

Workshop manual

**DM 540i**



English

---

# Contents

---

## 1 Introduction

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

## 2 Safety

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

## 3 Servicing tools

3.1 Servicing tools overview 1.....	5
3.2 Servicing tools overview 2.....	6

## 4 Product overview for repair and servicing

4.1 Product overview.....	7
---------------------------	---

## 5 Repair and servicing

5.1 To clean and examine the product parts.....	8
5.2 To disassemble the product.....	8
5.3 To assemble the product.....	10
5.4 To remove and install the control panel.....	11
5.5 To replace the gear oil.....	11
5.6 Gear housing.....	12

## 6 Function test

6.1 Gear housing.....	23
-----------------------	----

## 7 Troubleshooting

7.1 To connect the Husqvarna Service Hub.....	24
7.2 To do troubleshooting of the Husqvarna Service Hub.....	25
7.3 Troubleshooting of the product.....	25
7.4 Troubleshooting of the user interface.....	25

## 8 Diagrams

8.1 Wiring diagram.....	26
-------------------------	----

---

# 1 Introduction

---

## 1.1 Document description

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

## 1.2 Target group

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

## 1.3 Revisions

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

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

## 1.4 Safety



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

---

## 1.5 Servicing tools

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

---

## 2 Safety

---

### 2.1 Safety definitions

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



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



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

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

### 2.2 General safety instructions

- You must not repair the product unless you have read and understood this workshop manual.
- The service center where the product is repaired must have safety equipment approved by local bylaws.
- The product is examined and approved only with the equipment given or recommended by the manufacturer.
- Service personnel must make sure that the service and repairs in this manual are done following legal requirements. This in order to avoid health and safety risks of the personnel doing the work.
- When possible, disconnect the power cable and make sure it cannot be connected until the service is completed.
- If you keep the product running during service, do not touch the wires. Electrical shock can cause injury.
- Follow the local waste regulations.
- Always make sure all nuts and bolts are correctly tightened.
- Do not lift the machine by holding the cable and do not pull the plug by pulling the cable.
- Check that the cables are not damaged and in good condition.
- Do not use the product if a cable is damaged.
- Use protective gloves and eye protection. Goggles must follow the ANSI Z87.1 for US or EN166 for EU countries.
- When using compressed air, do not point it to your body. Air can go in to the blood stream.
- Wear ear protection when test running.
- The product can make sparks and cause ignition of flammable materials.
- If a warning symbol decal on the product is damaged or missing, replace the warning symbol decal.

### 2.3 Symbols on the product



**WARNING!** This product can be dangerous and cause serious injury or death to the operator or others. Be careful and use the product correctly.



Always use approved personal protective equipment.



This product complies with applicable EC directives.



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



If the product has Bluetooth® wireless technology, the Bluetooth® symbol is on the product name label.

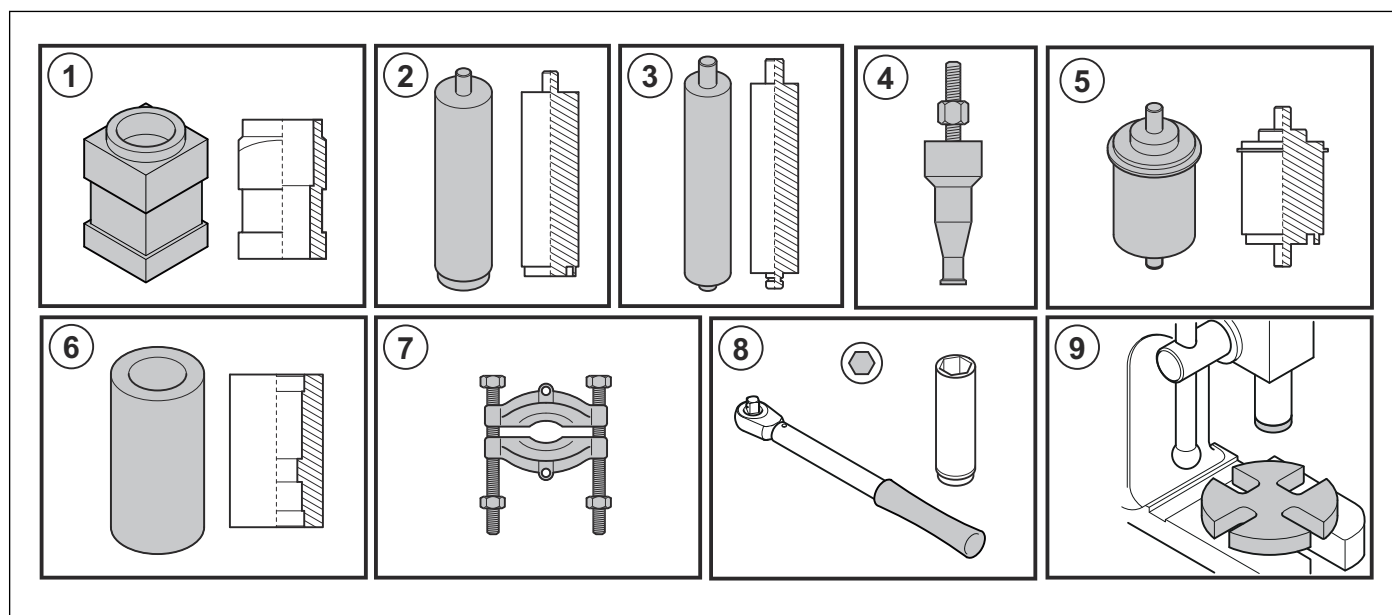
---

**Note:** Other symbols/decals on the product refer to special certification requirements for some markets.

---

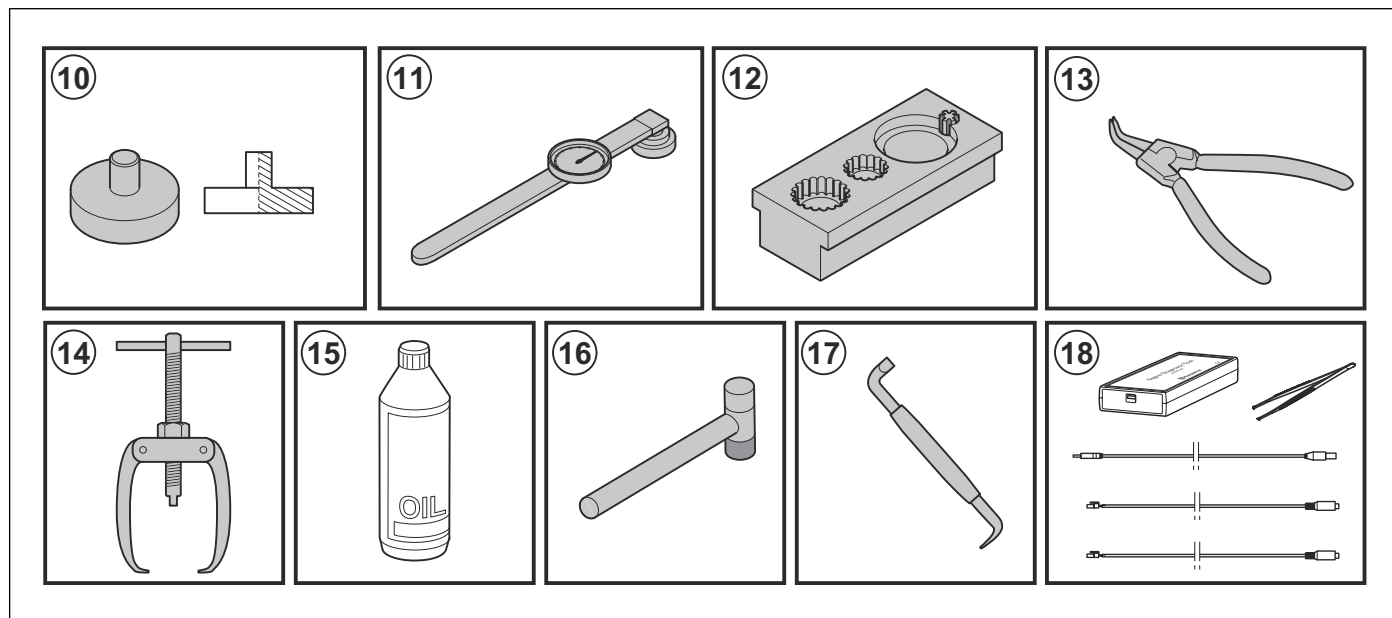
## 3 Servicing tools

### 3.1 Servicing tools overview 1



Position	Designation	Used for	Order Number/ Source
1	Product holder tool	To attach the product to a vise. Refer to <i>To disassemble the product on page 8</i> and <i>To replace the gear oil on page 11</i> .	598 94 68-01
2	Shaft seal press tool	To replace the shaft seals for the drill spindle. Refer to <i>To replace the shaft seals for the drill spindle on page 17</i> .	531 14 23-01
3	Bearing press tool	To install the gear housing bearing. Refer to <i>To install the ball bearing in the gear housing on page 20</i> .	531 14 31-01
4	Internal bearing extractor	To remove the middle cover bearings. Refer to <i>To remove the ball bearing from the gear housing on page 19</i> .	531 14 32-01
5	Shaft seal press tool	To replace the shaft seals for the drill spindle. Refer to <i>To replace the shaft seals for the drill spindle on page 17</i> .	531 14 24-01
6	Sleeve press tool	To replace the shaft sleeves for the drill spindle. Refer to <i>To replace the shaft sleeves for the drill spindle on page 15</i> .	531 14 28-01
7	Separator puller tool	To replace the shaft sleeves for the drill spindle. Refer to <i>To replace the shaft sleeves for the drill spindle on page 15</i> .	598 94 78-01
8	Socket wrench	To install and remove product parts.	There are many manufacturers
9	Mandrel press	To install and remove product parts.	598 95 53-01

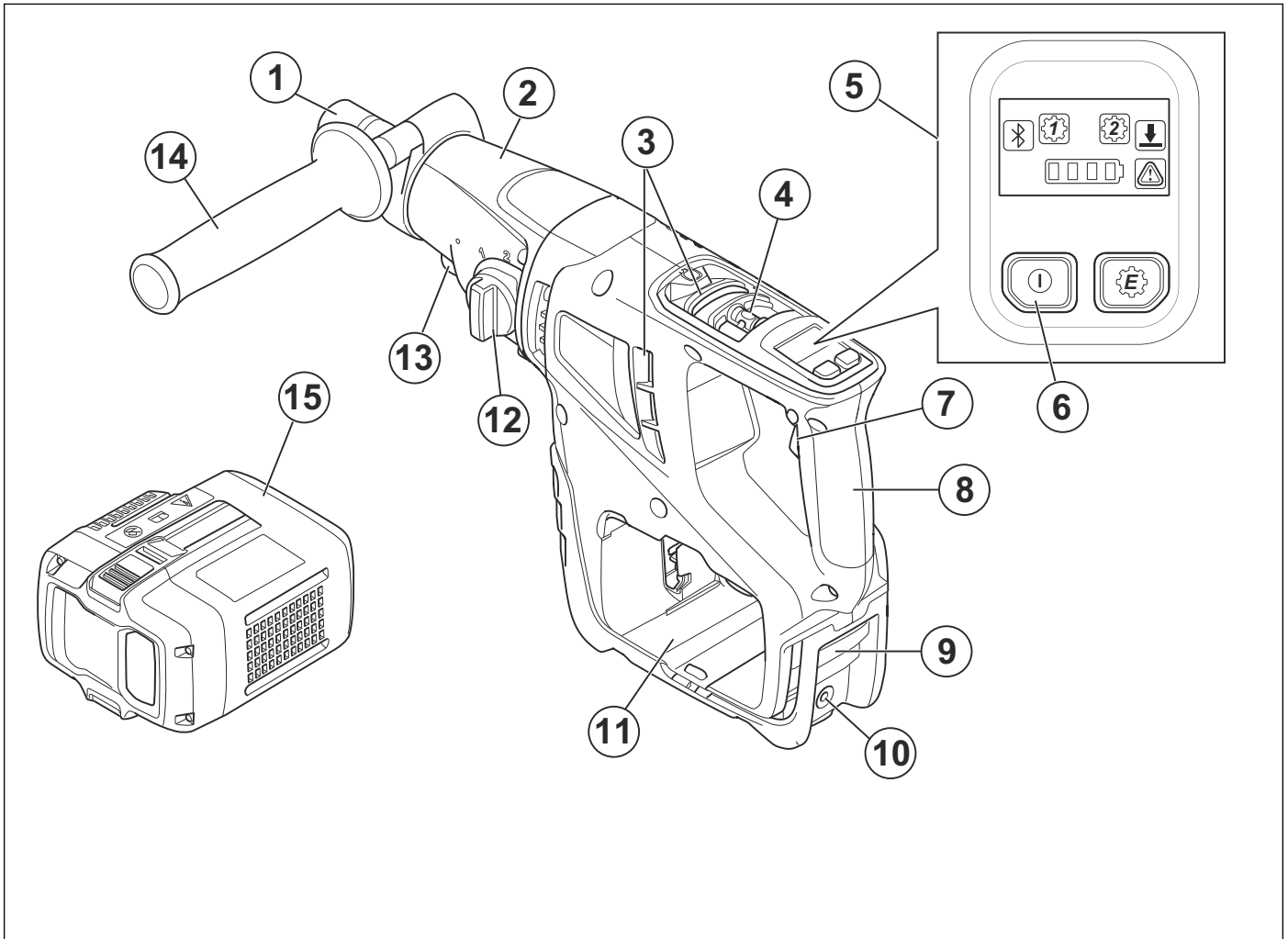
## 3.2 Servicing tools overview 2



Position	Designation	Used for	Order Number/ Source
10	Protective tool for mandrel press	To install and remove product parts.	598 95 55-01
11	Torque wrench	To control the tightening torque of safety couplings. Refer to <i>To assemble the slip clutch on page 21.</i>	531 14 36-01
12	Pinion shaft holder tool	To assemble the pinion shaft. Refer to .	531 14 37-01
	Pinion shaft torque tool		535 70 16-01
13	Circlip pliers	To install and remove product parts.	There are many manufacturers.
14	Small puller tool	To remove the pinion shaft. refer to <i>To remove the pinion shaft on page 12.</i>	There are many manufacturers.
15	Gear oil	To lubricate the gearbox. Refer to <i>To replace the gear oil on page 11.</i> Use 120 ml/4 fl.oz.	Castrol ALPHA SP 150 or equivalent
16	Soft head mallet	To install and remove product parts.	There are many manufacturers.
17	Offset screwdriver	To install and remove product parts.	There are many manufacturers.
18	Diagnostic tool kit	Troubleshooting.	583 89 71-01

## 4 Product overview for repair and servicing

### 4.1 Product overview



1. Drill spindle
2. Gearbox
3. Air intake
4. Spirit level for horizontal operation
5. Control panel
6. On/Off button
7. Power trigger
8. Handle
9. Air outlet
10. Spirit level for vertical operation
11. Battery holder
12. Gear selector
13. Connection for water or dust extractor
14. Auxiliary handle
15. Battery

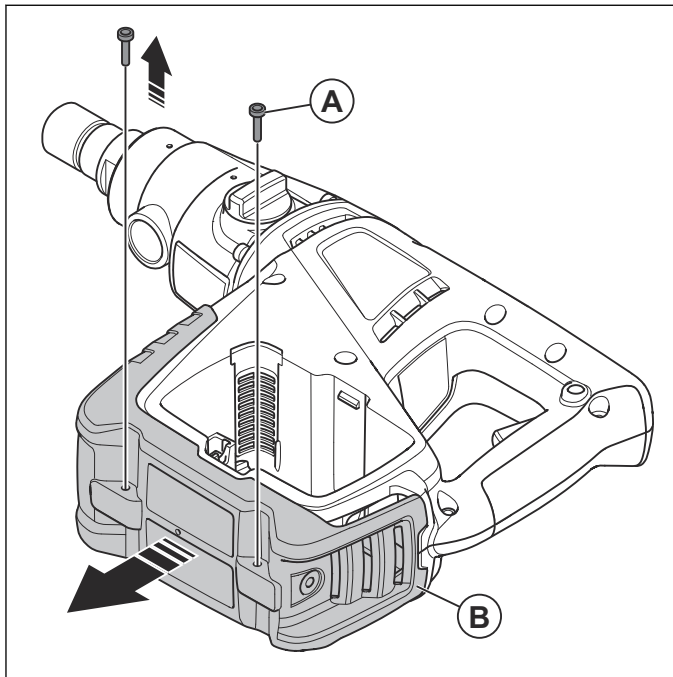
## 5 Repair and servicing

### 5.1 To clean and examine the product parts

- Clean and examine all parts fully. You find more instructions in the chapter for each part if special tools or procedures are necessary.
- Replace damaged or defective parts.
- Always use original spare parts.

