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1 Introduction

Dear Customer,

Thank you for choosing STIHL. We develop and manufacture our quality products to meet our customers' requirements. The products are designed for reliability even under extreme conditions.

STIHL also stands for premium service quality. Our specialist dealers guarantee competent advice and instruction as well as comprehensive service support.

We thank you for your confidence in us and hope you will enjoy working with your STIHL product.



Dr. Nikolas Stihl

IMPORTANT: READ BEFORE USE AND KEEP IN A SAFE PLACE.

2 Guide to Using this Manual

2.1 Applicable Documentation

Local safety regulations apply.

- ▶ Read, understand and save the following documents in addition to this instruction manual:
 - User instructions for STIHL AR battery
 - Instruction manual for AP belt bag with connecting cable
 - Safety notes and precautions for STIHL AP battery
 - Instruction manual for STIHL AL 101, 300, 500 chargers
 - Safety information for STIHL batteries and products with built-in batteries: www.stihl.com/safety-data-sheets

2.2 Symbols used with warnings in the text

WARNING

This symbol indicates dangers that can cause serious injuries or death.

- ▶ The measures indicated can avoid serious injuries or death.

NOTICE

This symbol indicates dangers that can cause damage to property.

- ▶ The measures indicated can avoid damage to property.

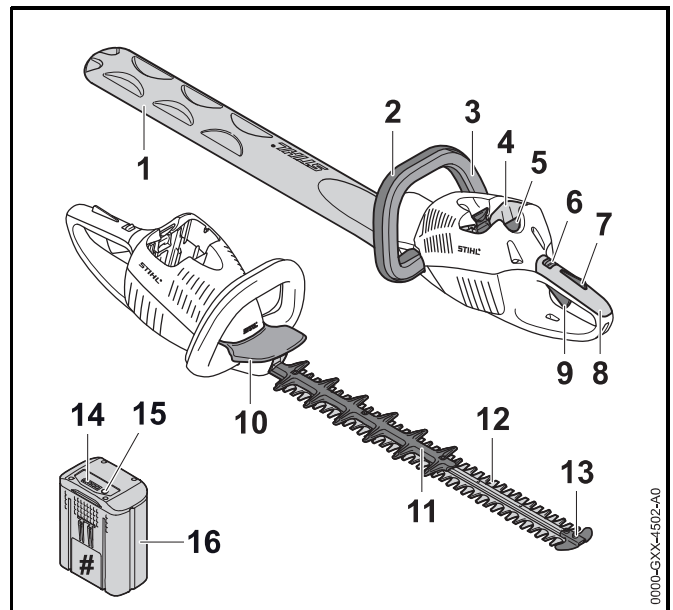
2.3 Symbols in Text



This symbol refers to a chapter in this instruction manual.

3 Overview

3.1 Hedge Trimmer and Battery



1 Blade Scabbard

Helps protect user from contact with the cutting blades.

2 Loop Handle

For holding, controlling and carrying the hedge trimmer.

3 Switch Lever

Operated together with the trigger to switch the hedge trimmer on and off.

4 Battery Compartment

Accommodates the battery.

5 Locking Lever

Secures the battery in the battery compartment.

6 Retaining Latch

Operated together with the trigger lockout to unlock the trigger.

7 Trigger Lockout

Operated together with the retaining latch to unlock the trigger.

8 Control handle

For operating, holding and controlling the hedge trimmer.

9 Trigger

Operated together with the switch lever to switch the hedge trimmer on and off.

10 Hand Guard

Helps protect hand on loop handle from contact with the cutting blades.

11 Cutter Guard (HSA 86 only)

Helps protect user's thigh from contact with rear end of cutting blades.

12 Cutting Blades

Perform the cutting action.

13 Tip Guard

Protects nose of cutter bar from contact with foreign objects.

14 LEDs

Indicate battery's state of charge and malfunctions.

15 Button

Activates the LEDs on the battery.

16 Battery

Supplies power to the hedge trimmer.

Rating label with serial number

3.2 Symbols

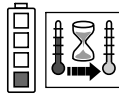
Meanings of symbols that may be on the hedge trimmer and battery:



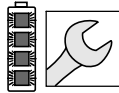
Retaining latch unlocks the trigger in this position.



Retaining latch locks the trigger in this position.



1 LED glows red. Battery too hot or too cold.



4 LEDs flash red. There is a malfunction in the battery.



Guaranteed sound power level according to directive 2000/14/EC in dB(A) in order to make sound emissions of products comparable.



The data next to this symbol indicates the energy content of the battery according to the cell manufacturer's specification. The energy content available during operation is lower.



Do not dispose of the product with your household waste.

4 Safety Precautions

4.1 Warning Signs

Meanings of warning signs on the hedge trimmer and battery:



Observe safety notices and take the necessary precautions.



Read, understand and save the instruction manual.



Wear safety glasses.



Do not touch moving cutting blades.



Always remove the battery during work breaks, transport, storage, maintenance or repairs.



Protect battery from heat and fire.



Do not immerse battery in fluids.



Observe battery's specified temperature range.

4.2 Intended Use

The STIHL HSA 66 or HSA 86 hedge trimmer is designed for cutting hedges, shrubs, bushes and scrub.

The hedge trimmer may be used in the rain.

The hedge trimmer is powered by a STIHL AP battery or a STIHL AR battery.

⚠ WARNING

- Batteries not explicitly approved for the hedge trimmer by STIHL may cause a fire or explosion. This can result in serious or fatal injuries and damage to property.
 - ▶ Use the hedge trimmer with a STIHL AP battery or a STIHL AR battery.
- Using the hedge trimmer or the battery for purposes for which they were not designed may result in serious or fatal injuries and damage to property.
 - ▶ Use the hedge trimmer as described in this instruction manual.
 - ▶ Use the battery as described in this instruction manual or the instruction manual for the STIHL AR battery.

