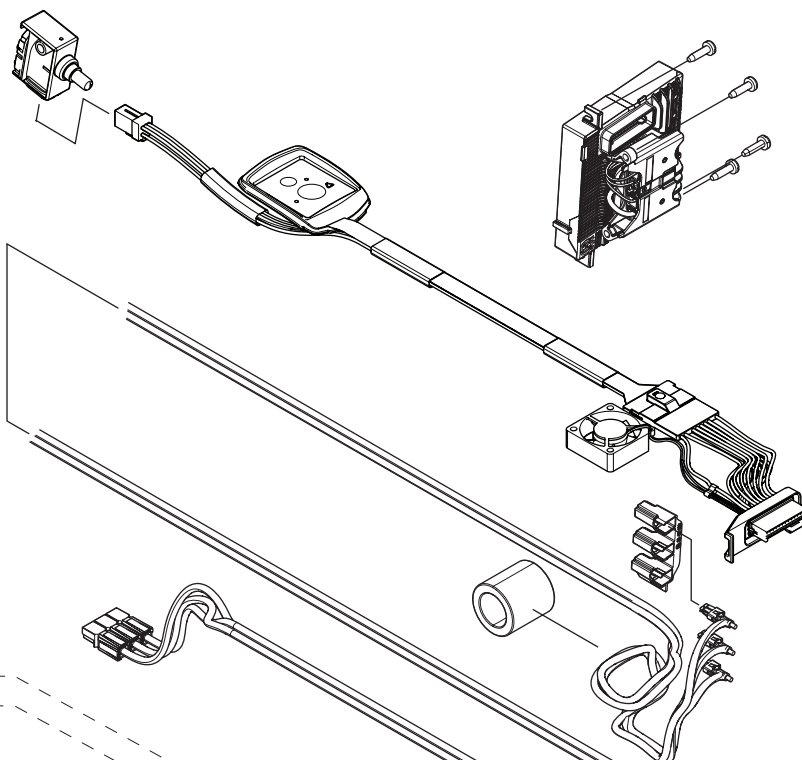
LiPX: S/N -20180200001, LiP4: S/N -20174600001, LiPT5: S/N -20174600122



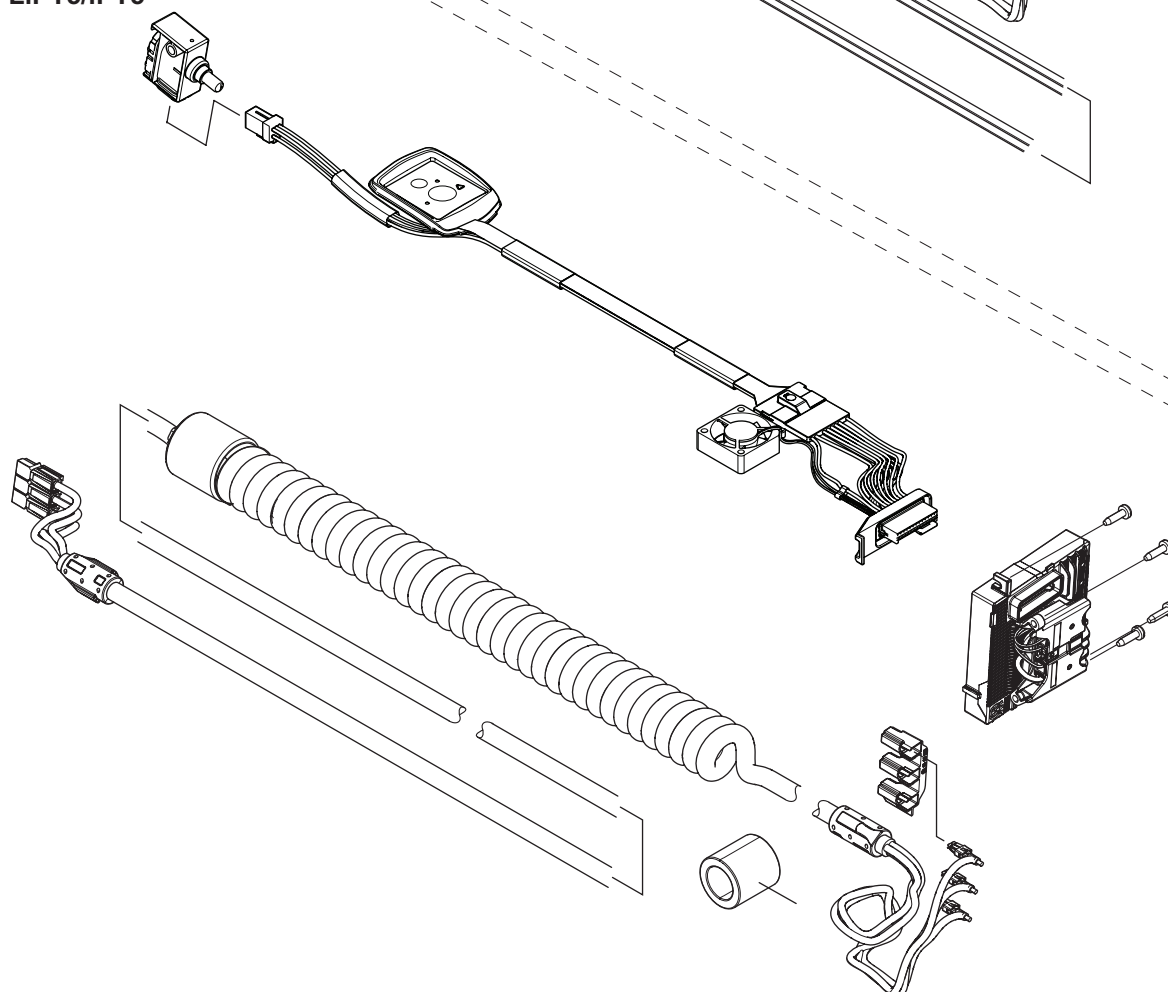
Service data

LiPX/iPX: S/N 20180200001-, LiP4/iP4: S/N 20174600001-,
LiPT5/iPT5: S/N 20174600122-

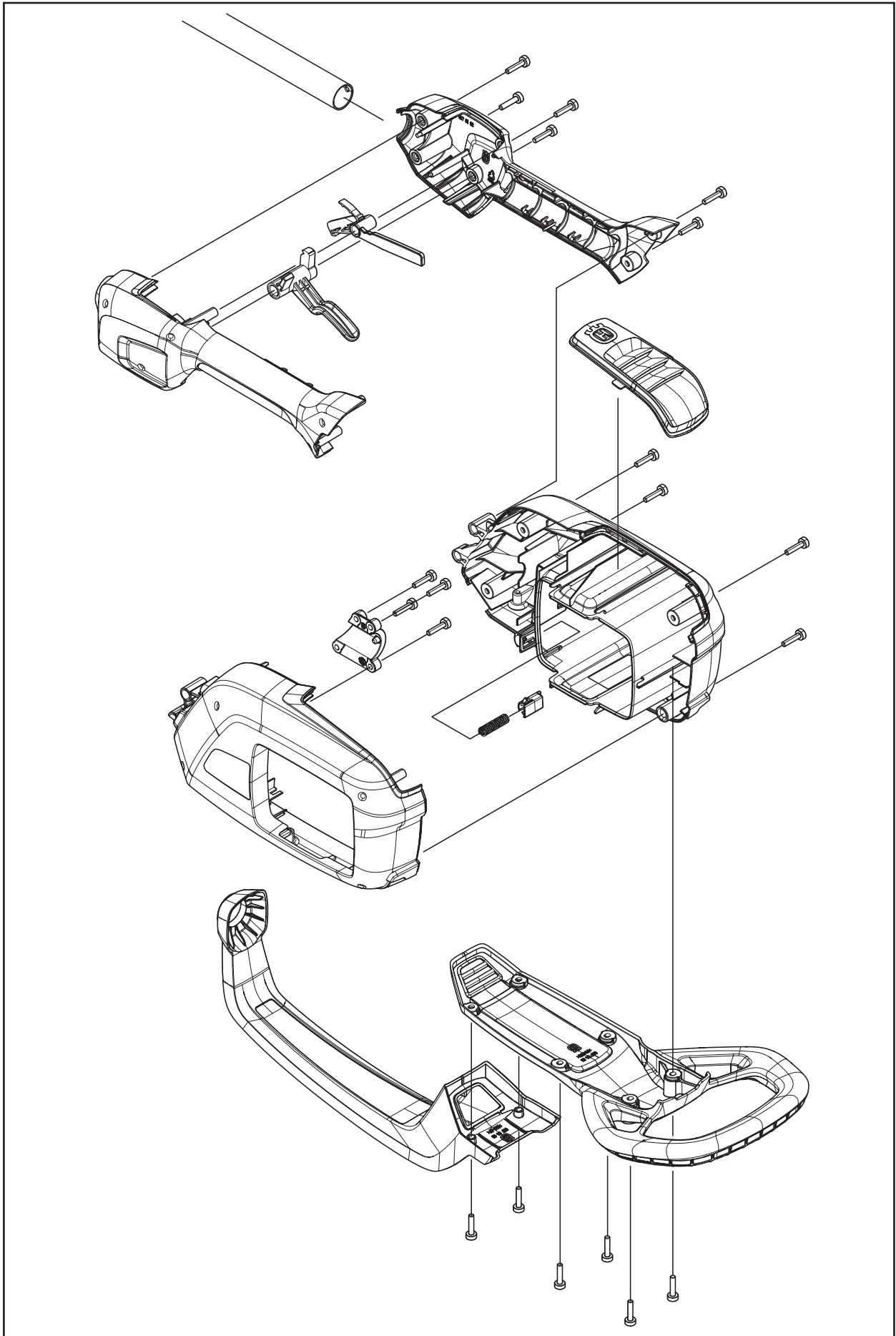
LiPX/iPX, LiP4/iP4



LiPT5/iPT5




Service data




5 Diagnosis and troubleshooting

5.1 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 put back once the pole saw has been fully assembled again!

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

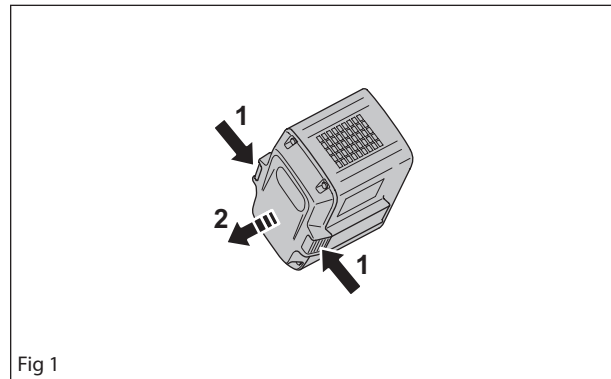


Fig 1

5.2 Connect the diagnostic tool

1

Connect the adapter cable for the diagnostic tool to the battery and the battery contact on the pole saw. Connect cable (A) to the diagnostic tool for troubleshooting the pole saw.

Connect cable (B) to the diagnostic tool for troubleshooting the battery.

NB! Refer to the manual for the Diagnostic Tool Battery for detailed instructions and follow the instructions in the diagnostic tool.

See figure 2

2

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

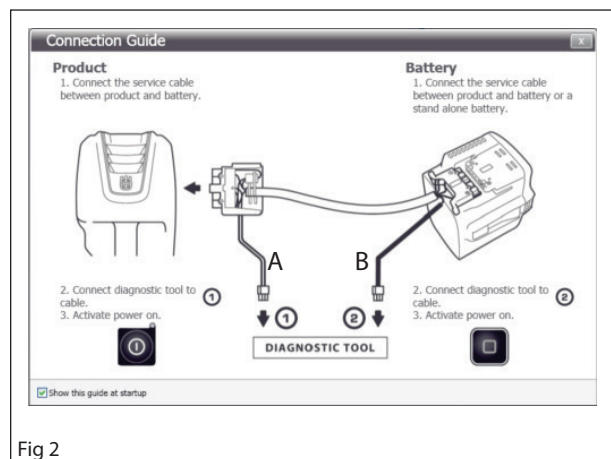


Fig 2

5.3 No signal to diagnostic tool

1

Check that the contact on the battery and the battery contact on the pole saw are intact and clean. Replace the battery or control unit on the pole saw respectively if there is any damage.

2

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

3

Restart the computer/Reinstall the software.

5.4 Troubleshooting the main switch

For products with S/N: -20180200001 (LiPX), -20174600001 (LiP4), -20174600122 (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: 20180200001- (LiPX/iPX), 20174600001- (LiP4/iP4), 20174600122- (LiPT5/iPT5). See figure 4.

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

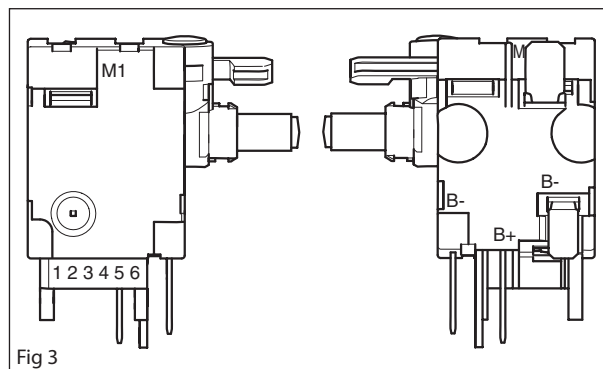


Fig 3

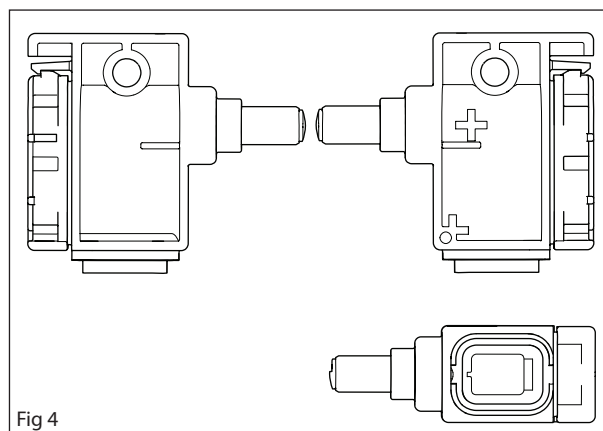


Fig 4

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.

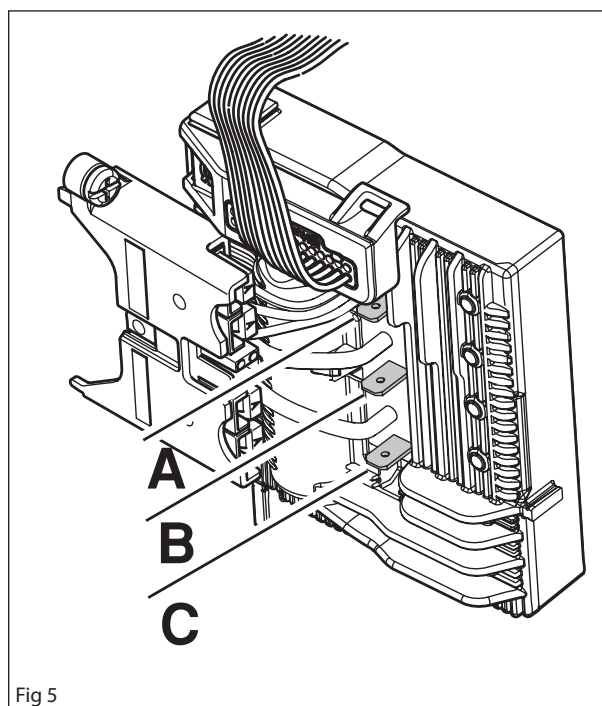


Fig 5

5.6 Overhaul

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

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.

