

## STIHL HSA 50.0, 50.1

Service Manual  
2023-11





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# 1 About this Service Manual

## 1.1 Applicable Documentation

- Please observe the following documentation in addition to this service manual.
- Spare parts documentation
- TI bulletins
- Instruction manual

## 1.2 Symbols in Text



This symbol refers to a chapter in this service manual.



A video is available for this chapter

**5 Nm** This symbol shows the tightening torque for a screw joint and the procedure after tightening.



In this example: Tightening torque 5 Nm. Then rotate 1 full turn counterclockwise.

# 2 Safety Precautions

## 2.1 Basic safety measures

- Do not use defective devices, housings or diagnostic units.
- Do not use damaged or worn parts for repair work.
- Observe the national safety regulations in the respective User Manual.

## 2.2 Battery

Batteries must not be repaired. Do not use defective batteries.

Refer to the User Manual for the following information:

- Safety information
- Information about use and safe handling
- Temperature limits for charging
- Transporting
- Storing

## 2.3 Warning of unintentional starting



### WARNING

If the battery is inserted when carrying out cleaning, servicing or repairs, it is possible for the device to be switched on unintentionally. This may result in serious injury to people and damage to property.



Remove the battery.

## 2.4 Soldering



### WARNING

Risk of injury caused by emerging vapors!

Vapors that are harmful to health occur during soldering. If inhaled, these vapors can irritate or damage the respiratory system.

- Do not inhale vapors.
- Ensure good ventilation.

## 2.5 Safety glasses

During repair work, flying parts or liquid spray may cause injuries to eyes.

- Wear suitable safety glasses during repair work.

## 2.6 Protective gloves

During repair, injuries may be caused by hot surfaces, sharp-edged materials or substances hazardous to health.

- Wear suitable protective gloves during repair.

## 2.7 Safety boots

Safety boots protect feet against bruises, falling parts and slipping on slippery surfaces.

- Wear suitable safety boots during repair work.

# 3 Maintenance and Repairs

## 3.1 Preparing for repair work

- Remove the battery.
- If applicable, remove tool or cutting attachment.
- Clean the tool.

## 3.2 ESD protection

### NOTICE

Electrostatic discharge (ESD) can cause damage to electronic components.

**To avoid material damage to components, observe the following points:**

- Touch electronic components only with ESD protective equipment.
- Use ESD table mat with wrist strap.
- Ship defective electronic components only in ESD bags.

### **3.3 Thread-cutting screws**

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Screws with the designation P or DG imprint a permanent thread in the material when screwed in. If the screw no longer engages in the thread when re-inserted, the security of the screwed connection can no longer be guaranteed.

- How to install type P or DG screws in an existing thread:
  - Place screw in the hole.
  - Turn screw counterclockwise until the screw sinks slightly into the hole. The screw engages the existing thread.
  - Turn screw clockwise, tighten with the prescribed torque.

### **3.4 Micro-encapsulated screws**

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The micro-encapsulated pre-coating is only effective the first time the screw is screwed in. If a micro-encapsulated screw is reused, the screw connection may loosen during operation.

- Replace the microencapsulated screw.
- If a micro-encapsulated screw is to be reused, carry out the following steps:
  - Coat the thread of the screw with medium-strength threadlocking adhesive (Loctite 243).
  - Screw in the screw, tighten with the prescribed torque.

### **3.5 Aluminum screws**

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- Do not re-use screws.
- Screw in screws crosswise until the head contacts.
- Tighten down the screws in a crosswise pattern.
- Continue to turn the screws crosswise by 90°.

### **3.6 Spare parts**

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These symbols indicate original STIHL spare parts and original STIHL accessories.

STIHL recommends the use of original STIHL spare parts and accessories.

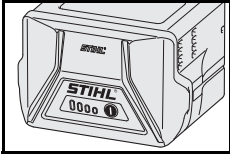
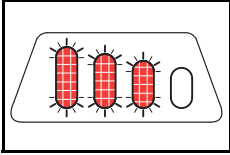

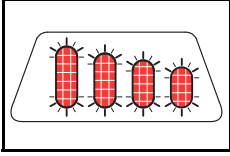

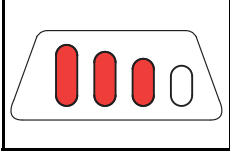
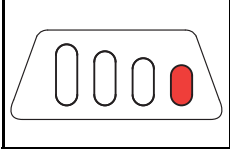
Despite ongoing market observation, STIHL is unable to judge the reliability, safety and suitability of other manufacturers' spare parts and accessories; accordingly, STIHL cannot warrant for the use of those parts.


Original STIHL spare parts and original STIHL accessories are available from STIHL authorized dealers.

If a set consisting of several spare parts is used, all parts of the delivery must be installed and used to warrant the proper functioning and safety of the device.

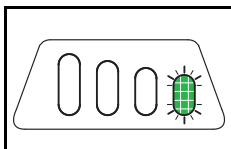
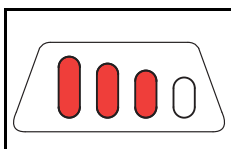
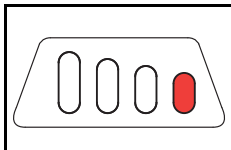

## 4 Troubleshooting

### 4.1 The hedge trimmer does not start or only hums when switched on

		Yes	No
1.	Is battery charged? Is battery properly installed? Is battery undamaged?	Proceed to 2.	Charge the battery. Install the battery properly. Replace battery. Proceed to 12.
2.	Are the blades stuck together or dirty?	Spray the blades with STIHL resin solvent and press the trigger several times. Proceed to 12.	Proceed to 3.
3.	Are the contacts in battery compartment dirty?	Clean contacts in battery compartment. Proceed to 12.	Proceed to 4.
4.	Is the hedge trimmer or battery damp?	Allow the hedge trimmer or battery to dry. Proceed to 11.	Proceed to 5.
5.	Do LEDs on battery glow or flash red? 	Proceed to 6.	Proceed to 10.
6.	Do 3 LEDs flash red? 	Malfunction in the hedge trimmer. Test the hedge trimmer with the ADG 2 battery diagnostic unit, see  6.1 Proceed to 10.	Go to 7.
7.	Do 4 LEDs flash red? 	Malfunction in battery. Test battery with battery diagnostic unit ADG 1, see  5.1 Proceed to 12.	Proceed to 8.
8.	Do 3 LEDs glow continuously red? 	The hedge trimmer is too hot. Allow the hedge trimmer to cool down. Proceed to 12.	Go to 9.
9.	Does 1 LED glow continuously red? 	Battery too hot or too cold. Allow battery to cool down / warm up. Proceed to 12.	Proceed to 5.

		<b>Yes</b>	<b>No</b>
10.	Are parts of the hedge trimmer damaged? Carry out a visual inspection.	Replace damaged parts. Proceed to 12.	Proceed to 11.
11.	Check the electrical components for damage and correct function with the ADG 2 battery diagnostic unit and replace them as necessary, see  6.1 Does the hedge trimmer now run properly?	Repairs completed.	Go to 1.
12.	Does the hedge trimmer now run properly?	Repairs completed.	Proceed to 1.

#### **4.2 The hedge trimmer cuts out during operation**

		<b>Yes</b>	<b>No</b>
1.	Does one LED flash green? 	Battery is empty. Charge the battery. Go to 7.	Proceed to 2.
2.	Remove the battery and put it back in. Switch on the hedge trimmer. Does the hedge trimmer now run properly?	There was an electrical malfunction. Repairs completed.	Proceed to 3.
3.	Do 3 LEDs glow continuously red? 	The hedge trimmer is too hot. Remove the battery. Allow the hedge trimmer to cool down. Proceed to 7.	Proceed to 4.
4.	Does 1 LED glow continuously red? 	Battery too hot or too cold. Allow battery to cool down / warm up. Go to 7.	Proceed to 5.
5.	Is the hedge trimmer damaged? Are the contacts in the battery compartment dirty?	Replace damaged parts. Clean contacts in battery compartment. Go to 7.	Proceed to 6.
6.	Check the electrical components for damage and correct function with the ADG 2 battery diagnostic unit and replace them as necessary, see  6.1 Does the hedge trimmer now run properly?	Repairs completed.	Go to 1.
7.	Does the hedge trimmer now run properly?	Repairs completed.	Proceed to 1.

#### 4.3 The hedge trimmer's runtime is too short

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		<b>Yes</b>	<b>No</b>
1.	Was battery fully charged before starting work?	The battery service life has been exceeded. Replace battery.	Fully charge the battery. Proceed to 2.
2.	Does the hedge trimmer now run properly?	Repairs completed.	Go to 1.

#### 4.4 Battery jams when being inserted in battery compartment

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	<b>Check the following</b>	<b>Yes</b>	<b>No</b>
1.	Dirty contacts in battery compartment?	Clean contacts in battery compartment. Proceed to 5.	Proceed to 2.
2.	Contacts in battery compartment bent?	Straighten contacts in battery compartment. Proceed to 5.	Proceed to 3.
3.	Guides in battery compartment dirty?	Clean guides in battery compartment. Proceed to 5.	Proceed to 4.
4.	Are parts in battery compartment damaged?	Replace damaged parts. Proceed to 5.	Proceed to 5.
5.	Does the hedge trimmer now run properly?	Repairs completed.	Go to 1.