4.3 The Operator

⚠ WARNING

- Users without adequate training or instruction cannot recognize or assess the risks involved in using the hedge trimmer and battery. The user or other persons may sustain serious or fatal injuries.



- ▶ Read, understand and save the instruction manual.

- ▶ If the hedge trimmer or battery is passed on to another person: Always give them the instruction manual.
- ▶ Make sure the user meets the following requirements:
 - The user must be rested.
 - The user must be in good physical condition and mental health to operate and work with the hedge trimmer and battery. If the user's physical, sensory or

mental ability is restricted, he or she may work only under the supervision of or as instructed by a responsible person.

- The user must be of legal age or is being trained in a trade under supervision in accordance with national rules and regulations.
 - The user has received instruction from a STIHL servicing dealer or other experienced user before working with the hedge trimmer for the first time.
 - The user must not be under the influence of alcohol, medication or drugs.
- ▶ If you have any queries: Contact your STIHL servicing dealer for assistance.

4.4 Clothing and Equipment

⚠ WARNING

- Long hair can be sucked into the hedge trimmer during operation. This can result in serious injuries.
 - ▶ Tie up and confine long hair so that it cannot be sucked into the hedge trimmer.
- Objects can be thrown through the air at high speed during operation. This can result in personal injury.
 - ▶ Wear close-fitting safety glasses. Suitable safety glasses that have been tested and labeled in accordance with EN 166 or national standards are available from retailers.
- ▶ Wear a long-sleeved, snug-fitting upper garment and long trousers.



- Dust can be whipped up during operation: Whipped up dust can damage the respiratory passages and cause allergic reactions.
 - ▶ Wear a respirator.
- Inappropriate clothing can snag on wood, brush or the hedge trimmer. Not wearing personal protective equipment may result in serious injury.
 - ▶ Wear snug-fitting clothing.
 - ▶ Do not wear a scarf or jewelry.
- The user can come into contact with the cutting blades during operation. This can result in serious injuries.
 - ▶ Wear footwear made of durable material.
 - ▶ Wear long trousers made of durable material.
- The user can come into contact with the cutting blades during cleaning and maintenance work. This can result in personal injury.
 - ▶ Wear work gloves made of durable material.
- Wearing unsuitable footwear may cause you to slip or stumble. This can result in personal injury.
 - ▶ Wear sturdy enclosed footwear with non-slip soles.

4.5 Work Area and Surroundings

4.5.1 Hedge Trimmer

⚠ WARNING

- Innocent bystanders, children and animals cannot recognize or assess the dangers of the hedge trimmer or flying debris. Innocent bystanders, children and animals may be seriously injured and damage to property may occur.
 - ▶ Keep bystanders, children and animals away from the work area.
 - ▶ Do not leave the hedge trimmer unattended.
 - ▶ Make sure that children cannot play with the hedge trimmer.

- Electrical components of the hedge trimmer can produce sparks. Sparks may cause a fire or an explosion in an easily combustible or explosive environment. This can result in serious or fatal injuries and damage to property.
 - ▶ Do not work in an easily combustible or explosive environment.

4.5.2 Battery

⚠ WARNING

- Bystanders, children and animals cannot recognize or assess the dangers of the battery. Innocent children, bystanders and animals may be seriously injured.
 - ▶ Keep children, bystanders and animals away from the work area.
 - ▶ Do not leave the battery unattended.
 - ▶ Make sure that children cannot play with the battery.
- The battery is not protected against all ambient conditions. If the battery is exposed to certain ambient conditions, it may catch fire or explode. This can result in serious injuries and damage to property.



- ▶ Protect battery from heat and fire.
- ▶ Do not throw the battery into a fire.



- ▶ Use and store the battery at temperatures between -10°C and +50°C.



- ▶ Do not immerse battery in fluids.

- ▶ Keep battery away from metallic objects.
- ▶ Do not expose battery to high pressure.
- ▶ Do not expose battery to microwaves.
- ▶ Protect battery from chemicals and salts.

4.6 Safe Condition

4.6.1 Hedge trimmer

The hedge trimmer is in a safe condition if the following conditions are fulfilled:

- The hedge trimmer is undamaged.
- The hedge trimmer is clean.
- The controls work and they have not been modified.
- The cutting blades are correctly fitted.
- Only an original STIHL accessory for this hedge trimmer is fitted.
- The accessory is correctly fitted.

⚠ WARNING

- Parts that are not in a safe condition cannot function properly and safety devices can be disabled. People can be seriously injured or killed.
 - ▶ Never use a damaged hedge trimmer.
 - ▶ If the hedge trimmer is dirty: Clean the hedge trimmer.
 - ▶ Do not modify the hedge trimmer.
 - ▶ If the controls do not work: Do not operate the hedge trimmer.
 - ▶ Only fit original STIHL accessories for this hedge trimmer.
 - ▶ Fit the accessories as described in this Instruction Manual or in the Instruction Manual for the accessory.
 - ▶ Do not insert objects into the openings in the hedge trimmer.
 - ▶ If in any doubt: Contact a STIHL servicing dealer.

4.6.2 Cutting Blades

The cutting blades are in a safe condition if the following points are observed:

- Cutting blades are undamaged.
- Cutting blades are not deformed.

- Cutting blades move freely.
- Cutting blades are properly sharpened.
- Cutting blades have no burrs.

▲ WARNING

- If they are in an unsafe condition, parts of the cutting blades may come off and be thrown at high speed. This can result in serious injuries.
 - ▶ Work only with undamaged cutting blades.
 - ▶ Make sure the cutting blades are properly sharpened and deburred.
 - ▶ If you have any queries: Contact your STIHL servicing dealer.

4.6.3 Battery

The battery is in a safe condition if the following points are observed:

- Battery is undamaged.
- Battery is clean and dry.
- Battery functions properly and has not been modified.