Put the battery back once assembly has been completed.



WARNING!
The battery must always be removed for service/repair work and may only be put back once the pole saw has been fully assembled again!

NOTE!

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

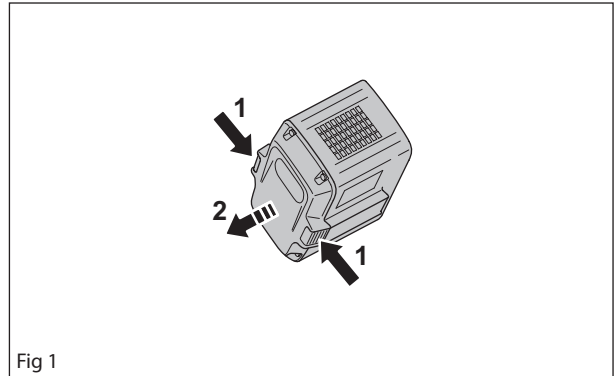


Fig 1

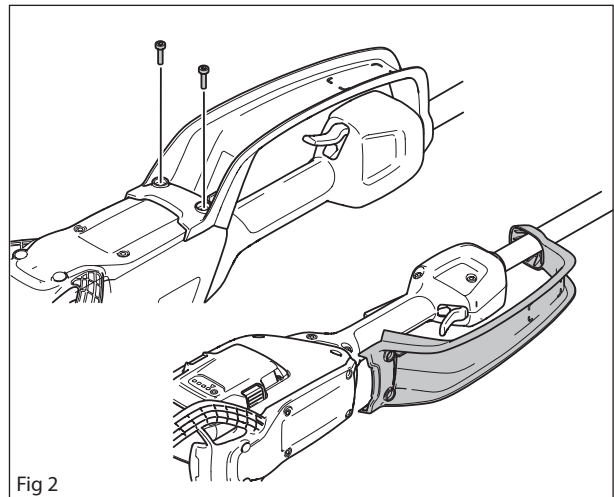


Fig 2

6.2 Trigger guard

Remove the screws and push the guard forward. See figure 2.

6.3 Battery housing skidplate

Undo the screws and remove the skidplate from the battery housing.
Assemble in the reverse order.
See figure 3.

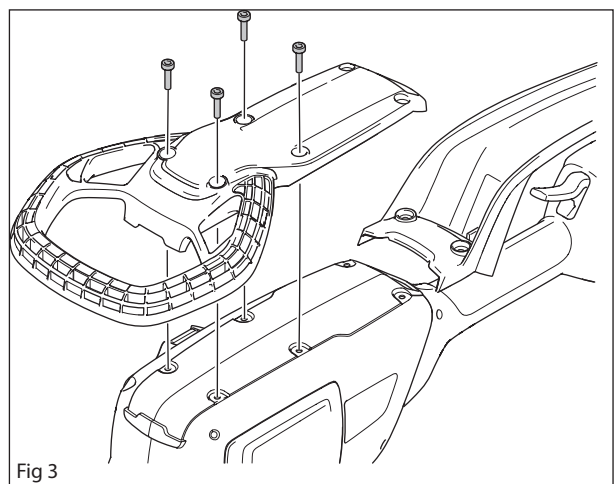


Fig 3

6.4 Control handle

Place something under the other handle half so that it does not come loose from the shaft.
See figure 4.

Loosen the screws (6x) and lift off the handle.
See figure 5.

Assemble in the reverse order.
Tightening torque 2 ~ 3 Nm.

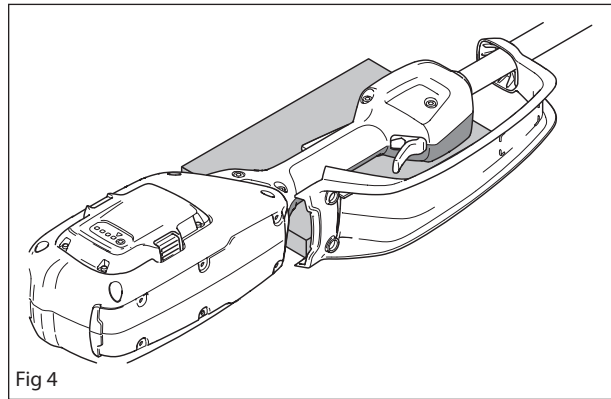


Fig 4

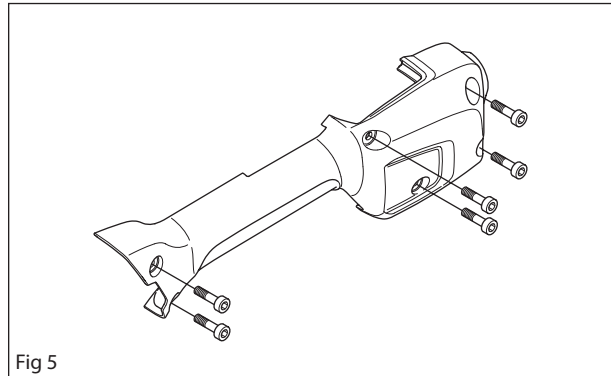


Fig 5

6.5 Battery housing

Loosen the screws (4x) and lift off half the battery housing.

Assemble in the reverse order.

Tightening torque 2 - 3 Nm.

See figure 6.

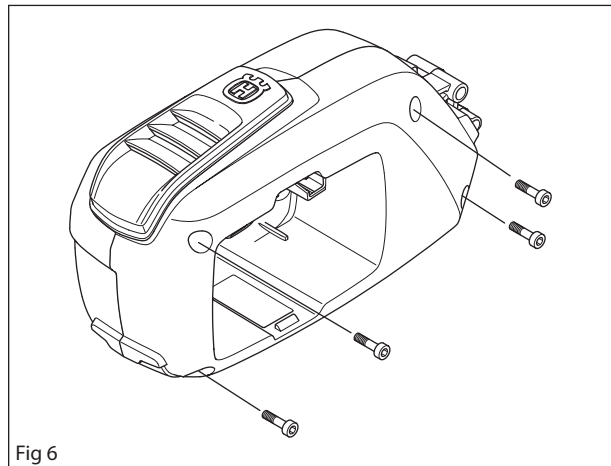


Fig 6

6.6 Chain and bar

Unscrew the bar nut and remove the motor cover.

Dismantle the circlip, washer and spur wheel.

Lift off the chain and bar.

Change circlip and washer if there are any visible defects.

Assemble in the reverse order.

See figure 7.

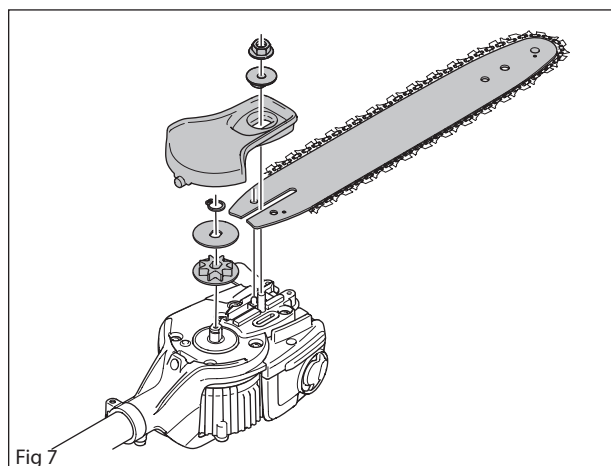


Fig 7

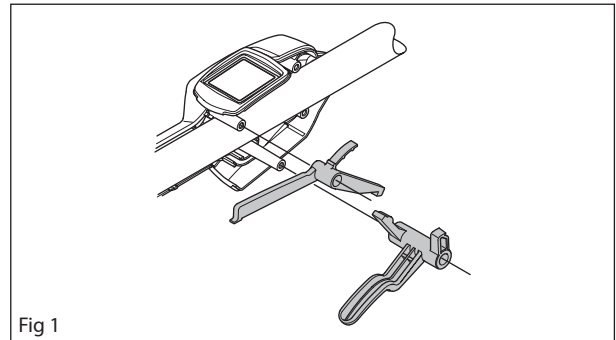


WARNING!
Always use gloves when working
with cutting equipment.

7 Safety equipment

7.1 Dismantling the throttle trigger lock and throttle trigger

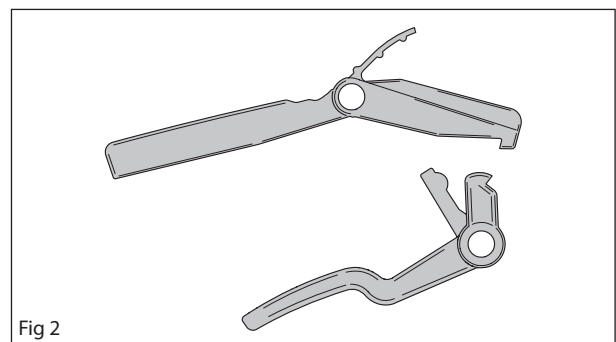
- 1
Dismantle the control handle as described in "6 Basic dismantle/assembly".
- 2
Lift off the throttle trigger lock and the throttle trigger from their attachments in the handle.
See figure 1.



Cleaning and inspection

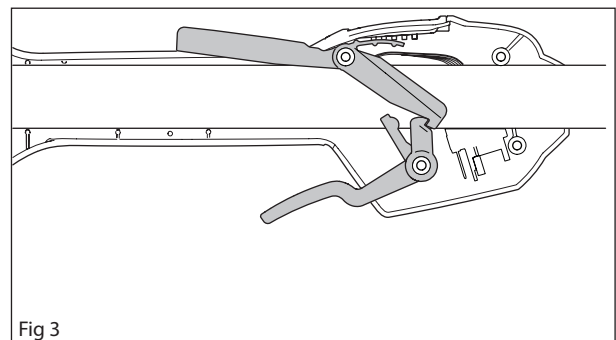
- Clean and check all parts thoroughly. Parts must be replaced if cracked or showing signs of other defects. Always use original spare parts.
- Check that the spring blade is intact and retains all its tension.

See figure 2.



7.2 Assembling the throttle trigger lock and throttle trigger

- 1
Assemble the throttle and throttle lockout on their respective attachments on the handle. Make sure that the spring blade comes under the keypad.
See figure 3.
- 2
Assemble the control handle as described in "6 Basic dismantle/assembly".



8 Repair instructions

8.1 General repair instructions



WARNING!
The battery must always be removed for service/repair work and may only be put back once the pole saw has been fully assembled again!

NOTE!

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

8.2 Dismantling the motor

1

Dismantle the screw holding the motor cover.
Dismantle the motor cover from its attachment.

2

Dismantle the chain, locking pin, washer and spur wheel as well as the bar.

See figure 1.

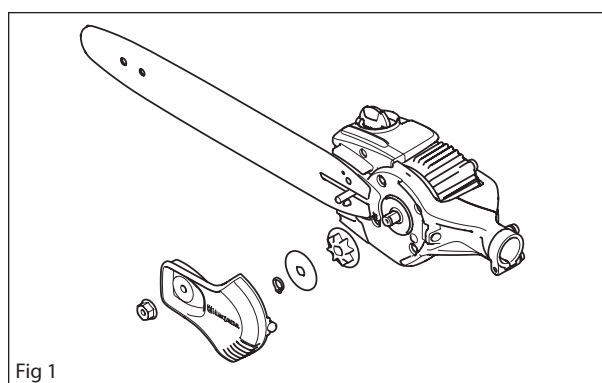


Fig 1

3

Dismantle the cable guard, 2 screws.
See figure 2.

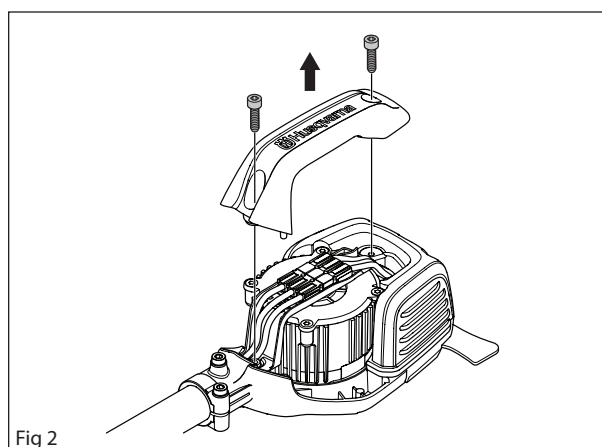


Fig 2

4

Unplug the connector from the motor.
Remove the cable holder.
See figure 3.

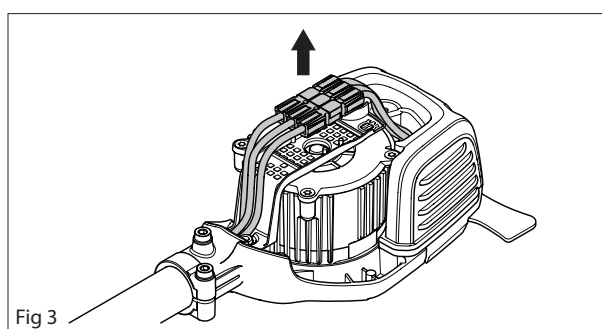


Fig 3

5

Unplug the connector.
See figure 4.