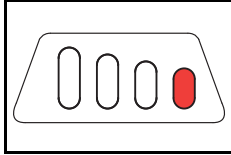
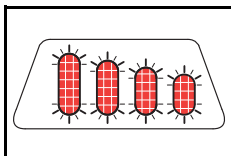

#### 4.5 Battery remains in same position after being unlocked – it is not ejected

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	<b>Check the following</b>	<b>Yes</b>	<b>No</b>
1.	Dirty contacts in battery compartment?	Clean contacts in battery compartment. Proceed to 4.	Proceed to 2.
2.	Guides in battery compartment dirty?	Clean guides in battery compartment. Proceed to 4.	Proceed to 3.
3.	Are the springs damaged?	Replace damaged springs. Proceed to 4.	Proceed to 4.
4.	Does the hedge trimmer now run properly?	Repairs completed.	Go to 1.



#### 4.6 Charge process does not start when battery is inserted in the charger

	Check the following	Yes	No
1.	Does LED on charger flash red?	No electrical contact between battery and charger. Remove the battery and refit it. Proceed to 4.	Proceed to 2.
2.	Does 1 LED glow continuously red? 	Battery too hot or too cold. Allow battery to cool down or gently warm up battery at temperatures of approx. 15 °C - 20 °C (59 °F - 68 °F); operate charger only in closed and dry rooms at ambient temperatures of 5 °C - 40 °C (41 °F - 104 °F). Proceed to 4.	Proceed to 3.
3.	Do 4 LEDs flash red? 	Malfunction in battery. Test battery with battery diagnostic unit ADG 1, see  5.1 Proceed to 4.	Proceed to 4.
4.	Does charge process now start?	Repairs completed.	Replace charger.

## 5 Battery

### 5.1 Visual Inspection

- Never attempt to open or repair the battery.

Replace the battery if:

- it is deformed.
- Its contacts are bent or damaged.
- its casing is cracked.
- there is an electrical malfunction.

### 5.2 Testing with STIHL ADG 1 Battery Analyzer

The battery is tested for malfunctions with the STIHL ADG 1 battery analyzer.

- Observe the safety precautions in the STIHL ADG 1 instruction manual.

## 6 Testing Cordless Power Tool

### 6.1 Testing with STIHL ADG 2 Diagnostic Unit

The hedge trimmer is tested for malfunctions using the STIHL ADG 2 diagnostic unit.

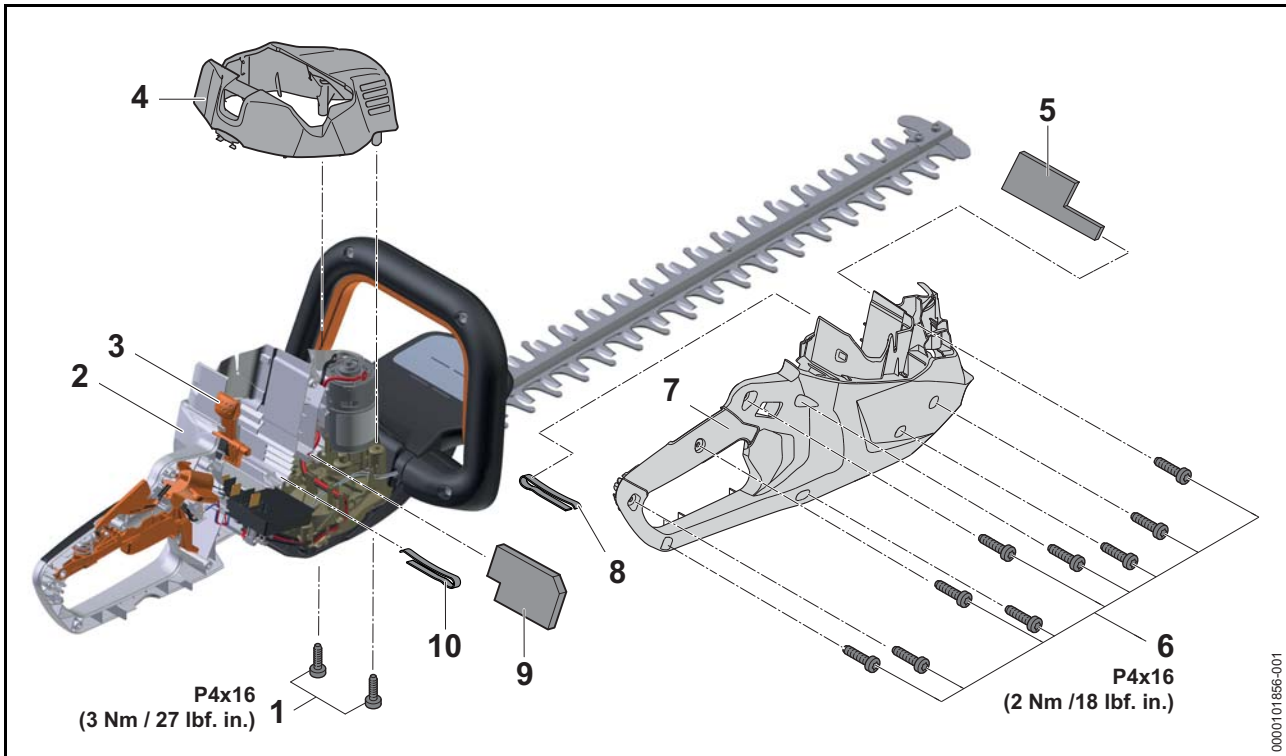
- Follow the instructions and safety precautions for testing in the following documents:

- Hedge trimmer User Manual.
- STIHL ADG 2 Diagnostic Unit User Manual.
- TI bulletins on STIHL ADG 2 Diagnostic Unit.

### 6.2 Connecting the STIHL ADG 2 Diagnostic Unit

- Insert the Diagnostic Unit's plug in a wall outlet.
- Slide the battery into the diagnostic unit until you start to feel resistance – then push it as far as it will go.
- Put the adapter of the diagnostic unit in the hedge trimmer's battery compartment.

## 7 Motor Housing



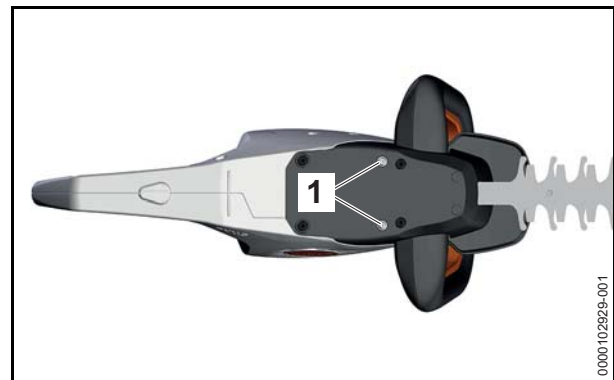
Illustrated: HSA 50.0

- 1 Screws
- 2 Left motor housing
- 3 Locking lever
- 4 Cover
- 5 Filter
- 6 Screws
- 7 Right motor housing
- 8 Spring
- 9 Filter
- 10 Spring

### 7.1 Tools, Aids


- Socket, T20x125 – 0812 542 2041
- Torque wrench – 5910 890 0302
- Screwdriver, T20 – 5910 890 2301
- Wiring tool – 5910 890 4000

### 7.2 Removing the cover



- Unscrew the screws (1).
- Press and hold the locking lever (3).
- Remove the cover (4).

### 7.3 Removing the right motor housing

- Remove the cover,  7.2.
- Unscrew the screws (6).
- Remove the right motor housing (7).
- Remove the spring (8) from the battery compartment.
- Remove the filter (5).

## 7.4 Removing the left motor housing

- Remove the cover, [8.2](#).
- Remove the right motor housing, [8.3](#).

### HSA 50.0

- Remove the trigger, [8.1.3](#).
- Remove the ergo lever, [8.1.5](#).
- Remove the locking lever, [8.1.7](#).

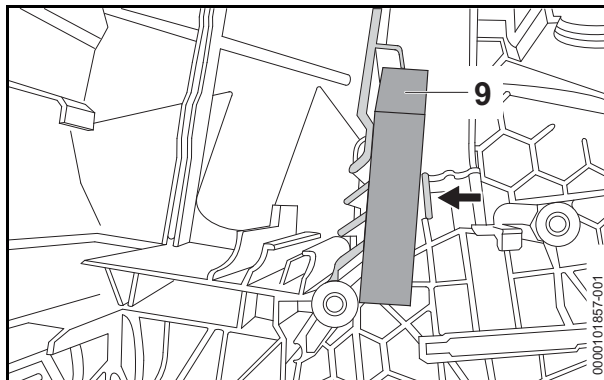
### HSA 50.1

- Remove the trigger lockout, [8.2.3](#).
- Remove the trigger, [8.2.5](#).

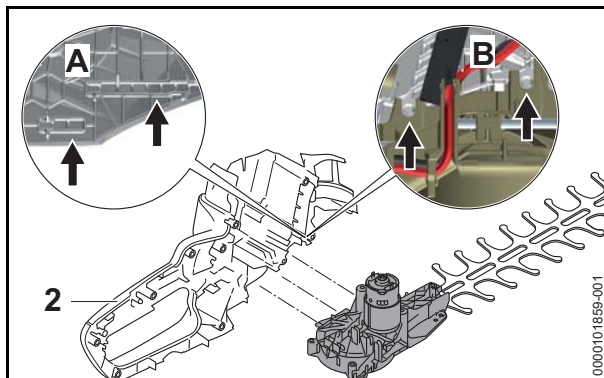
Do not disconnect plug connections on the electronic module.