▲ WARNING

- A battery that is not in a safe condition cannot operate safely. This can result in serious injuries.
 - ▶ Never work with a damaged battery.
 - ▶ Never attempt to charge a damaged or defective battery.
 - ▶ If the battery is dirty or wet: Clean the battery and allow it to dry.
 - ▶ Never attempt to modify the battery.
 - ▶ Never insert objects in the battery's openings.
 - ▶ Never bridge the battery's contacts with metallic objects (short circuit).
 - ▶ Do not open the battery.

- Fluid may escape from a damaged battery. The fluid can cause irritation if it contacts the skin or eyes.
 - ▶ Avoid contact with the fluid.
 - ▶ In case of contact with the skin: Wash affected areas with plenty of water and soap.
 - ▶ In case of contact with the eyes: Rinse eyes with plenty of water for at least 15 minutes and seek medical advice.
- A damaged or defective battery may smell unusual, emit smoke or burn. This can result in serious or fatal injuries and damage to property.
 - ▶ If the battery smells unusual or emits smoke: Do not use the battery and keep it away from combustible substances.
 - ▶ If the battery catches fire: Attempt to extinguish the battery with a fire extinguisher or water.

4.7 Operation

▲ WARNING

- The user cannot concentrate on the work in certain situations. The user may stumble, fall and be seriously injured.
 - ▶ Work calmly and carefully.
 - ▶ If light and visibility are poor: Do not use your hedge trimmer.
 - ▶ Operate the hedge trimmer alone.
 - ▶ Watch out for obstacles.
 - ▶ Stand on the ground while working and keep a good balance. If it is necessary to work at heights: Use a lift bucket or a safe platform.
 - ▶ If you begin to feel tired: Take a break.
- Working above shoulder height can cause you to tire quickly. This can result in serious injuries.
 - ▶ Work above shoulder height for short periods only.
 - ▶ Take regular breaks.

- If the moving cutting blades make contact with a hard object they can be brought to a sudden stop. The reactive forces that occur can cause the user to lose control of the hedge trimmer and be seriously injured.
 - ▶ Hold the hedge trimmer firmly with both hands.
 - ▶ Before starting work, check hedge for hard objects and remove any such objects.
- The moving cutting blades can cut the user. This can result in serious injuries.



- ▶ Do not touch moving cutting blades.
 - ▶ If the cutting blades are blocked by an object: Switch off the hedge trimmer and remove the battery. Then remove the object causing the blockage.
- If the behavior of the hedge trimmer changes during operation or feels unusual, it may no longer be in a safe condition. This can result in serious injuries and damage to property.
 - ▶ Stop work, remove the battery and contact your STIHL servicing dealer for assistance.
 - Hedge trimmer vibrations may occur during operation.
 - ▶ Wear gloves.
 - ▶ Take regular breaks.
 - ▶ If signs of circulation problems occur: Seek medical advice.
 - Note that the cutting blades continue to run for about 1 second after you release the trigger. The moving cutting blades can cut the user. This can result in serious injuries.
 - ▶ Hold the hedge trimmer firmly by the control handle and loop handle and wait until the cutting blades come to a complete standstill.


⚠ DANGER

- Working near live electric cables can result in accidental contact with the cutting blades and damage the cables. This can result in serious or fatal injuries.
 - ▶ Do not work near live electric cables.

4.8 Transporting

4.8.1 Hedge Trimmer

⚠ WARNING

- The hedge trimmer may turn over or shift during transport. This may result in personal injuries and damage to property.
 - ▶ Push the retaining latch into position .



- ▶ Remove the battery.
- ▶ Fit the blade scabbard so that it completely covers the cutting blades.
- ▶ Secure the hedge trimmer with lashing straps or a net to prevent it turning over and moving.

4.8.2 Battery


⚠ WARNING

- The battery is not protected against all ambient conditions. The battery may be damaged if it is exposed to certain ambient conditions and damage to property may occur.
 - ▶ Never transport a damaged battery.
 - ▶ Store the battery in non-conductive packaging.
- The battery may turn over or shift during transport. This may result in personal injuries and damage to property.
 - ▶ Pack the battery in packaging in such a way that it cannot move.
 - ▶ Secure the packaging so that it cannot move.

4.9 Storing


4.9.1 Hedge Trimmer

⚠ WARNING

- Children are not aware of and cannot assess the dangers of a hedge trimmer and can be seriously injured.
 - ▶ Push the retaining latch into position .



- ▶ Remove the battery.

- ▶ Fit the blade scabbard so that it completely covers the cutting blades.
- ▶ Store the hedge trimmer out of the reach of children.
- Dampness can corrode the electrical contacts on the trimmer and metal components. This can damage the hedge trimmer.
 - ▶ Push the retaining latch into position .



- ▶ Remove the battery.

- ▶ Store the hedge trimmer in a clean and dry condition.

4.9.2 Battery


⚠ WARNING

- Children are not aware of and cannot assess the dangers of the battery and can be seriously injured.
 - ▶ Store the battery out of the reach of children.
- The battery is not protected against all ambient conditions. The battery may be damaged if it is exposed to certain ambient conditions.
 - ▶ Store the battery in a clean and dry condition.
 - ▶ Store the battery in a confined space.

- ▶ Store the battery separately from the hedge trimmer and charger.
- ▶ Store the battery in non-conductive packaging.
- ▶ Use and store the battery at temperatures between -10°C and +50°C.

4.10 Cleaning, Maintenance and Repairs

⚠ WARNING

- The hedge trimmer may start unintentionally if the battery is left in place during cleaning, maintenance or repair operations. This can result in serious injuries and damage to property.
 - ▶ Push the retaining latch into position .



- ▶ Remove the battery.