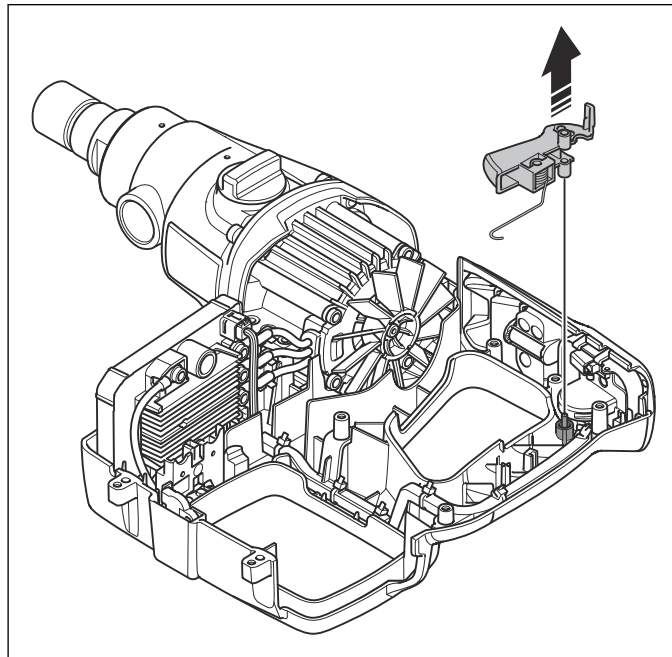
### 5.2 To disassemble the product

1. Remove the front handle and the water hose. Refer to *Product overview on page 7*.
2. Remove the screws (A). Remove the skid plate (B).

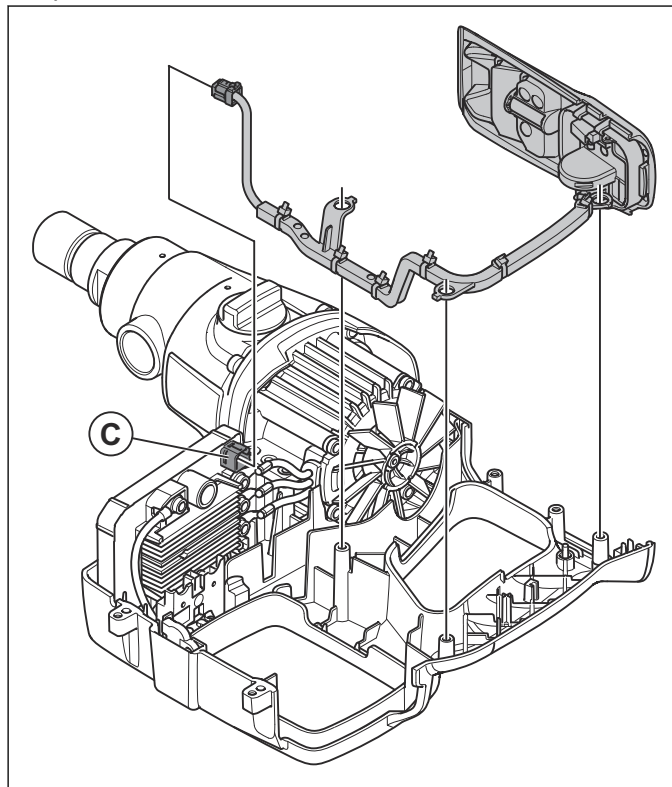


3. Loosen the 7 screws and remove the handle half. Refer to *Servicing tools overview 1 on page 5*.

4. Remove the power trigger.



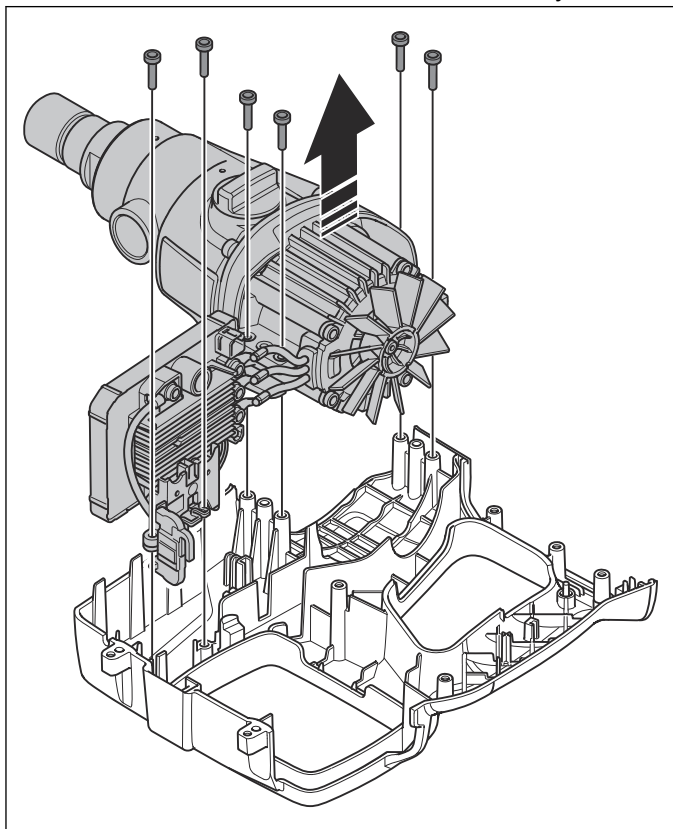
5. Disconnect the cable connection from the control unit (C). Remove the cable assembly and the control panel.



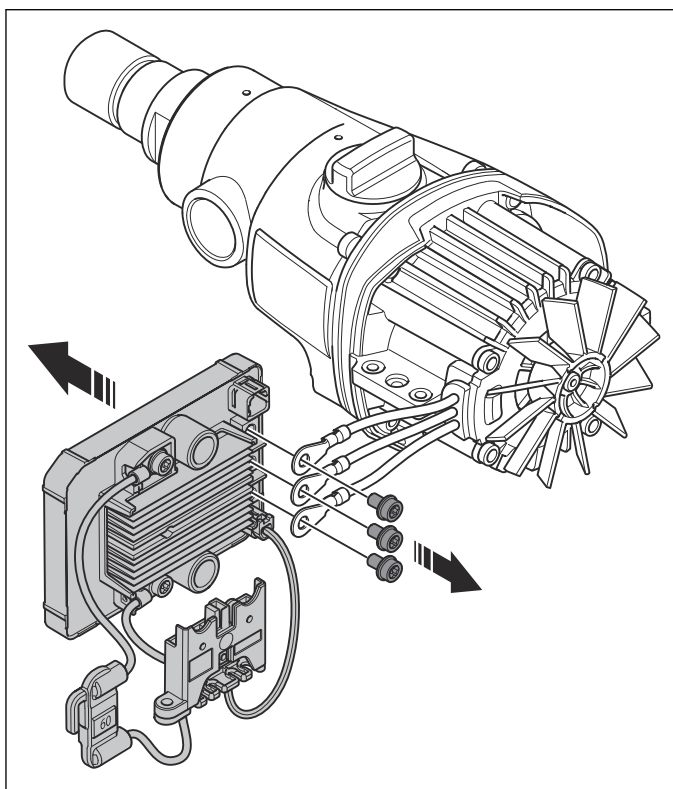
6. Disconnect the cable from the Control panel.



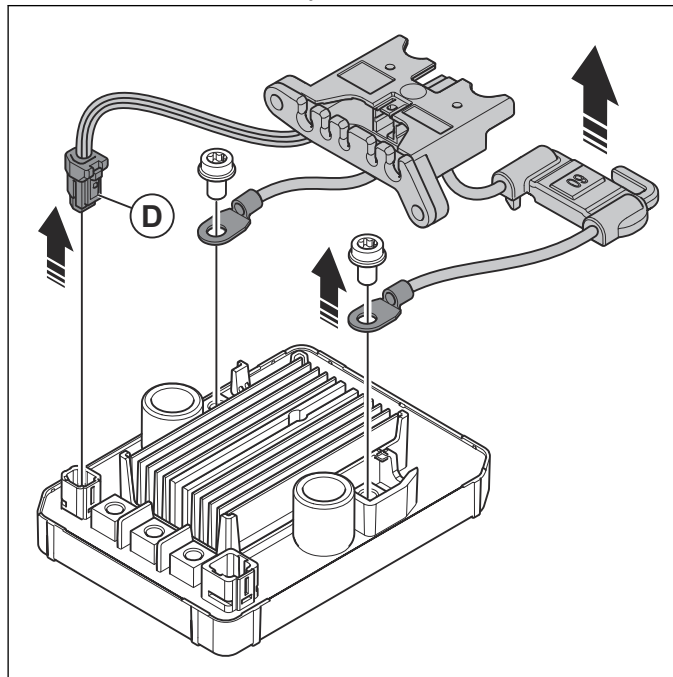
7. Remove the screws and the inner assembly.



8. Remove the screws and the control unit.

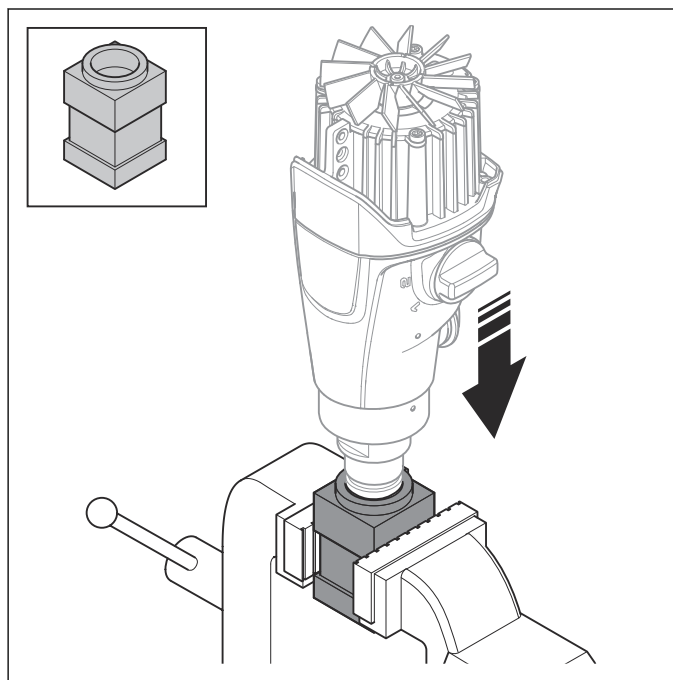


9. Disconnect the connector (D) and remove the screws and the battery connector unit.

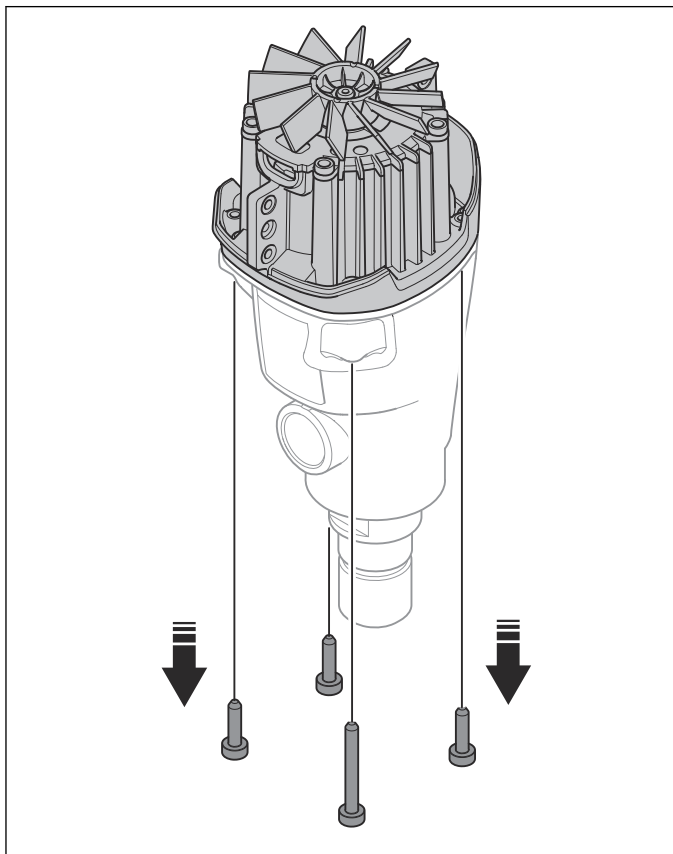


**Note:** The gearbox is filled with oil.

10. Attach the product holder tool to a vise. Refer to *Servicing tools overview 1* on page 5. Put the product in a vertical position with the drill spindle in the machine holder tool.