- Remove the electronic module, [9.2](#).
- Remove the gear housing and cutting device from left motor housing (2).
- Remove the spring (10) from the battery compartment.
- Remove the filter (9).

## 7.5 Installing the left motor housing



- Install the filter (9) so that the upper edge of the filter (9) is flush against the upper edge of the rib (arrow).
- Insert the spring (10) in the battery compartment.



- Insert the gear housing and cutting device in the mounts (arrows) in the left motor housing (2) so that the following conditions are met:

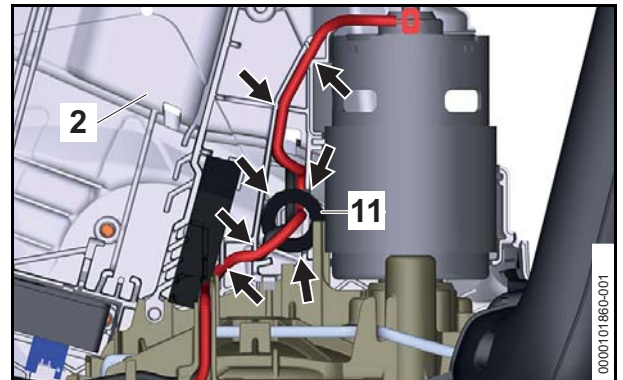
- The gear housing engages with the mounts (A).
- The screw mounting points are aligned with the screw bosses (B).
- The interlocking mechanism of the left motor housing (2) engages with the gear housing.

### HSA 50.0

- Install the locking lever, [8.1.8](#).
- Install the ergo lever, [8.1.6](#).
- Install the electronic module, [9.3](#).
- Install the trigger lever and spring, [8.1.4](#).

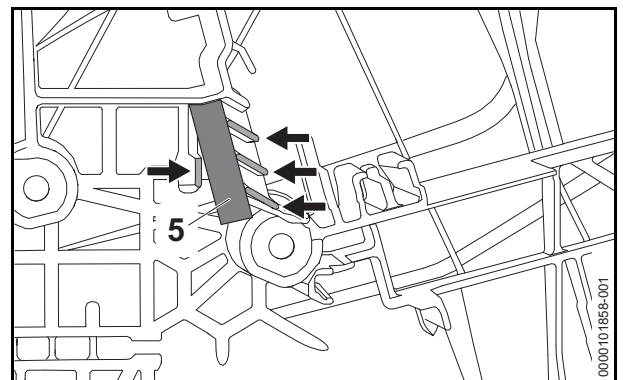
### HSA 50.1

- Install the trigger, [8.2.6](#).
- Install the trigger lockout, [8.2.4](#).
- Install the electronic module, [9.3](#).



- Press the wires and the ferrite core (11) into the mounts (arrows) of the left engine housing (2).
- Install the right motor housing, [7.6](#).

## 7.6 Installing the right motor housing



- Install the filter (5) so that the upper edge of the filter (5) is flush against the upper edge of the rib (arrow).
- Insert the spring (8) in the battery compartment.
- Fit the right motor housing (7) on the left motor housing (2).
- Screw in and tighten the screws (6).

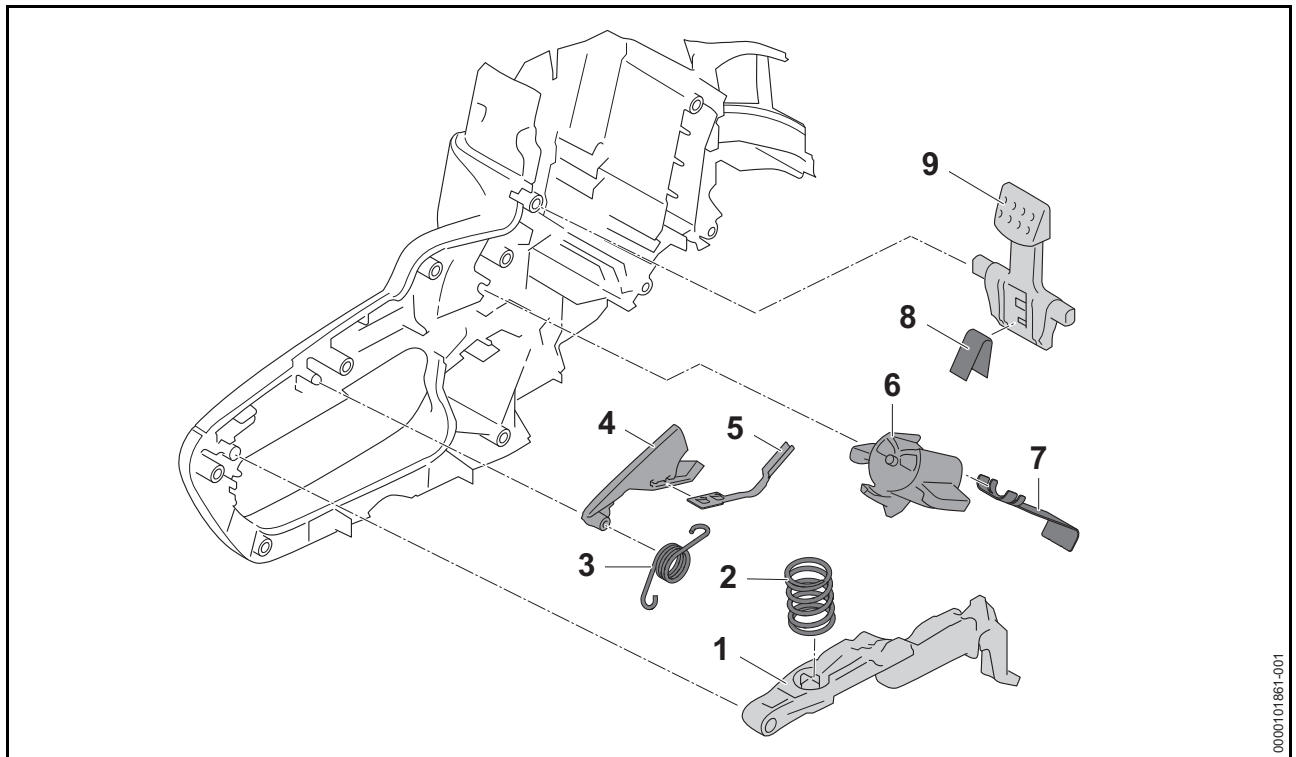
## 7.7 Installing the cover

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- Install the cover (4).
- Screw in and tighten the screws (1).

## 8 Trigger Lever, Lockout Lever

### 8.1 HSA 50.0

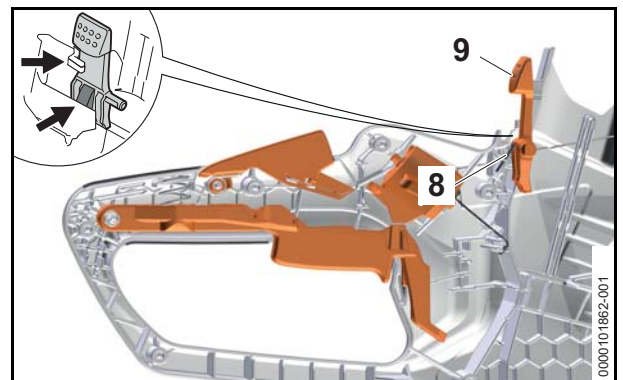


- 1 Trigger
- 2 Compression spring
- 3 Torsion spring
- 4 Ergo lever
- 5 Flat spring
- 6 Locking lever
- 7 Flat spring
- 8 Spring
- 9 Locking lever

#### 8.1.1 Removing the locking lever of the battery compartment

- Remove the cover, [7.2](#).
- Remove the right motor housing, [7.3](#).
- Remove the locking lever (9) together with the spring (8).

#### 8.1.2 Installing the locking lever of the battery compartment



- Insert the locking lever (9) together with the spring (8) into the left motor housing (arrows).





The locking lever (9) is pre-loaded.

- Install the right motor housing, [7.6](#).
- Install the cover, [7.7](#).




#### 8.1.3 Removing the trigger

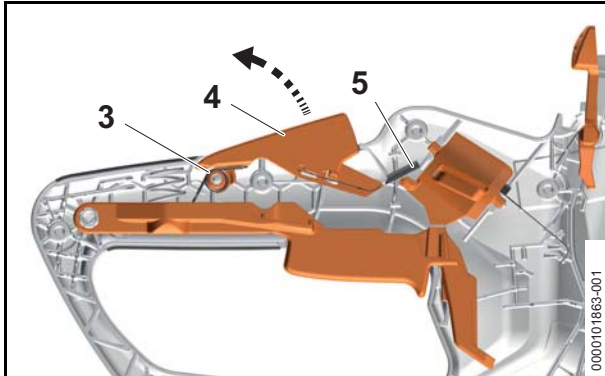
- Remove the cover, [7.2](#).
- Remove the right motor housing, [7.3](#).
- Remove the left motor housing, [7.4](#).
- Remove the trigger (1) together with the compression spring (2).