- Aggressive cleaning agents, a water jet or pointed objects can damage the hedge trimmer, cutting blades and the battery. If the hedge trimmer, cutting blades or battery are not cleaned correctly, components may no longer function properly or safety devices may be rendered inoperative. This can result in serious injuries.
 - ▶ Clean the hedge trimmer, cutting blades and battery as described in this instruction manual.
- If the hedge trimmer, cutting blades or battery are not cleaned correctly, components may no longer function properly or safety devices may be rendered inoperative. This can result in serious or fatal injuries.
 - ▶ Do not attempt to service or repair the hedge trimmer or battery.
 - ▶ If the hedge trimmer or the battery require servicing or repairs: Contact your STIHL servicing dealer for assistance.
 - ▶ Maintain the cutting blades as described in this instruction manual.

- The user can be cut by the sharp cutting edges while cleaning or servicing the cutting blades. This can result in personal injury.
 - ▶ Wear work gloves made of durable material.

5 Preparing Hedge Trimmer for Operation

5.1 Preparing Hedge Trimmer for Operation

Perform the following steps before starting work:

- ▶ Make sure the following components are in a safe condition:
 - Hedge trimmer, [4.6.1](#).
 - Cutting blades, [4.6.2](#).
 - Battery, [4.6.3](#).
- ▶ Check the battery, [9.2](#).
- ▶ Recharge the battery fully as described in the instruction manual for the STIHL AL 101, 300, 500 chargers.
- ▶ Clean the hedge trimmer, [14.1](#).
- ▶ Check the controls, [9.1](#).
 - ▶ If 3 LEDs on the battery flash red while you are checking the controls: Remove the battery and contact your STIHL servicing dealer. There is a malfunction in the hedge trimmer.
- ▶ If you cannot carry out this work: Do not use your hedge trimmer and contact your STIHL servicing dealer.

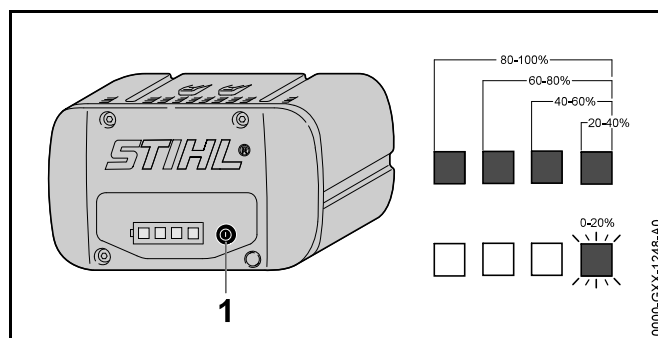
6 Charging the Battery, LEDs

6.1 Charging the Battery

The charging time depends on several factors, e.g. temperature of the battery or the ambient temperature. The actual charging time may differ from the specified charging time. For specified charging times see www.stihl.com/charging-times.

- ▶ Recharge the battery fully as described in the instruction manual for the STIHL AL 101, 300, 500 chargers.

6.2 Displaying State of Charge



- ▶ Press the button (1). The LEDs (5) glow green for about 5 seconds and indicate the state of charge.
- ▶ If the LED on the right flashes green: Charge the battery.

6.3 LEDs on Battery

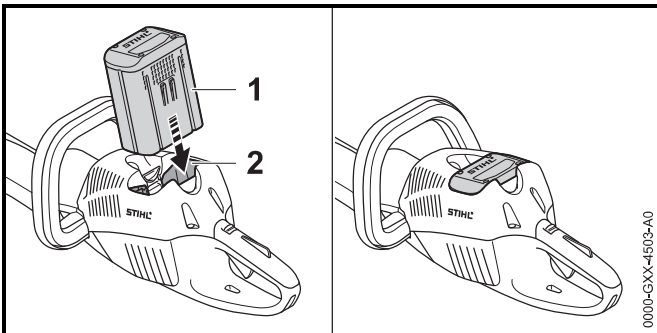
The LEDs can show the state of charge or malfunctions. The LEDs can glow or flash green or red.

The state of charge is indicated when the LEDs glow or flash green.

- ▶ If the LEDs glow or flash red: Troubleshooting, [17](#). There is a malfunction in hedge trimmer or battery.

7 Removing and Fitting the Battery

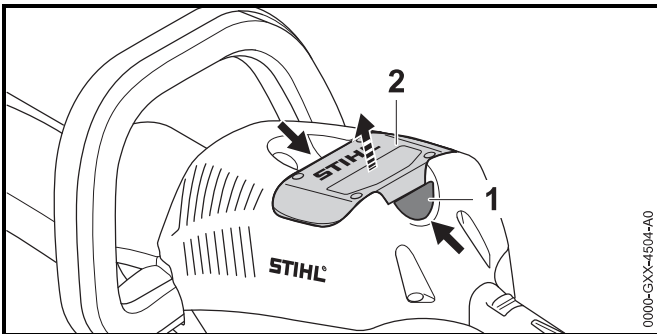
7.1 Fitting the Battery



- ▶ Push the battery (1) into the battery compartment (2) as far as stop.
The battery (1) engages in position with a click.

7.2 Removing the Battery

- ▶ Stand the hedge trimmer on a level surface.



- ▶ Press both locking levers (1).
The battery (2) is unlocked and can be removed.

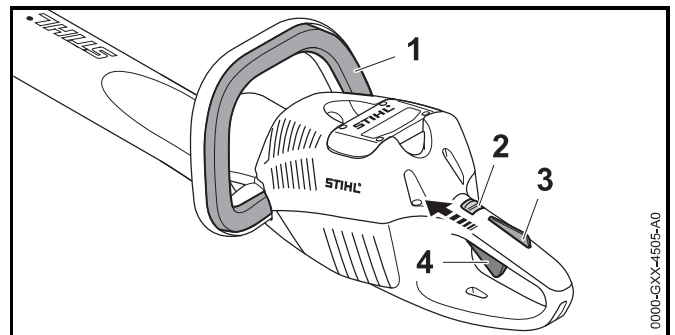
8 Switching the Hedge Trimmer On/Off


8.1 Switching On the Hedge Trimmer

WARNING

The motor accelerates and the cutting blades run regardless of the sequence in which the switch lever and trigger are depressed. If you depress the trigger first and then the switch lever, you may lose control of the hedge trimmer. This can result in serious injuries.