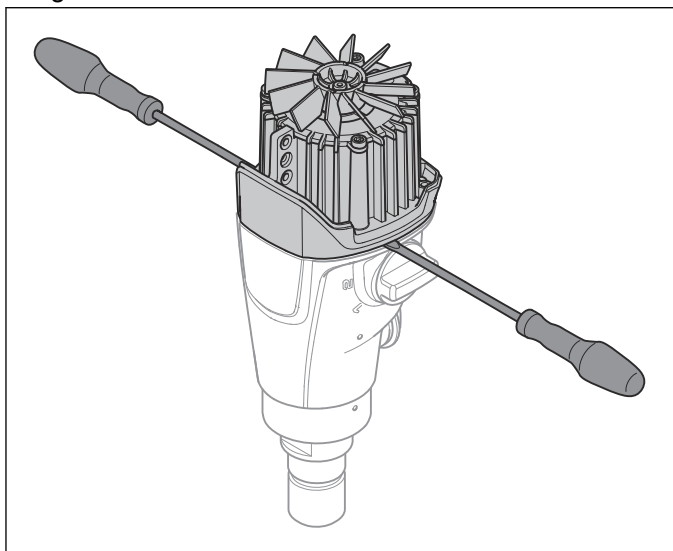


11. Remove the 4 screws.

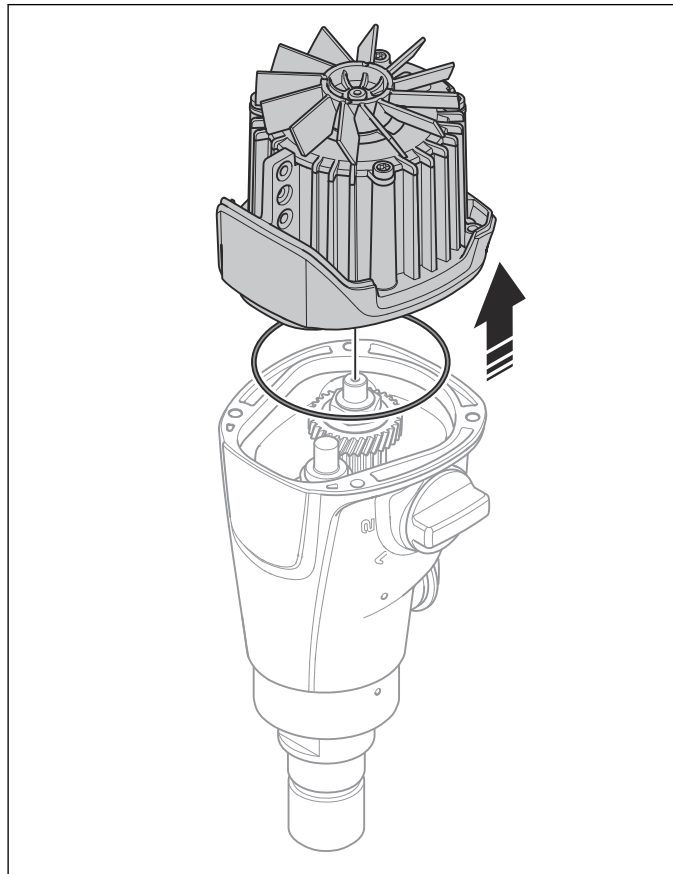


**Note:** One of the clearance holes and one of the screws are longer than the others.

12. Put 2 flat screwdrivers in the recesses on the gear housing. Carefully loosen the motor from the gearbox.



13. Remove the motor. Discard the o-ring.



### 5.3 To assemble the product

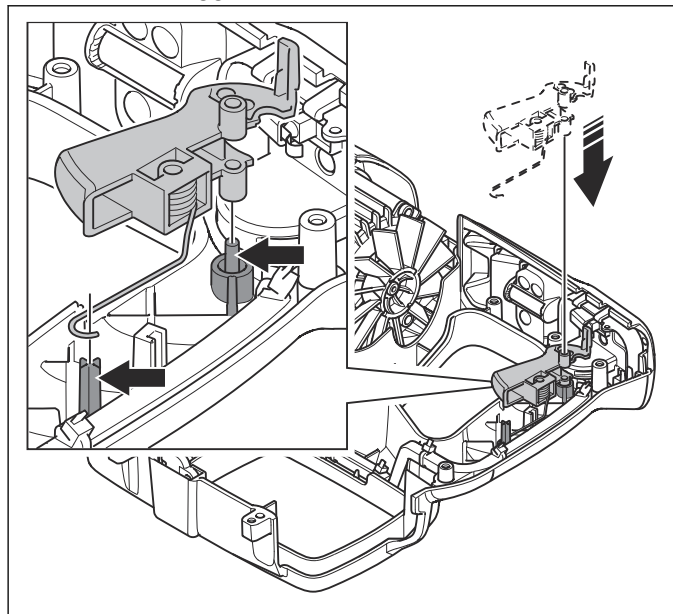
Refer to *To assemble the power trigger on page 10* to assemble the power trigger.

- Install the product in the opposite sequence to *To disassemble the product on page 8*.

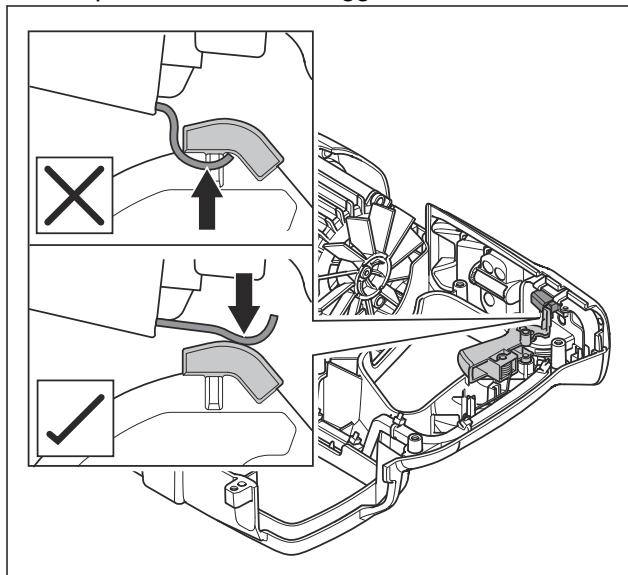
**Note:** When you assemble the product, always change the o-ring and put grease on the new o-ring.

#### 5.3.1 To assemble the power trigger

- Install the trigger as in the illustration.

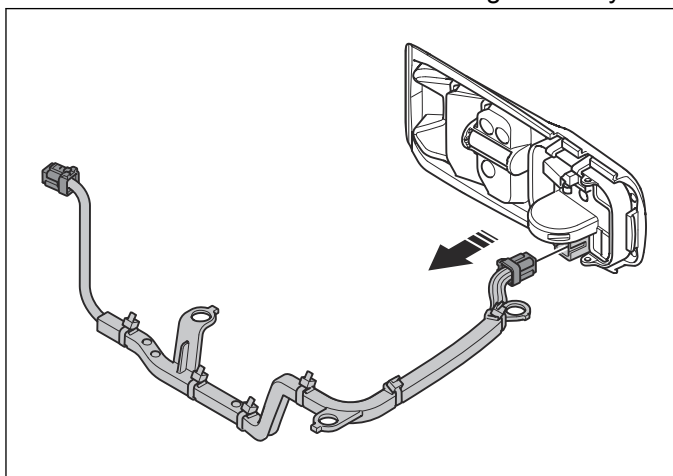


**Note:** Make sure that the microswitch lever on the control panel is above the trigger.

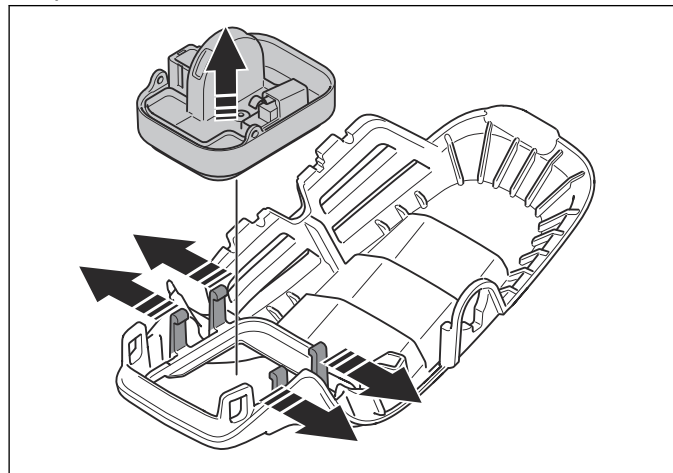


#### 5.4 To remove and install the control panel

1. Remove the left handle half. Refer to *Product overview on page 7*.
2. Remove the power trigger. Refer to *To assemble the product on page 10*.
3. Remove the connector from the wiring assembly.



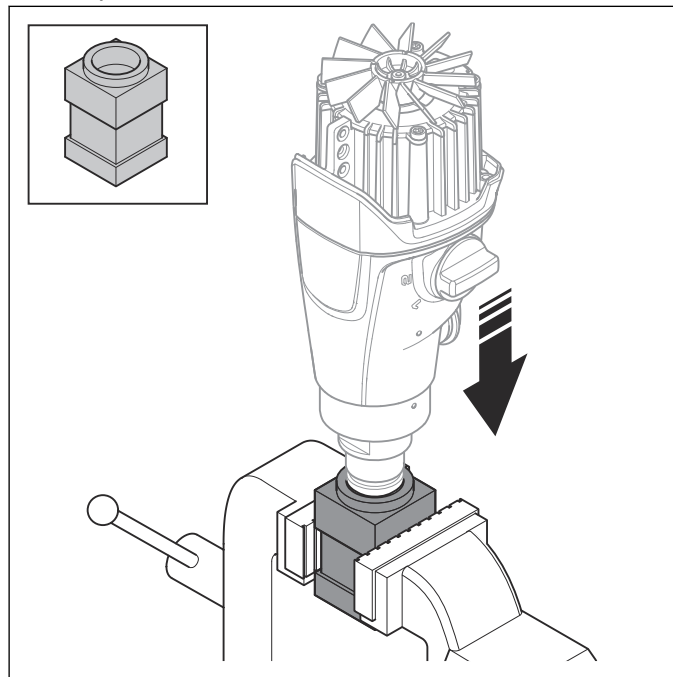
4. Pull out the locking clips and remove the control panel.



5. Install in the opposite sequence.

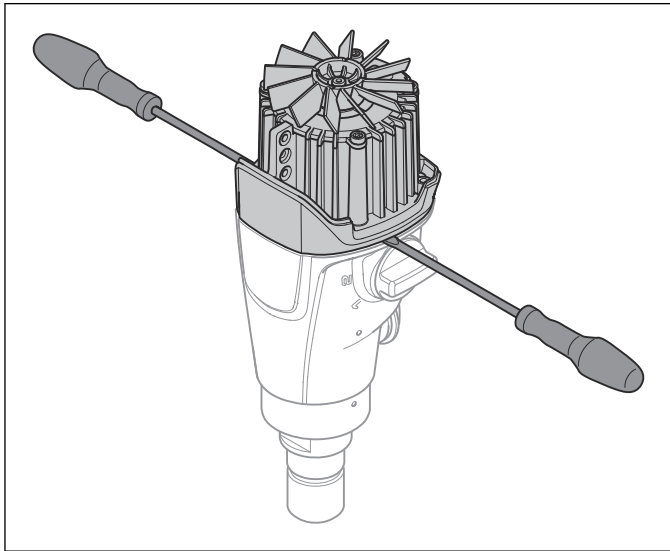
#### 5.5 To replace the gear oil

1. Attach the product holder tool to a vise. Refer to *Servicing tools overview 1 on page 5*. Put the product in an upright position with the drill spindle in the product holder tool.



2. Remove the 4 screws that hold the motor housing.

3. Put 2 flat screwdrivers in the recesses on the gear housing.

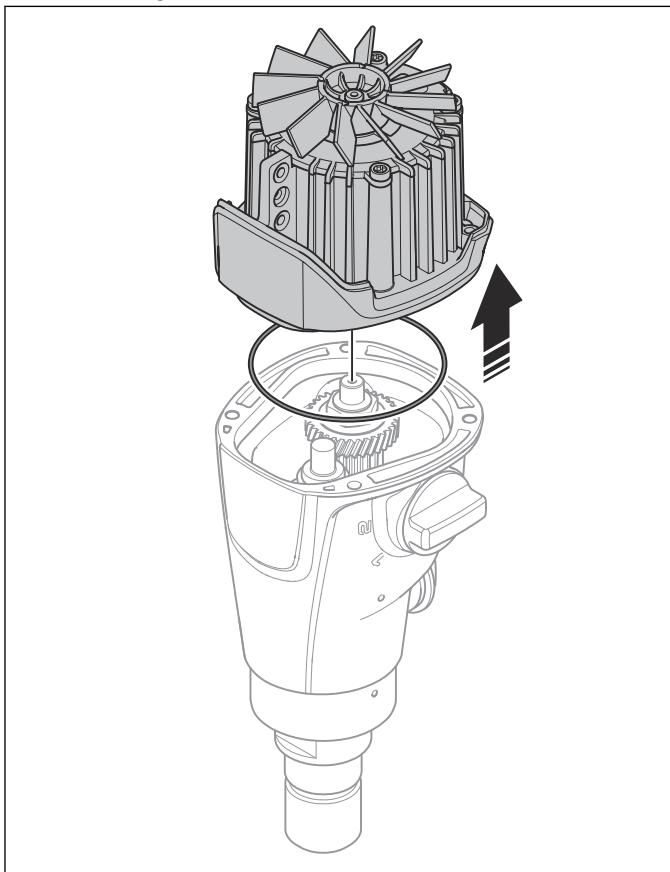


4. Carefully loosen the middle cover and the motor housing.



**CAUTION:** Make sure that the O-ring is not damaged.

5. Remove the motor housing and the O-ring. Discard the O-ring.



6. Put a container below the product.
7. Remove the product from the product holder tool and tilt the product to drain the gear oil.
8. Fill the gear housing with new gear oil. Refer to *Servicing tools overview 2 on page 6*.

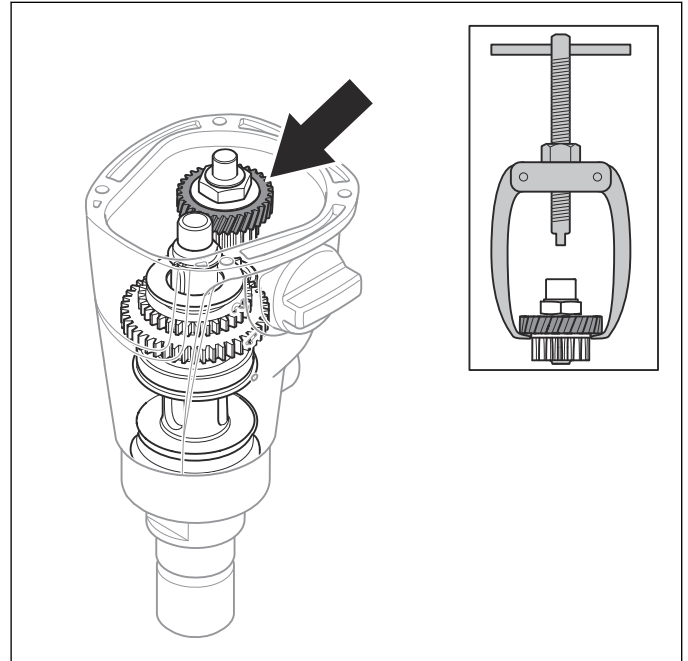
9. Assemble the product in the opposite sequence.