#### 8.1.4 Installing the trigger

- Install trigger (1) together with the compression spring (2).
- Install the left motor housing,  7.5.
- Install the right motor housing,  7.6.
- Check the operation of the trigger,  8.1.9.
- Install the cover,  7.7.

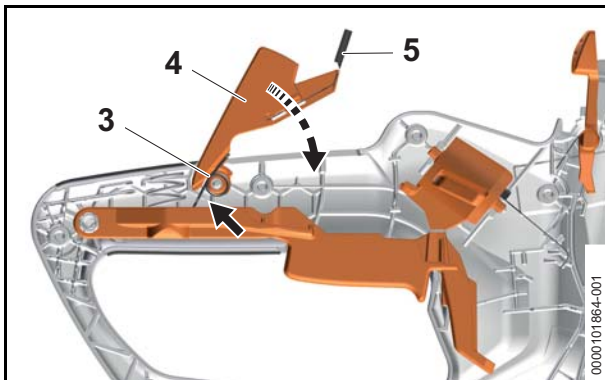
#### 8.1.5 Removing the ergo lever





- Remove the cover,  7.2.
- Remove the right motor housing,  7.3.
- Remove the left motor housing,  7.4.





- Swing the ergo lever (4) upward.
- Remove the ergo lever (4) together with the torsion spring (3) and flat spring (5).


#### 8.1.6 Installing the ergo lever



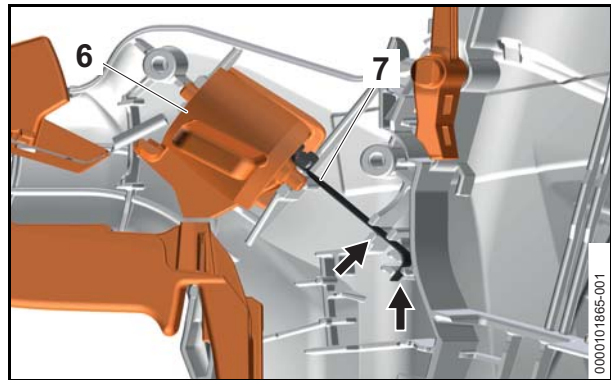
- Place the ergo lever (4) together with the torsion spring (3) and flat spring (5) on the left motor housing so that the torsion spring (3) is seated in the mount (arrow).
- Press the ergo lever (4) downward and attach it to the left motor housing.
- Install the left motor housing,  7.5.
- Install the right motor housing,  7.6.
- Check the operation of the trigger,  8.1.9.
- Install the cover,  7.7.





#### 8.1.7 Removing the locking lever

- Remove the cover,  7.2.
- Remove the right motor housing,  7.3.

- Remove the left motor housing,  7.4.
- Remove the flat spring (7).
- Remove the locking lever (6).

#### 8.1.8 Installing the locking lever

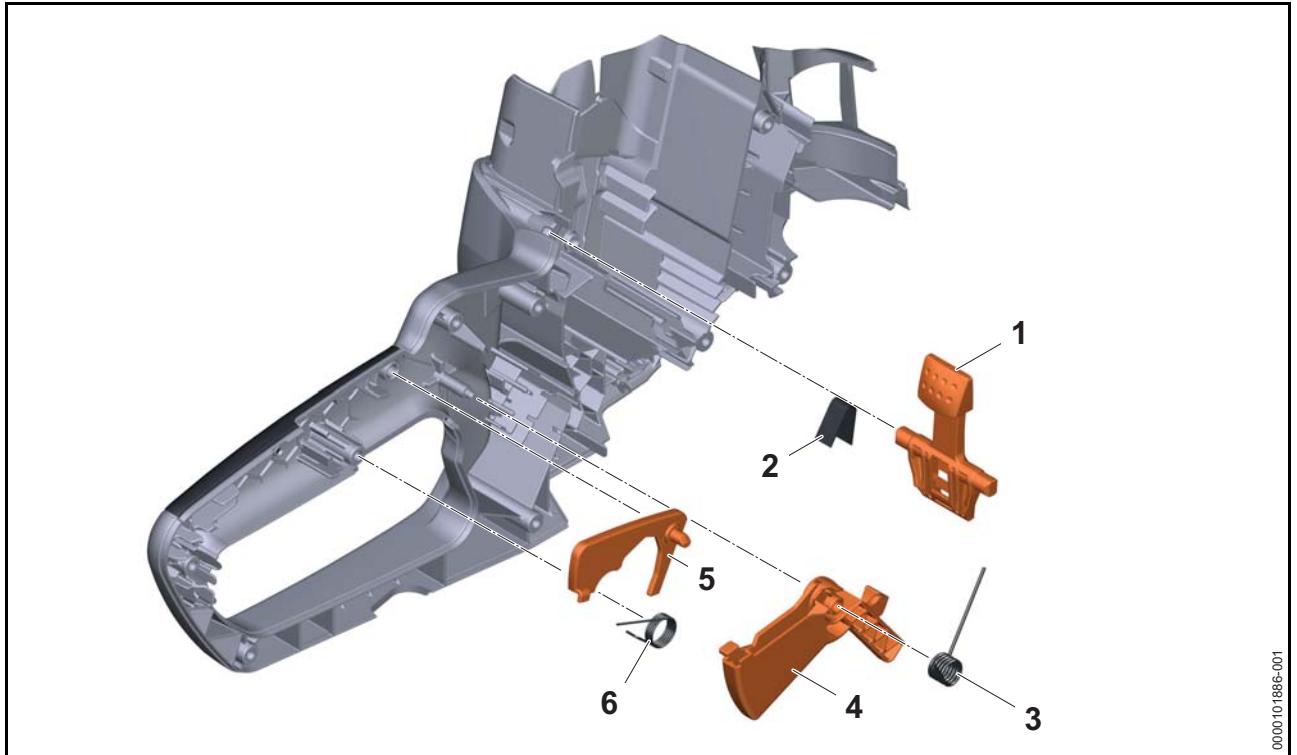


- Insert the locking lever (6).
- Press the flat spring (7) into the mounts (arrows) as far as it will go.
- Install the left motor housing,  7.5.
- Install the right motor housing,  7.6.
- Check the operation of the trigger,  8.1.9.
- Install the cover,  7.7.

#### 8.1.9 Checking the operation of the trigger

- Press the trigger (1):
  - The trigger (1) can be pressed when the locking lever (6) is pressed and the ergo lever (4) is not activated.
  - The trigger (6) cannot be pressed when the locking lever (1) is not pressed.
  - The trigger (1) can be pressed when the ergo lever (4) is activated and the locking lever (6) is pressed.





- 1 Locking lever
- 2 Spring
- 3 Torsion spring
- 4 Trigger
- 5 Trigger lockout
- 6 Torsion spring

- Install the right motor housing, 7.6.
- Install the cover, 7.7.

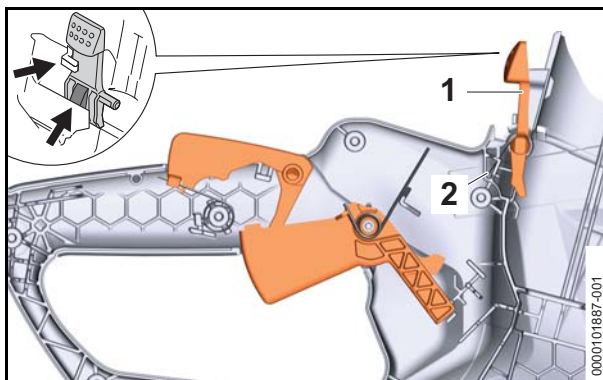
**8.2.3 Removing the trigger lockout**

- Remove the cover, 7.2.
- Remove the right motor housing, 7.3.
- Remove the left motor housing, 7.4.

**8.2.1 Removing the locking lever of the battery compartment**

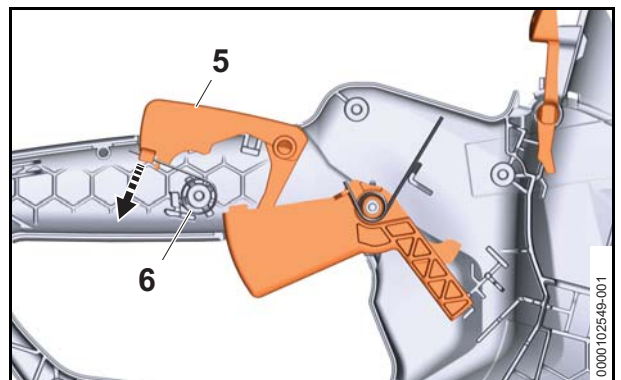
- Remove the cover, 7.2.
- Remove the right motor housing, 7.3.
- Remove the locking lever (1) together with the spring (2).

**8.2.2 Installing the locking lever of the battery compartment**



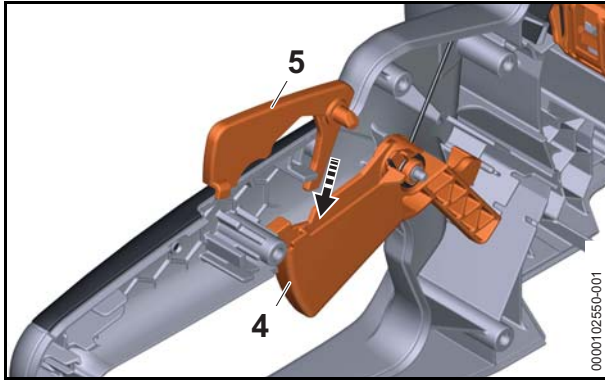
- Insert the locking lever (1) together with the spring (2) into the left motor housing (arrows).