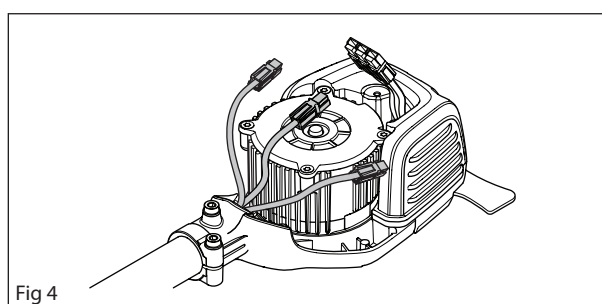
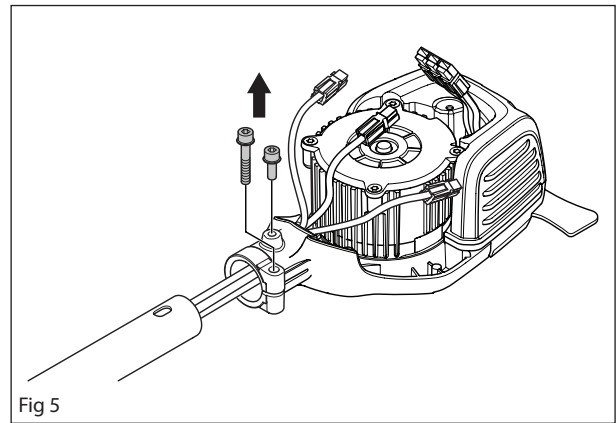
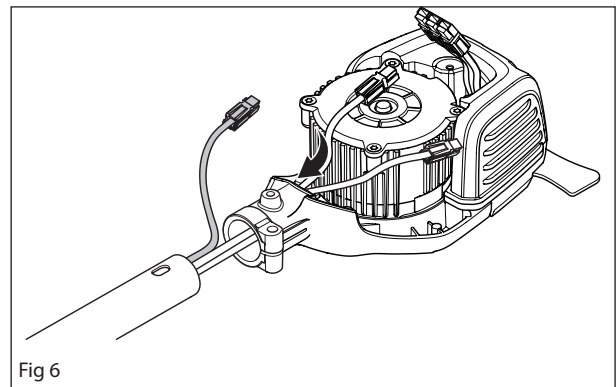


Fig 4

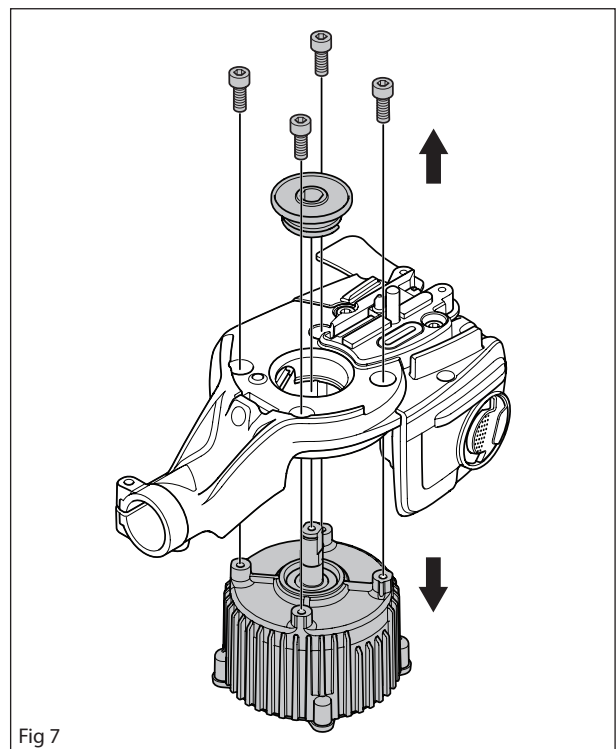
- 6
Dismantle the screws holding the saw head on the shaft, 2 screws.
Carefully split the shaft and saw head.
See figure 5.



- 7
Extract the cables one by one from the saw head.
See figure 6.



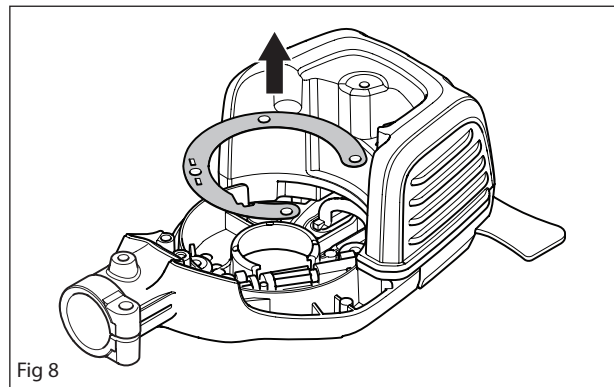
- 8
Dismantle the screws, 4 pcs, holding the motor.
9
Press out the motor.
10
Press out the pump gear that drives the oil pump.
See figure 7.



- 11
Change the gasket between the motor and motor housing.
See figure 8.

Cleaning and inspection

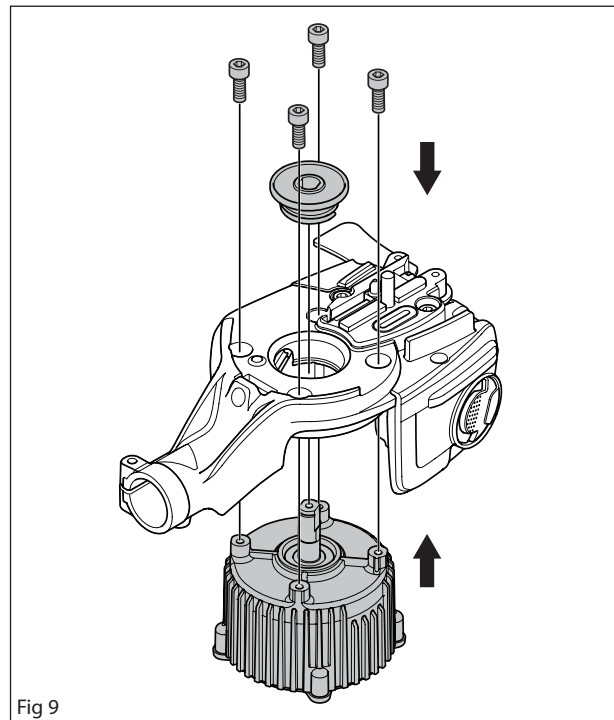
Clean and check the motor. The motor must always be replaced with a new one if cracked or showing signs of other defects. Always use original spare parts.



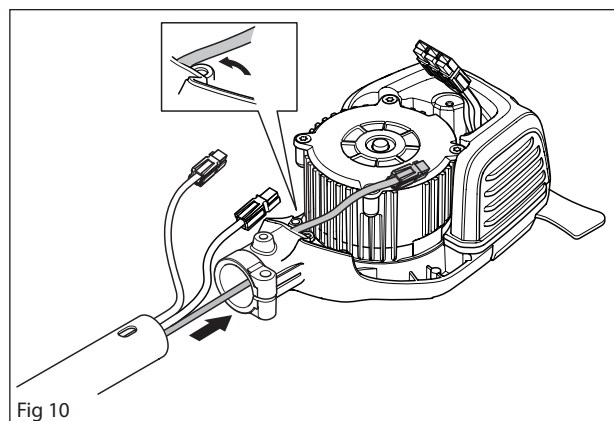
8.3 Assembling the motor

- 1
Assemble the motor screws, 4 pcs, and assemble the pump gear.

See figure 9.



- 2
Thread the cabling into the saw head.
Make sure the cables are positioned on the correct side of the screw tower so the cables are not pinched.
See figure 10.



3
Couple the cables together.
See figure 11.

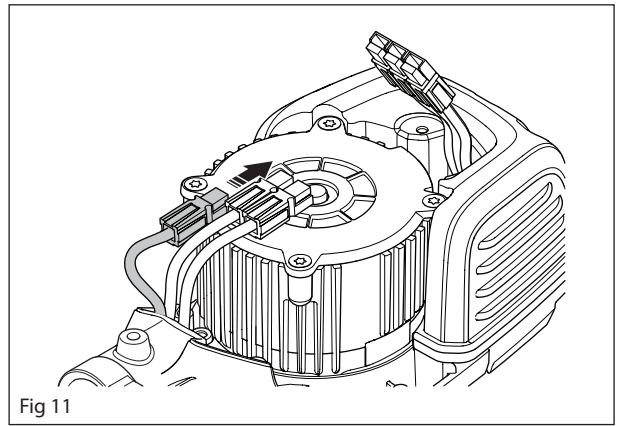


Fig 11

4
Assemble the cable holder on the motor (1).
Press the shaft (2) into the saw head to facilitate
assembly of the cabling. Screw finger tight (3).

See figure 12.

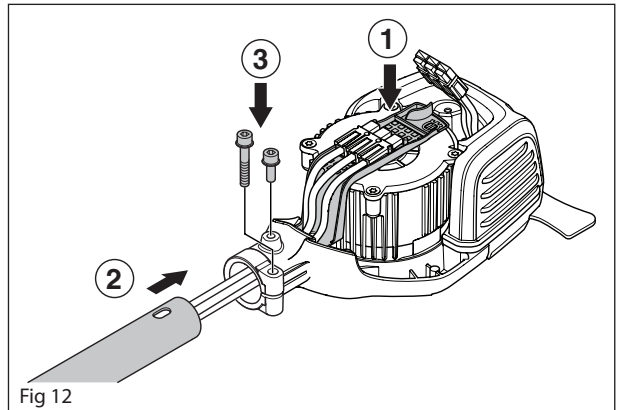


Fig 12

5
Couple the cabling together.

See figure 13.

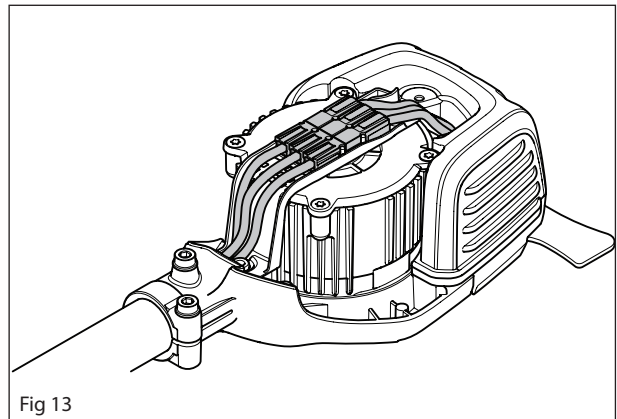


Fig 13

6
Tighten the screws holding the saw head.
Fit the cable protector, 2 screws.
Tightening torque 6 ~ 8 Nm.
See figure 14.

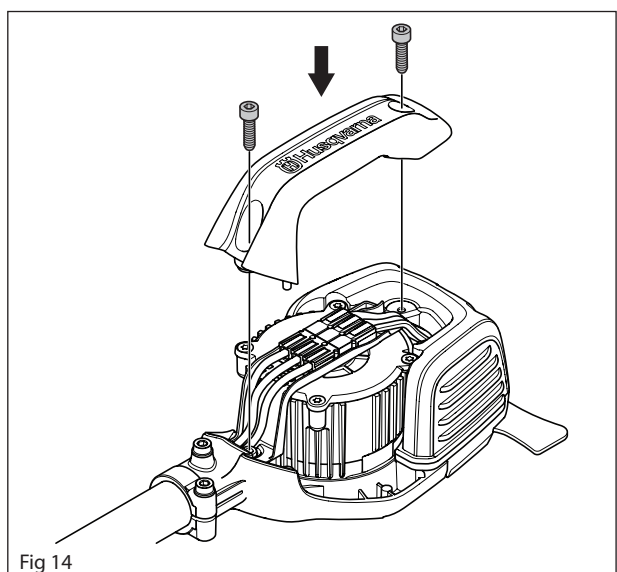
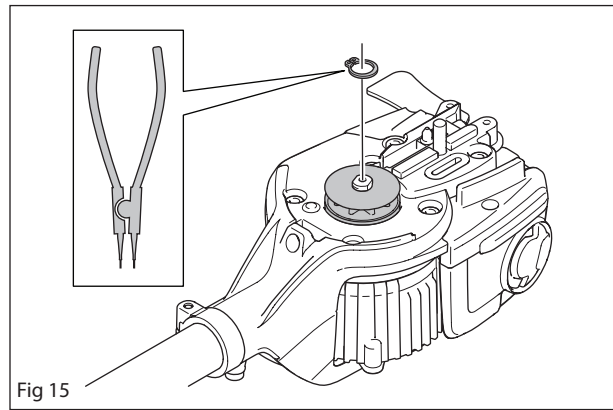


Fig 14

7

Fit spur wheel, washer and circlip. Use circlip pliers to install the circlip.
See figure 15.

Assemble the guide bar and chain.
Assemble the motor cover.



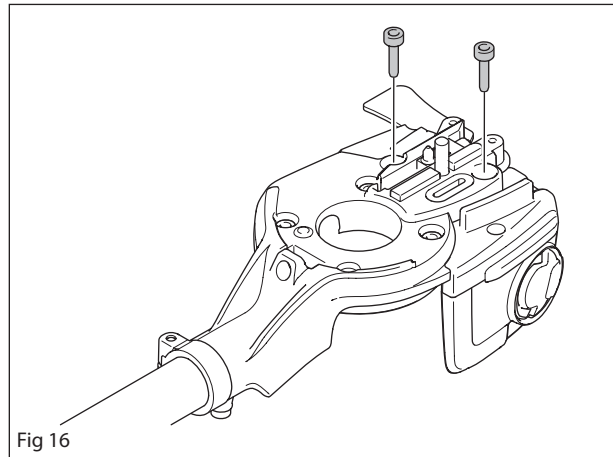
8.4 Dismantling the oil tank

1

Dismantle the motor as described in "8.2 Dismantling the motor".

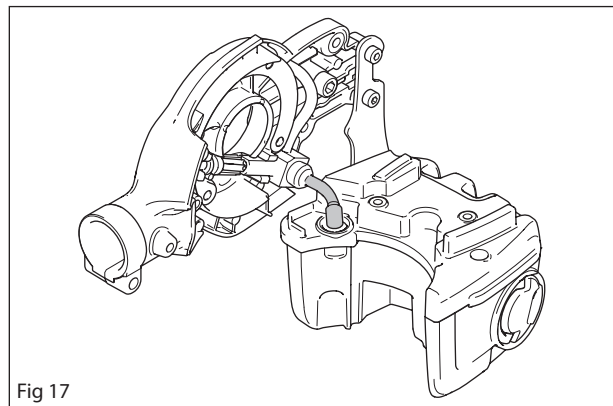
2

Dismantle the oil tank screws, 2 screws.
See figure 16.



3

Work the oil hose out from the tank.
See figure 17.



8.5 Assembling the oil tank

1

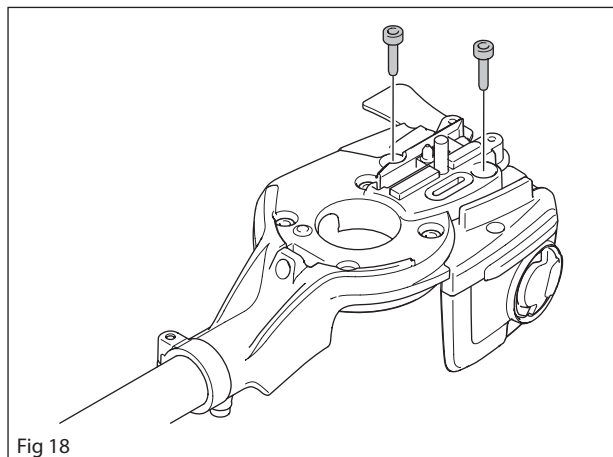
Assemble the oil hose in the oil tank.

2

Assemble the oil tank screws, 2 screws.
See figure 18.

3

Assemble the motor as described in "8.3 Assembling the motor".



8.6 Dismantling the oil pump and/or chain tensioner, branch hook

1

Dismantle the motor as described in "8.2 Dismantling the motor".

2

Dismantle the oil tank as described in "8.4 Dismantling the oil tank".

3

Remove the oil pump and the oil hose out of its groove.
See figure 19.

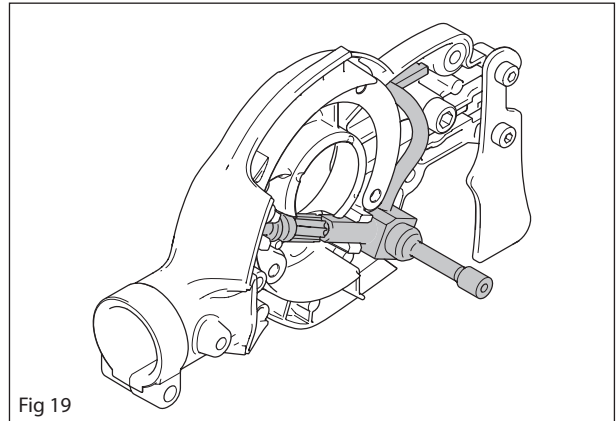


Fig 19

4

Dismantle the branch hook.
Dismantle the chain tensioner from its mounting.
See figure 20.

