



# Grape Tendril Removal Machine

## Instruction Manual

Model: BC-1



### Contents

- Safety Precautions ..... P2–P3
- Battery / Charging Safety Information ..... P4–P5
- Part Names / Functions ..... P6–P7
- Assembly ..... P8–P9
- Operation Method ..... P9–P10
- Adjustments ..... P11
- Inspection Before Use ..... P12
- Maintenance ..... P13–P14
- Storage Precautions ..... P15–P17
- Troubleshooting ..... P18–P19
- Optional Accessories ..... P20
- Specifications ..... P21
- EU / UK Compliance ..... P22
- Contact / Warranty ..... P24

Thank you for purchasing the ‘Grape Tendril Removal Machine.’ Before use, please read this entire instruction manual carefully to thoroughly understand the safety precautions and functions of the product so you can use it correctly.

Keep this manual in a safe and accessible place for future reference.



**Li-ion**

Lithium-ion batteries are recyclable

**CAUTION:** Specifications and external appearance are subject to change without notice for the sake of improvement.

## WARNING

- This device is a tool for tying grape vines. Only use this unit for its intended purpose.

### WARNING

Before working at these circumstances, for how affected by: serious injury or death.

### CAUTION

Possible serious injury and following is easily felt to be active if it.

## WARNING

### • Intended Use

This device is a tool for tying grape vines. Only use this unit for its intended purpose.

### • Work Environment

- Use unit in damp, wet, unlit, or in poorly ventilated areas.
- Do not use in rain or areas with heat or steam.
- Do not use in near fire, near moving objects, or live animals.
- Do not let children, bystanders, or pets near or in the worksite.
- Do not use in places with rain or high temperatures as battery materials may leak, leak, or spill, or other people.
- Do not use in near feet, hands or legs, in hazardous locations, or people's body, or other people by used.
- Proper lighting is necessary, electrical light machines or flat boards must be used in poorly lit areas.

## Operator Instructions

- Ensure the correct attachment and operation of all parts before use.
  - 2) Properly attach the battery pack before use.
  - 3) Wear appropriate work clothing and protective equipment.
  - 4) Fasten the strap tightly and securely before use.
  - 5) Charge the battery pack before use.
  - 6) Remove the battery and do not use this unit if it's dropped, broken, or abnormally hot.
  - 7) Disconnect the battery after turning off the tool when an abnormal sound is heard.
  - 8) Do not operate too long so that tying duration does not become too long, as prolonged continuous operation could cause the unit to overheat.

## Precautions for Using

- Only use the specified battery pack and charger.
- Disconnect the battery before inspecting, cleaning, performing maintenance, or stop work activities, and hold to the power switch tightly to ensure it won't start unexpectedly.
- If abnormalities such as heat, smoke, noise, or unusual odor from the body, power-switch or battery pack appear, immediately stop using it and contact your dealer or customer support.

## **WARNING**

- During operation, be aware of your footing, **DO NOT** operate in unstable places such as high places like tree tops or unstable ladders.

Before working at high places, confirm the following items:

- 1) Wear shoes with no holes.
- 2) Use a stable step ladder if high elevation is required.
- 3) Pay attention to the operation and be cautious to not tangle your legs, hands or feet with the cord and the battery cable.
- 4) It is extremely dangerous to work in place such as:
  - Unstable ground
  - Holes
  - Holes that a person can fall into, Tree tops or ladders.

Do not work in these places as much as possible.

## **Cordless Tool Safety Precautions**

- **ONLY** use the specified battery and charger for this device.
- **DO NOT** charge or leave the battery pack in wet, water-soaked conditions. Ensure the housing is dry before usage. **NEVER** use if the battery housing is wet. If exposed to rain, **NEVER** charge the battery or use until thoroughly dried.
- **DO NOT** use or charge batteries indoors near children at risk, electric heaters, or places that form an arc (e.g. metal on metal connections, electric heaters, arc warmers, bare wire).
- **DO NOT** touch the battery terminals during charging.
- After use, turn off the device and unplug the power cord; remove the battery to prevent electric shock or short circuits. If the arc is dangerous, never pull the power cord out **before** removing the battery.

## **PROPER MAINTENANCE AND STORAGE**

- After operation, turn off the device, unplug the power cord, and take the battery out first.
- For long-term storage, remove the battery pack and follow the handling precautions:
  - Exhaust the battery before long-term storage. Store the device in a dry and cool place while ensuring moderate humidity.
- Perform the following maintenance regularly:
  - 1) Remove and check parts like the cutting blade regularly for scratches or cracks.
  - 2) Periodically pour oil according to the manual's operating instructions into moving parts.
  - 3) Regularly clean dirt, drink water residues and foreign objects from the power switch.
  - 4) Clean air vents regularly so that the ventilation is not blocked by debris.
  - 5) Regularly remove dust from the body.
- If any irregularities occur during routine inspections, immediately stop operation by turning off the switch and contact your nearest dealer or customer support.
- In case of apparent failure during usage, immediately stop operation by turning off the switch and contact the support as described above.


# Battery & Charger Safety Precautions

## WARNING

- Charge only with the dedicated charger. Do not use any non-specified chargers or battery types.
- Do not connect the battery to any device other than the specified charger.
- Do not use or charge the battery in places with the following hazards: fire, explosion, high heat, smoke, vibration, or dampness.
- Do not expose the battery to or place it in fire, water, heat, pressure, or direct sunlight.
- If any fluid from the battery gets in your eyes, rinse immediately with clean water and seek medical treatment.
- Do not reverse the polarity of the battery terminals.
- Do not use unnecessary force when connecting or disconnecting the battery.
- Do not disassemble or modify the battery or charger.
- Do not short the battery terminals or clog the charger vent.
- Before charging, make sure no foreign objects, dirt, or dust are on the battery or charger.
- When charging the battery, ensure that the charger or power outlet is horizontally stable and cannot fall over.
- Do not store the charger or battery in places prone to dust or moisture. Ensure ventilation is available.
- Do not use, charge, or store the battery in the following conditions:
  - In direct sunlight or near fire
  - In high-temperature environments such as inside a car
  - In wet or humid conditions
  - Near heat sources, magnets, or static electricity
  - Near flammable gases or liquids
  - In freezing conditions
- If any abnormality such as unusual odor or smoke occurs during use or charging, immediately unplug the power cord and remove the battery.
- After use, always unplug the power cord and remove the battery.
- For long-term storage, remove the plug of the charger from the outlet and remove the battery from the charger.
- Do not cover the charger with anything like cloth or paper when using it, as it could cause a fire.
- If any abnormality such as unusual odor or smoke occurs during use or charging, immediately unplug the power cord and remove the battery.

 **WARNING**

- In case of heat, smoke, or any other abnormalities during use, immediately unplug and remove the battery.
- After use, always unplug the power cord and remove the battery.
- Do not store or charge this device in places where there is a risk of fire.
- Keep this unit, power cord, and battery away from the reach of infants and young children.
- Be cautious of possible dangers.

 **CAUTION**

- High or low temperature environments can reduce battery performance or lifespan.
- Do not store the battery connected to the device or charger for extended periods.
- Remove the battery pack during long-term storage.
- Do not charge the battery immediately after prolonged use. Continuous charging can reduce the device's or battery pack's lifespan.