The locking lever (1) is pre-loaded.

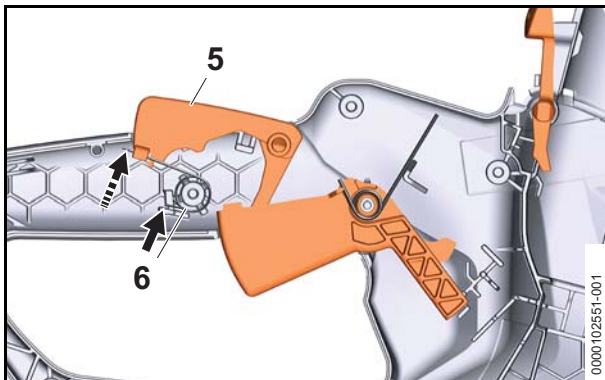






- Detach the torsion spring (6) from the trigger lockout (5) and remove.
- Remove the trigger lockout (5).

## 8.2.4 Installing the trigger lockout







- Guide the trigger lockout (5) into the trigger (4) and attach it to the left motor housing.



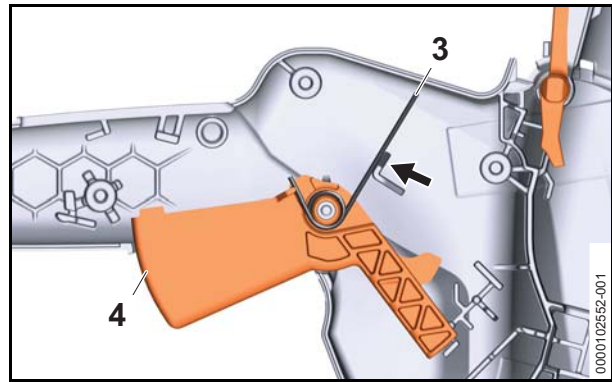
- Place the torsion spring (6) with the short leg into the mount (arrow) of the left motor housing.
- Attach the long leg of the torsion spring (6) into the trigger lockout (5).
- Install the left motor housing,  7.5.
- Install the right motor housing,  7.6.
- Check the operation of the trigger,  8.2.7.
- Install the cover,  7.7.






## 8.2.5 Removing the trigger

- Remove the cover,  7.2.
- Remove the right motor housing,  7.3.
- Remove the left motor housing,  7.4.
- Remove the trigger lockout (5),  8.2.3.
- Detach the torsion spring (3) from the left motor housing and remove.
- Remove the trigger (4).

## 8.2.6 Installing the trigger

- Insert the trigger (4).
- Place the torsion spring (3) in position.

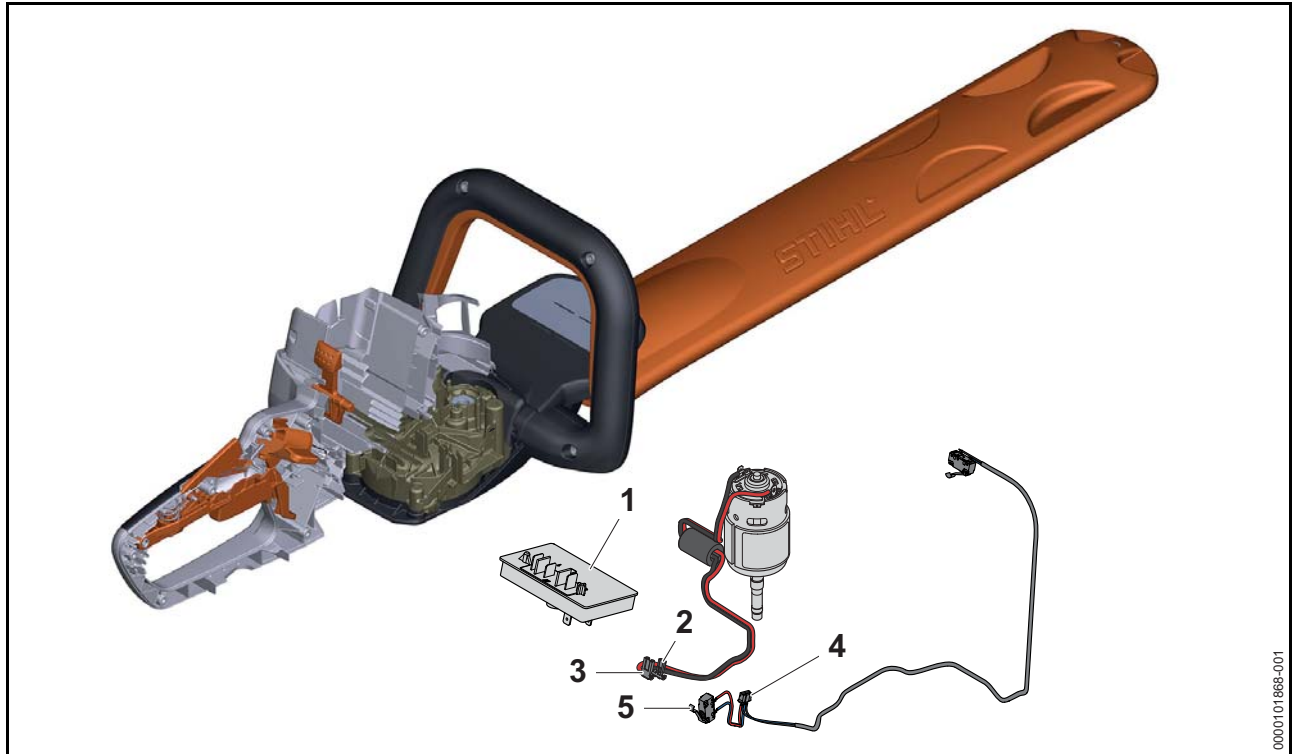


- Press the long leg of the torsion spring (3) into the mount (arrow) of the left motor housing.
- Install the trigger lockout (5),  8.2.4.
- Install the left motor housing,  7.5.
- Install the right motor housing,  7.6.
- Check the operation of the trigger,  8.2.7.
- Install the cover,  7.7.

## 8.2.7 Checking the operation of the trigger

- Press the trigger (4):
  - When the trigger lockout (5) is pressed, the trigger (4) can be pressed.
  - When the trigger lockout (5) is not pressed, the trigger (4) cannot be pressed.





Illustrated: HSA 50.0

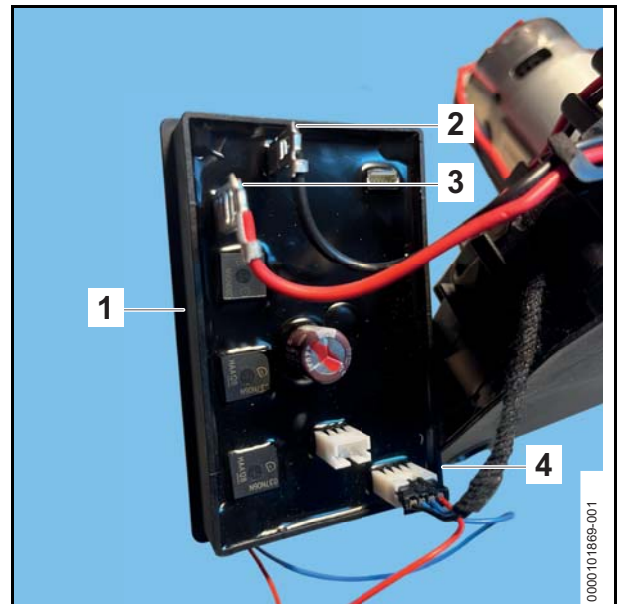
- 1 Electronic module
- 2 Flag connector
- 3 Flag connector
- 4 Plug
- 5 Switch

### 9.1 Tools, Aids

- Wiring tool – 5910 890 4000
- STIHL Multi-purpose Grease – 0781 120 1110

### 9.2 Removing the electronic module

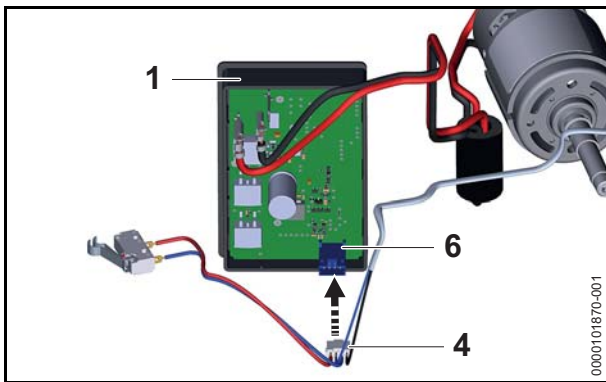
- Remove the cover, 7.2.
- Remove the right motor housing, 7.3.
- Remove the switch (5).
- Pull the wiring harness from the mounts.