**Note:** When you assemble the product, always change the O-ring and put grease on the new O-ring.

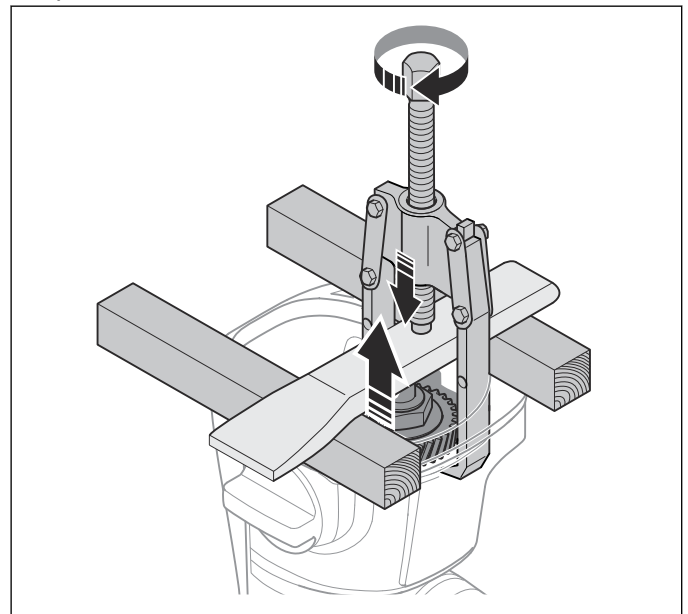
## 5.6 Gear housing

### 5.6.1 To remove the pinion shaft

1. Put a small puller tool on the top gear wheel on the pinion shaft. Refer to *Servicing tools overview 2 on page 6*.



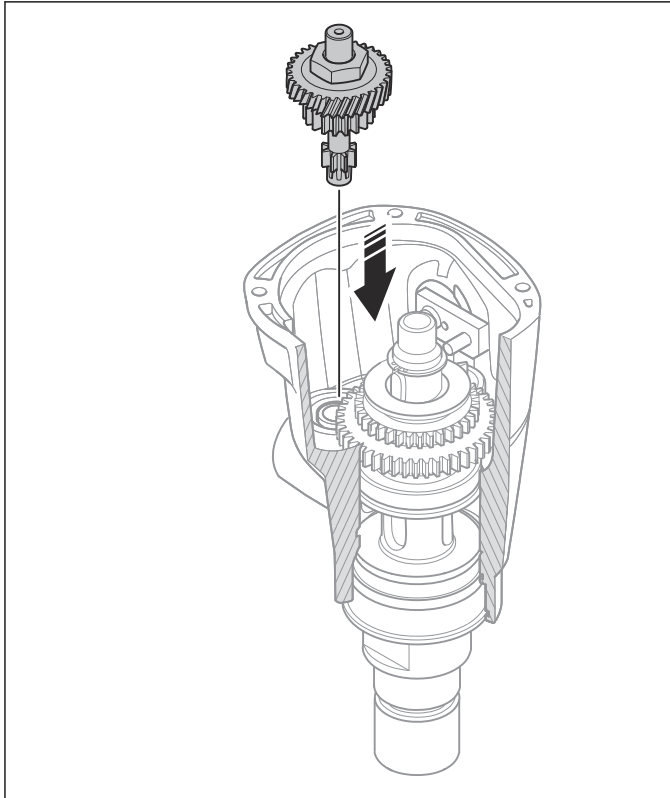
2. Use 2 spacers and put a piece of metal between them as support for the puller tool. Pull out the pinion shaft.



**Note:** Hold the gear selector with pliers to prevent the bottom bearing to come loose.

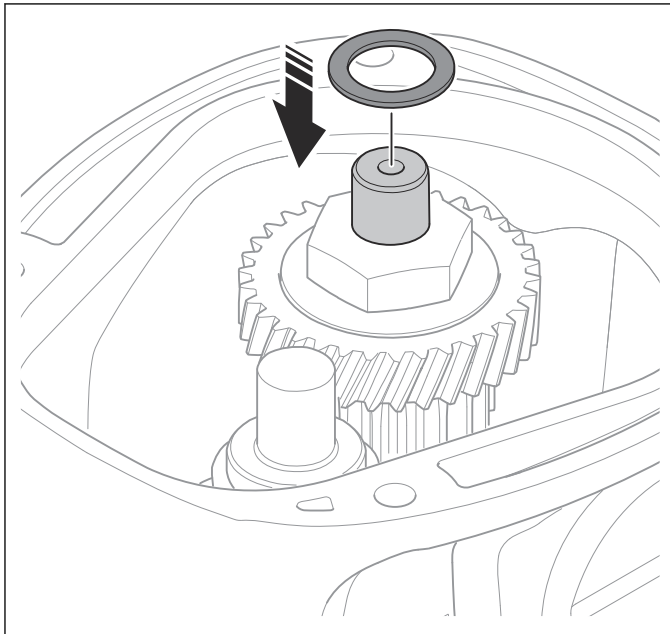
### 5.6.2 To install the pinion shaft

1. Put the pinion shaft into the gear housing. Tap the pinion shaft carefully with a soft head mallet to attach it to the bearing seat in the gear housing.



**CAUTION:** Make sure that the metal surface does not become damaged.

2. Put the shim ring on the pinion shaft.

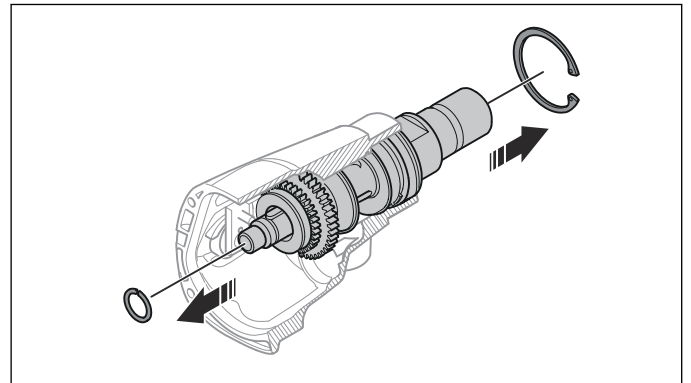


3. Fill the gear housing with gear oil and assemble the product. Refer to *To replace the gear oil on page 11*.

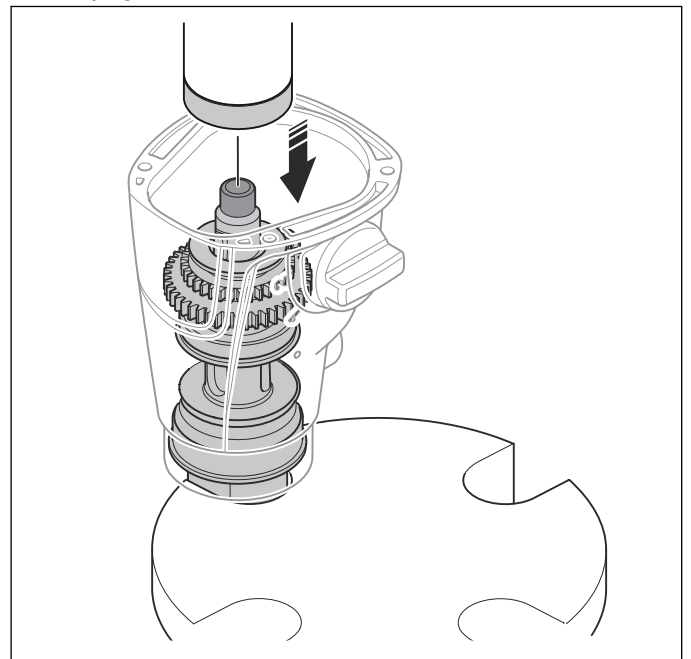
### 5.6.3 To remove the drill spindle

**Note:** Replace the shaft seals if the drill spindle is removed. Refer to *To replace the shaft seals for the drill spindle on page 17*.

1. Remove the 2 snap rings with circlip pliers.

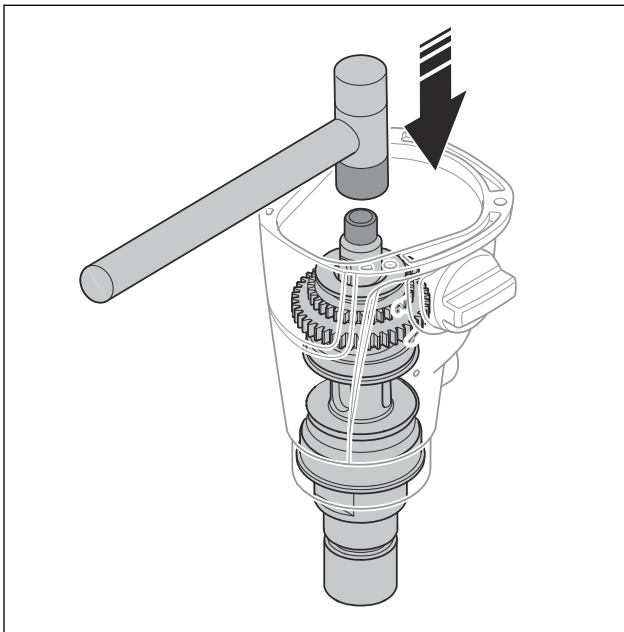


2. Push the drill spindle out of the gear housing with a mandrel press. Refer to *Servicing tools overview 1 on page 5*.



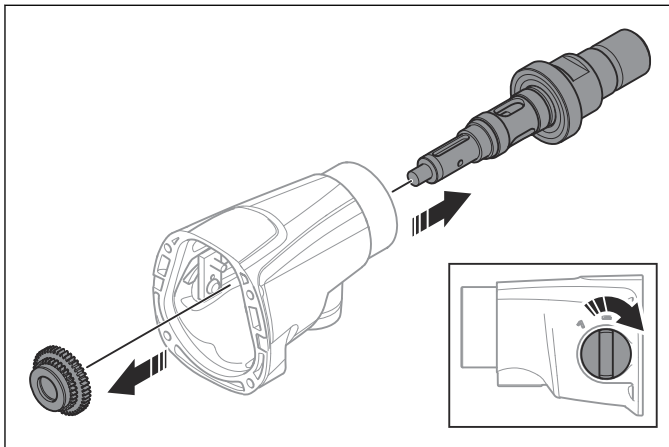
**Note:** If the drill spindle does not come out of the gear housing, tap the drill spindle carefully with a soft head mallet to loosen it.



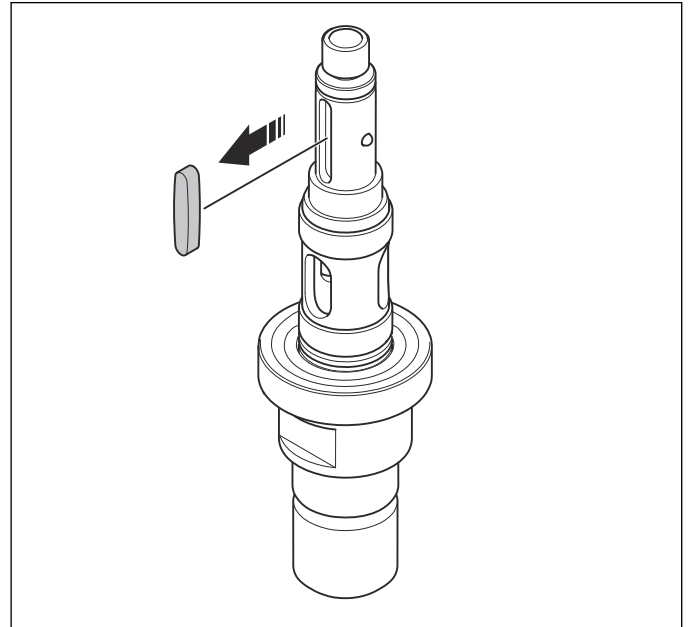


**CAUTION:** Make sure that the metal surface does not become damaged.

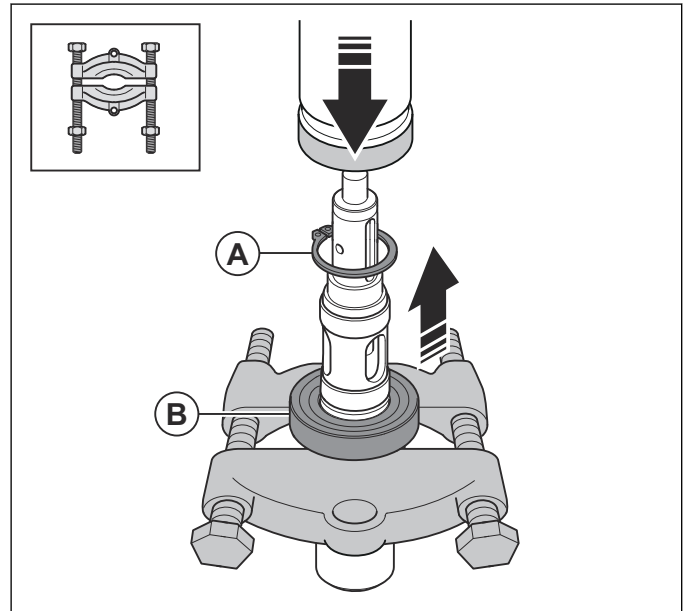
3. Pull the gear wheel off the shaft and remove the drill spindle. Turn the gear selector clockwise when you pull out the drill spindle from the gear housing.



4. Remove the parallel key.

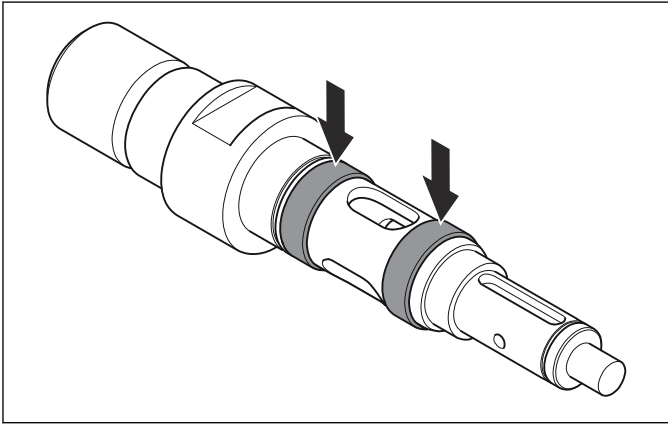


5. Remove the snap ring (A) with circlip pliers. Push the ball bearing (B) off the drill spindle shaft with the separator puller tool and a mandrel press. Refer to *Servicing tools overview 1 on page 5*.