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# Specifications & Parts Identification

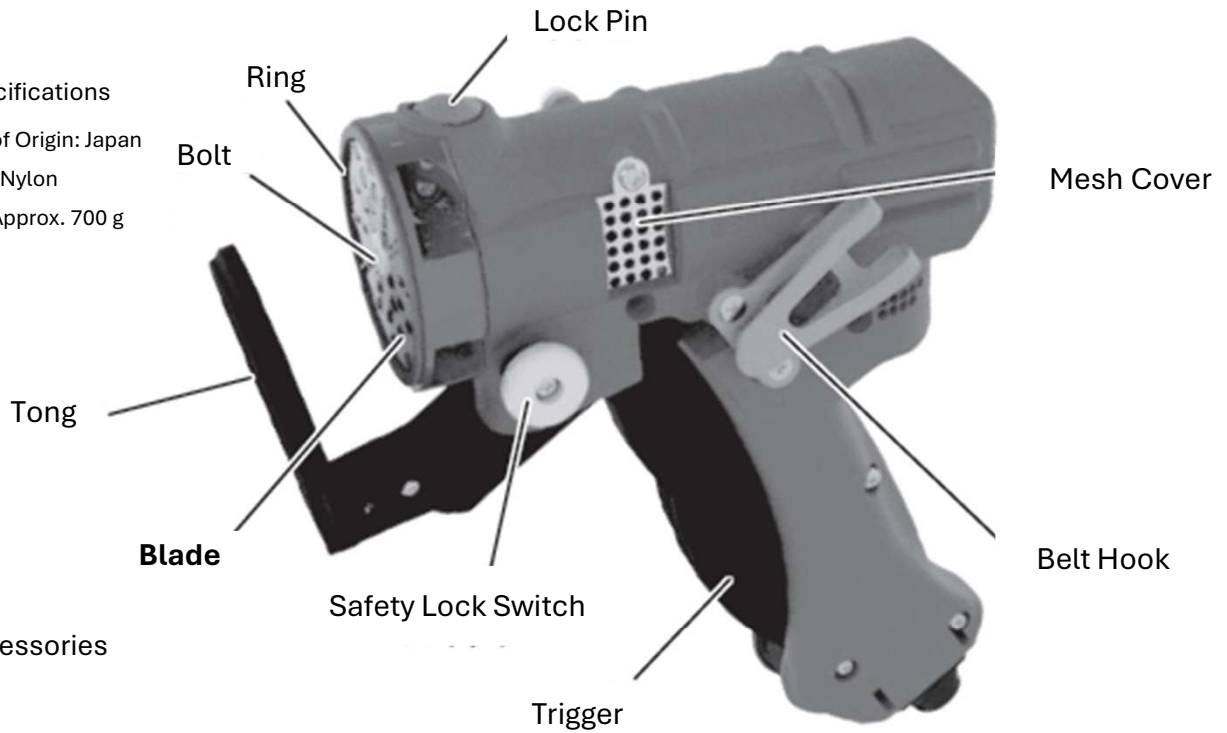
## Main Unit

### Specifications

Country of Origin: Japan

Material: Nylon

Weight: Approx. 700 g



### Accessories



### Motor Specifications

VOLTAGE		NO LOAD	
OPERATING RANGE	NOMINAL V	SPEED r/min	CURRENT A
6.0-14.4	14.4	20200	2.7

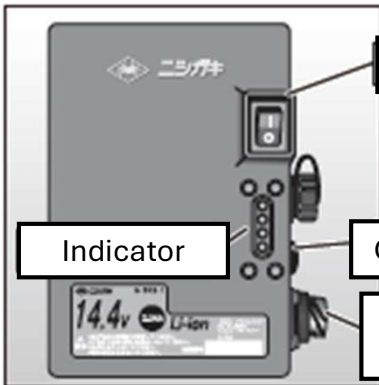
Brushless DC Brushless DC (CCW+)

## Accessories Battery & Charger

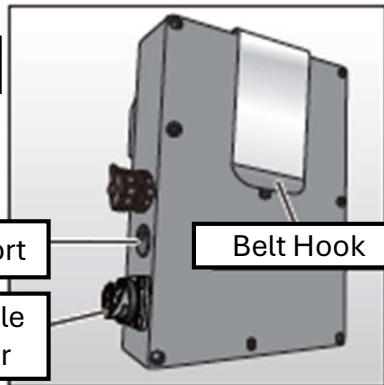
### Battery (Rechargeable Battery)

Model: N-902-1

■ Front



■ Back



Switch  
Up [ I ] : ON  
Down [ O ] : OFF



Specifications	
Voltage	DC 14.4V
Battery Type	Lithium-ion Battery
Capacity	7.0Ah
Weight: Approx	Approx. 0.6 kg
Charging Method	Internal
Charging Cycle Life	Approx. 500 cycles

### Battery Lifespan

If the operating time becomes significantly shorter even after proper charging, the battery has reached the end of its service life. Please replace it with a new battery. (Operating time may also decrease when the cutting blade becomes worn.)

### Caution – Battery Storage (Important)

Do not leave the battery in a low-charge state for long periods. (Over-discharge may shorten battery life.)  
Do not recharge a fully charged battery.  
For long-term storage (more than 6 months), store the battery at approximately half charge.  
When storing for long periods, remove the battery from the device or charger and store it in a cool, dry place away from heat and humidity.

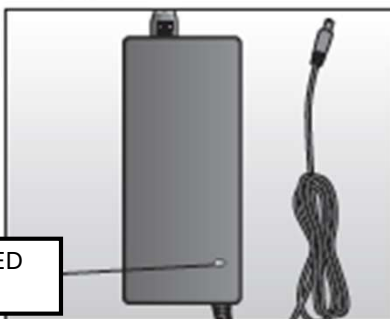
### Charger

Model: N-902-3

■ Front



■ Back



● Charging: Red LED ON  
○ Fully Charged: Green LED ON



項目	仕様
Input	AC100–240V, 50/60Hz
Output	DC16.8V / DC6.0A
Charging Time	Approx. 2 hours
Weight	Approx. 0.3 kg

### WARNIN

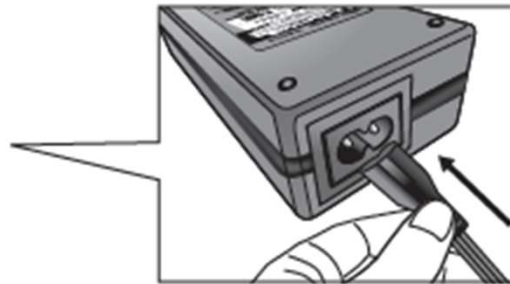
Use only the dedicated charger for the included 7.0Ah battery (Model: N-902-1).  
Using this charger with other batteries may cause malfunction or damage.

## Charging Method

- Please fully charge the battery before use.
- The battery will gradually self-discharge even when not in use, but this does not affect performance.
- Charging status is indicated by the LED lamp on the charger (see Fig. 1).

Connecting the Power Cord : When purchased, the charger and power cord are separate.  
Please connect them before use

### Connection

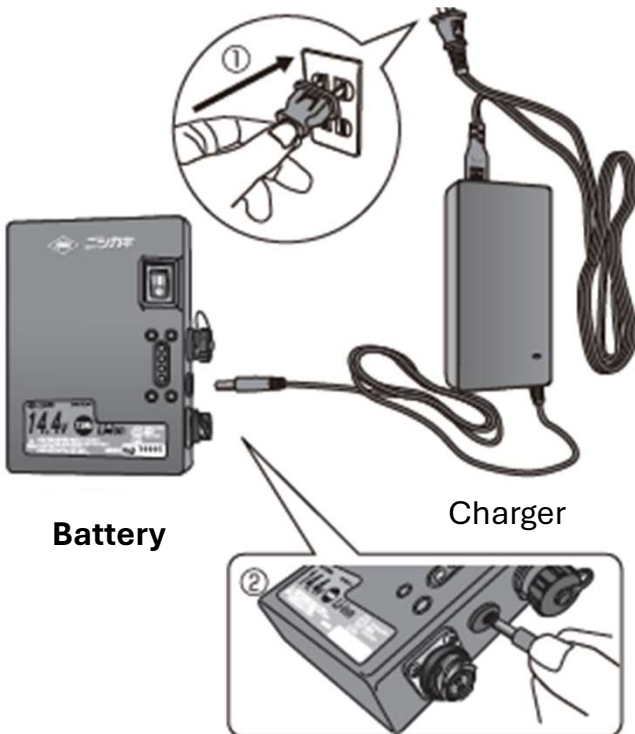


.※ The connection can be made in either orientation (up or down).

### warning

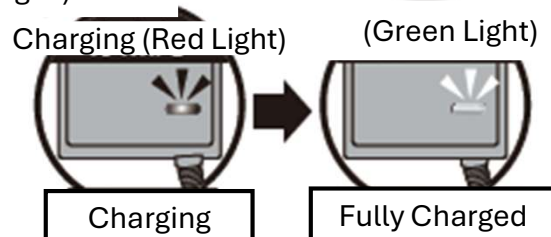
This charger (Model: N-902-3) is designed exclusively for the included 7.0Ah battery (Model: N-902-1). Using it with other batteries may cause malfunction or damage.