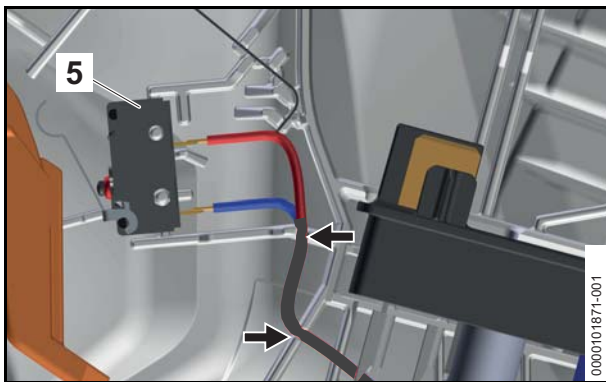
- Remove the electronic module (1).
- Remove the plug (4) from the electronic module (1).
- Disconnect the flag connectors (2 and 3) from the electronic module (1).





### 9.3 Installing the electronic module

- Slide the flag connectors (2 and 3) onto the electronic module (1) as far as they will go.

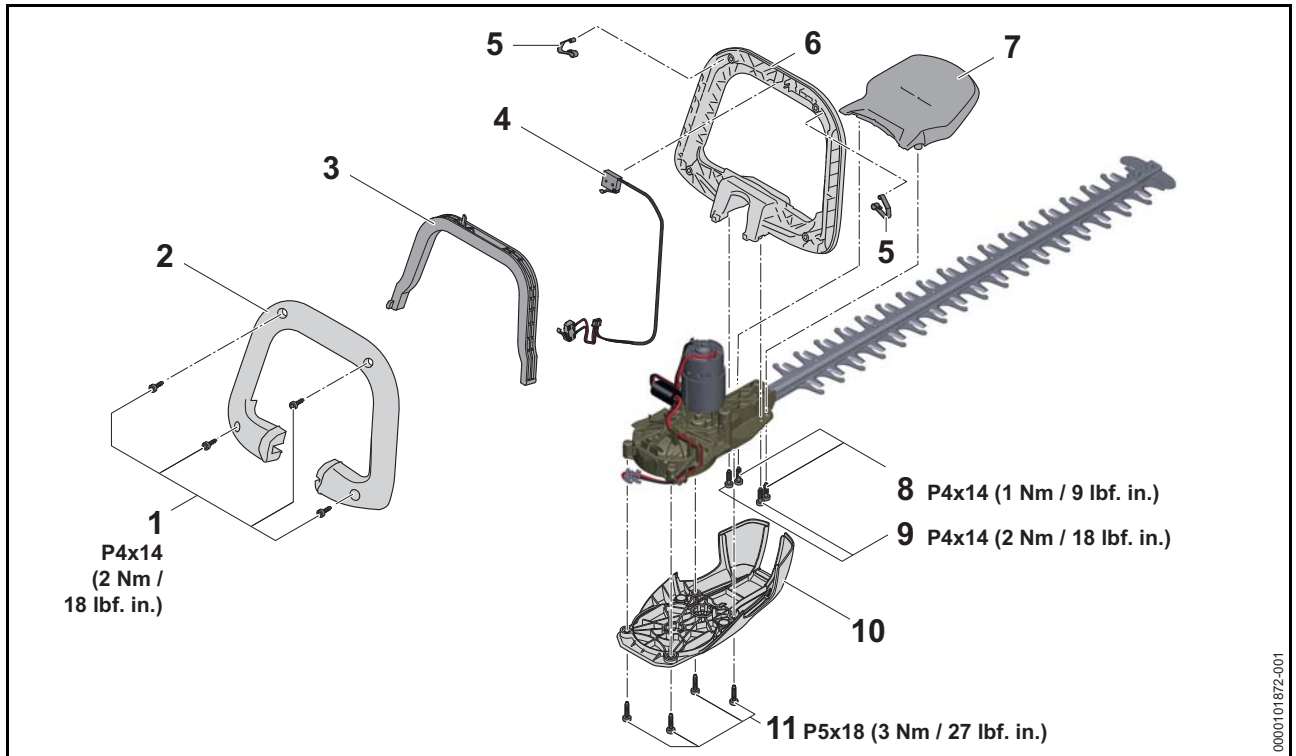


- Use multi-purpose grease to lubricate the plug socket (6).
- Insert the plug (4) into the plug socket (6) as far as it will go.
- Grease the plug (4) and the cable connections completely with multi-purpose grease.
- Slide the electronic module (1) into the mount of the left motor housing as far as it will go.



- Place the switch (5) into the left motor housing.
- Press the wiring harness into the mounts (arrows) of the left motor housing.
- Check operation of the trigger,  8.1.9. (HSA 50.0)
- Check operation of the trigger,  8.2.7. (HSA 50.1)
- Install the right motor housing,  7.6.
- Install the cover,  7.7.

## 10 Loop Handle



- 1 Screws
- 2 Loop handle half
- 3 Control bar
- 4 Switch
- 5 Contact springs
- 6 Loop handle half
- 7 Hand guard
- 8 Screws
- 9 Screws
- 10 Gearbox cover
- 11 Screws

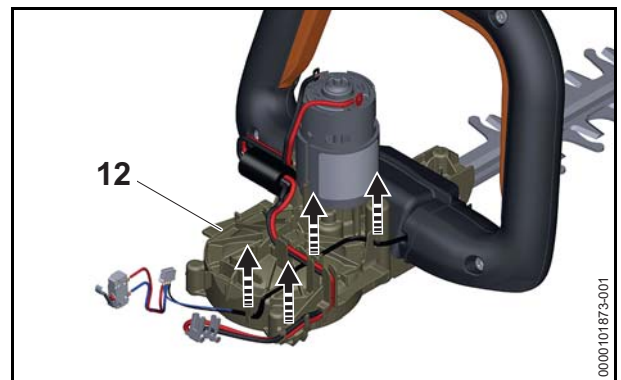
- Unscrew the screws (8).
- Remove the hand guard (7).

### 10.1 Tools, Aids

- Socket, T27x125 – 0812 542 2104
- Torque wrench – 5910 890 0302
- Screwdriver, T27x200 – 5910 890 2415
- Wiring tool – 5910 890 4000
- STIHL Multi-purpose Grease – 0781 120 1110

### 10.2 Removing the loop handle

- Remove the cover, 7.2.
- Remove the right motor housing, 7.3.
- Remove the left motor housing, 7.4.
- Disconnect the plug connection on the electronic module, 9.2.
- Unscrew the screws (11).
- Remove the gearbox cover (10).



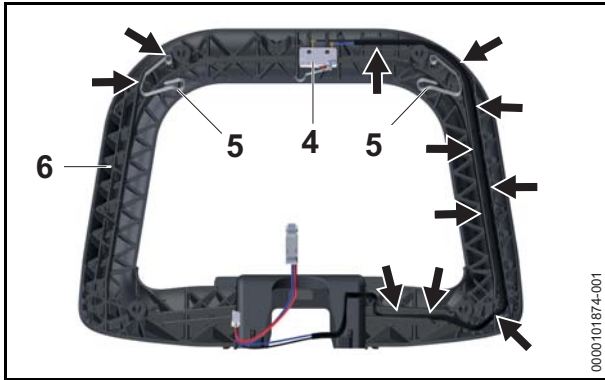
- Detach the red and black wire from the guides (arrows) of the gear housing (12).
- Detach the wiring harness of the switch (4) from the guides (arrows) of the gear housing (12).
- Unscrew the screws (9).
- Remove the loop handle (1 - 6).

### 10.3 Disassembling the loop handle

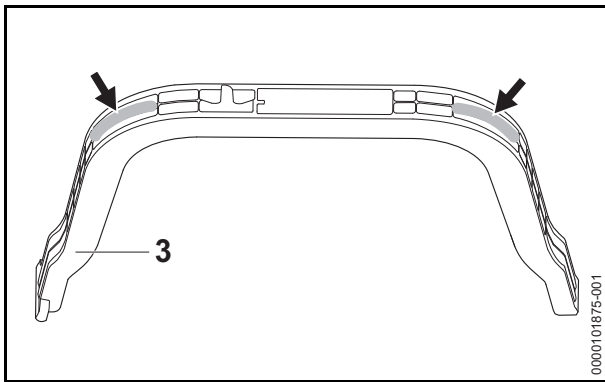
- Unscrew the screws (1) and remove the loop handle half (2).
- Press the ends of the control bar (3) from the loop handle half (6) and remove the control bar.

- Detach the contact springs (5) from the loop handle half (6).
- Detach the wiring harness of the switch (4) from the guides and remove the switch (4) from the loop handle half (6).

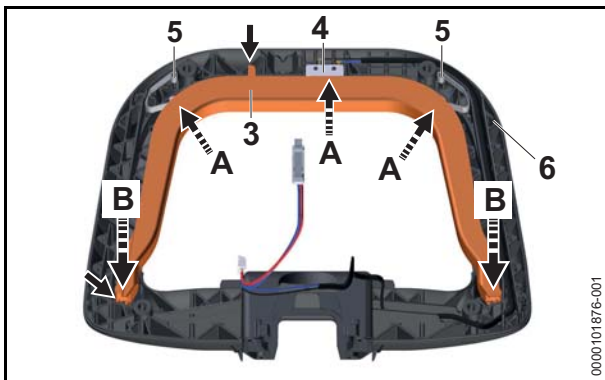
#### 10.4 Assembling the loop handle



- Insert the switch (4) in the loop handle half (6) and press the wiring harness into the guides (arrows).
- Insert the contact springs (5) in the loop handle half (6).