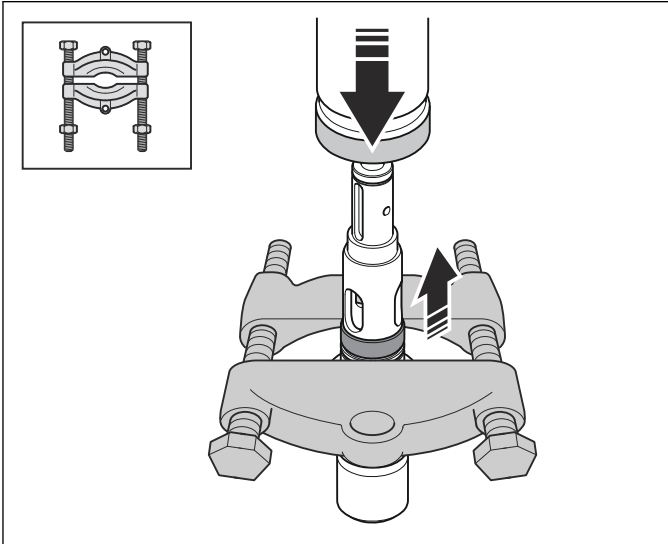


### 5.6.4 To replace the shaft sleeves for the drill spindle

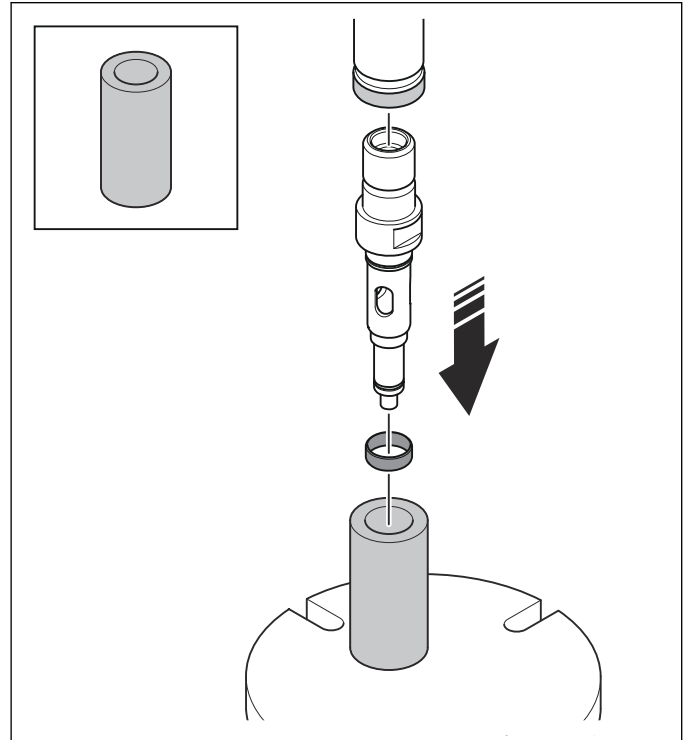
1. Clean the drill spindle shaft with a cloth. Examine the drill spindle for damage or wear. Refer to *To do a check of the gear housing and gears on page 23*.



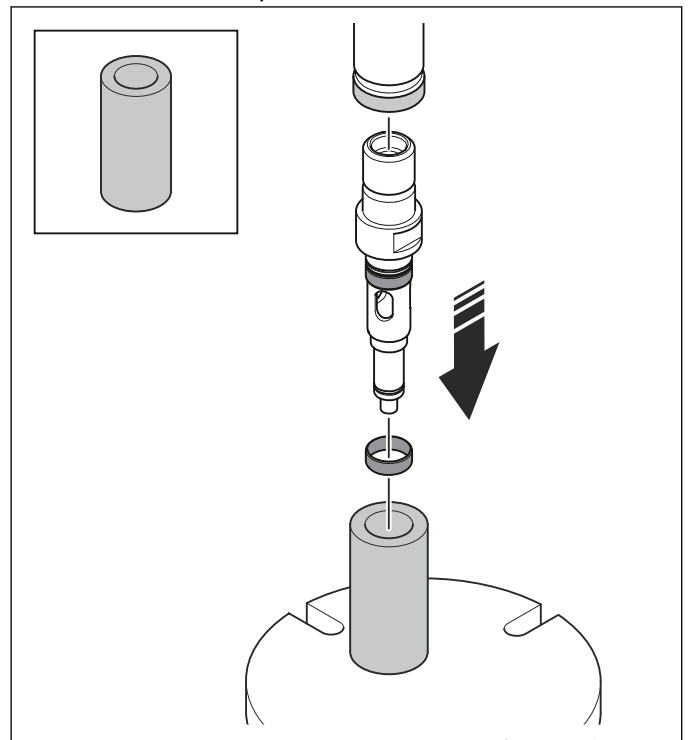
2. Push the 2 shaft sleeves off the drill spindle shaft with the separator puller tool and a mandrel press. Refer to *Servicing tools overview 1 on page 5*.



3. Put the first shaft sleeve into the sleeve press tool. Refer to *Servicing tools overview 1 on page 5*. Push the first shaft sleeve onto the drill spindle shaft with the mandrel press.

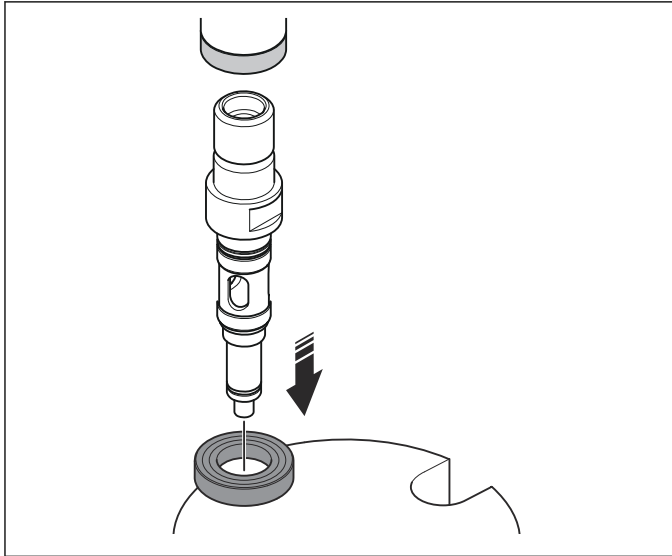


4. Turn the sleeve press tool to the other side. Put the second shaft sleeve into the sleeve press tool. Push the second shaft sleeve onto the drill spindle shaft with the mandrel press.

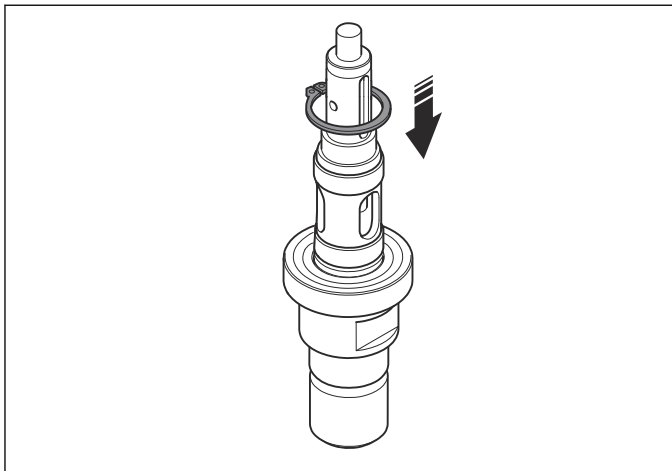


### 5.6.5 To install the drill spindle

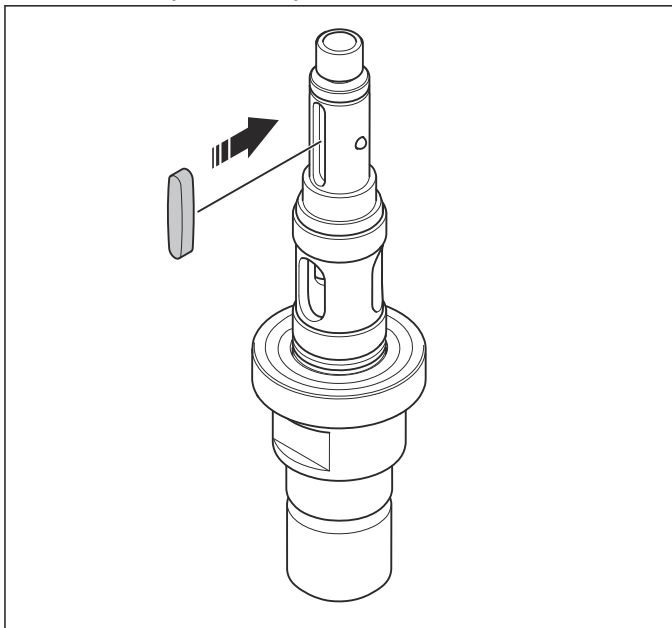
1. Push the ball bearing onto the drill spindle shaft with a mandrel press. Refer to *Servicing tools overview 1* on page 5.



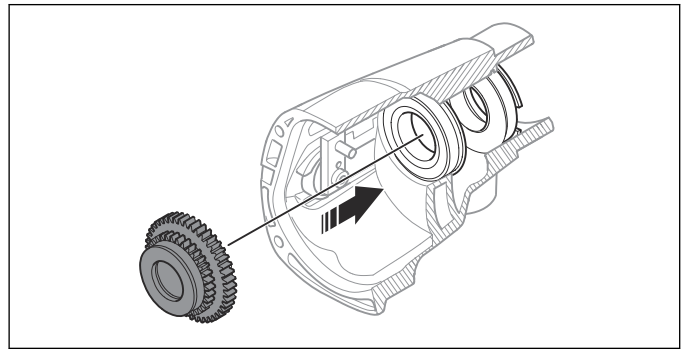
2. Install the snap ring with circlip pliers.



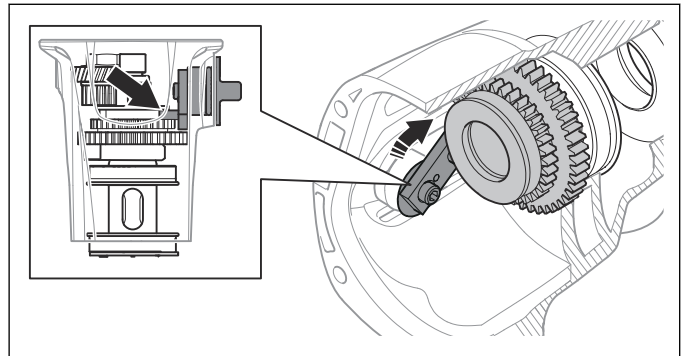
3. Install the parallel key.



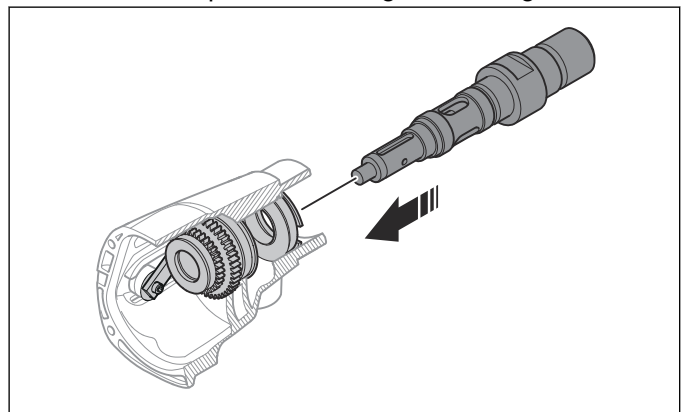
4. Put the gear wheel into the gear housing.



5. Put the pin of the gear selector into the groove of the gear wheel.



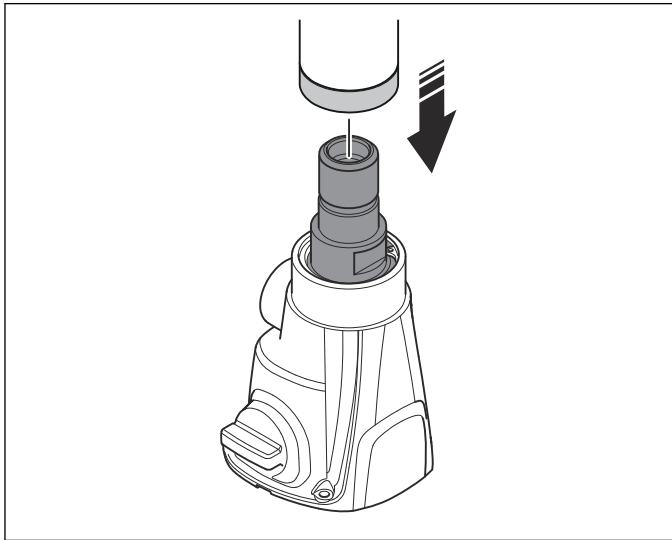
6. Put the drill spindle into the gear housing.



**Note:** Make sure that the parallel key is aligned with the groove in the gear wheel.

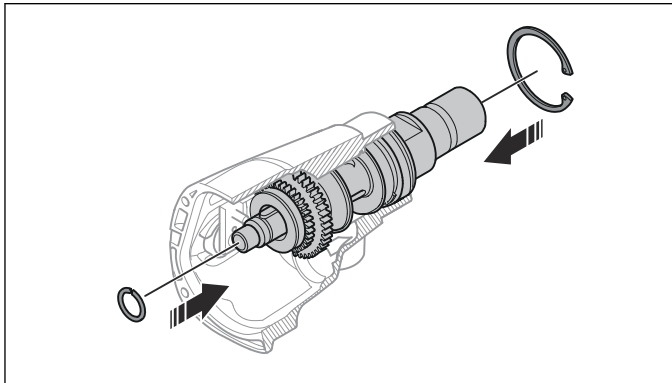


7. Push the drill spindle into the gear housing with the mandrel press.



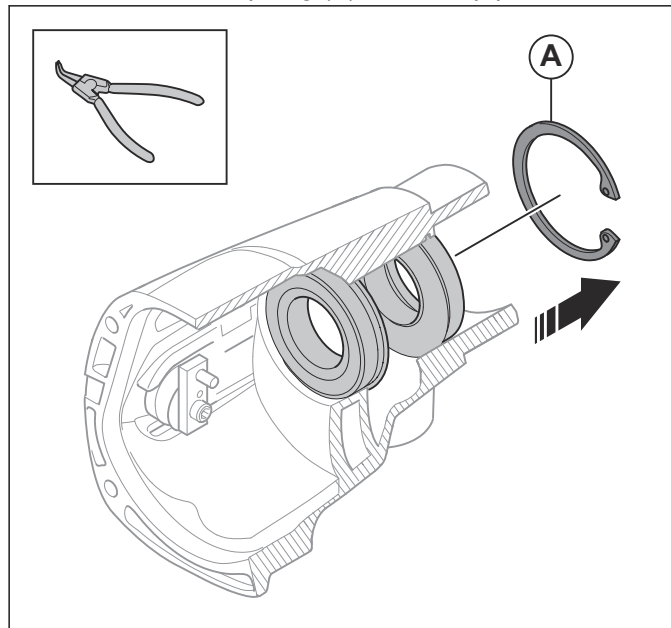
**Note:** Push the parts together by hand before you put the assembly in the mandrel press.