① Plug the charger into a power outlet.



② Connect the battery to the charger. (The charging indicator LED will light up red.)

(Fig. 1)



③ When the indicator LED turns green, charging is complete. Remove the battery from the charger.



④ Unplug the charger from the power outlet.

Charging Time: Approx. 2 hours (When using N-902-3 charger, DC6.0A) ※ Charging time may vary depending on ambient temperature and battery condition.

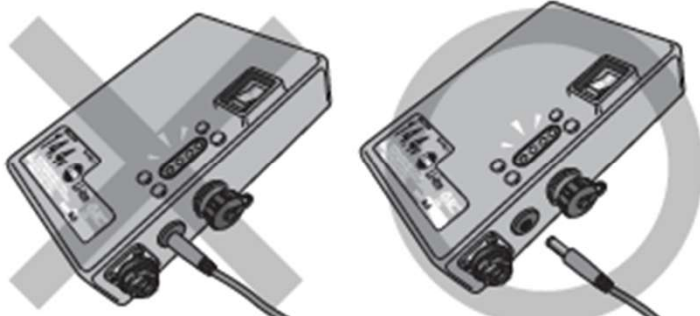
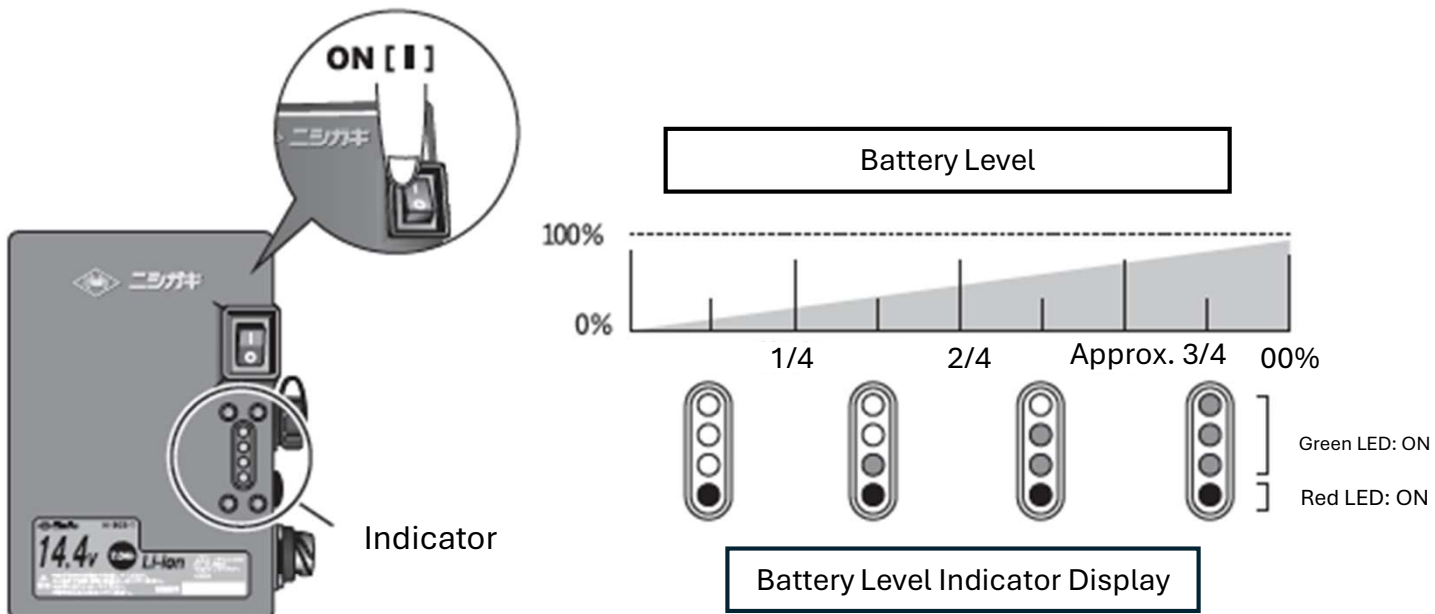
### CAUTION

During charging, radio or TV noise may occur. In such cases, keep the charger away from electronic devices. Charge the battery within an ambient temperature range of 10° C to 40° C (50° F–104° F). Charging outside this range may significantly increase charging time. After charging is complete, always remove the battery from the charger. Do not use the device while it is charging. This may cause damage.

## Indicator Display During Operation

### LED Indicator Display & Battery Level Guide

When the battery switch is turned ON, the indicator will light up.



Check battery level after disconnecting the charger

### CAUTION

The indicator displayed during charging may not reflect the actual battery level.

※ To check the correct battery level, disconnect the charger before checking.

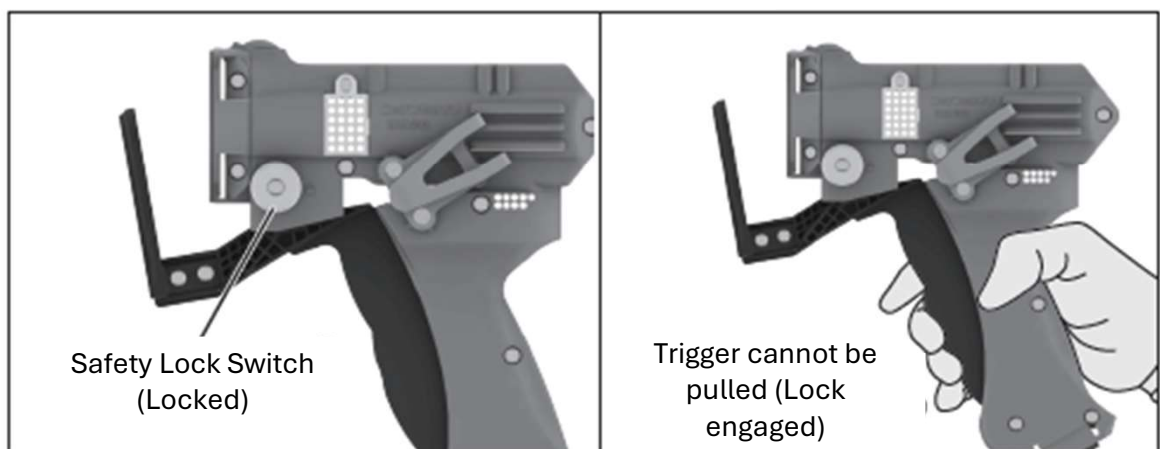
## Pre-Operation Inspection

Before starting work, ensure the surrounding area is organized and that you have stable footing.  
Check that the wire to be processed is free of foreign objects and is not bent.

- ① Check that the battery switch is turned OFF.

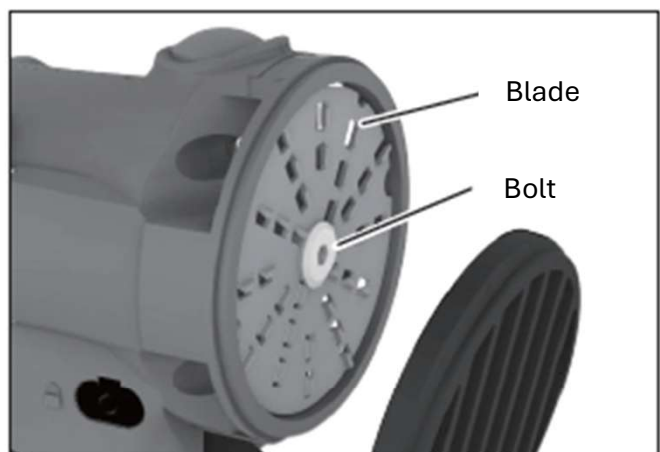


- ② Make sure the safety lock is engaged and the trigger cannot be pulled.