- ▶ Depress the switch lever first and then the trigger.




- ▶ Depress the switch lever (1) and hold it in that position.
- ▶ Push the retaining latch (2) with your thumb to position .
- ▶ Depress the trigger lockout (3) with your hand and hold it there.
- ▶ Pull the trigger (4) with your index finger and hold it there.
The motor accelerates and the cutting blades run.

The more you depress the trigger, the faster the cutting blades run.

8.2 Switching Off



- ▶ Release the switch lever, trigger and lockout lever.
- ▶ Wait until the cutting blades come to a complete standstill after about 1 second.

- ▶ If the cutting blades continue to run after about 1 second: Remove the battery and contact your STIHL servicing dealer. Your hedge trimmer has a malfunction.
- ▶ Push the retaining latch into position .

9 Testing the Hedge Trimmer and Battery

9.1 Checking the Controls

Retaining latch, trigger lockout and trigger

- ▶ Remove the battery.
- ▶ Push the retaining latch into position .
- ▶ Attempt to pull the trigger without depressing the lockout lever.
- ▶ If the trigger can be pulled: Do not use your hedge trimmer and contact your STIHL servicing dealer. Retaining latch or trigger lockout is faulty.
- ▶ Push the retaining latch into position .
- ▶ Depress the trigger lockout lever and hold it in that position.
- ▶ Pull the trigger.
- ▶ Release the trigger and trigger lockout lever.
- ▶ If the trigger or trigger lockout is stiff or does not spring back to the idle position: Do not use your hedge trimmer and contact your STIHL servicing dealer. Trigger or trigger lockout is faulty.

Switch Lever

- ▶ Remove the battery.
- ▶ Depress the switch lever and release it again.
- ▶ If the switch lever is stiff or does not spring back to its idle position: Do not use your hedge trimmer and contact your STIHL servicing dealer. The switch lever has a malfunction.

Switch on the hedge trimmer

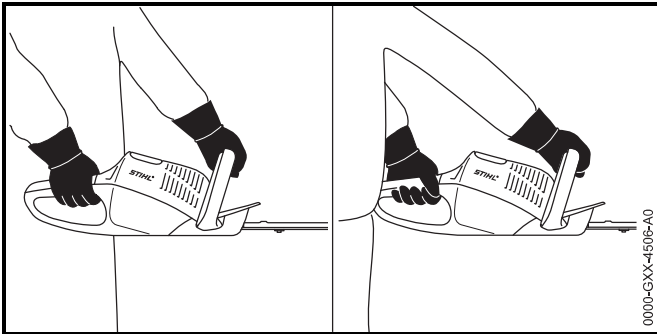
- ▶ Fit the battery.
- ▶ Depress the switch lever and release it again.
- ▶ If the cutting blades have run or are running: Do not use your hedge trimmer and contact your STIHL servicing dealer. The trigger has a malfunction.
- ▶ Depress the trigger lockout lever and hold it in that position.
- ▶ Pull the trigger and hold it there.
- ▶ If the cutting blades run: Do not use your hedge trimmer and contact your STIHL servicing dealer. The switch lever has a malfunction.
- ▶ Depress the switch lever and hold it in that position. The cutting blades run.
- ▶ If 3 LEDs flash red: Remove the battery and contact your STIHL servicing dealer. There is a malfunction in the hedge trimmer.
- ▶ Release the switch lever. The cutting blades stop running after about 1 second.
- ▶ If the cutting blades continue to run after 1 second: Remove the battery and contact your STIHL servicing dealer. Your hedge trimmer has a malfunction.

9.2 Testing the Battery

- ▶ Press button on battery. The LEDs glow or flash.
- ▶ If the LEDs do not glow or flash: Do not use the battery and contact your STIHL servicing dealer. There is a malfunction in the battery.

10 Operating the Hedge Trimmer

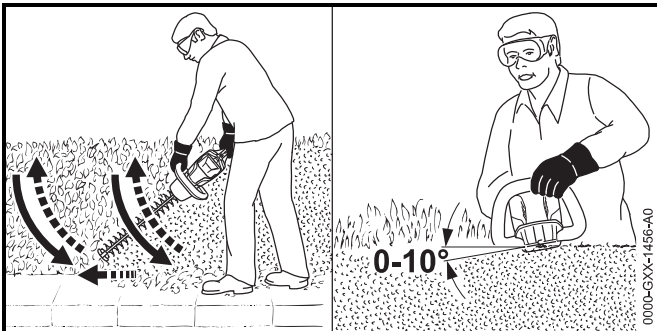
10.1 Holding and Controlling the Hedge Trimmer



- ▶ Hold the hedge trimmer with one hand on the control handle – wrap your thumb around the control handle.
- ▶ Hold the hedge trimmer with the other hand on the loop handle – wrap your thumb around the loop handle.

10.2 Cutting

- ▶ Use lopping shears or a chainsaw to cut out thick branches first.




- ▶ Swing the hedge trimmer from the bottom upwards in an arc while making the cut.
- ▶ Lower the nose of the hedge trimmer without cutting.
- ▶ Walk slowly and steadily forwards.

- ▶ Swing the hedge trimmer from the bottom upwards in an arc while making the cut.
- ▶ Cut the other side of the hedge in the same way.
- ▶ Hold the cutting blades at an angle of 0° to 10° to the top of the hedge.
- ▶ Swing the hedge trimmer horizontally and in an arc while making the cut.
- ▶ If cutting performance deteriorates: Sharpen the cutting blades.


11 After Finishing Work

11.1 After Finishing Work


- ▶ Switch off the hedge trimmer, push retaining latch to position  and remove the battery.
- ▶ If the hedge trimmer is wet: Allow the hedge trimmer to dry.
- ▶ If the battery is wet: Allow the battery to dry.
- ▶ Clean the hedge trimmer.
- ▶ Clean the cutting blades.
- ▶ Fit the blade scabbard so that it completely covers the cutting blades.
- ▶ Clean the battery.