- Coat the control bar (3) with 0.3 g (0.01 oz) of multi-purpose grease (arrows).

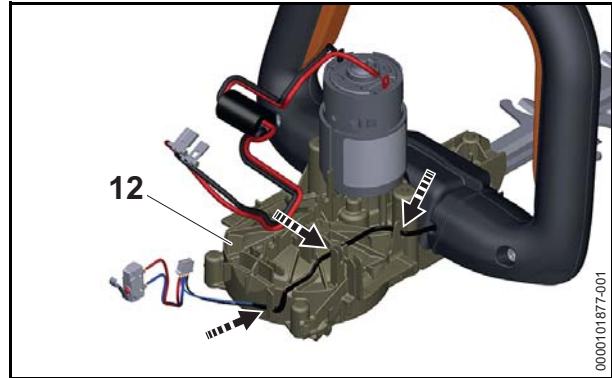


- Push the control bar (3) against the contact springs (5) and the lever of the switch (4) (A) and press its ends into the loop handle half (6) (B). Check the installed position of the guide (arrow) and stiffener (arrow).
- Check the operation of the control bar (3):

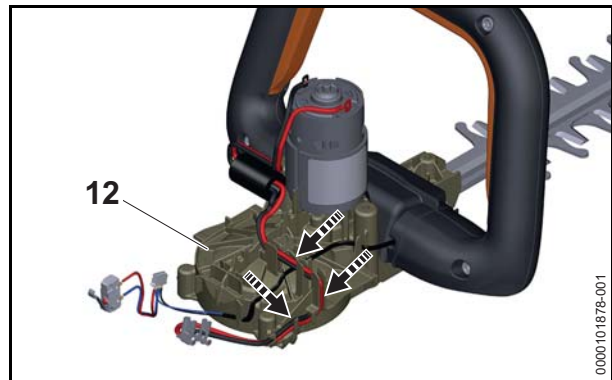
- Control bar (3) can be operated in all directions.
- Switch (4) can be activated from every hand position on the control bar (3).
- Fit the loop handle half (2) on loop handle half (6).
- Screw in and tighten the screws (1).

#### 10.5 Installing the loop handle

- Place the loop handle (1 - 6) on the gear housing (12).
- Screw in and tighten the screws (9).

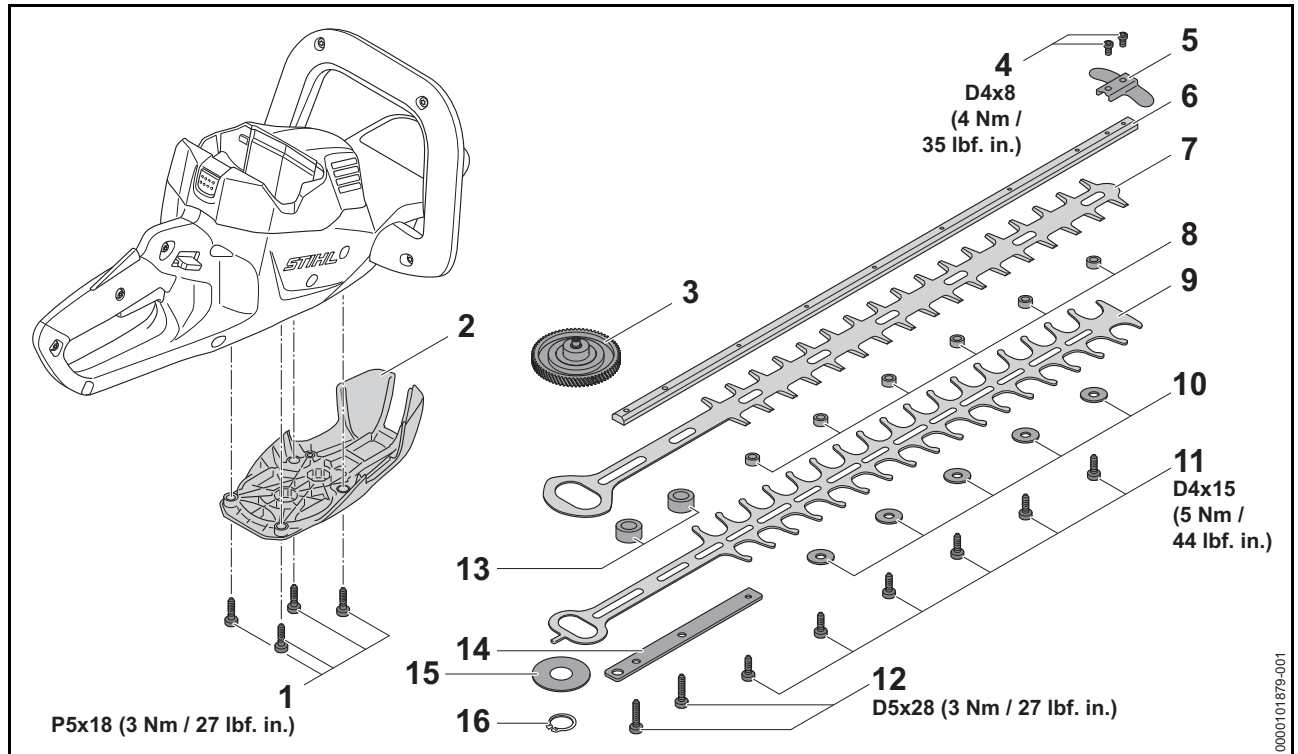


- Press the wiring harness of the switch (4) into the guides (arrows) of the gear housing (12).



- Press the red and black wire into the guides (arrows) of the gear housing (12).
- Put on the hand guard (7).
- Screw in and tighten the screws (8).
- Put on the gearbox cover (10).
- Screw in and tighten the screws (11).
- Close the plug connection on the electronic module, 9.3.
- Install the left motor housing, 7.5.
- Install the right motor housing, 7.6.
- Install the cover, 7.7.

## 11 Cutting Attachment



Illustrated: HSA 50.0

- 1 Screws
- 2 Gearbox cover
- 3 Cam
- 4 Screws
- 5 Tip guard
- 6 Guide
- 7 Blade
- 8 Sliders
- 9 Blade
- 10 Washers
- 11 Screws
- 12 Screws
- 13 Sliders
- 14 Stiffener
- 15 Thrust washer
- 16 Retaining ring

### 11.1 Tools, Aids

- Pliers DIN 5254-A19 – 0811 611 8380
- Socket T27 – 0812 542 2104
- Torque wrench – 5910 890 0302
- Screwdriver, T27x200 – 5910 890 2415
- STIHL Multi-purpose Grease – 0781 120 1110
- STIHL resin solvent – 0782 420 1002
- Medium-strength threadlocking (e.g., Loctite 242, 243)
- Protective gloves

### 11.2 Removing the cutting device and cam

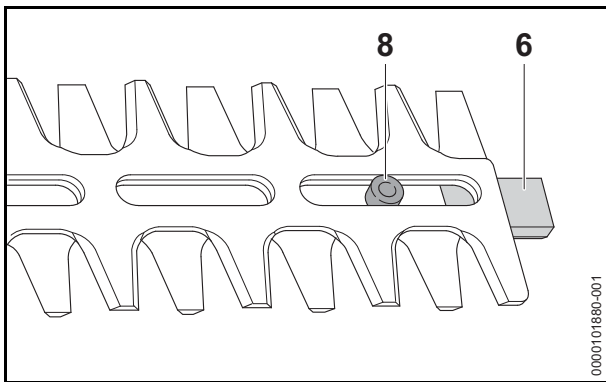
- Unscrew the screws (1).
- Remove the gearbox cover (2).
- Unscrew the screws (12).
- Remove the cutting device.

### 11.3 Disassembling the Cutting Attachment

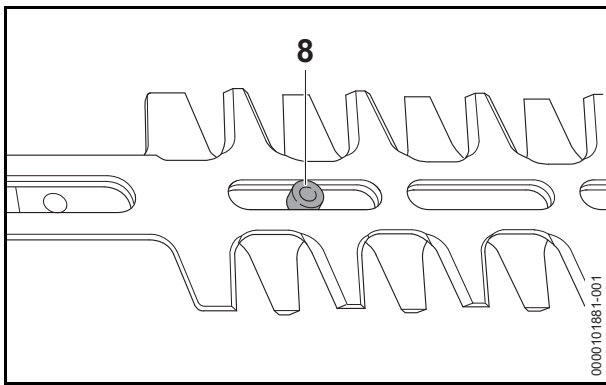
- Remove the cutting device, 11.2.
- Remove the retaining ring (16).
- Remove the thrust washer (15).
- Remove the cam (3).
- Remove the blade scabbard.
- Unscrew the screws (4) and remove the tip guard (5).
- Unscrew the screws (11) and remove together with the stiffener (14), washers (10) and sliders (8 and 13).
- Remove the blades (7 and 9) from the guide (6).