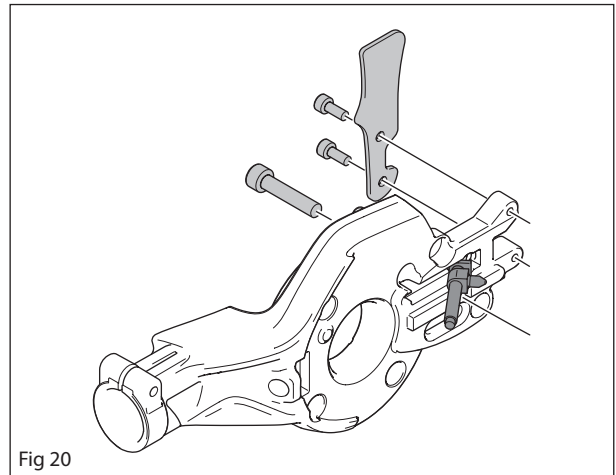


Fig 20

8.7 Assemble the oil pump and/or chain tensioner, branch hook

1

Assemble the chain tensioner in its mounting and assemble the branch hook.
See figure 20.

2

Assemble the oil pump and the oil hose in its groove.
See figure 21.

3

Assemble the oil tank as described in "8.5 Assembling the oil tank".

4

Assemble the motor as described in "8.3 Assembling the motor".

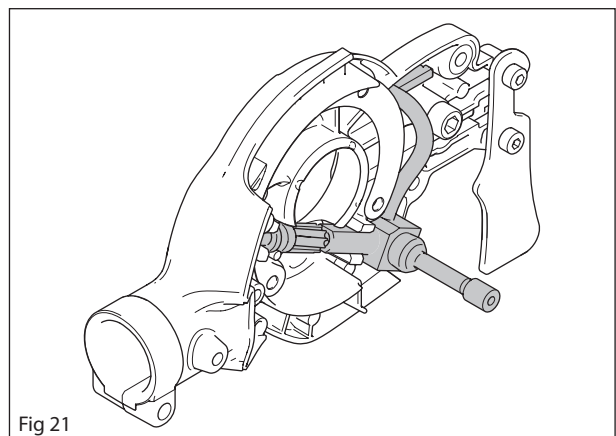


Fig 21

8.8 Dismantling shaft and motor cabling (536LiP4/530iP4, 536LiPX/530iPX)

NB! Use the CST to check the functions before dismantling.

- 1 Dismantle the trigger guard, handle, battery housing as described in "8.1 General repair instructions".
- 2 Dismantle the clamp holding the shaft. Separate the connector to the control unit. The shaft will now come loose from the battery housing. See figure 22.

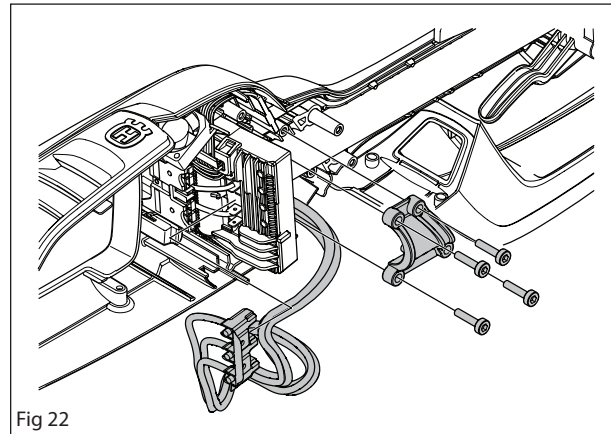


Fig 22

- 3 Dismantle the saw head from the shaft, 2 screws. Dismantle the loop handle, harness support hook.

- 4 Dismantle the cable protector.

- 5 Unplug the motor cabling connector. Split the connector in order to be able to thread the cable out of the saw head. See figure 23.

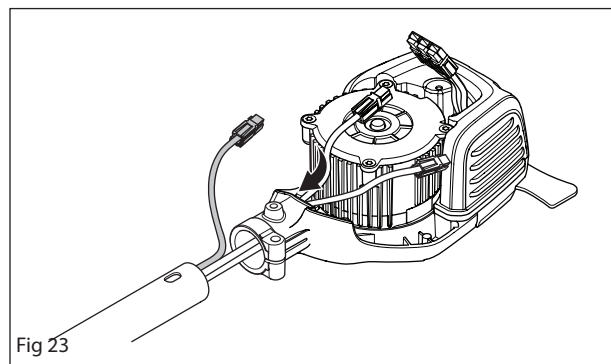


Fig 23

- 6 Loosen the cables from the connector at the battery housing end with a small flat screwdriver. Make sure the wings on both sides of the connector have been pressed in and then pull the cable from the connector. See figure 24.

- 7 Then pull the cabling out of the shaft from the saw head side.

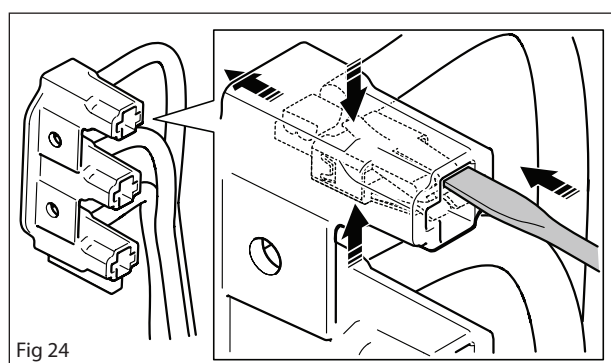


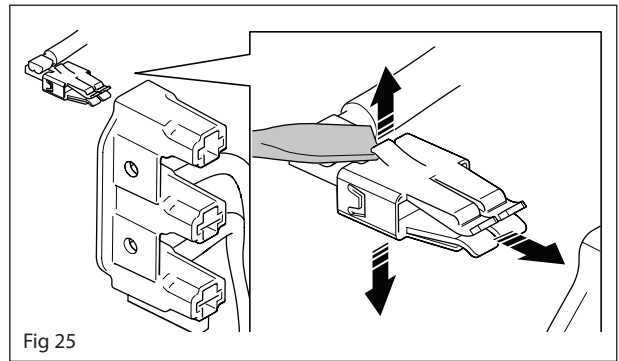
Fig 24

NB!
If the motor cable is defective and must be changed, the best way to do this is to cut off the connector at the battery housing end and then thread the cable through the shaft.

8.9 Assembling the shaft and motor cabling (536LiP4/530iP4, 536LiPX/530iPX)

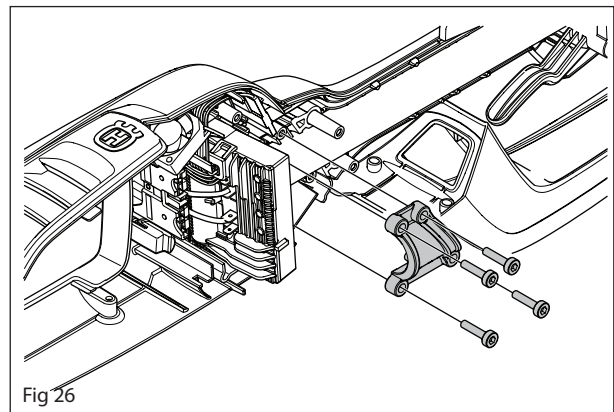
1
Thread the cabling into the shaft, starting from the saw head side.

2
Press the cabling into the connector. Make sure the wings on both sides of the connector are protruding slightly so they hook onto the sides of the connector.
See figure 25.



3
Assemble the shaft in the battery housing using the clamp and its screws.
See figure 26.

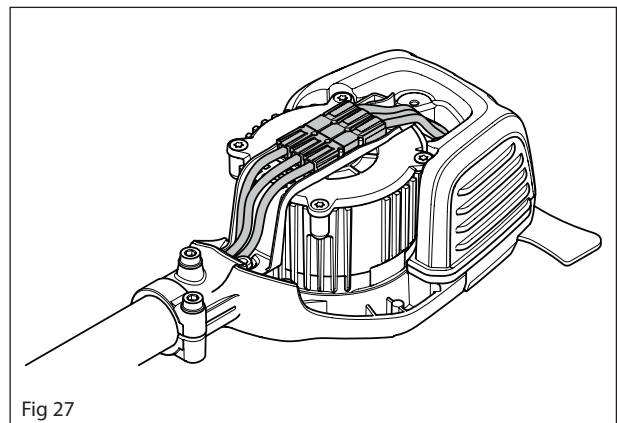
4
Assemble the connector in the control unit.



5
Assemble the shaft onto the saw head, 2 screws.

6
Couple the cables to a connector and couple the connector to the motor.
Assemble the cable guard.
See figure 27.

7
Assemble the chain and bar as described in "6.6 Chain and bar".



8.10 Dismantling shaft and motor cabling (536LiPT5/530iPT5)

NB! Use the CST to check the functions before dismantling.

1
Dismantle the trigger guard, handle, battery housing as described in "8.1 General repair instructions".

2
Dismantle the clamp holding the shaft. Separate the connector to the control unit. The shaft will now come loose from the battery housing. See figure 28.

NB!
If the motor cable is defective and must be changed, the best way to do this is to cut off the connector at the battery housing end and then thread the cable through the shaft.

3
Dismantle the saw head from the shaft, 2 screws. Dismantle the harness support hook.

4
Dismantle the cable protector.

5
Unplug the motor cabling connector. Split the connector in order to be able to thread the cable out of the saw head. See figure 29.

6
Loosen the cables from the connector at the battery housing end with a small flat screwdriver. Make sure the wings on both sides of the connector have been pressed in and then pull the cable from the connector. See figure 30.

7
Unscrew the lock on the front clamp on the shaft. Dismantle the clamp, 2 screws. See figure 31.

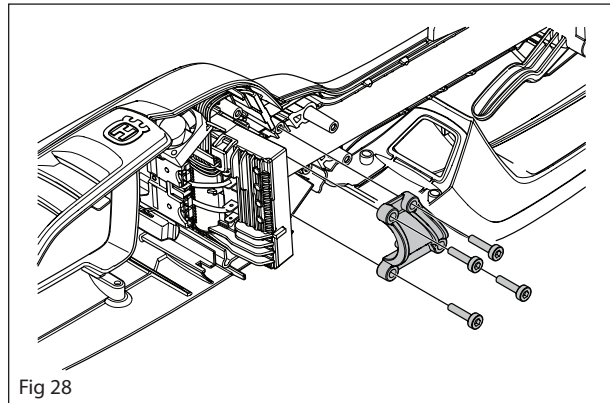


Fig 28

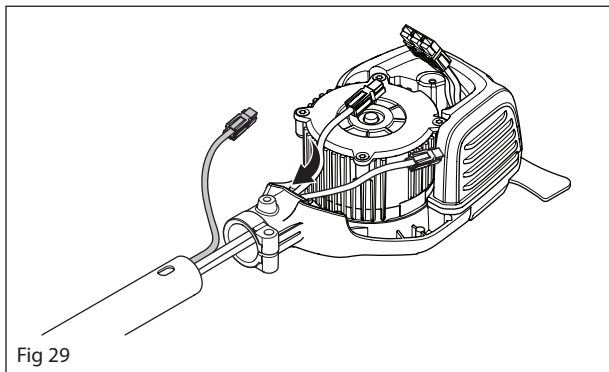


Fig 29

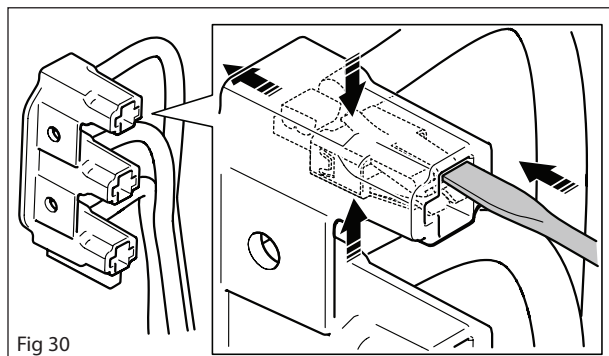


Fig 30

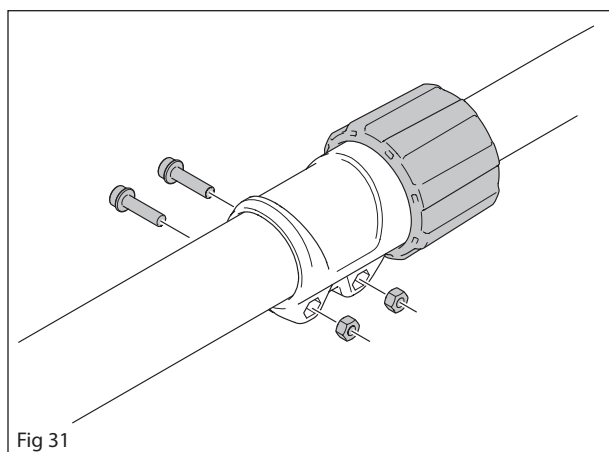


Fig 31

8

Start at the saw head end to split the shaft.

Dismantle the screw inside the inner shaft.
Unscrew the stop screw holding the cabling in place so it does not dislodge.
Pull out the cabling slightly and rotate it 180°
See figure 32.

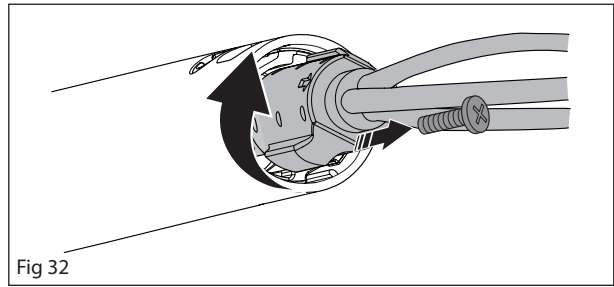


Fig 32

9

Remove the sleeve inside the inner shaft on the saw head and thread the cabling through the sleeve.
See figure 33.
Pull apart the inner shaft from the outer shaft.

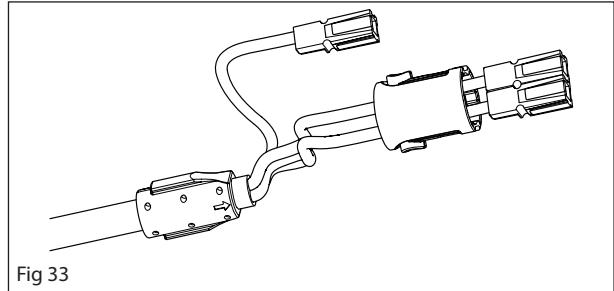


Fig 33

10

Continue with the battery housing end.

Dismantle the screw inside the lower part of the shaft. Unscrew the stop screw holding the cabling in place so it does not dislodge.
Pull out the cabling slightly and rotate it 180°
See figure 34.