8. Install the 2 snap rings with circlip pliers.

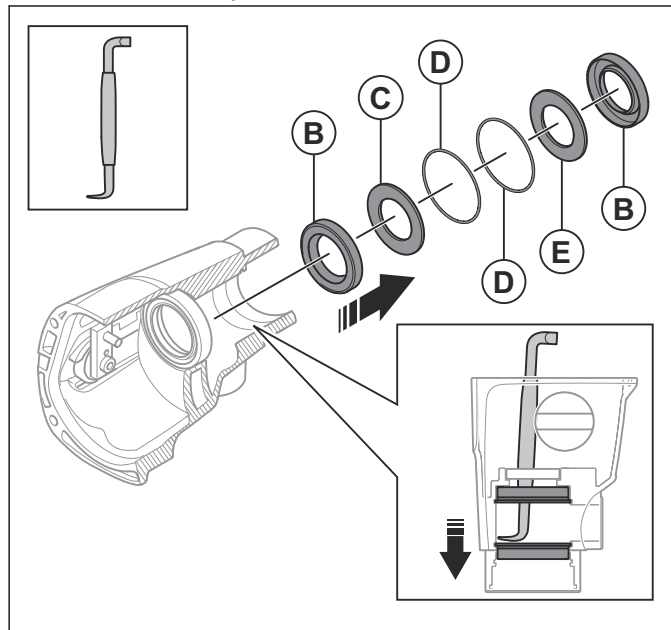


### 5.6.6 To replace the shaft seals for the drill spindle

1. Remove the snap ring (A) with circlip pliers.

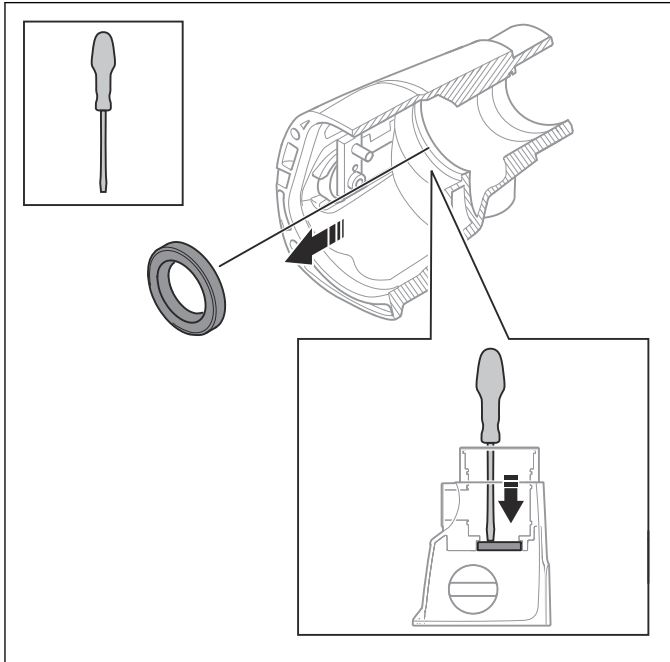


2. Push the shaft seals (B), the washer with a groove (C), the O-rings (D) and the washer (E) out of the gear housing with an offset screwdriver. Tap the offset screwdriver carefully with a soft head mallet if it is necessary.



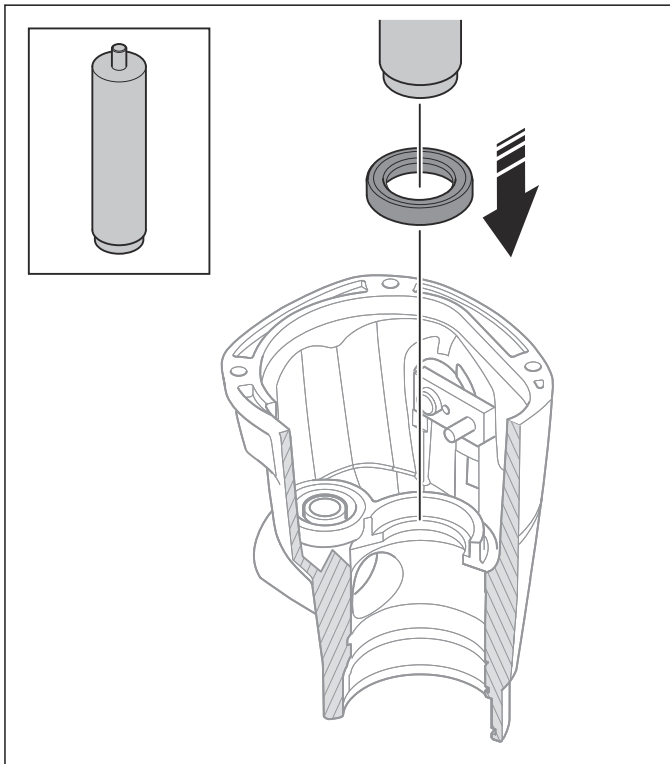
**CAUTION:** Make sure that the metal surface does not become damaged. Make sure that the O-rings are not damaged.

3. Use a screwdriver to remove the shaft seal (B).

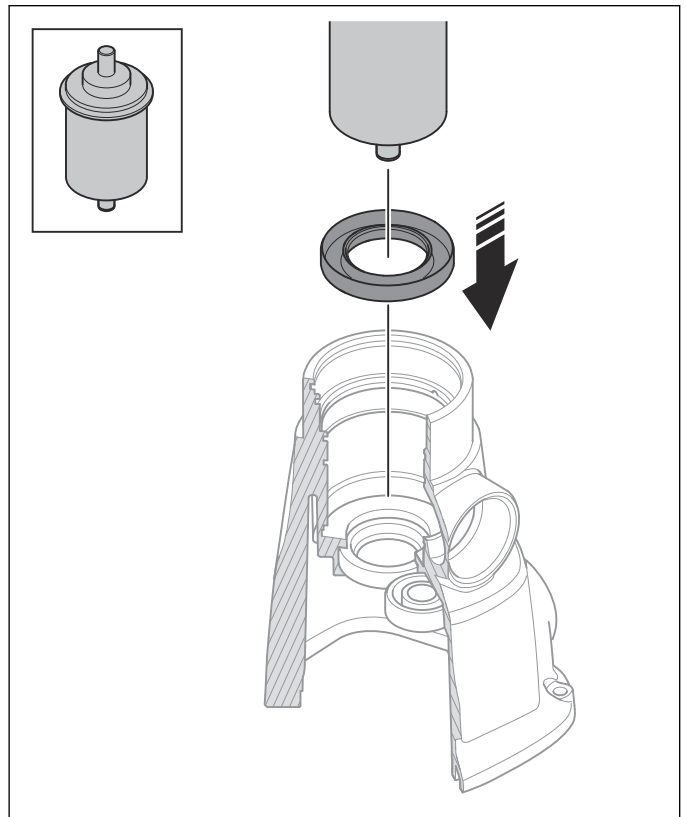


**CAUTION:** Make sure that the metal surface does not become damaged.

4. Clean and dry the seal seat. Put oil on the inner surface of the seal seat.
5. Attach the first shaft seal press tool to a mandrel press. Refer to *Servicing tools overview 1* on page 5. Put a new shaft seal on the shaft seal press tool. Push the first shaft seal into the seal seat.

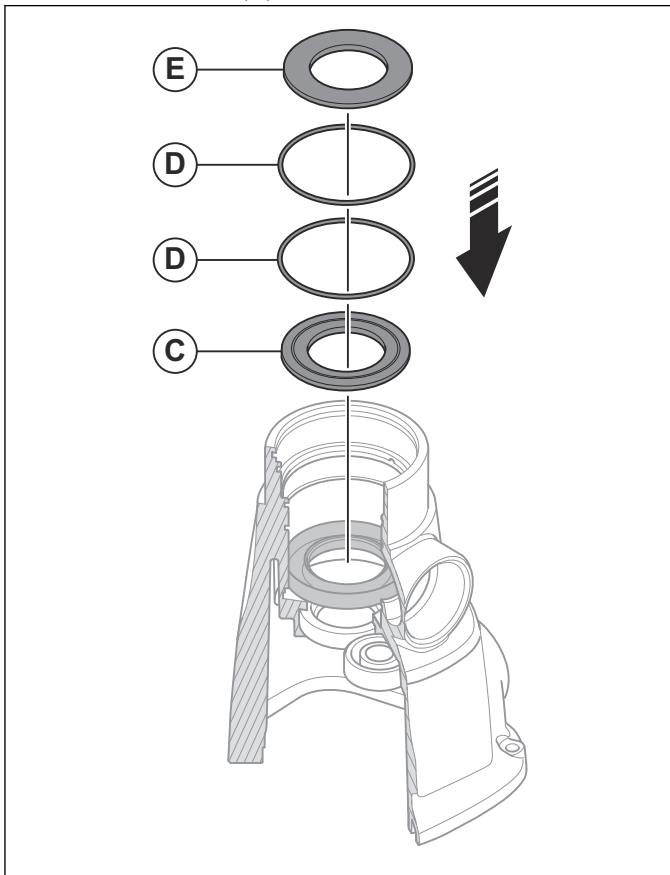


6. Attach the second shaft seal press tool to the mandrel press. Refer to *Servicing tools overview 1* on page 5. Put a new shaft seal on the shaft seal press tool. Push the second shaft seal into the seal seat.

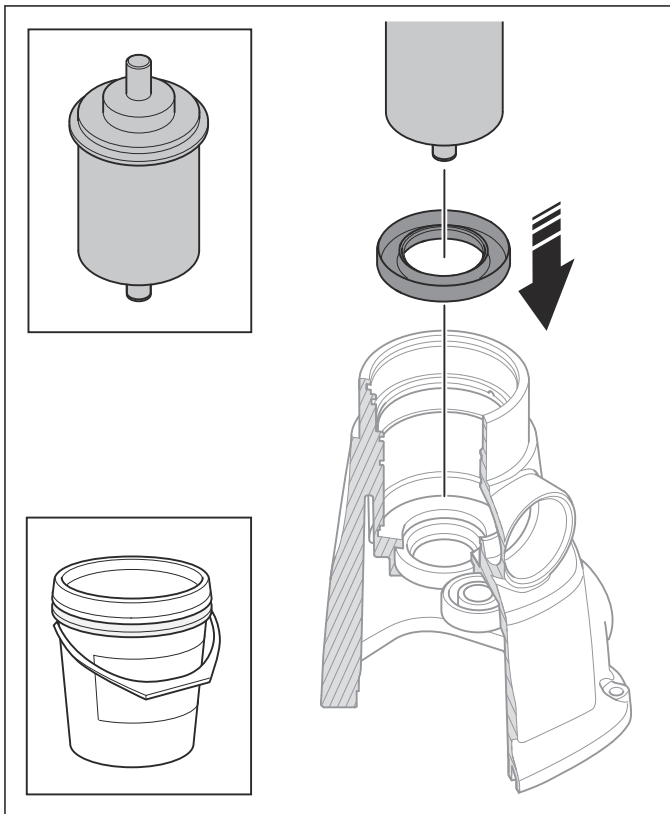


7. Put grease on the seals.

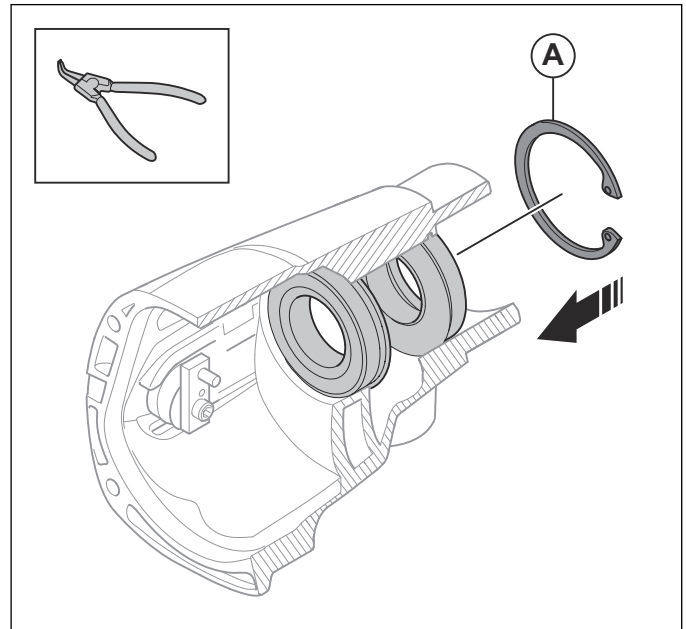
8. Install the washer with a groove (C), O-rings (D), and the washer (E) as the illustration shows.



9. Turn the second shaft seal press tool to the other side. Put grease on a new shaft seal. Put the new shaft seal on the shaft seal press tool. Push the third shaft seal into the seal seat.



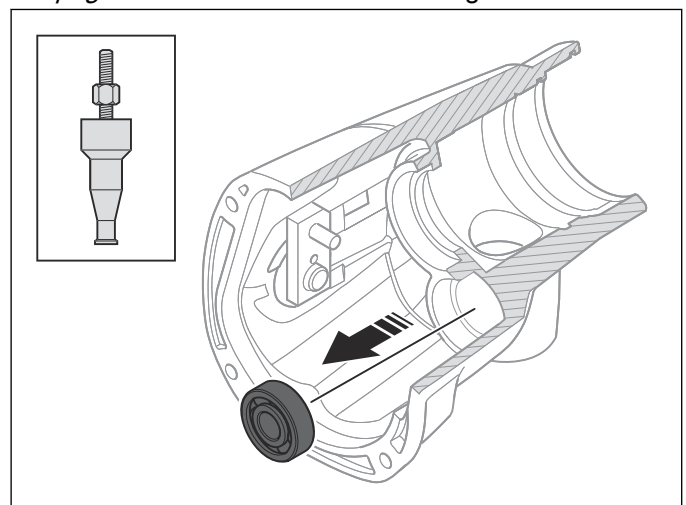
10. Install the snap ring (A) with circlip pliers.