### 11.4 Assembling the cutting device

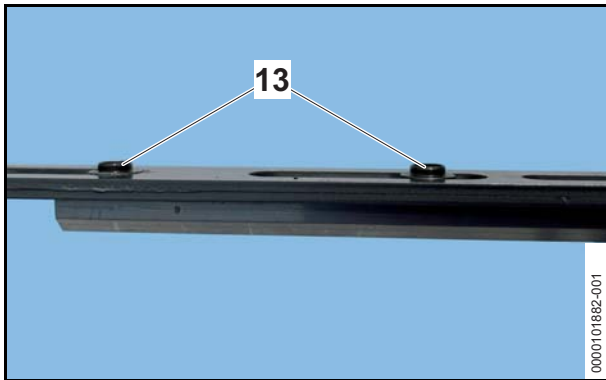
- Clean all components.
- Apply STIHL resin solvent to the blade sliding surfaces.
- Place the blades (7 and 9) on the guide (6) and align them.



- Insert the slider (8) and align it with the thread in the guide (6).
- Insert the screw (11) into the washer (10).
- Coat the screw (11) with threadlocker adhesive.
- Screw in the screw (11) and washer (10) and tighten.



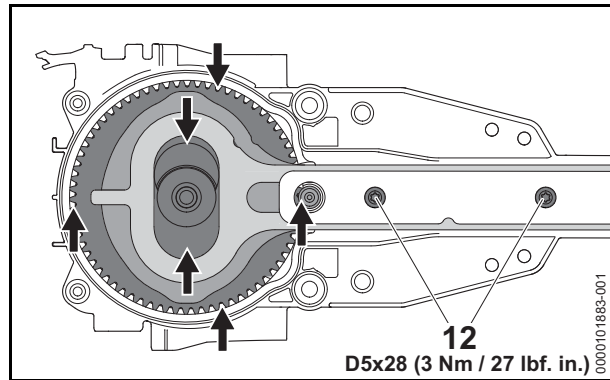
- Insert the slider (8) and align it with the thread in the guide (6).



- Insert the sliders (13).
- Mount the stiffener (14) so that the stiffener (14) engages with the mounts of the sliders (13).
- Align the stiffener (14) with the thread in the guide (6).
- Coat the screw (11) with threadlocking.
- Screw in and tighten the screw (11).
- Insert the remaining sliders (8).
- Insert the remaining screws (11) into the remaining washers (10).
- Coat the remaining screws (11) with threadlocking.
- Insert the remaining screws (11) and washers (10) and tighten.

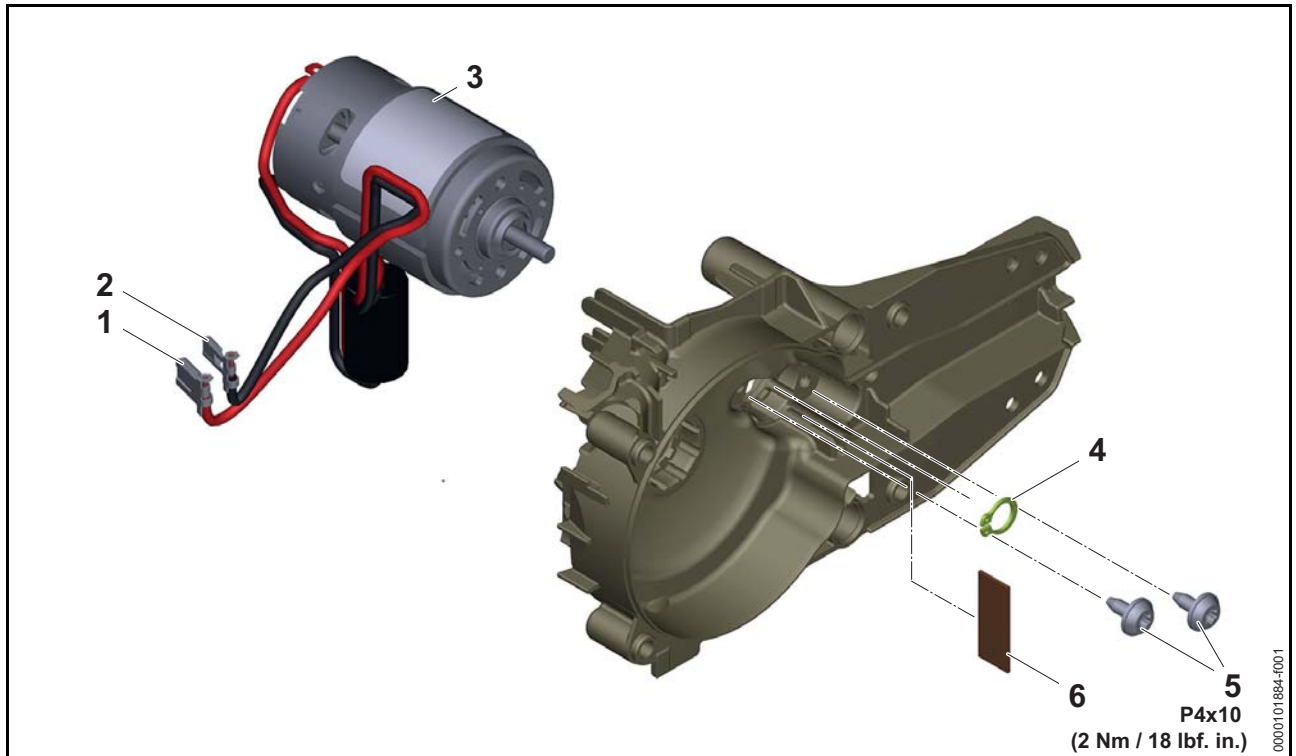
- Place the tip guard (5) on the guide (6).
- Screw in and tighten the screws (4).
- Install the cam (3).
- Install the thrust washer (15).
- Install the retaining ring (16).
- Install the cutting device, 11.5.

### 11.5 Installing the cutting device and cam



- Insert the cutting device in the gear housing.
- Screw in and tighten the screws (12).
- Apply gear grease (arrows/grease point à 1.6 g).
- Install the gearbox cover (2).
- Screw in and tighten the screws (1).





- 1 Flag connector
- 2 Flag connector
- 3 Electric motor
- 4 Retaining ring
- 5 Screws
- 6 Support plate

### 12.1 Tools, Aids

- Pliers DIN 5254-A10 – 0811 611 8200
- Socket, T27x125 – 0812 542 2104
- Torque wrench – 5910 890 0302
- Screwdriver, T27 – 5910 890 2415
- Wiring tool – 5910 890 4000
- STIHL Multi-purpose Grease – 0781 120 1110

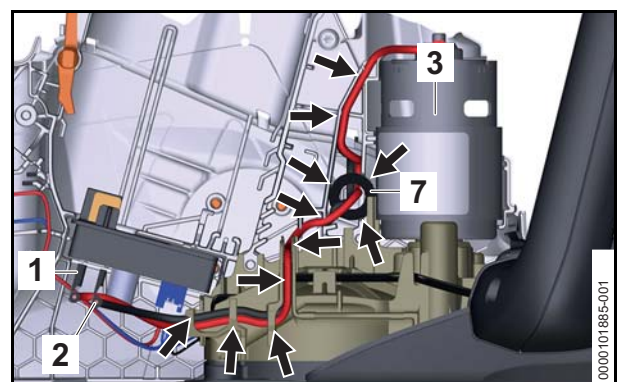
### 12.2 Removing the electric motor

- Remove the cover, [11.2](#).
- Remove the right motor housing, [11.3](#).
- Disconnect the flag connectors (1 and 2) from the electronic module, [9.2](#).
- Detach the wires and ferrite core (7) from their guides.
- Remove the gear housing and cutting device from the left motor housing, [7.4](#).
- Remove the cutting device, [11.2](#).
- Remove the support plate (6).





- Remove the retaining ring (4).
- Unscrew the screws (5).
- Remove the electric motor (3).

### 12.3 Installing the electric motor

- Fit the electric motor (3) in position.
- Screw in and tighten the screws (5).
- Install the retaining ring (4).
- Install the support plate (6).
- Install the cutting device, [11.5](#).
- Install the gear housing and cutting device on the left motor housing, [7.5](#).



- Press wires and ferrite core (7) into the guides (arrows).
- Plug the flag connectors (1 and 2) onto the electronic module, [9.3](#).

- Check operation of the trigger,  8.1.9. (HSA 50.0)
- Check operation of the trigger,  8.2.7. (HSA 50.1)
- Install the right motor housing,  7.6.
- Install the cover,  7.7.



## 13 Tools, Servicing Aids

### 13.1 Tools

Part number	Designation	Application
0811 611 8200	Pliers DIN 5254-A10	Remove and reinsert retaining ring
0811 611 8380	Pliers DIN 5254-A19	Remove and reinsert retaining ring
0812 542 2041	Socket, T20x125	Screw hexagon socket head screws in and out
0812 542 2104	Socket, T27x125	Screw hexagon socket head screws in and out
4850 840 01xx*	ADG 1 Battery diagnostic unit	
4850 840 02xx*	ADG 2 Diagnostic unit	
5910 890 0302	Torque wrench with optical/acoustic signaling device	Screw connections (1 to 18 Nm)
5910 890 2301	Screwdriver, T20	All IS screws
5910 890 2415	Screwdriver, T27	All IS screws
5910 890 4000	Wiring tool	Press electrical wires into the guide

\* full part number is country-specific

### 13.2 Aids

Part number	Designation	Application
0781 120 1110	STIHL Multi-purpose Grease	Gearbox
0782 420 1002	STIHL resin solvent	Cleaning the cutting device
	Medium-strength threadlocking (Loctite 242, 243)	Coat threads of blade mounting screws
	Protective gloves	Work on the cutting device

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