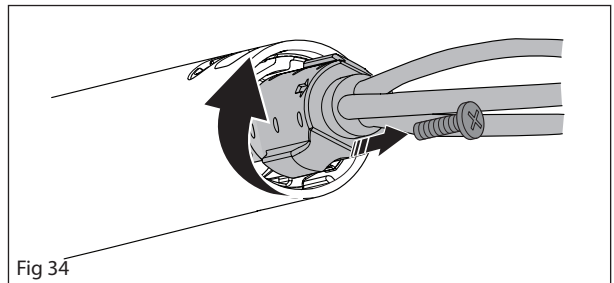


Fig 34

11

Dismantle the clamp screws at the battery housing end. Carefully bend the clamp away and remove it from the shaft.
See figure 35.

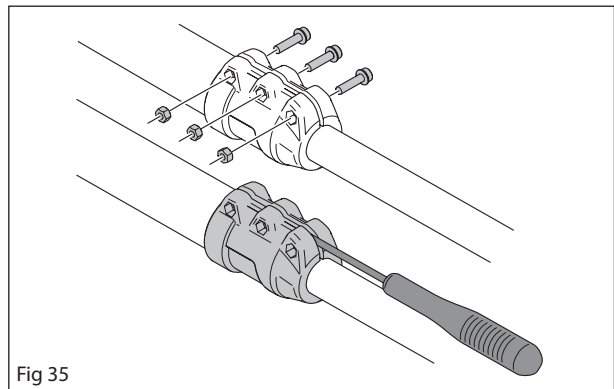


Fig 35

12

Dismantle the screw holding the anti-vibration elements.
See figure 36.
Separate the lower and upper parts of the shaft.
Dismantle the anti-vibration element.

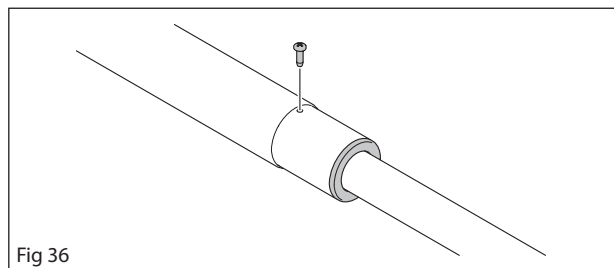


Fig 36

13

Pull the cabling out of the shaft.
See figure 37.

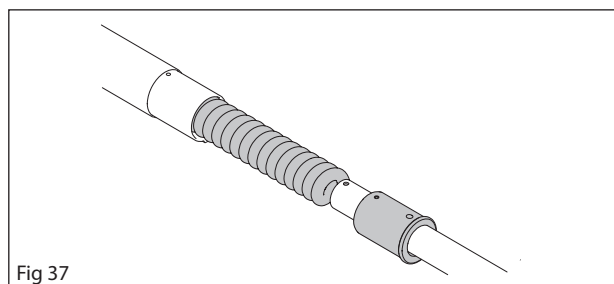


Fig 37

8.11 Assembling shaft and motor cabling (536LiPT5/530iPT5)

1
Start with the cabling on the saw head side.

Thread the cabling through the inner shaft.

2
Thread the cabling into the sleeve holding the cabling in place in the inner shaft.
See figure 38.

Fasten the sleeve in the shaft making sure it is positioned correctly in the shaft.

3
Rotate the cabling 180° to fix it in the sleeve. Lock the cabling with a screw.
See figure 39.

4
Push the telephone cabling inside the outer shaft.

5
Make sure the inner shaft guides are positioned correctly in the outer shaft.

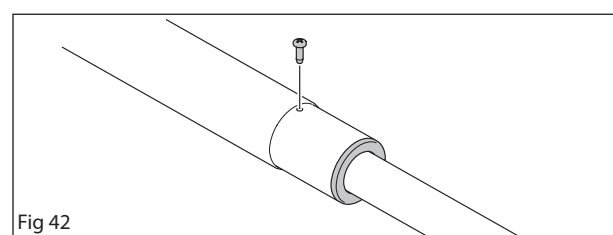
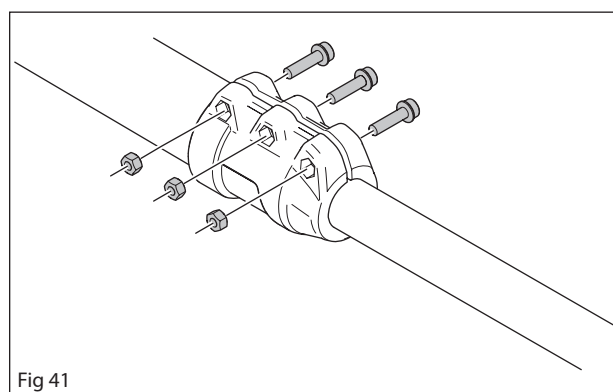
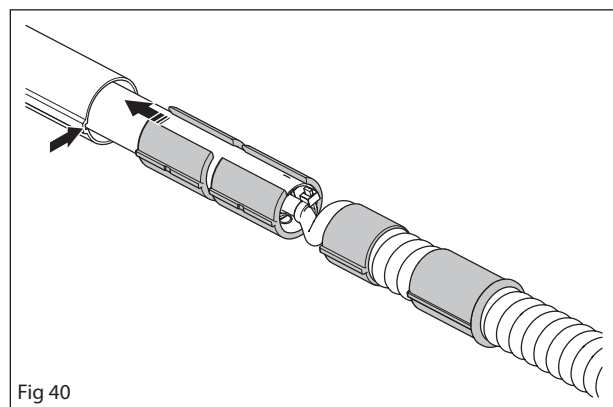
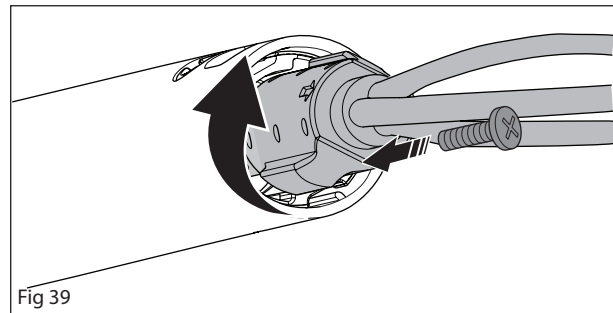
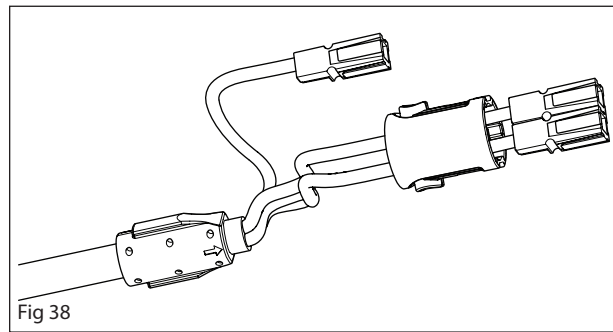
6
Push in the inner shaft so that the cabling protrudes from the other end.

See figure 40.

7
Assemble the clamp and its lock onto the outer shaft. Tighten finger tight.
See figure 41.

8
Insert the anti-vibration element, making sure the screw hole on the anti-vibration element corresponds with the hole in the shaft. The anti-vibration element has a guide ensuring it is positioned correctly in the shaft.
Assemble the lower part of the shaft and screw on the anti-vibration element and lower part of the shaft.
Thread through the cabling.

See figure 42.



9

Fit the sleeve in the lower shaft.
Thread the cabling through the lower shaft.
Turn the cabling through 180° so it is fixed in the sleeve and screw it on loosely with a screw.
See figure 42.

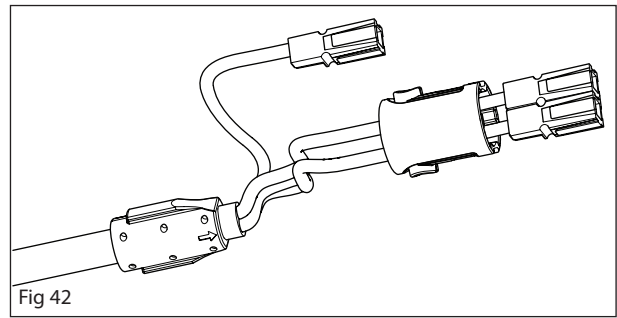


Fig 42

10

Assemble the lower clamp on the outer shaft.
Tighten the two clamps with 5-10 Nm.
See figure 43.

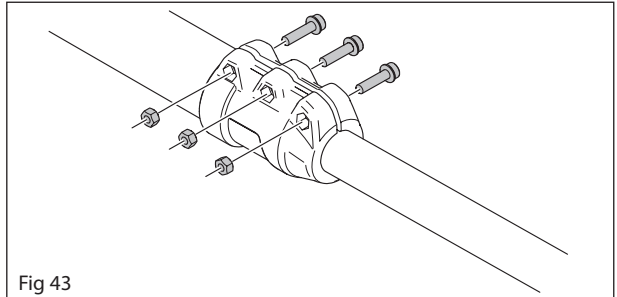


Fig 43

11

Press the cabling into the connector. Make sure the wings on both sides of the connector are protruding slightly so they hook onto the sides of the connector.
See figure 44.

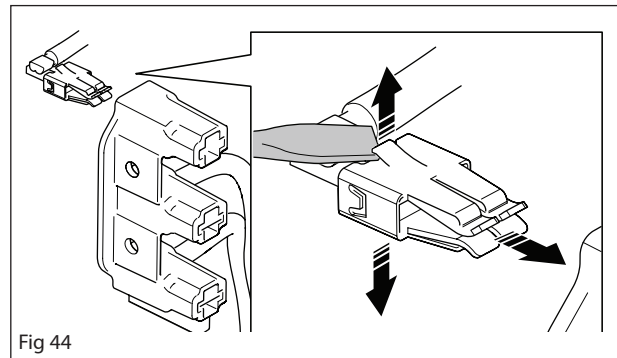


Fig 44

12

Assemble the shaft in the battery housing using the clamp and its screws.
See figure 45.

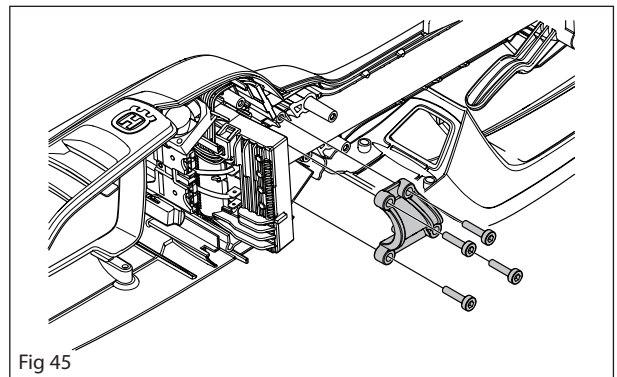


Fig 45

13

Assemble the connector in the control unit.

14

Assemble the shaft onto the saw head, 2 screws.

15

Couple the cables to a connector and couple the connector to the motor.
Assemble the cable guard.
See figure 46.

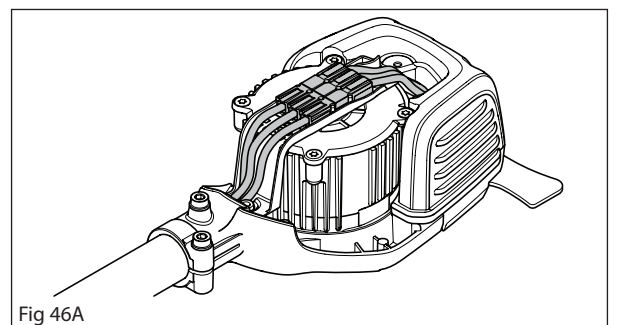


Fig 46A

16

Assemble the chain and bar as described in "6.6 Chain and bar".

8.12 Changing the EMC filter

NB! Use the CST to check the functions before dismantling.

Always replace a damaged EMC filter with a new one.

1

Dismantle the battery housing as described in "6 Basic dismantle/assembly".

Unplug the connector from the control unit.

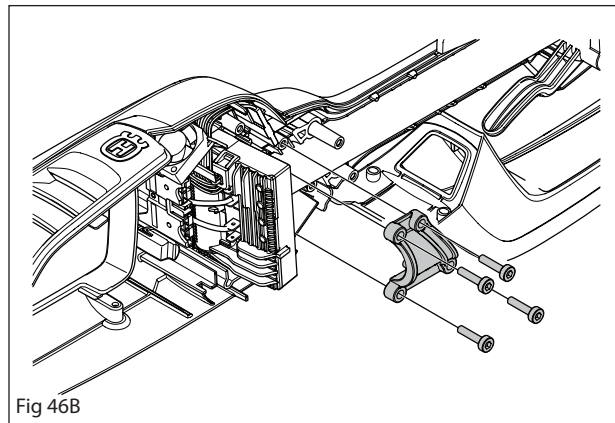


Fig 46B

2

Loosen the cables from the connector at the battery housing end with a small flat screwdriver. Make sure the wings on both sides of the connector have been pressed in and then pull the cable from the connector.

See figure 47.

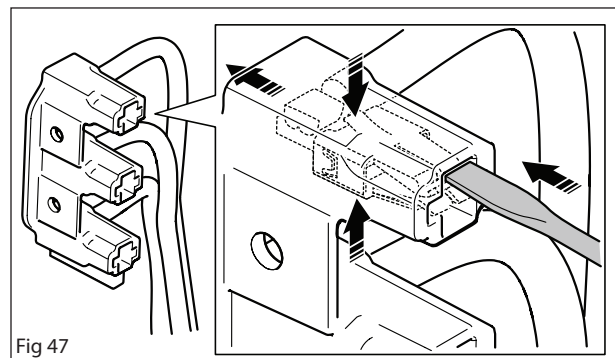


Fig 47

3

Disconnect the wires (A, gray), (B, black) and (C, red) from the motor and extract them from the EMC filter.

See figure 48.

4

Thread the wires through the EMC filter (D). NB! Thread the wires from the inside through the EMC-filter twice.

Press the cabling into the connector with (A, gray) at the top, followed by (B, black) in the middle and (C, red) at the bottom.

See figure 48.

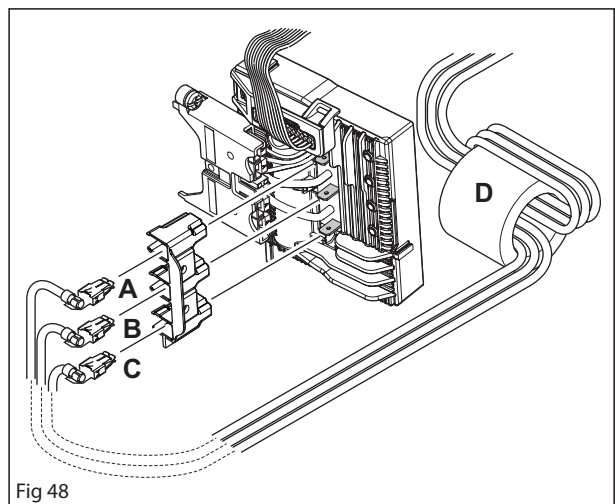


Fig 48

Make sure the wings on both sides of the connector are protruding slightly so they hook onto the sides of the connector.

See figure 49.

5

Assemble the battery housing as described in "6 Basic dismantle/assembly".