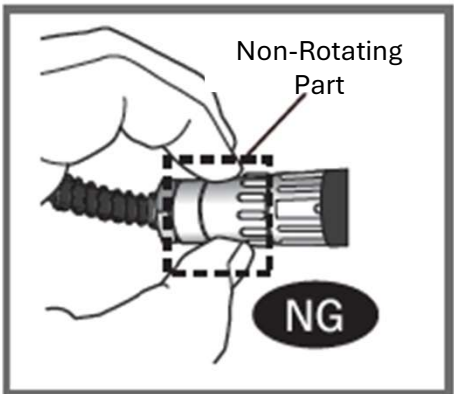
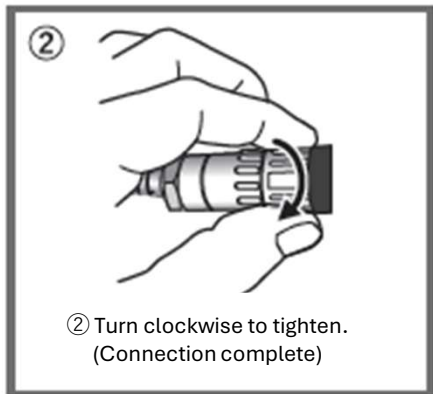
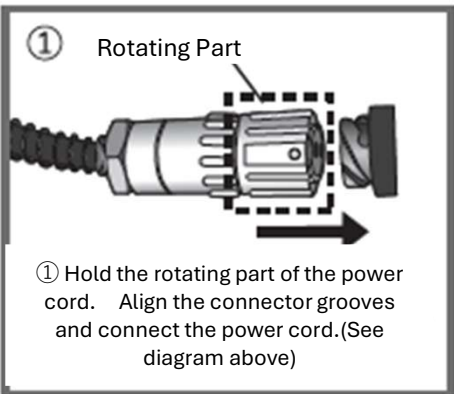
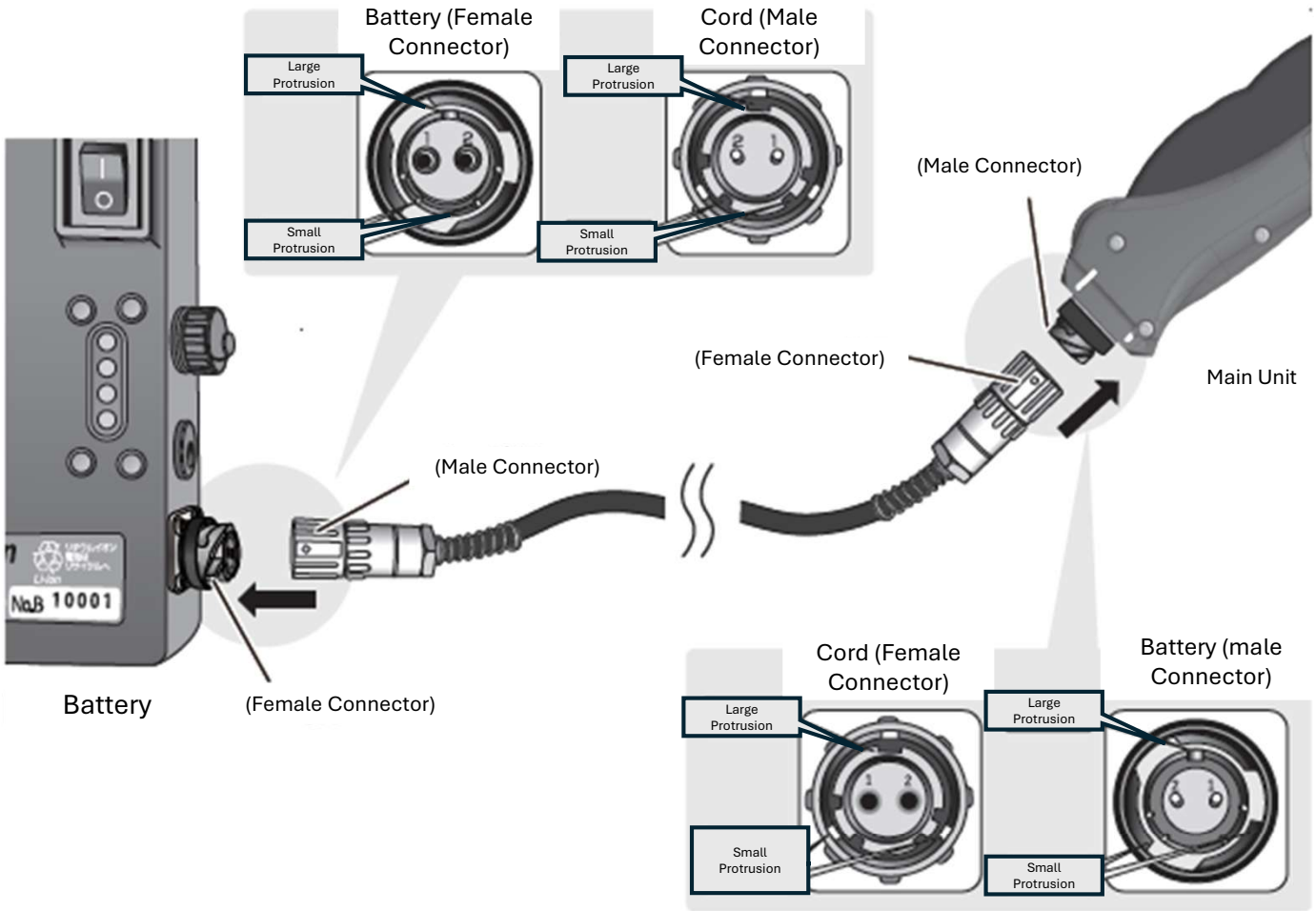
- ③ Inspect the blade area. (Always wear gloves.)

Check the following: No foreign objects caught in the blade No blade chips or damage No loose bolts



# Connection Method

Connect the supplied power cord to the terminal at the bottom of the battery.

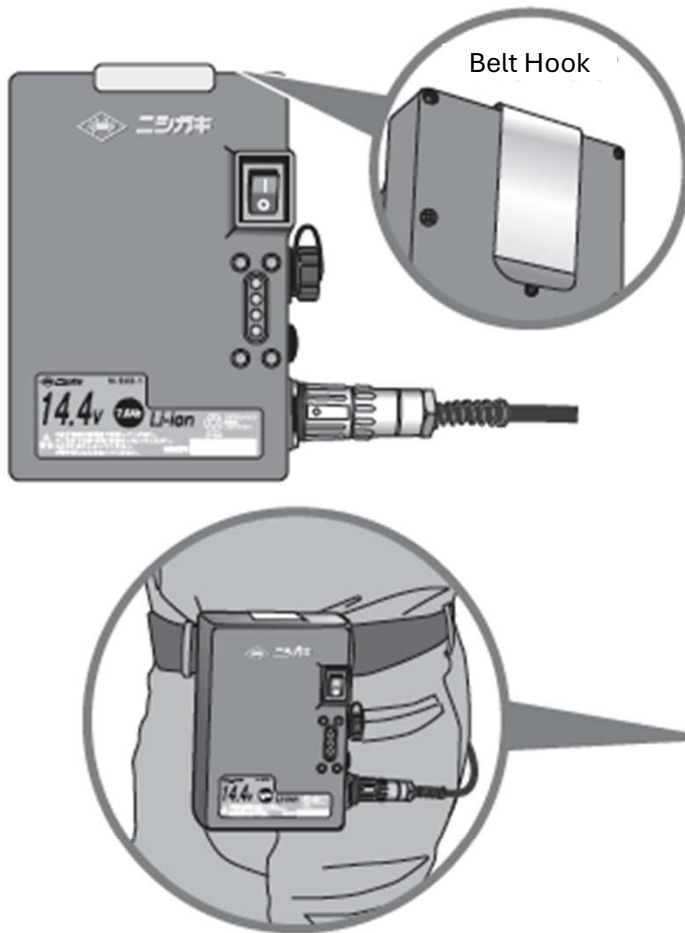


**CAUTION** Do not hold the non-rotating part

**CAUTION** Do not rotate with excessive force. This may cause damage.

## Installation Method

### Battery Installation



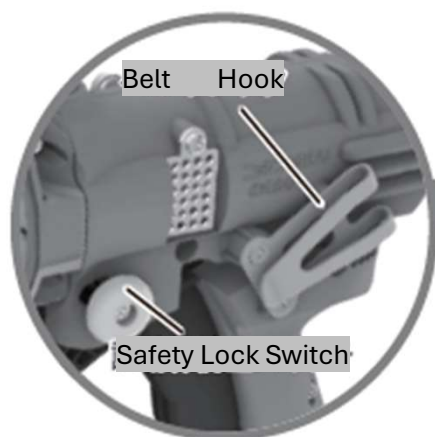
### Installation Example



Attach the battery by inserting the belt hook into your waist belt.