12 Transporting

12.1 Transporting the Hedge Trimmer

- ▶ Switch off the hedge trimmer, push retaining latch to position  and remove the battery.
- ▶ Fit the blade scabbard so that it completely covers the cutting blades.
- ▶ Carry the hedge trimmer by the loop handle with the cutting blades behind you.
- ▶ Transporting the hedge trimmer in a vehicle: Secure the hedge trimmer to prevent turnover and movement.

12.2 Transporting the Battery


- ▶ Switch off the hedge trimmer, push retaining latch to position  and remove the battery.
- ▶ Make sure the battery is in a safe condition.
- ▶ Observe the following points when packing the battery:
 - The packaging must be non-conductive.
 - Make sure the battery cannot shift inside the packaging.
- ▶ Secure the packaging so that it cannot move.

The battery is subject to the requirements for the transport of dangerous goods. The battery is classified as UN 3480 (lithium-ion batteries) and has been tested in accordance with UN Manual of Tests and Criteria, Part III, sub-section 38.3.

For transport regulations see www.stihl.com/safety-data-sheets

13 Storing

13.1 Storing the Hedge Trimmer

- ▶ Switch off the hedge trimmer, push retaining latch to position  and remove the battery.
- ▶ Fit the blade scabbard so that it completely covers the cutting blades.
- ▶ Observe the following points when storing the hedge trimmer:
 - Hedge trimmer is out of the reach of children.
 - Hedge trimmer is clean and dry.

13.2 Storing the Battery


STIHL recommends that you store the battery with a charge between 40% and 60% (2 LEDs glow green).

- ▶ Observe the following points when storing the battery:
 - Battery is out of the reach of children.
 - Battery is clean and dry.
 - Battery is in an enclosed space.


- Store the battery separately from the hedge trimmer and charger.
- Battery is in non-conductive packaging.
- Battery is in a temperature range between -10°C and +50°C.

14 Cleaning

14.1 Cleaning the Hedge Trimmer

- ▶ Switch off the hedge trimmer, push retaining latch to position  and remove the battery.
- ▶ Clean the hedge trimmer with a damp cloth or STIHL resin solvent.

14.2 Cleaning the Cutting Blades

- ▶ Switch off the hedge trimmer, push retaining latch to position  and remove the battery.
- ▶ Spray both sides of blades with STIHL resin solvent.
- ▶ Fit the battery.
- ▶ Run the hedge trimmer for 5 seconds, . The cutting blades run. STIHL resin solvent is distributed evenly.

14.3 Cleaning the Battery

- ▶ Clean the battery with a damp cloth.

15 Maintenance

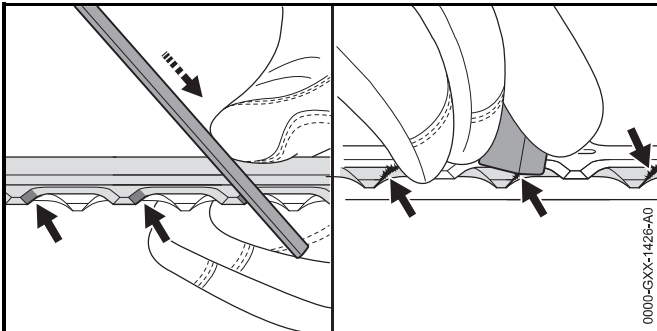
15.1 Sharpening the Cutting Blades


STIHL recommends you have the cutting blades resharpened by a STIHL servicing dealer.

WARNING

The teeth of the cutting blades are very sharp. There is a risk of cut injuries.

- ▶ Wear work gloves made of durable material.



- ▶ Use a STIHL flat crosscut file to sharpen each cutting edge on the upper blade. The file only sharpens on the forward stroke. Maintain the prescribed sharpening angle,  18.2.
- ▶ Turn the hedge trimmer over.
- ▶ Sharpen the remaining cutting edges.
- ▶ Deburr each cutting edge from below.
- ▶ Turn the hedge trimmer over.
- ▶ Deburr the remaining cutting edges.
- ▶ Use a damp cloth to remove the filing dust.
- ▶ Spray both sides of blades with STIHL resin solvent.
- ▶ Run the hedge trimmer for 5 seconds, . The cutting blades run. STIHL resin solvent is distributed evenly.
- ▶ If you have any queries: Contact your STIHL servicing dealer for assistance.

16 Repairing

16.1 Repairing the Hedge Trimmer and Battery

The hedge trimmer, cutting blades and battery cannot be repaired by the user.

- ▶ If the hedge trimmer or cutting blades are damaged: Do not use your hedge trimmer and contact your STIHL servicing dealer.
- ▶ If the battery has a malfunction or is damaged: Replace the battery.