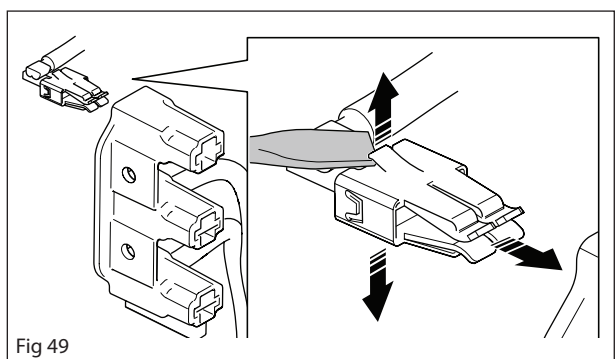


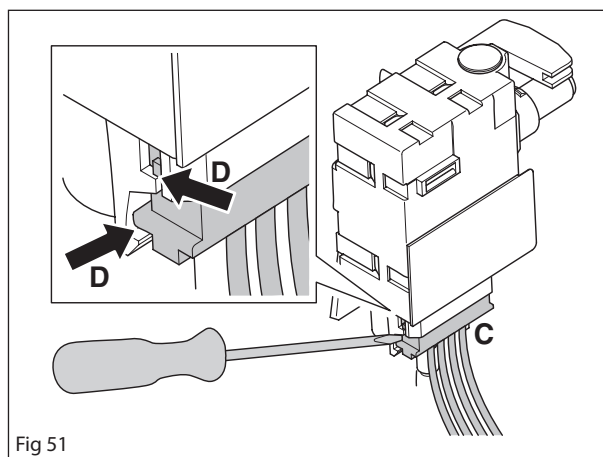
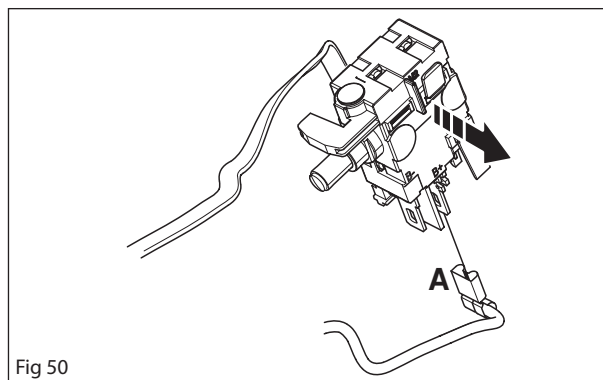
Fig 49

8.13 Dismantling the main switch

NB! Use the CST to check the functions before dismantling.

For products with S/N: -20180200001 (LiPX),
-20174600001 (LiP4), -20174600122 (LiPT5).

- 1
Dismantle the control handle as described in "6 Basic dismantle/assembly".
- 2
Dismantle the throttle trigger lock and throttle trigger as described in "7.1 Dismantling the throttle trigger lock and throttle trigger".
- 3
Lift out the main switch and disconnect cable (A). See figure 50.
- 4
Take loose the contact (C) using a small screwdriver to carefully free the catches (D) on each end of the contact and main switch from each other. NB! Do not pull the wires. Take special care to avoid damaging the contact (D). See figure 51.



For products with S/N: 20180200001- (LiPX/iPX), 20174600001- (LiP4/iP4), 20174600122- (LiPT5/iPT5).

1

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

2

Dismantle the throttle trigger lock and throttle trigger as described in "7.1 Dismantling the throttle trigger lock and throttle trigger".

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.

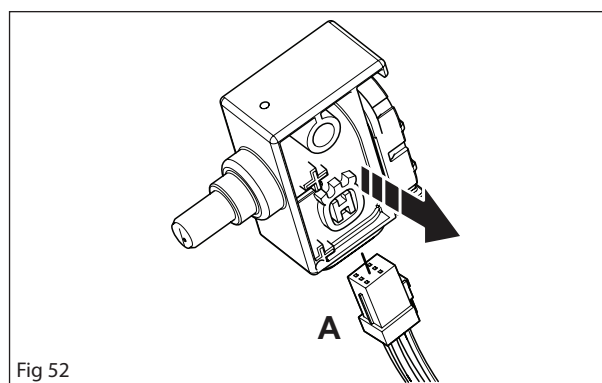


Fig 52

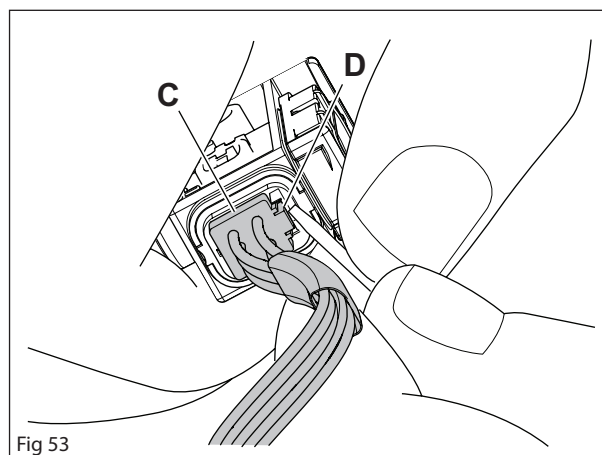


Fig 53

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: -20180200001 (LiPX), -20174600001 (LiP4), -20174600122 (LiPT5).

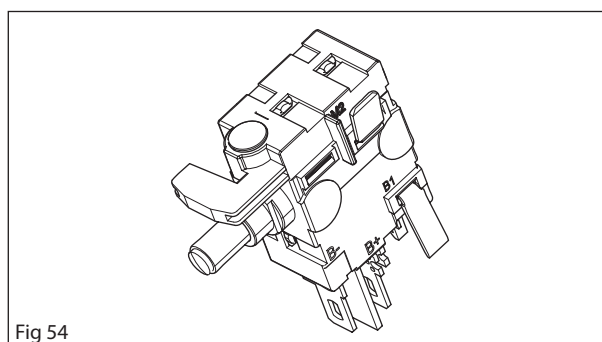


Fig 54

See figure 55 for products with S/N: 20180200001- (LiPX/iPX), 20174600122- (LiP4/iP4), 20174600122- (LiPT5/iPT5).

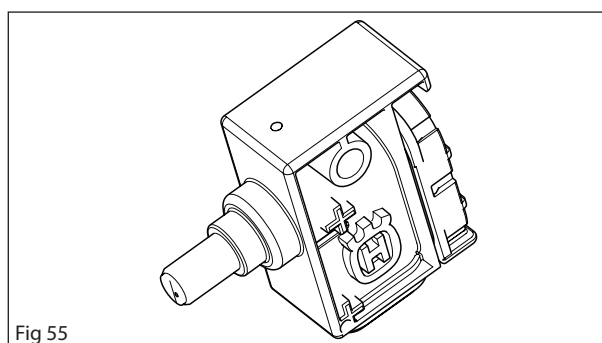


Fig 55

8.15 Assembling the main switch

For products with S/N: -20180200001 (LiPX),
-20174600001 (LiP4), -20174600122 (LiPT5).

1

Connect the contact (C) to the main switch.
NB! Make sure to apply grease to the contact surfaces and also the connector.

See figure 56.

2

Connect cable (A) and place the main switch in the battery housing.

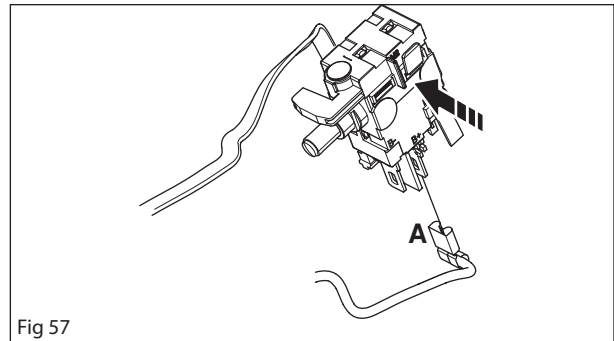
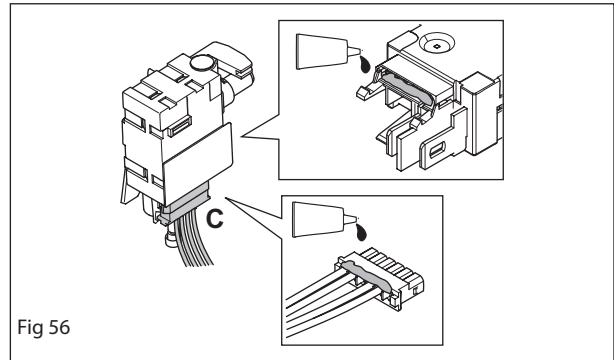
See Figure 57.

3

Assemble the throttle trigger lock and throttle trigger as described in "7.2 Assembling the throttle trigger lock and throttle trigger".

4

Assemble the control handle as described in "6 Basic dismantle/assembly".



For products with S/N: 20180200001- (LiPX/iPX),
20174600001- (LiP4/iP4), 20174600122- (LiPT5/
iPT5).

1

Connect cable (A) and Make sure that the contact clicks into place. Place the main switch in the product housing.

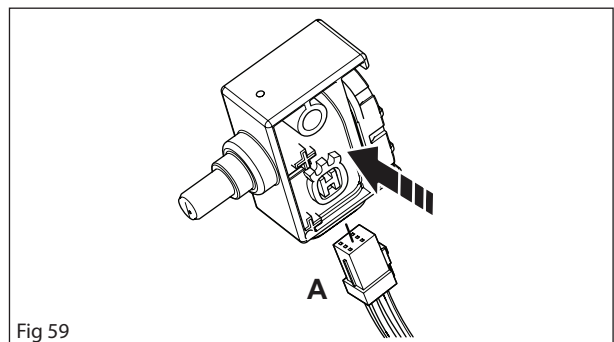
See Figure 59.

2

Assemble the throttle trigger lock and throttle trigger as described in "7.2 Assembling the throttle trigger lock and throttle trigger".

3

Assemble the control handle as described in "6 Basic dismantle/assembly".



8.16 Dismantling the control cabling

NB! Use the CST to check the functions before dismantling.

For products with S/N: -20180200001 (LiPX),
-20174600001 (LiP4), -20174600122 (LiPT5).

NOTE!

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

1

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

2

Dismantle the throttle trigger lock and throttle trigger as described in "7.1 Dismantling the throttle trigger lock and throttle trigger".

3

Dismantle the shaft and motor cabling as described in "8.8 Dismantling shaft and motor cabling (536LiP4/530iP4, 536LiPX/530iPX)" and "8.10 Dismantling shaft and motor cabling (536LiPT5/530iPT5)".

4

Lift out the main switch and disconnect the connector (B) and the wire (A),
Dismantle the keypad and its cabling.
NB! 8.13 Dismantling the main switch" for a detailed description of disconnecting the contact (C).
See figure 60.

5

Dismantle the connector on the control unit.
See figure 61.

- Use a flat sharp tool to carefully snap off the bracket holder. See figure 61a.
- Carefully insert a small flat screwdriver between the silicone gasket and the control unit frame. See figure 61b.

NOTE!

Make sure not to damage the silicone seal.

- Push the screwdriver lightly to loosen the snap lock on the connector below the silicone gasket.

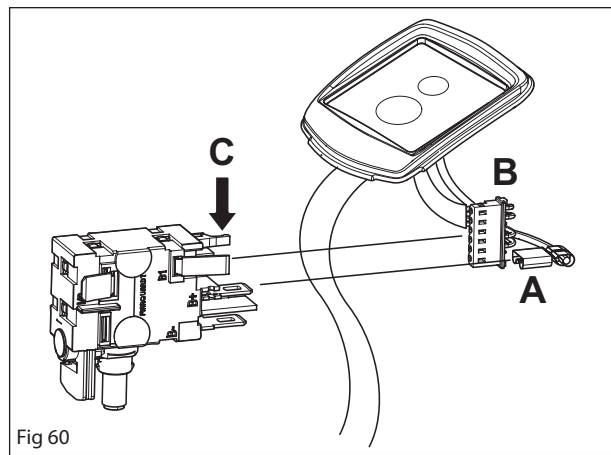


Fig 60

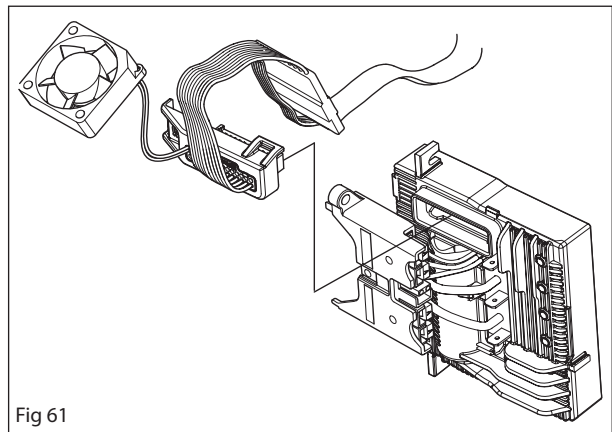


Fig 61

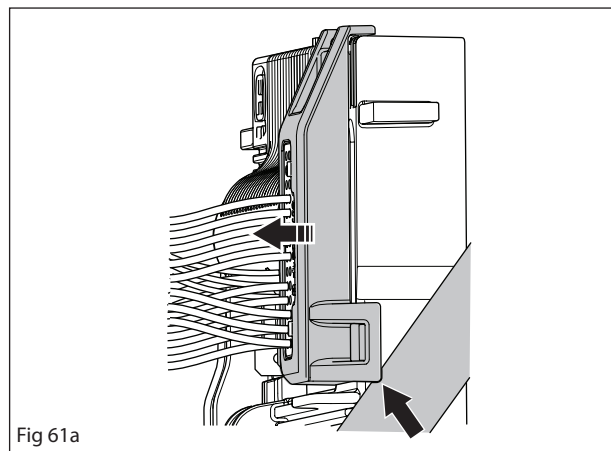


Fig 61a

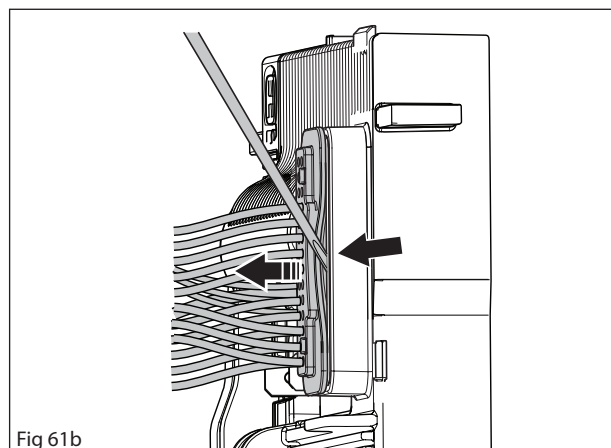


Fig 61b

For products with S/N: 20180200001- (LiPX/iPX), 20174600001- (LiP4/iP4), 20174600122- (LiPT5/iPT5).

NOTE!