To prevent the cord from interfering with operation, attach the battery to the side or back of your waist, and route the cord behind your body.

### Main Unit Installation



### Wearing Example



With the safety lock switch engaged, attach the main unit by inserting the belt hook into your waist belt.※ The belt hook can be attached on either the left or right side.

## Operation Method

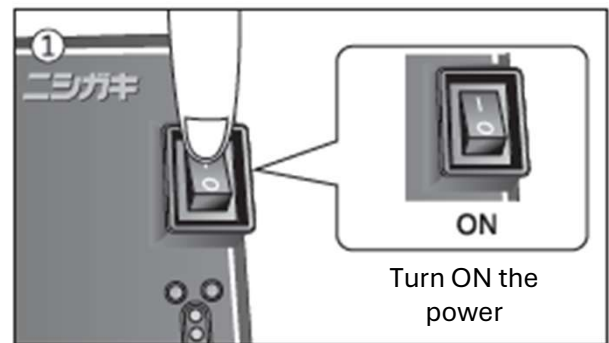
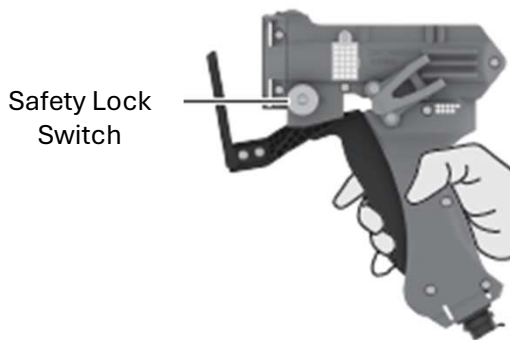
This tool is designed exclusively for removing grape tendrils . Do not use it for any other purpose.

### CAUTION

- Do not use the tool in a way that overloads it. This may cause damage to the blade or main unit (not covered by warranty).
- If used continuously for more than 15 minutes, the main unit (motor) may become hot. Stop using the tool and allow it to cool down before resuming. (Continuing to use it while hot may cause failure.)
- Do not use the tool on tendrils thicker than 5 mm in diameter.
- Do not use the tool on hardened tendrils. (Recommended maximum: approx. 20 mm thickness)

### Tendrils Removal

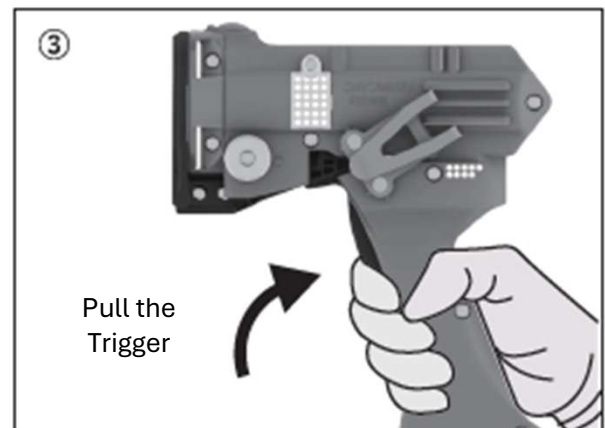
- ① Hold the tool as shown in the diagram with the trigger open. Make sure the safety lock switch is engaged , then turn ON the battery power.



### CAUTION

If the trigger is open, the blade may rotate, which is dangerous.

- ② Press the lock release button to release the lock.  
③ Pull the trigger and check the operation.

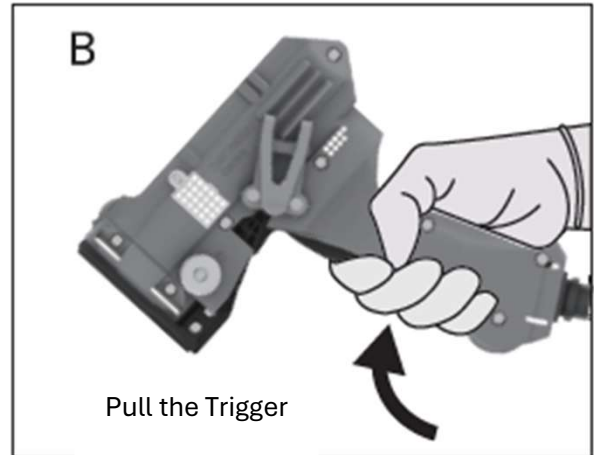
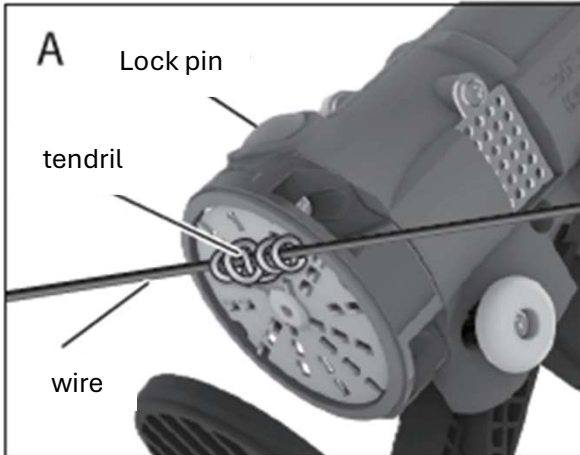


**CAUTION**

Do not operate the tool with the lock pin pressed in, and do not press the lock pin during operation. This may cause damage to internal components.

A. With the trigger open, align the tendril with the blade area. Align the tendril with the trigger opening. ✘ Perform tendril removal at the center (excluding the bolt area).

B. Pull the trigger to rotate the blade and remove the tendril. By repeating steps A and B, tendrils can be removed efficiently.



**CAUTION**

If the wire is bent or crossed, there is a risk of damaging the wire. Use the tool carefully while observing the condition. Make sure the blade does not come into contact with metal during operation. Over-tightening the bolt may make it difficult to remove.

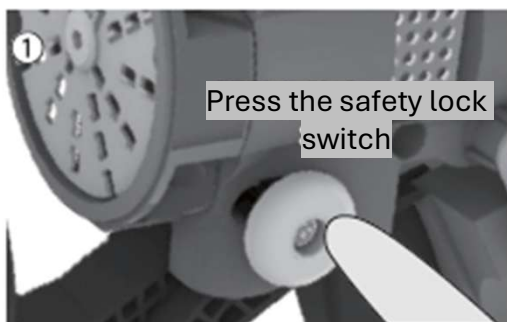
**CAUTION**

If the blade becomes worn, friction may cause smoke. This may lead to malfunction, so replace the blade as necessary.

After Operation

① Press the safety lock switch to engage the lock.

② Turn OFF the battery power.



Press [O] to turn OFF the battery

## Maintenance & Storage

### WARNING

To prevent accidents, always remove the battery before performing any work.

### CAUTION

Always wear gloves when handling or maintaining the blade to prevent injury.

### ■ After Use

Wipe the tool clean after use. Do not use gasoline, thinner, benzene, or solvents, as they may damage plastic parts.

### ■ Blade Maintenance

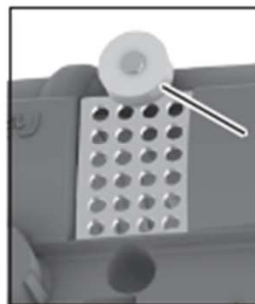
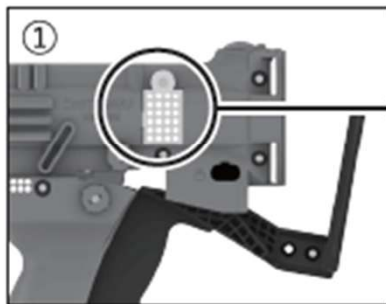
The blade may become hot during operation and could cause burns. Allow it to cool before cleaning. Remove tendon debris using a brush or tweezers.