**CAUTION:** Make sure that the leak hole does not become blocked.

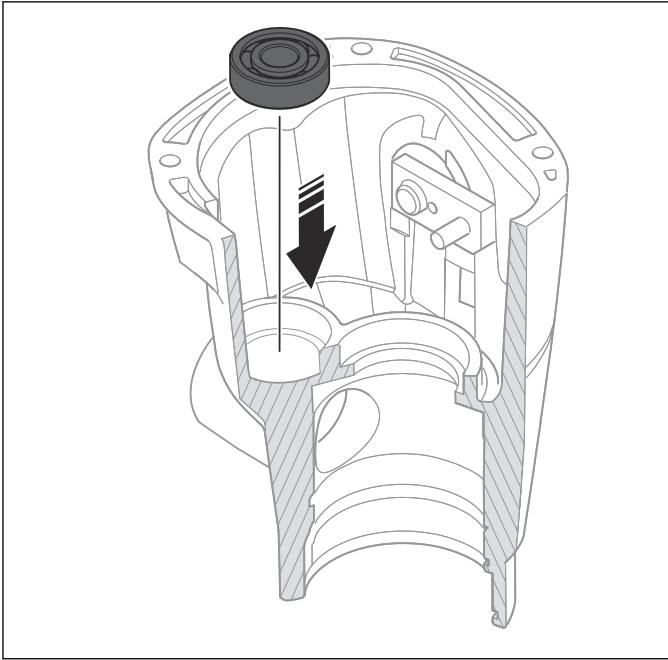
#### 5.6.7 To remove the ball bearing from the gear housing

- Put an inner bearing puller into the ball bearing in the gear housing. Attach the puller to a slide hammer. Refer to *Servicing tools overview 1* on page 5. Remove the needle bearing.

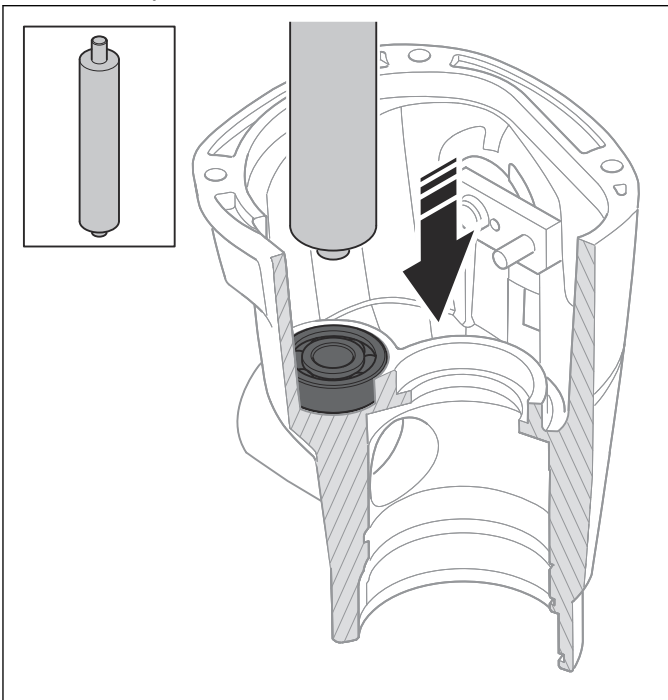


### 5.6.8 To install the ball bearing in the gear housing

1. Put the ball bearing into the bearing seat in the gear housing.

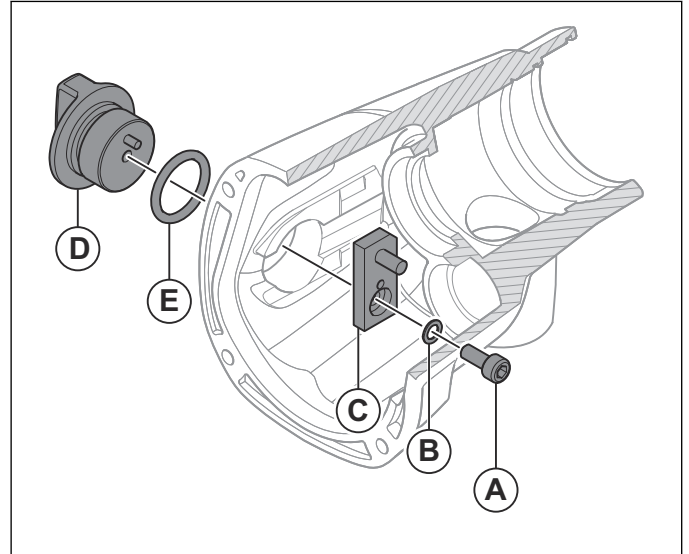


2. Attach the bearing press tool to a mandrel press. Refer to *Servicing tools overview 1 on page 5*. Push the ball bearing into the bearing seat with the mandrel press.



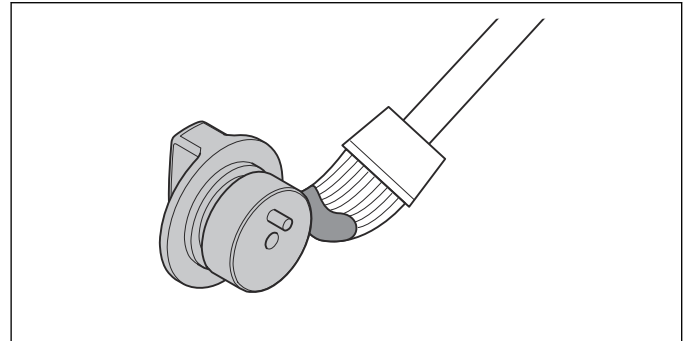
### 5.6.9 To remove the gear selector

- Remove the screw (A), the washer (B) and the bracket (C). Remove the gear selector (D) and the O-ring (E).

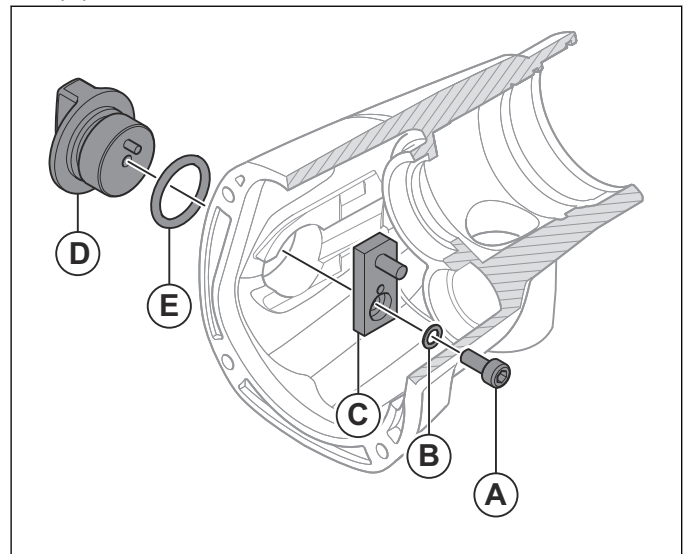


### 5.6.10 To install the gear selector

1. Put grease on the gear selector.

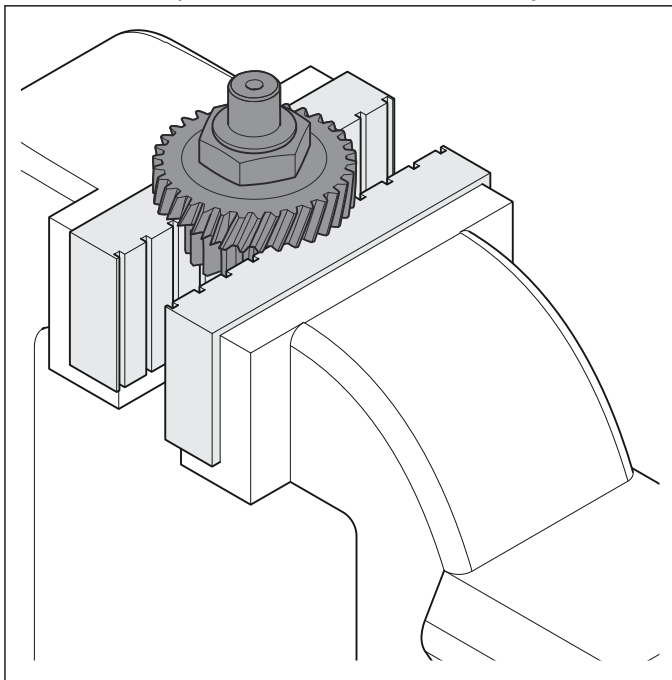


2. Install the O-ring (E) and the gear selector (D). Install the bracket (C), the washer (B) and the screw (A).

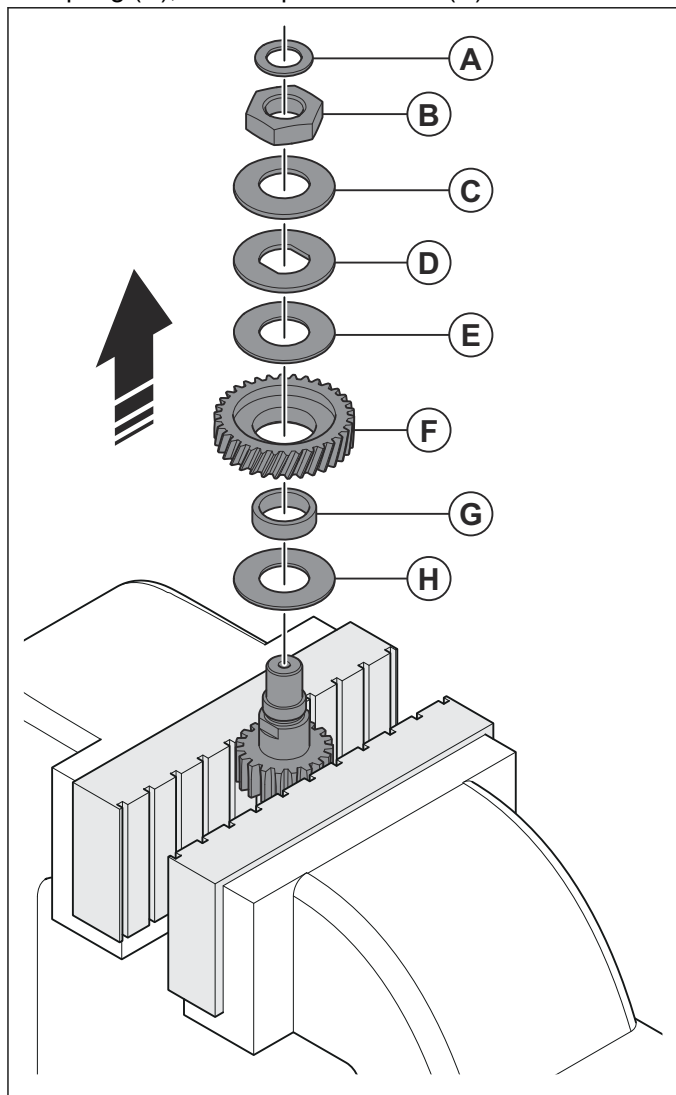


### 5.6.11 To disassemble the slip clutch

1. Attach the pinion shaft to a vise with soft jaws.



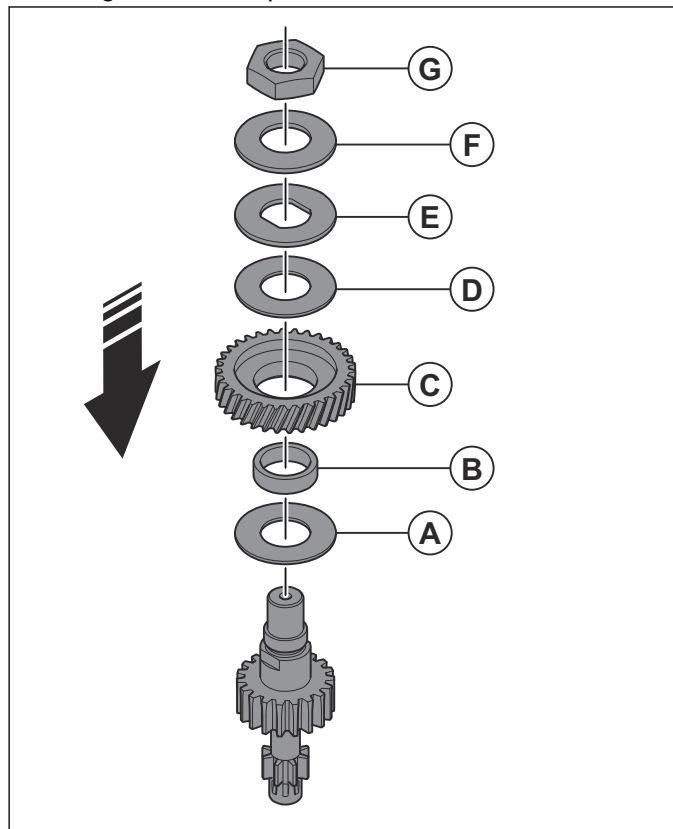
2. Remove the shim ring (A), the hex nut (B), the plate spring (C), and the pressure disc (D).



3. Remove the brake disc (E), the gear wheel (F), the bearing sleeve (G), and the brake disc (H).
4. Clean and dry all parts and examine them for wear.
5. Replace damaged parts.

### 5.6.12 To assemble the slip clutch

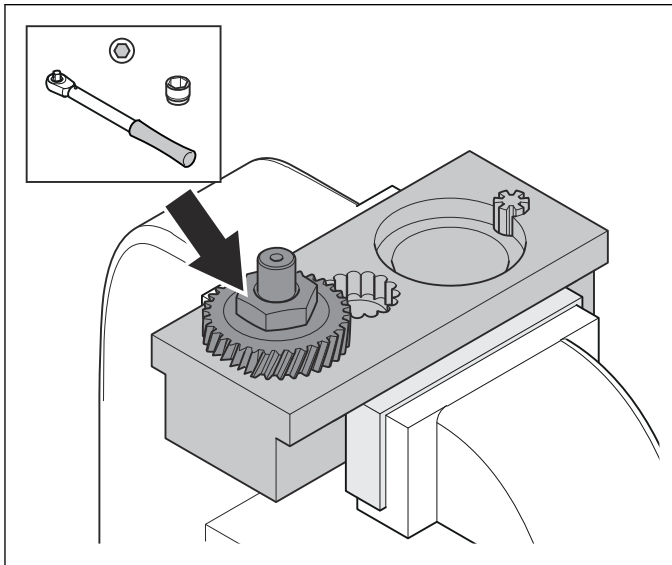
1. Put gear oil on all parts.



**Note:** Make sure to put gear oil on the two sides of the brake discs.

2. Install the friction disc (A), the bearing sleeve (B), the gear wheel (C), the friction disc (D), the pressure disc (E), the plate spring (F), and the hex nut (G).

3. Put the slip clutch into the pinion shaft holder as the illustration shows. Tighten the hex nut slightly with a wrench. Refer to *Servicing tools overview 1* on page 5.