17 Troubleshooting

17.1 Troubleshooting Hedge Trimmer and Battery

Condition	LEDs on Battery	Cause	Remedy
Hedge trimmer does not start when switched on.	1 LED flashes green.	Battery has low charge.	<ul style="list-style-type: none"> ▶ Recharge the battery fully as described in the instruction manual for the STIHL AL 101, 300, 500 chargers.
	1 LED glows red.	Battery too hot or too cold.	<ul style="list-style-type: none"> ▶ Remove the battery. ▶ Allow battery to cool down / warm up.
	3 LEDs flash red.	There is a malfunction in the hedge trimmer.	<ul style="list-style-type: none"> ▶ Remove the battery. ▶ Clean contacts in battery compartment. ▶ Fit the battery. ▶ Switch on the hedge trimmer. ▶ If 3 LEDs continue to flash red: Contact your STIHL servicing dealer for assistance.
		Cutting blades do not move freely.	<ul style="list-style-type: none"> ▶ Spray both sides of blades with STIHL resin solvent. ▶ If 3 LEDs continue to flash red: Do not use your hedge trimmer and contact your STIHL servicing dealer for assistance.
	3 LEDs glow red.	Hedge trimmer is too hot.	<ul style="list-style-type: none"> ▶ Remove the battery. ▶ Allow the hedge trimmer to cool down.
	4 LEDs flash red	There is a malfunction in the battery.	<ul style="list-style-type: none"> ▶ Remove battery and insert it again. ▶ Switch on the hedge trimmer. ▶ If 4 LEDs continue to flash red: Do not use the battery and contact your STIHL dealer for assistance.
		No electrical contact between the hedge trimmer and battery.	<ul style="list-style-type: none"> ▶ Remove the battery. ▶ Clean contacts in battery compartment. ▶ Fit the battery.
		Hedge trimmer or battery damp.	<ul style="list-style-type: none"> ▶ Allow hedge trimmer or battery to dry.
Hedge trimmer cuts out during operation.	3 LEDs glow red.	Hedge trimmer is too hot.	<ul style="list-style-type: none"> ▶ Remove the battery. ▶ Allow the hedge trimmer to cool down.

Condition	LEDs on Battery	Cause	Remedy
		There is a electrical malfunction.	<ul style="list-style-type: none"> ▶ Remove battery and insert it again. ▶ Switch on the hedge trimmer.
Hedge trimmer runtime is too short.		Battery not fully charged.	▶ Recharge the battery fully as described in the instruction manual for the STIHL AL 101, 300, 500 chargers.
		Normal battery life has been exceeded.	▶ Replace the battery.

18 Specifications

18.1 STIHL HSA 66, HSA 86 Hedge Trimmers

HSA 66

- Approved batteries:
 - STIHL AP
 - STIHL AR
- Weight without battery: 3.1 kg

HSA 86

- Approved batteries:
 - STIHL AP
 - STIHL AR
- Weight without battery:
 - HSA 86, blade length 450 mm: 3.0 kg
 - HSA 86, blade length 620 mm: 3.3 kg

For battery life see www.stihl.com/battery-life.

18.2 Cutting Blades

HSA 66

- Tooth spacing: 30 mm
- Cutting length: 500 mm
- Sharpening angle: 35°

HSA 86

- Tooth spacing: 33 mm
- Cutting length: 450 mm or 620 mm
- Sharpening angle: 45°

18.3 STIHL AP battery

- Battery Technology: Lithium-ion
- Voltage: 36 V
- Capacity in Ah: see rating label
- Energy content in Wh: see rating label
- Weight in kg: see rating label
- Permissible temperature range for operation and storage: -10°C to +50°C

18.4 Noise and Vibration Data

K-value for sound pressure level is 2 dB(A). K-value for sound power level is 2 dB(A). K-value for vibration level is 2 m/s².

HSA 66, HSA 86

STIHL recommends that you wear hearing protection.

- Sound pressure level L_{pA} measured according to EN 60745-2-15: 83 dB(A)
- Sound power level L_{WA} measured according to EN 60745-2-15: 94 dB(A)
- Vibration level a_{hv} measured according to EN 60745-2-15
 - Control handle: 2.3 m/s²
 - Loop handle: 3.7 m/s²

The vibration values quoted above have been measured according to a standardized test procedure and may be used to compare electric power tools. Depending on the type of usage, the vibrations that actually occur may differ from the values quoted. The vibration values quoted may be used for an initial assessment of the user's exposure to vibrations. The actual exposure to vibrations has to be estimated. This process may also take into account times during which the electric power tool is switched off and times during which it is switched on but running off load.

Information on compliance with Vibration Directive 2002/44/EC is available at www.stihl.com/vib.

18.5 REACH

REACH is an EC regulation and stands for the Registration, Evaluation, Authorisation and Restriction of Chemical substances.

For information on compliance with the REACH regulation see www.stihl.com/reach.

19 Spare Parts and Accessories

19.1 Spare Parts and Accessories

STIHL® These symbols identify original STIHL replacement parts and original STIHL accessories.

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

Original STIHL replacement parts and original STIHL accessories are available from STIHL servicing dealers.

20 Disposal

20.1 Disposing of Hedge Trimmer and Battery

Contact your STIHL servicing dealer for information on disposal.

- ▶ Dispose of the hedge trimmer, accessories and packaging in accordance with local regulations and environmental requirements.

21 EC Declaration of Conformity

21.1 STIHL HSA 66, HSA 86 Hedge Trimmers

ANDREAS STIHL AG & Co. KG
Badstrasse 115
D-71336 Waiblingen
Germany

0458-703-9921-A

declare in exclusive responsibility that

- Category: Cordless hedge trimmer
- Make: STIHL
- Model: HSA 66, HSA 86
- Serial identification: 4851

conforms to the relevant provisions of Directives 2011/65/EU, 2006/42/EC, 2014/30/EU and 2000/14/EC and has been developed and manufactured in compliance with the following standards in the versions valid on the date of production: EN 55014-1, EN 55014-2, EN 60745-1 and EN 60745-2-15.

Applied conformity assessment procedure in accordance with Directive 2000/14/EC, Annex V.

HSA 66, HSA 86

- Measured sound power level: 94 dB(A)
- Guaranteed sound power level: 96 dB(A)

Technical documents are deposited at ANDREAS STIHL AG & Co. KG Produktzulassung (Product Licensing).

The year of manufacture, country of manufacture and serial number are applied to the hedge trimmer.

Done at Waiblingen, 01.03.2017

ANDREAS STIHL AG & Co. KG



Thomas Elsner, Director Product Management and Services

22 General Power Tool Safety Warnings

22.1 Introduction

This chapter reproduces the pre-formulated, general safety precautions specified in the IEC 62841 standard for hand-held motor-operated electric tools.

STIHL is obliged to publish these texts.