### ■ Storage

Before storing, ensure the battery is removed and the safety lock switch is engaged. Avoid storing in high-temperature, humid, or corrosive environments. Keep out of reach of children.

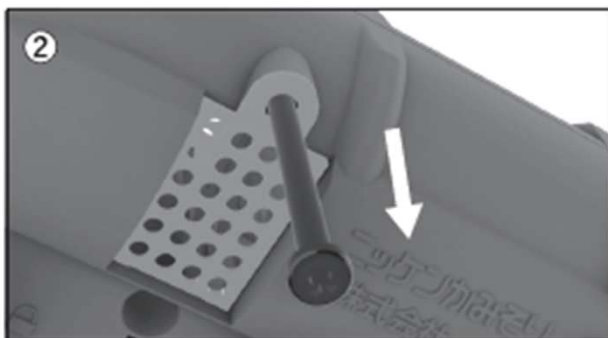
### ■ Internal Cleaning

1. Remove the fixing nut.

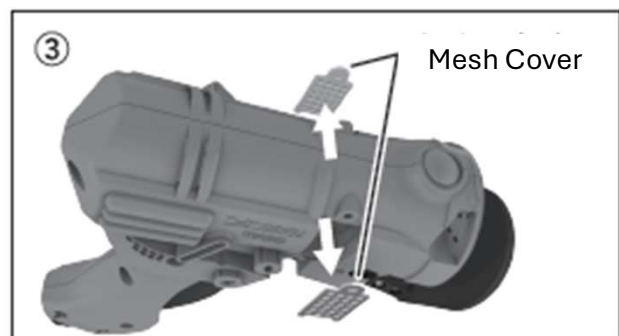


Fixing Nut

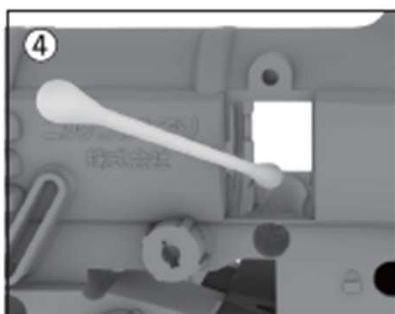
2. Remove the bolt from the opposite side.



3. Remove the mesh covers on both sides.



4. Clean inside the unit using a cotton swab or similar tool.



5. Reattach the mesh covers, then secure them with the screw and fixing nut.

### CAUTION

Do not operate the tool with the mesh cover removed.

## Blade Replacement (Removal Method)

### WARNING

To prevent accidents, always remove the battery before performing this work.

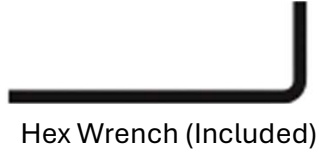
### CAUTION

Always wear gloves when replacing the blade. Be careful not to touch the blade with your hands or face.

Use the dedicated replacement blade (Model: BCK-1).

Required Tools

Blade Replacement  
(Removal Method)

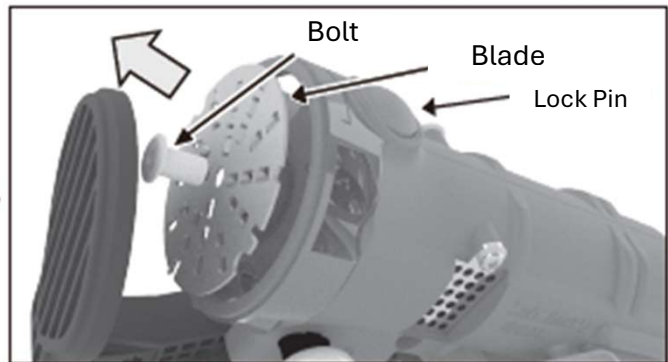
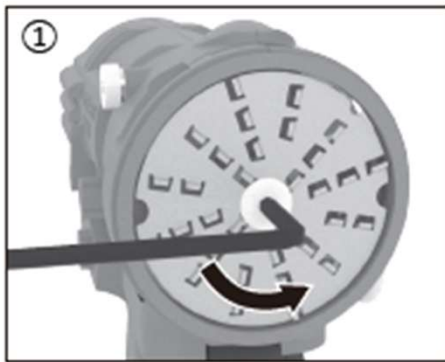


Hex Wrench (Included)



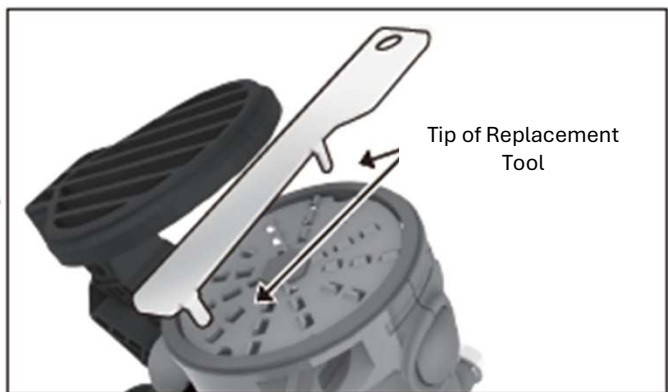
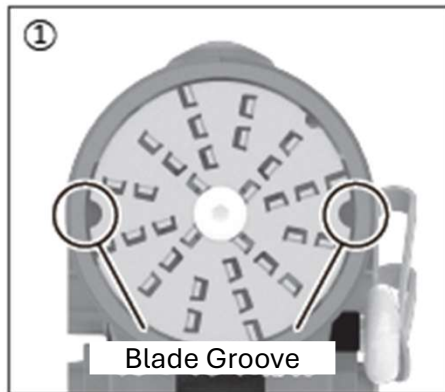
Blade Replacement Tool (Included)

1. While holding the blade with the hex wrench, loosen the bolt by turning it counterclockwise. When the blade stops rotating, press the lock pin and continue turning the hex wrench slowly counterclockwise to remove the bolt and blade.



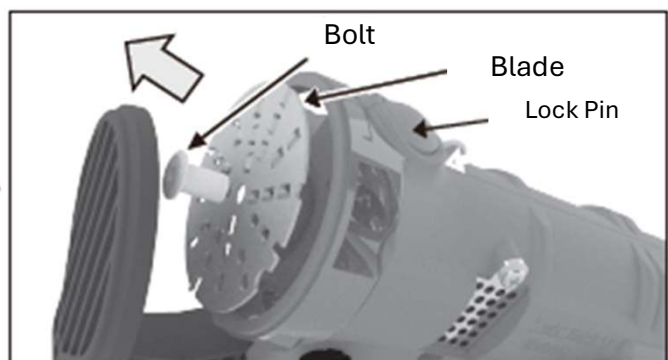
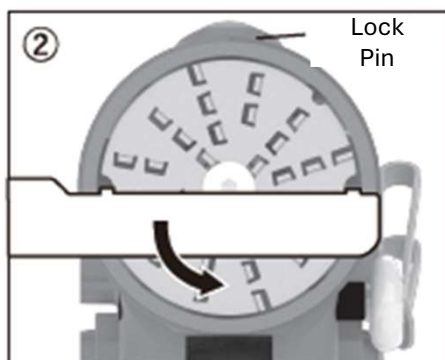
When the Bolt Cannot Be Removed

1. Insert the blade replacement tool into the groove of the blade as shown in the diagram.



2. While pressing the lock pin, rotate the blade using the replacement tool.

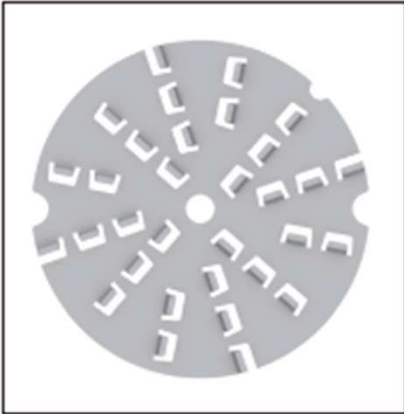
When the blade stops rotating, press the lock pin and slowly turn the replacement tool counterclockwise to release the blade.



# Blade Replacement (Installation Method)

<b>WARNING</b>	To prevent accidents, always remove the battery before performing this work.
<b>CAUTION</b>	Always wear gloves when replacing the blade . Be careful not to touch the blade with your hands or face.