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

- 1
Dismantle the control handle as described in "6 Basic dismantle/assembly".
- 2
Dismantle the throttle trigger lock and throttle trigger as described in "7.1 Dismantling the throttle trigger lock and throttle trigger".
- 3
Dismantle the shaft and motor cabling as described in "8.8 Dismantling shaft and motor cabling (536LiP4/530iP4, 536LiPX/530iPX)" and "8.10 Dismantling shaft and motor cabling (536LiPT5/530iPT5)".
- 4
Lift out the main switch and disconnect the connector (A),
Dismantle the keypad and its cabling.
NB! See "8.13 Dismantling the main switch" for a detailed description of disconnecting the contact (C).
See figure 60.

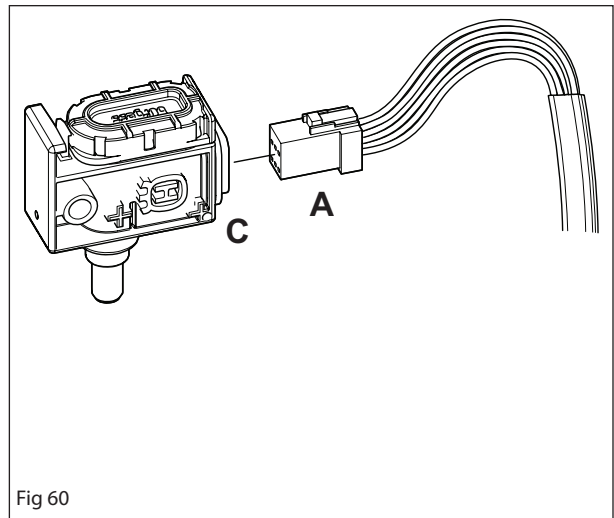


Fig 60

- 5
Dismantle the connector on the control unit.
See figure 61.
 - Use a flat sharp tool to carefully snap off the bracket holder. See figure 61a.
 - Carefully insert a small flat screwdriver between the silicone gasket and the control unit frame. See figure 61b

NOTE!

Make sure not to damage the silicone seal.

- Push the screwdriver lightly to loosen the snap lock on the connector below the silicone gasket.

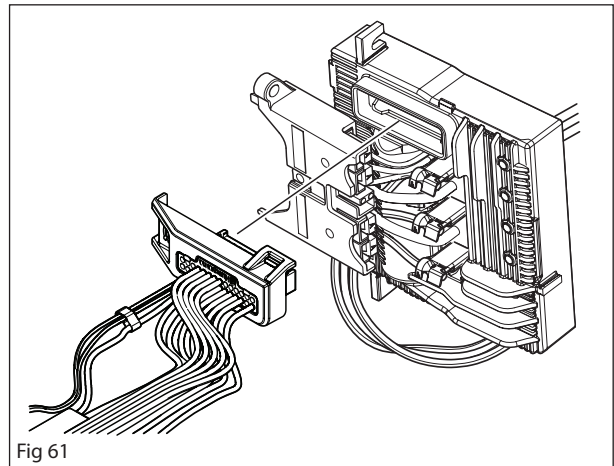


Fig 61

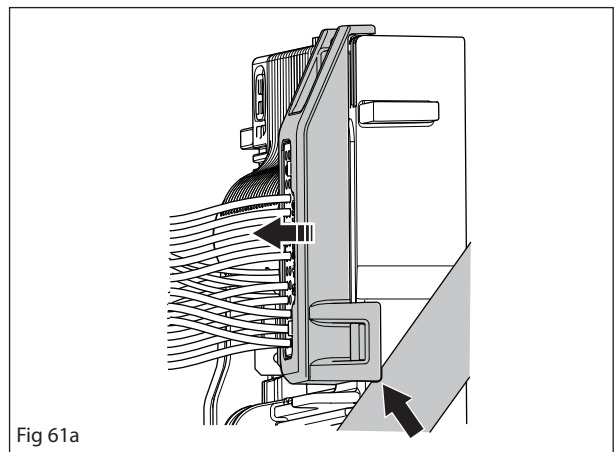


Fig 61a

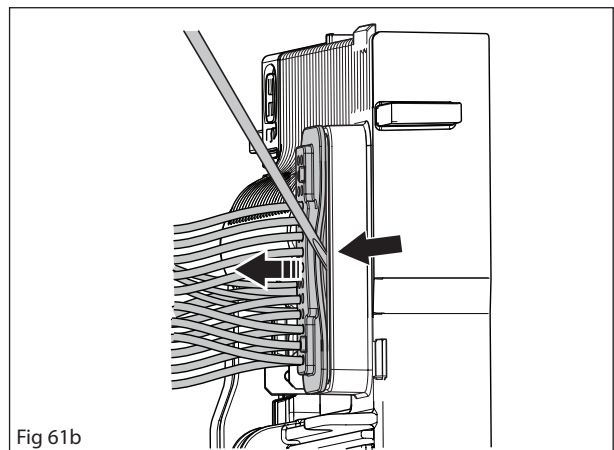


Fig 61b

8.17 Cleaning and inspection of the control cabling

Clean and inspect all parts of the control cable. The cables must always be replaced with new ones if cracked or showing signs of other defects. Always use original spare parts.

8.18 Assembling the control unit -all models

We recommend dismantling the control unit before assembling the control cabling, see "8.19 Dismantling the control unit".

For products with S/N: -20180200001 (LiPX), -20174600001 (LiP4), -20174600122 (LiPT5).

1

Connect the connector to the control unit. See figure 64.

- Make sure that it snaps into place.
- Press the silicone gasket in place with your fingers and make sure it fits tightly all around.
- Snap on the bracket holder.

NOTE! Do not use the bracket holder to press the silicone gasket in place.

2

Place the bottom section of the cabling and the fan in the battery housing.

Assemble the fan, making sure it is positioned in the correct direction.

3

Assemble the keypad. Make sure the surface is clean.

Connect the cable (A) to the position marked "B+" on the main switch (C). Place the parts in the operating handle. NB! Make sure to apply grease to the contact surfaces and also the connector, see service data.

See figure 65.

4

Lay the cabling in place in the control handle.

5

Assemble the throttle trigger lock and throttle trigger as described in "7.2 Assembling the throttle trigger lock and throttle trigger".

6

Lay the cabling in place in the cable tray and assemble the control handle and battery housing as described in "6 Basic dismantle/assembly".

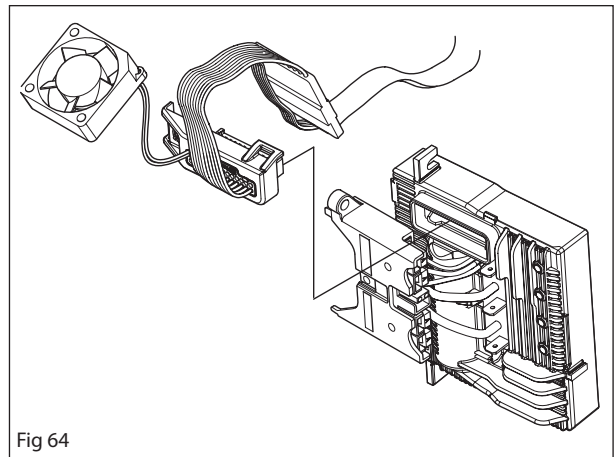


Fig 64

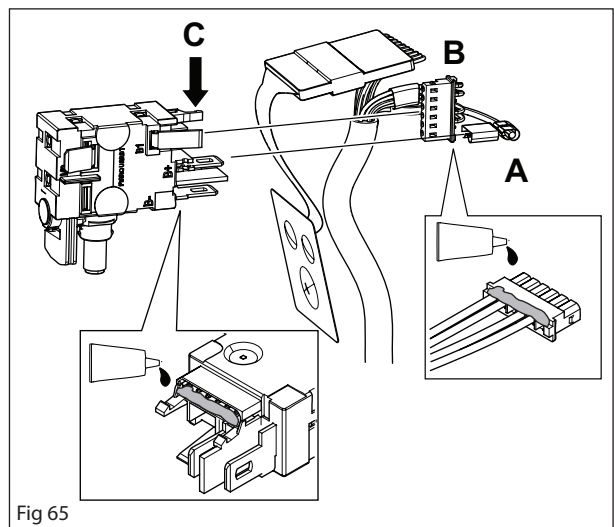
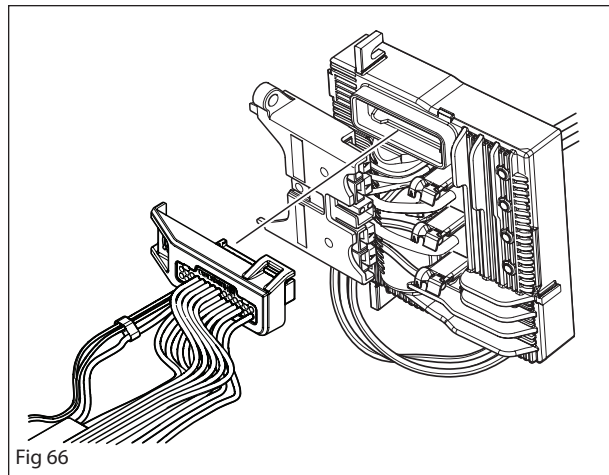


Fig 65

For products with S/N: 20180200001- (LiPX/iPX), 20174600001- (LiP4/iP4), 20174600122- (LiPT5/iPT5).

1

Plug the connector into the main switch, place the parts in the operating handle.
See figure 67.



2

Lay the cabling in place in the control handle. Make sure that it is positioned outside (A) and inside (B). Put the overmoulding behind (C) and the loose cables in front of (C). Push the cabling all the way down.
See figure 67.

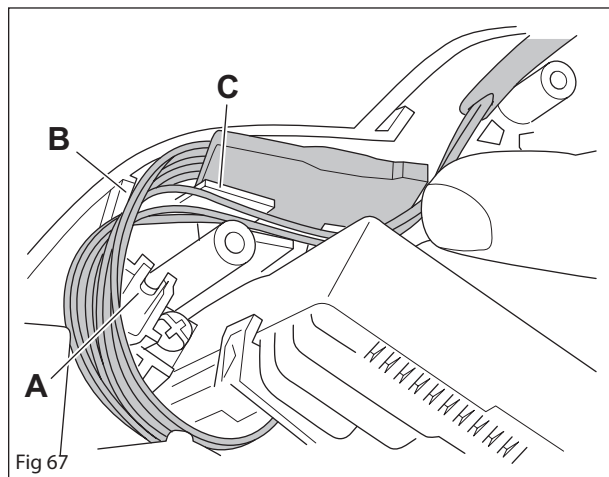
NB! Make sure that no cables are in a position where they don't get pinched or damaged when the control handle is assembled.

3

Assemble the throttle trigger lock and throttle trigger as described in "7.2 Assembling the throttle trigger lock and throttle trigger".

4

Lay the cabling in place in the cable tray and assemble the control handle and battery housing as described in "6 Basic dismantle/assembly".



8.19 Dismantling the control unit

NB! Use the CST to check the functions before dismantling.

1

Dismantle the battery housing as described in "6 Basic dismantle/assembly".

2

Disconnect the connector to the motor.
Loosen the screws (G) to the control unit and the screws (H) to the battery contact and lift out the entire unit and the fan.
See figure 68.

3

Unplug connector (D) for the keypad, main switch and the fan.
See Figure 69 for products with S/N: -20180200001 (LiPX), -20174600001 (LiP4), -20174600122 (LiPT5).

See Figure 70 for products with S/N: 20180200001- (LiPX/iPX), 20174600001- (LiP4/iP4), 20174600122- (LiPT5/iPT5).

Cleaning and inspection

Clean and inspect all parts of the control unit. The control unit must always be replaced with a new one if cracked or showing signs of other defects. Always use original spare parts.

See figure 68.

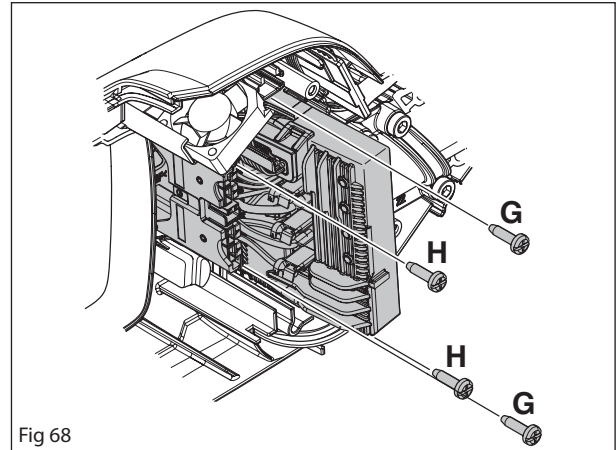


Fig 68

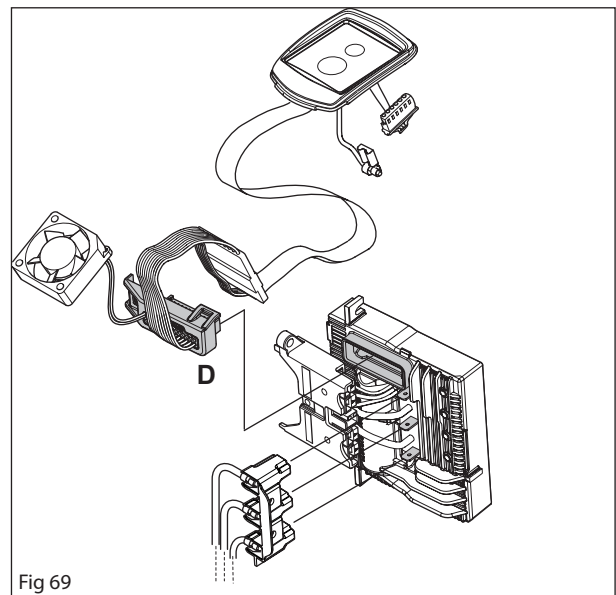


Fig 69

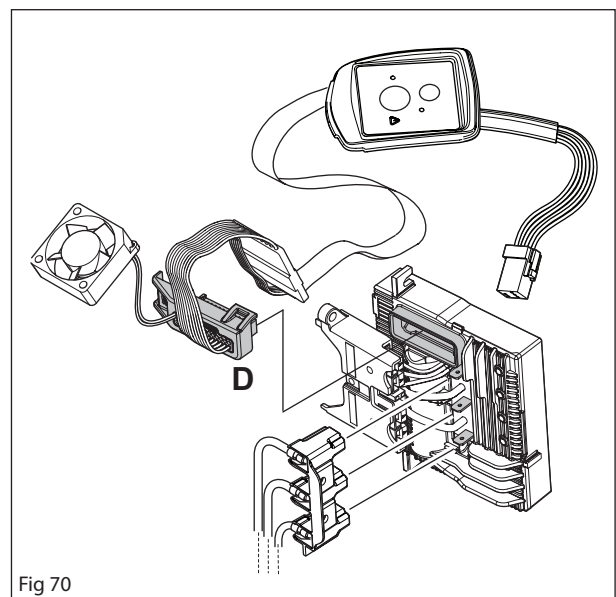


Fig 70

8.20 Assembling the control unit

1

Connect the connector from the motor to the control unit. Connect connector (D) to the control unit for the keypad, fan and main switch. Make sure the connector is plugged firmly into the control unit.

- Make sure that it snaps into place.
- Press the silicone gasket in place with your fingers and make sure it fits tightly all around.
- Snap on the bracket holder.

NOTE! Do not use the bracket holder to press the silicone gasket in place.