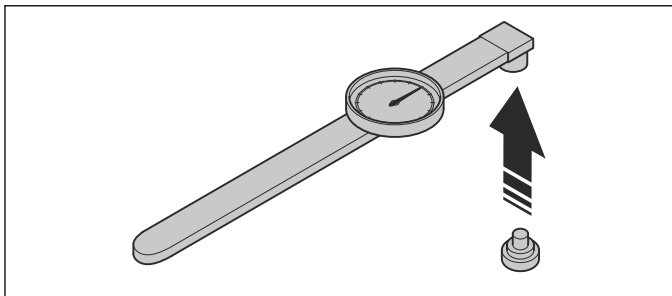
- b) If the torque is too high, loosen the hex nut slightly and do a check with the torque wrench again. Do the procedure until you read the correct value.

---

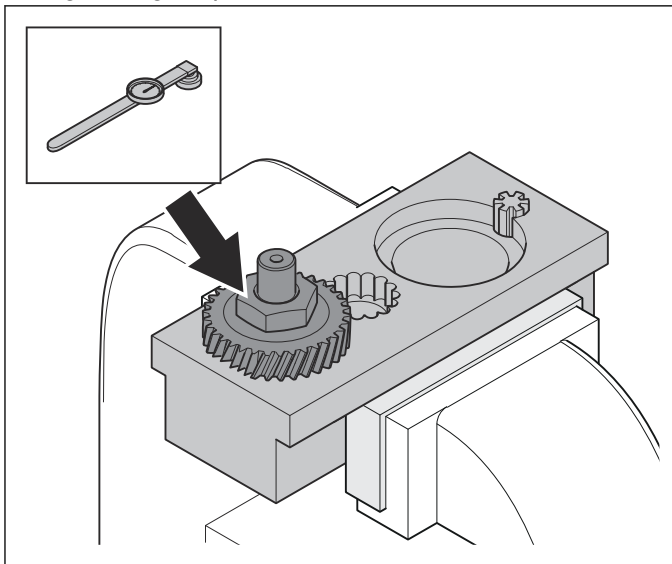
**Note:** When the slip clutch rotates, it becomes warm. It increases the torque. Let the slip clutch become cool before you read the torque again.

---

4. Attach the pinion shaft torque tool to the torque wrench.



5. Do a check of the friction clutch with the torque wrench. Turn the torque wrench clockwise 1-2 times and read the value at the same time. The specified tightening torque is 10-11 Nm.



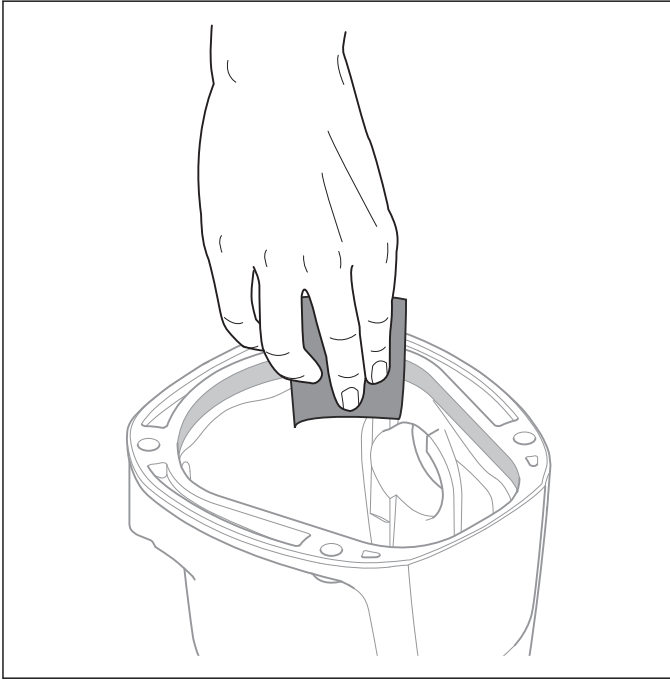
- a) If the torque is too low, tighten the hex nut slightly with a wrench. Do a check of the slip clutch with the torque wrench again. Do the procedure until you read the correct value.

## 6 Function test

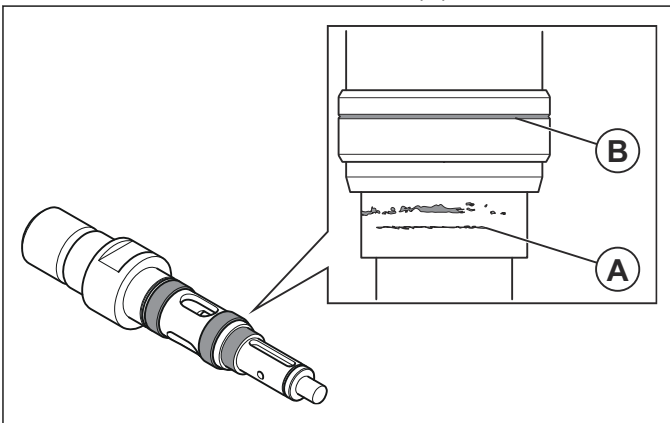
### 6.1 Gear housing

#### 6.1.1 To do a check of the gear housing and gears

- Do a check of the gear housing for cracks and other damage. Use abrasive paper to remove sharp edges and scratches from the O-ring seat.



- Do a check of the ball bearings in the gear housing for damage. Do a check for water in the gear oil caused by damaged ball bearings.
- Do a check of the bearing seats for the pinion shaft, the gear shaft and the drill spindle shaft for damage and deformation.
- Do a check of the drill spindle shaft and the shaft sleeves for damage and deformation. Do a check for blue color from too high temperatures. Use abrasive paper to remove scratches and corrosion.
  - a) The illustration shows the wear areas of the drill spindle. The drill spindle shaft must be replaced if the diameter is smaller than 21.80 mm at the wear area of the shaft seal (A).



- b) The shaft sleeves must be replaced if the diameter of the groove is smaller than 27.85 mm at the wear area (B).

- Do a check of the pinion shaft for damage and deformation. Do a check for blue color from too high temperatures. Use abrasive paper to remove scratches and corrosion.
- Do a check of the gear wheels for broken teeth, surface damage and deformation.
- Do a check of the brake discs for surface damage and deformation.
- Replace damaged parts.

#### 6.1.2 To do a check of the covers and the motor housing

1. Examine the top cover for damage.
2. Examine the middle cover and the motor housing for damage. Measure and make sure that the bearing seats are circular. If deviations are more than  $\pm 0.1$  mm, replace the parts.

#### 6.1.3 To do a check of the electronics

1. Do a visual check for damaged components.
2. Do a soft start of the motor. Refer to the operator's manual. The product must operate correctly.



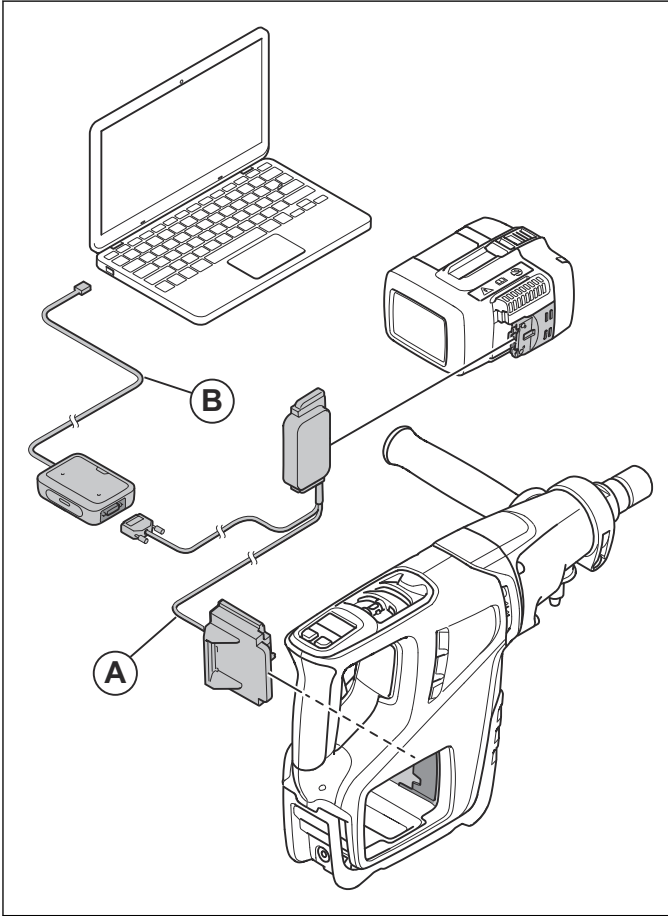
---

## 7 Troubleshooting

---

### 7.1 To connect the Husqvarna Service Hub

1. Connect the adapter cable (A) for the Husqvarna Service Hub to the battery and the battery connector on the product.



2. Connect the cable (B) to the Husqvarna Service Hub.

3. Start the product to do a software update.

**Note:** Refer to the manual of the Husqvarna Service Hub for instructions and obey the instructions.

---



## 7.2 To do troubleshooting of the Husqvarna Service Hub

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

1. Make sure that the connectors on the battery and on the product are clean and not damaged. Replace the battery or control unit on the product if there is damage.
2. Make sure that the cable connected to the computer that runs the Husqvarna Service Hub is clean and not damaged. Replace the cable if it is damaged.

3. Restart the computer.
4. Install the software again.

## 7.3 Troubleshooting of the product

If you cannot find a solution to your problems in this operator's manual, speak to your Husqvarna service agent.



**WARNING:** When any of the problems below occur, immediately release the power trigger.

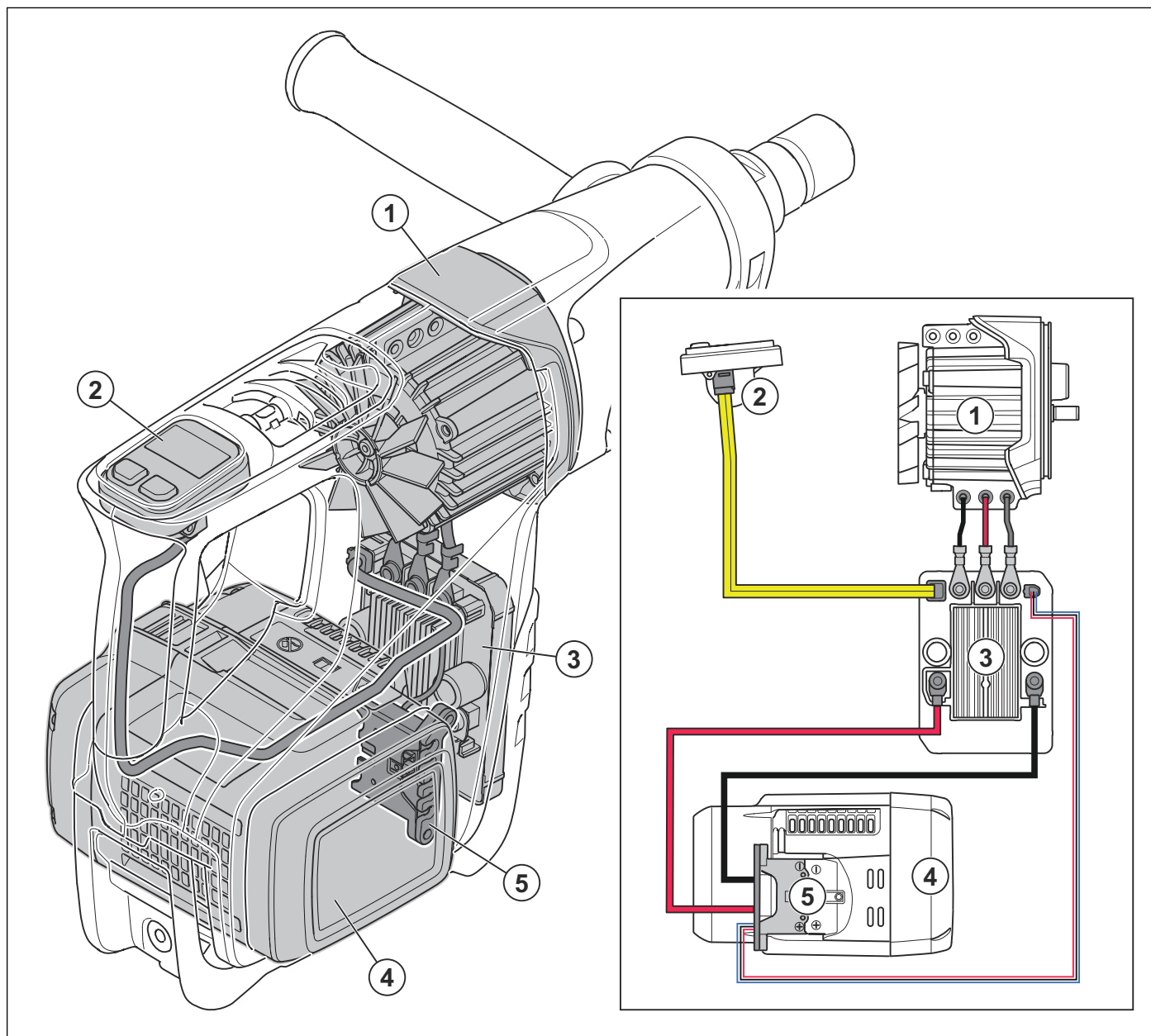
Problem	Possible cause	Solution
The motor does not start when the power trigger is pushed.	There is a fault with the battery.	Do a check of the battery.
The product stops.	The drill bit is blocked.	Turn the drill bit right and left, use a wrench. Carefully remove the product from the drill hole.
	Too high load causes overload of the motor.	Make sure that the drill bit can rotate easily in the drill hole.
The drill bit decreases in speed and stops.	The diamond segments are blunt.	Sharpen the diamond segments with a grind stone.
Unwanted material collects around the hole during operation.	The water pressure is too low.	Increase the water pressure.
The diamond segments on the drill bit are pulled out of their bond.	There is much vibration in the product during the operation.	Use correct load when you operate the product.
There is a leakage of gear oil.	The seals are worn out and must be replaced.	Speak to an approved Husqvarna service center.
There is a leakage of water from the hole on the water connection ring.	The shaft seals are defective.	Speak to an approved Husqvarna service center. Always use clean water.
The product does not operate smoothly.	Too high load causes overload of the motor.	Use less force when you drill.

## 7.4 Troubleshooting of the user interface

LED screen	Possible faults	Possible solution
The warning indicator flashes.	Temperature deviation.	Let the product become cool.
	Overload. The drill bit cannot move.	Release the drill bit.
	The power trigger and the On/Off button are pushed at the same time.	Release the power trigger and then push the On/Off button.
The green LED flashes.	Low battery voltage.	Charge the battery.
The warning indicator is on.	Servicing is necessary.	Speak to your servicing dealer.

## 8 Diagrams

### 8.1 Wiring diagram



1. Motor
2. Control panel
3. Control unit
4. Battery
5. Battery connector





[www.husqvarna.com](http://www.husqvarna.com)

1142168-26

2022-04-04