**Blade Orientation (Front Side)**  
(The side where the blade teeth are visible)



Required ToolHex Wrench (Included)

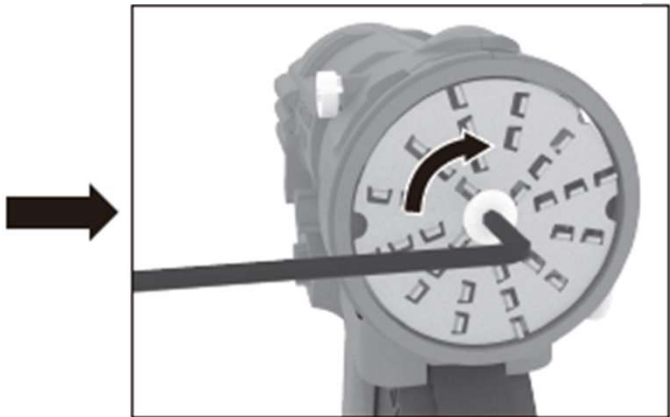
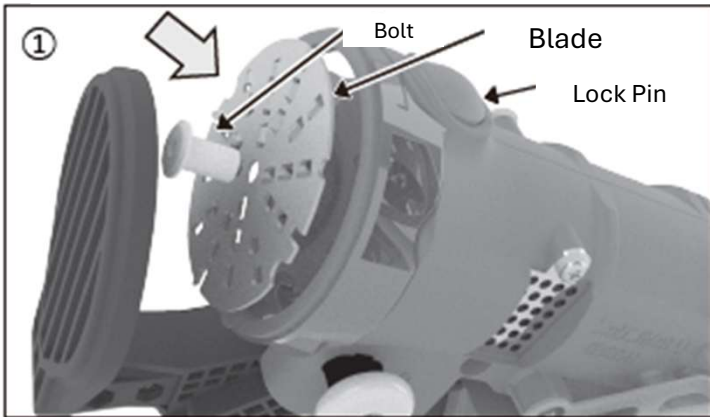


<b>CAUTION</b>	Make sure no foreign objects are attached to the blade or the main shaft before installation.
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## ■ Blade Replacement (Installation Method)

1. While pressing the lock pin, rotate the blade using the hex wrench.

When the blade stops rotating, press the lock pin and slowly turn the hex wrench clockwise to tighten the bolt and secure the blade.



<b>CAUTION</b>	Turn the hex wrench slowly . Once the bolt stops turning, do not tighten it further. Over-tightening may damage the tip of the lock pin or the main shaft.
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For information on replacing parts, please refer to our website:

<https://www.nikkenkamisori.co.jp/>

# Ring Replacement (Removal Method)

WARNING	To prevent accidents, always remove the battery before performing this work.
CAUTION	Always wear gloves when replacing the ring. Be careful not to touch the blade with your hands or face.

## ■ Replacement Timing / Procedure

Replace the ring when it becomes damaged or when it starts to damage the wire.  
Use the dedicated replacement ring (Model: BCR-1).

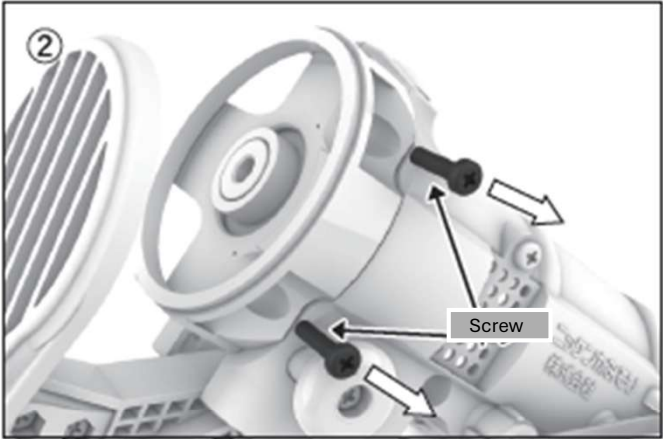
## ■ Ring Replacement

1. Remove the blade.

(Refer to "Blade Replacement" on page 16.)

2. Remove the two screws.

CAUTION	There are fixing nuts on the back side. Be careful not to lose them.
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3. Pull out the ring cover as shown in the diagram.



4. Remove the ring.



## Ring Replacement (Installation Method)

### WARNING

To prevent accidents, always remove the battery before performing this work.

### CAUTION

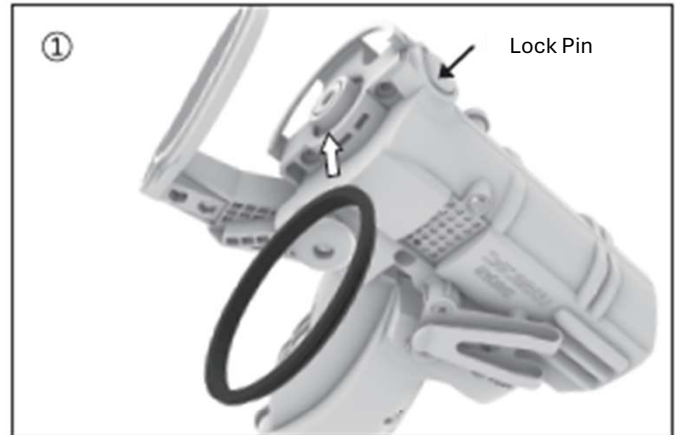
Always wear gloves when replacing the ring . Be careful not to touch the blade with your hands or face.

### Ring Replacement (Installation Method)

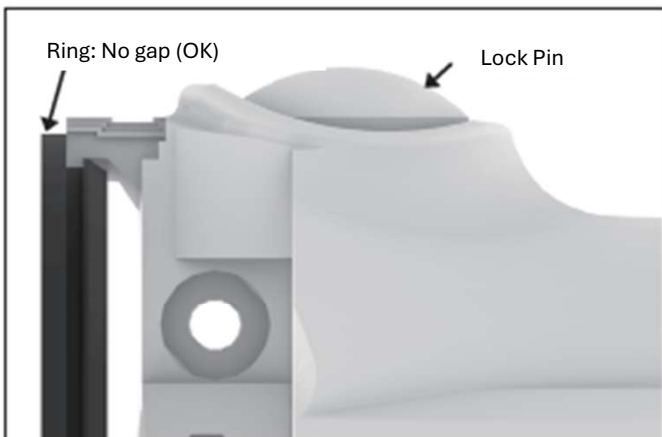
#### ① 1. Install the ring.

CAUTION	Ensure the groove of the ring is properly seated in the main unit without any gaps.
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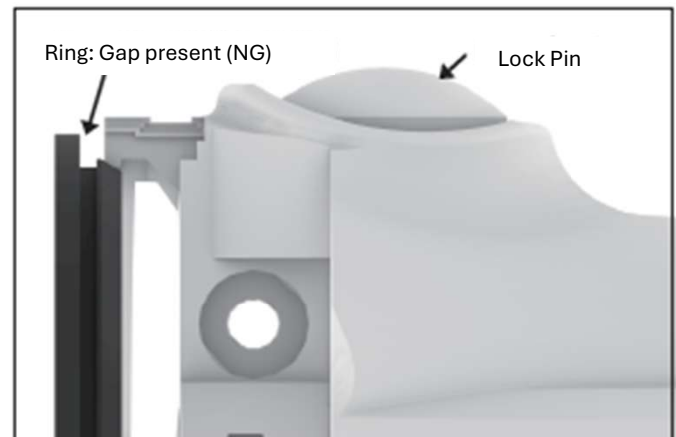
CAUTION	Make sure there is no gap between the main unit and the ring.
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Correct Installation (Side View)



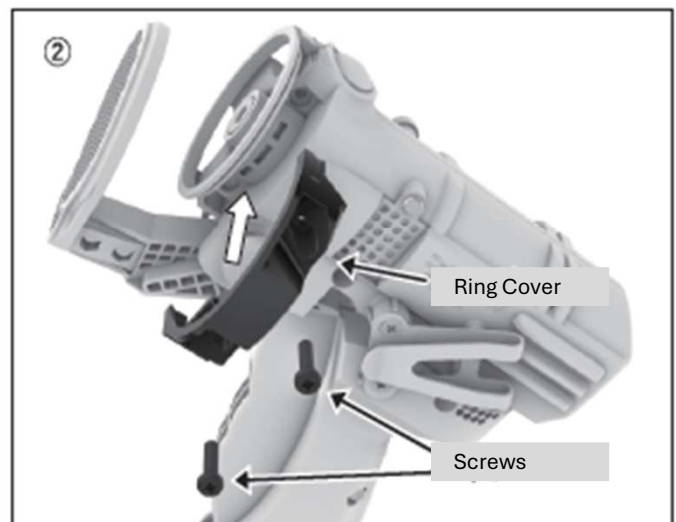
Incorrect Installation (Side View)



#### 2. Install the ring cover and secure it with screws.

CAUTION	Make sure there are no gaps between the ring cover, main unit, and ring
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3. Check that the wire is not damaged . If the wire is damaged, contact Nikken Razor Co., Ltd.