The safety precautions and warnings on avoiding an electric shock given under "Electrical Safety" do not apply to STIHL cordless products.

WARNING

Read all the safety precautions, instructions, illustrations and specifications accompanying this electric power tool. Failure to follow the safety warnings and instructions may result in electric shock, fire and/or serious injury. Save all safety warnings and instructions for future reference.

The term "electric power tool" in the safety warnings refers to mains-operated (corded) power tools or battery-operated (cordless) power tools.

22.2 Work area safety

- a) **Keep work area clean and well lit.** Cluttered or dark areas invite accidents.
- b) **Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust.** Power tools create sparks which may ignite the dust or fumes.
- c) **Keep children and bystanders away while operating a power tool.** Distractions can cause you to lose control.

22.3 Electrical safety

- a) **Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools.** Unmodified plugs and matching outlets will reduce risk of electric shock.
- b) **Avoid body contact with earthed or grounded surfaces, such as pipes, radiators, ranges and refrigerators.** There is an increased risk of electric shock if your body is earthed or grounded.
- c) **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
- d) **Do not abuse the cord. Never use the cord for carrying, hanging up, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts.** Damaged or entangled cords increase the risk of electric shock.
- e) **When operating a power tool outdoors, use an extension cord suitable for outdoor use.** Use of a cord extension suitable for outdoor use reduces the risk of electric shock.
- f) **If operating a power tool in a damp location is unavoidable, use a residual current device (RCD) protected supply.** Use of an RCD reduces the risk of electric shock.

22.4 Personal safety

- a) **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication.** A moment of inattention while operating power tools may result in serious personal injury.
- b) **Use personal protective equipment. Always wear eye protection.** Protective equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.
- c) **Prevent unintentional starting. Ensure the switch is in the off position before connecting to power source and/or battery pack, picking up or carrying the power tool.**

Carrying power tools with your finger on the switch or energizing power tools that have the switch on invites accidents.

- d) **Remove any adjusting key or wrench before turning the power tool on.** A wrench or a key left attached to a rotating part of the power tool may result in personal injury.
- e) **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.
- f) **Dress properly. Do not wear loose clothing or jewelry. Keep your hair, clothing and gloves away from moving parts.** Loose clothes, jewelry or long hair can be caught in moving parts.
- g) **If dust extraction and collection devices can be mounted, they should be connected and used correctly.** Use of dust collection can reduce dust-related hazards.
- h) **Do not be lulled into a false sense of security and do not disregard the safety rules even if you are thoroughly familiar with the electric power tool.** Carelessness can result in serious injuries within fractions of a second.

22.5 Power tool use and care

- a) **Do not force the power tool. Use the correct power tool for your application.** The correct power tool will do the job better and safer at the rate for which it was designed.
- b) **Do not use the power tool if the switch does not turn it on and off.** Any power tool that cannot be controlled with the switch is dangerous and must be repaired.
- c) **Disconnect the plug from the power source and/or take a removable battery pack out of the power tool before making any adjustments, changing accessories, or storing power tools.** Such preventive safety measures reduce the risk of starting the power tool accidentally.
- d) **Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool.** Power tools are dangerous in the hands of untrained users.

- e) **Maintain power tools and accessories with care. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use.** Many accidents are caused by poorly maintained power tools.
- f) **Keep cutting attachments sharp and clean.** Properly maintained cutting attachments with sharp cutting edges are less likely to bind and are easier to control.
- g) **Use the power tool, accessories, tool bits etc. in accordance with these instructions, taking into account the working conditions and the work to be performed.** Use of the power tool for operations different from those intended could result in a hazardous situation.
- h) **Keep handles and grip surfaces dry, clean and free from oil and grease.** Slippery handles and grip surfaces do not allow proper operation and control of the power tool in unforeseen situations.

22.6 Battery tool use and care

- a) **Recharge only with the charger specified by the manufacturer.** A charger that is suitable for one type of battery pack may create a risk of fire when used with another battery pack.
- b) **Use power tools only with specifically designated battery packs.** Use of any other battery packs may create a risk of injury and fire.
- c) **When battery pack is not in use, keep it away from other metal objects, like paper clips, coins, keys, nails, screws or other small objects that can make a connection from one terminal to another.** Shorting the battery terminals together may cause burns or a fire.
- d) **Under abusive conditions, liquid may be ejected from the battery; avoid contact. If contact accidentally occurs, flush with water. If liquid contacts eyes, additionally seek medical help.** Liquid ejected from the battery may cause irritation or burns.

- e) **Do not use a battery pack or tool that is damaged or modified.** Damaged or modified batteries may exhibit unpredictable behaviour resulting in fire, explosion or risk of injury.
- f) **Do not expose a battery pack or tool to fire or excessive temperature.** Exposure to fire or temperature above 130 °C (265 °F) may cause explosion.
- g) **Follow all charging instructions and do not charge the battery pack or tool outside the temperature range specified in the instructions.** Charging improperly or at temperatures outside the specified range may damage the battery and increase the risk of fire.

22.7 Service

- a) **Have your power tool serviced by a qualified repair person using only identical replacement parts.** This will ensure that the safety of the power tool is maintained.
- b) **Never service damaged batteries.** Service of battery packs should only be performed by the manufacturer or authorized service providers.

22.8 Hedge Trimmer Safety Warnings

- **Keep all parts of the body away from the cutting blades. Do not remove cut material or hold material to be cut when blades are moving. Make sure the switch is off when clearing jammed material.** A moment of inattention while operating the hedge trimmer may result in serious personal injury.
- **Carry the hedge trimmer by the handle with the cutting blades stopped. When transporting or storing the hedge trimmer always fit the blade scabbard.** Proper handling of the hedge trimmer will reduce possible personal injury from the cutting blades.
- **Always hold your electric power tool by the insulated handles because the cutting blades may contact hidden electrical wires.** Any blade contact with a live wire may energize metallic parts of the power tool and result in an electric shock.