See Figure 71 for products with S/N: -20180200001 (LiPX, -20174600001 (LiP4), -20174600122 (LiPT5).

See Figure 72 for products with S/N: 20180200001- (LiPX/iPX), 20174600001- (LiP4/iP4), 20174600122- (LiPT5/iPT5).

2

Place all the control unit components in the battery housing.

Take care to return all the cables to their correct positions to avoid pinching.

Fasten screws (2x) to the control unit (G) and screws (2x) to the battery contact (H).

Tightening torque 1 Nm.

See figure 73.

3

Assemble the battery housing as described in "6 Basic dismantle/assembly".

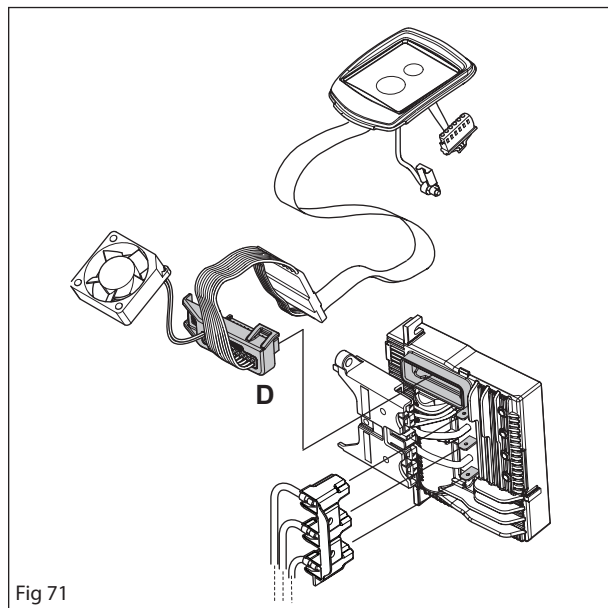


Fig 71

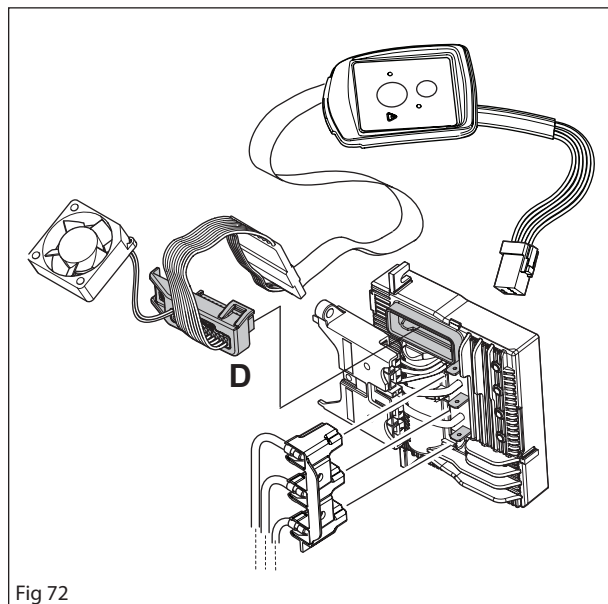


Fig 72

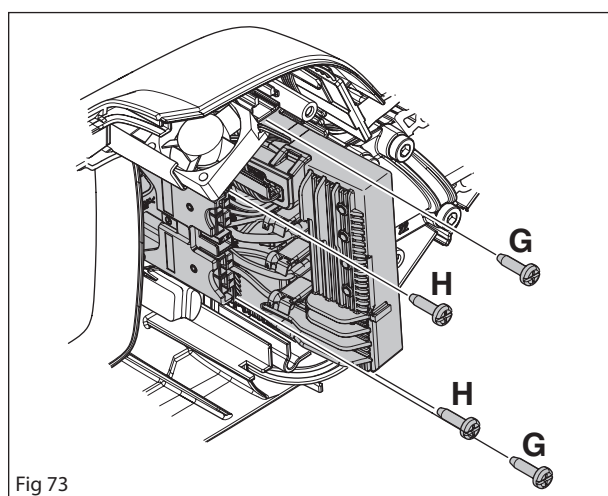
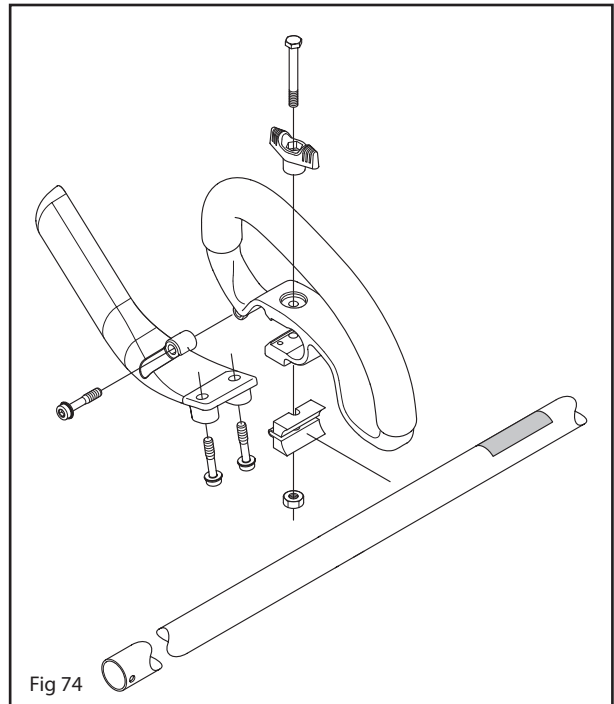


Fig 73

8.21 Changing the handle

- 1
Loosen the knob by hand and remove the parts from the shaft.
- 2
Assemble the new parts between the spacer and the shaft.
See figure 74.



Before troubleshooting, connect the product to the CST, and make sure that the product is updated with the latest firmware.

9 Troubleshooting - 536 LiPX/iPX/LiP4/LIPT5/iPT5

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 illustration in annex.
	Damage to the multi-wire cable between the control unit and the keypad or main switch.	3. Repair or change the multi-wire cable. (Applies only if there is visible damage.)
	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.	Poor connection in main switch signal contact.	1. Make sure the main switch signal connector is correctly assembled, dry, is not damaged and is corrosion-free. See illustration in annex.
	Motor contacts not properly assembled.	2. Make sure the motor contact/motor contacts are correctly fitted. See figure 5 in the appendix.
	Interior damage to main switch	3. Replace the main switch
	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 illustration in annex.
	Short circuit in keypad	Replace the cabling.

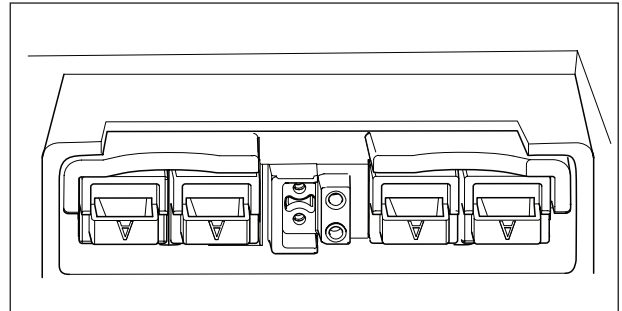
Uneven motor speed	Poor connection in main switch signal contact.	1. Make sure the main switch signal connector is correctly assembled, dry, is not damaged and is corrosion-free. See figure 3 in the appendix
	Damaged or worn out main switch	2. Replace the main switch
Warning triangle flashes continually on keypad	Temperature too high	1. Wait for the product to cool down (min. 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 main switch signal contact	3. Dismantle and dry the main switch signal connector and then reassemble it. See figure 3 in the appendix
	Short circuit in keypad	4. Replace the cabling.
	Short circuit in main switch	5. Replace the main switch
	Defective control unit	6. Replace the control unit
A warning triangle on the keypad flashes briefly after activation. The product then shuts down	The main switch is pressed in during activation	1. Activate the product without pressing the main switch at the same time.
	Water in main switch signal contact	2. Dismantle and dry the main switch signal connector and then reassemble it. See figure 3 in the appendix
	Short circuit in keypad	3. Replace the cabling.
	Short circuit in main switch	4. Replace the main switch
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 6 in the appendix
The product is in working order but the indicator lamp on the keypad is not visible.	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

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. Change 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, replace 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 replaced.
	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, replace 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.

11 Troubleshooting - Appendix

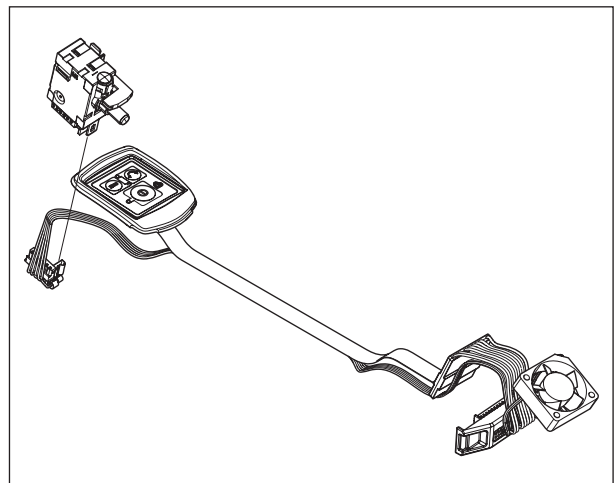
1. Power connectors

Make sure connectors are free from dirt and that metal surfaces are not damaged. Pay certain attention to the connection tabs. Power connectors have the same basic design on product, battery and charger. Only colors may vary.

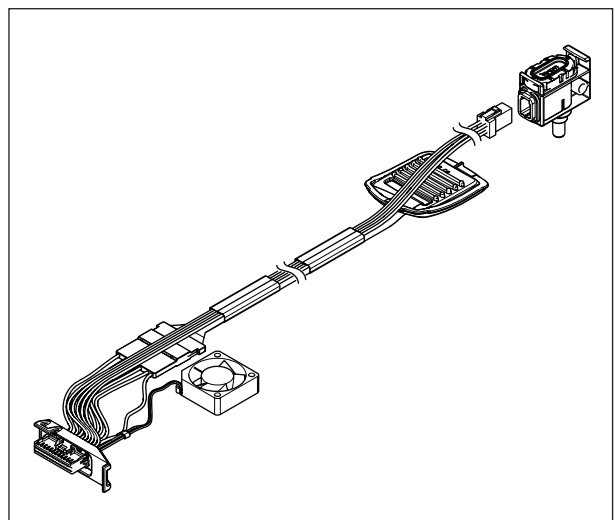


2. Keypad connector

Make sure cabling is not damaged.



For products with S/N: -20180200001 (LiPX),
-20174600001 (LiP4), -20174600122 (LiPT5).



For products with S/N: 20180200001- (LiPX/iPX),
20174600001- (LiP4/iP4), 20174600122- (LiPT5/
iPT5).

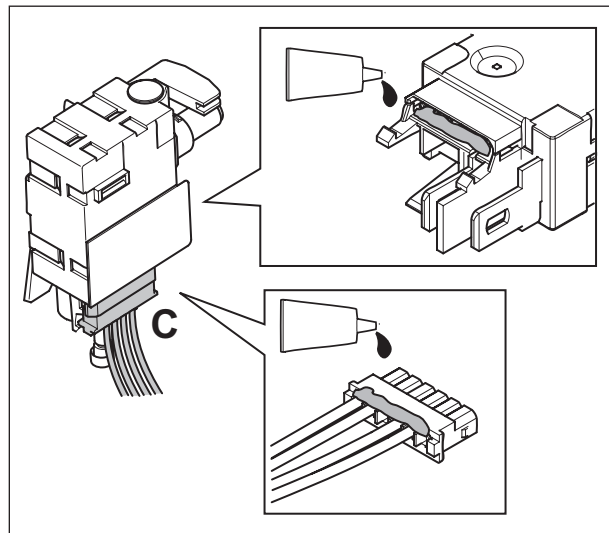
3. Main switch signal connector with grease

For products with S/N: -20180200001 (LiPX),
-20174600001 (LiP4), -20174600122 (LiPT5).

Apply grease to the contact surfaces and also the connector.

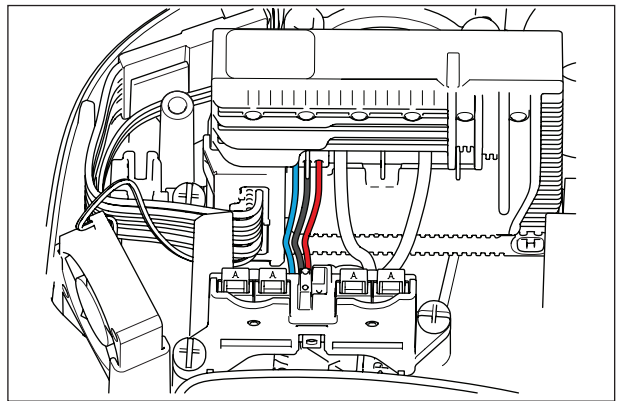
For products with S/N: 20180200001- (LiPX/iPX),
20174600001- (LiP4/iP4), 20174600122- (LiPT5/
iPT5).

No grease necessary.



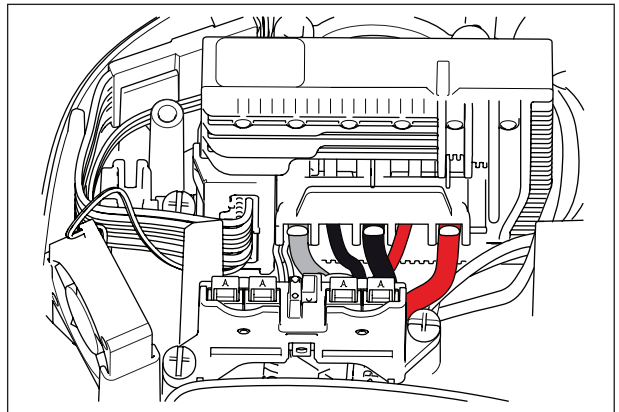
4. Communication cables

Make sure the three small communication cables are not loose or damaged.



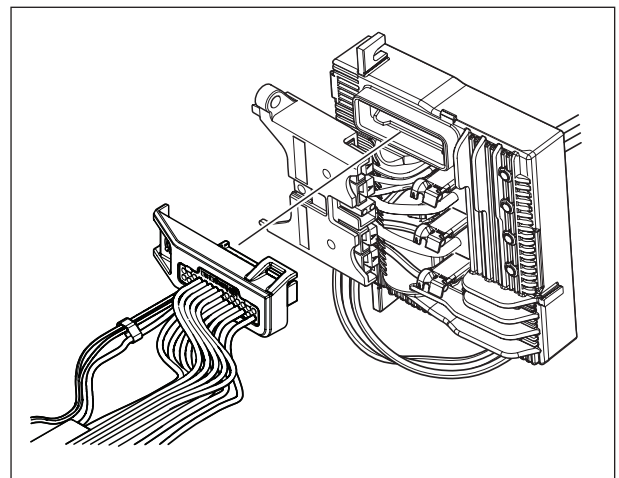
5. Motor and power connectors

Make sure the three motor connectors and the two power connectors are properly connected to respective plastic housing.



6. 26-pin wiring cable

Make sure the 26-pin wiring cable is properly assembled, dry and not damaged. See "8.18 Assembling the control cabling".





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