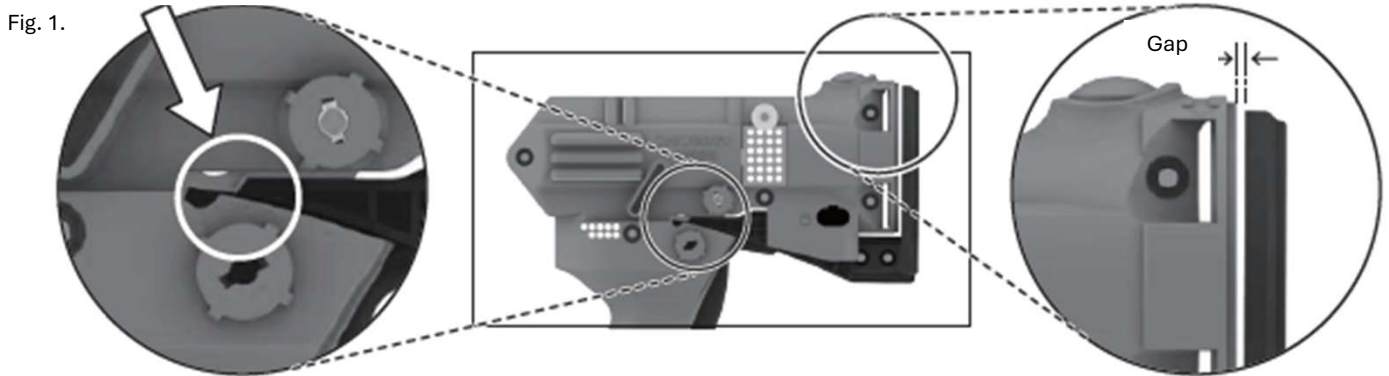
Guide Arm Replacement

<b>WARNING</b>	To prevent accidents, always remove the battery before performing this work.
<b>CAUTION</b>	Always wear gloves when replacing the ring . Be careful not to touch the blade with your hands or face.

■ Replacement Timing / Procedure

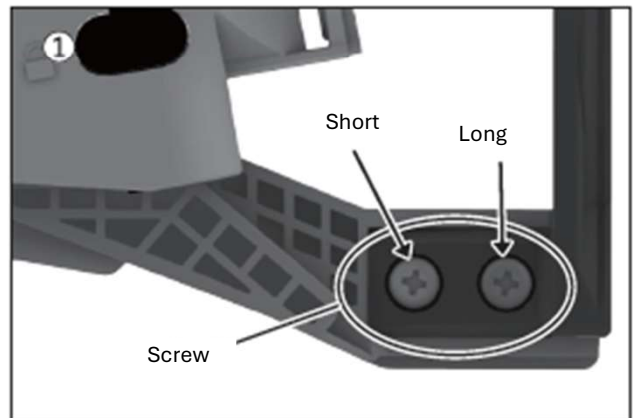
Before replacement, make sure no tendrils or debris are caught in the area shown in Fig. 1. Replace the guide arm when the gap becomes large while the guide arm is open . Use the dedicated replacement guide arm (Model: BCT-1). Check that no tendrils or debris are present . If present, remove them using a stick or similar tool.

Gap Reference: 1 mm or more

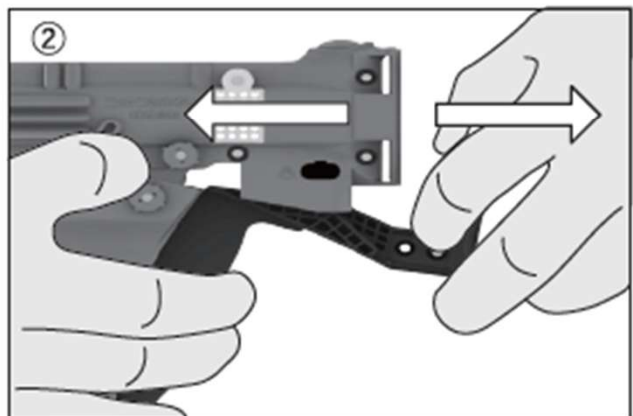


1. Remove the two screws from the guide arm.

<b>CAUTION</b>	There are fixing nuts on the back side. Be careful not to lose them.
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2. Apply force as shown in the diagram and pull out the guide arm.



3. Replace with a new guide arm, reassemble, and tighten the screws to complete the installation.

## Troubleshooting

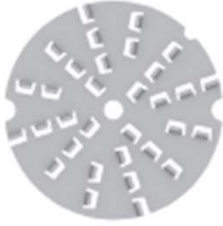






### CAUTION

Do not disassemble or repair the product yourself, except for simple maintenance. If the product is disassembled or repaired by the user, it will void the warranty.

Problem	Possible Cause	Solution
Does not operate	Power cord or battery is disconnected	Connect the power cord and battery properly
	Battery charge is low	Connect the charger and charge the battery
	Power switch is OFF	Turn ON the power switch
	Battery performance is reduced due to low temperature	Warm the battery or use it in a suitable temperature environment
	Safety lock switch is engaged	Release the safety lock switch
	Internal parts failure	Contact your dealer or manufacturer for repair
Cutting performance has decreased	Blade is worn or damaged	Replace the blade
	Debris is stuck in the blade	Remove debris
	Guide arm (tong) is worn	Replace the guide arm
	Debris is clogged and tendrils cannot be removed	Clean the unit
Smoke coming from the blade	Blade is worn	Replace the blade
Blade does not rotate even when pressing the lock pin	Internal parts failure	Contact your dealer or manufacturer
Bolt is too tight to loosen	Bolt is over-tightened	Refer to blade replacement instructions and remove carefully
Motor does not stop even after releasing the trigger	Foreign object is stuck	Remove debris
Wire is being damaged during operation	Guide arm is worn	Replace the guide arm
Abnormal noise from the unit	Blade or parts are incorrectly installed	Install correctly
	Blade is deformed or damaged	Replace the blade
	Internal parts failure	Contact your dealer or manufacturer
Cannot charge	Charger or battery is not properly connected	Connect correctly
	Temperature of the unit or battery is too high	Allow to cool before charging
	Internal parts failure	Contact your dealer or manufacturer
Battery drains quickly	Continuous cutting of thick tendrils	Use within recommended conditions
	Battery has reached end of life	Replace the battery

Optional Parts

These parts are designed exclusively for the grape tendril removal machine. Do not use them with other equipment.

<p>Blade (with Bolt)      With bolt</p> <p><b>BCK-1</b></p> 	<p>Battery Pack</p> <p><b>N902-1</b></p> 
<p>Blade Replacement Tool</p> <p><b>BCJ-1</b></p> 	<p>Charger</p> <p><b>BCZ-1</b></p> 
<p>Ring</p> <p><b>BCR-1</b></p> 	<p>Power Cable</p> <p><b>BCS-1</b></p> 
<p>Guide Arm      With screw</p> <p><b>BCT-1</b></p> 	<p>Optional parts can be purchased from your distributor.</p>

For detailed information on replacing parts, please refer to our website below:

<https://www.nikkenkamisori.co.jp/>

memo

A large rectangular area containing horizontal dotted lines for writing a memo.