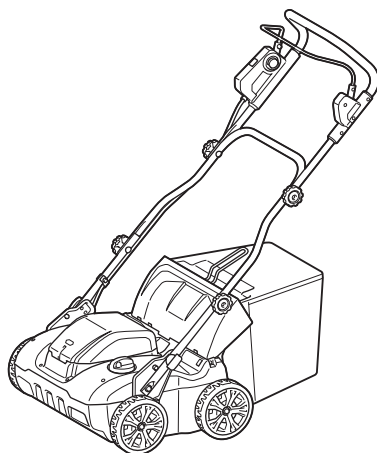


INSTRUCTION MANUAL



# Cordless Scarifier

## UV001G



Read before use.

# SPECIFICATIONS

<b>Model:</b>		<b>UV001G</b>
Working width		380 mm
No load speed		3,200 min <sup>-1</sup>
Part number of replacement scarifier blades	Vertical cutter	1913J5-0
	Thatching blades	1913J7-6
Dimensions (L x W x H)	during operation	L: 1,020 mm to 1,240 mm W: 680 mm H: 915 mm to 1,155 mm
	when stored (without grass basket)	550 mm x 680 mm x 640 mm
Rated voltage		D.C. 36 V - 40 V max
Net weight		18.7 - 23.8 kg
Protection degree		IPX4

- Due to our continuing program of research and development, the specifications herein are subject to change without notice.
- Specifications may differ from country to country.
- The weight may differ depending on the attachment(s), including the battery cartridge. The lightest and heaviest combinations, according to EPTA-Procedure 01/2014, are shown in the table.

## Applicable battery cartridge and charger

Battery cartridge	BL4020 / BL4025* / BL4040* / BL4050F* / BL4080F* *: Recommended battery
Charger	DC40RA / DC40RB / DC40RC







- Some of the battery cartridges and chargers listed above may not be available depending on your region of residence.

**⚠ WARNING: Only use the battery cartridges and chargers listed above.** Use of any other battery cartridges and chargers may cause injury and/or fire.

**⚠ WARNING: Do not use a corded power supply such as battery adapter or portable power pack with this machine.** The cable of such power supply may hinder the operation and result in personal injury.

## Symbols

The followings show the symbols which may be used for the equipment. Be sure that you understand their meaning before use.

	Take particular care and attention.
	Read instruction manual.
	Danger; be aware of thrown objects.
	The distance between the machine and bystanders must be at least 15 m.
	Warning; Disconnect battery before maintenance.
	Never put your hands and feet near the scarifier blades under the machine. Scarifier blades continue to rotate after the machine is switched off.



Only for EU countries

Due to the presence of hazardous components in the equipment, waste electrical and electronic equipment, accumulators and batteries may have a negative impact on the environment and human health.

Do not dispose of electrical and electronic appliances or batteries with household waste!

In accordance with the European Directive on waste electrical and electronic equipment and on accumulators and batteries and waste accumulators and batteries, as well as their adaptation to national law, waste electrical equipment, batteries and accumulators should be stored separately and delivered to a separate collection point for municipal waste, operating in accordance with the regulations on environmental protection.

This is indicated by the symbol of the crossed-out wheeled bin placed on the equipment.



Guaranteed sound power level according to EU Outdoor Noise Directive.



Sound power level according to Australia NSW Noise Control Regulation.

## Intended use

The machine is intended for removing the thatch and mosses from the lawns or cutting the roots of lawns to loosen the soil.

## Compliant standard

This product complies with the following standards: IEC 62841-1:2014, IEC 62841-4-7:2022.

# SAFETY WARNINGS

## General power tool safety warnings

**⚠WARNING** Read all safety warnings, instructions, illustrations and specifications provided with this power tool. Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury.

## Save all warnings and instructions for future reference.

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

### Work area safety

1. **Keep work area clean and well lit.** Cluttered or dark areas invite accidents.
2. **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.
3. **Keep children and bystanders away while operating a power tool.** Distractions can cause you to lose control.

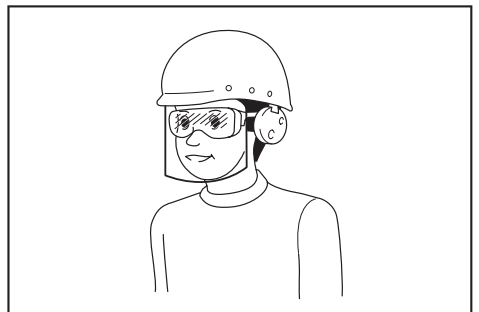
### Electrical safety

1. **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.
2. **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.
3. **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
4. **Do not abuse the cord. Never use the cord for carrying, 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.
5. **When operating a power tool outdoors, use an extension cord suitable for outdoor use.** Use of a cord suitable for outdoor use reduces the risk of electric shock.
6. **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.

7. **Power tools can produce electromagnetic fields (EMF) that are not harmful to the user.** However, users of pacemakers and other similar medical devices should contact the maker of their device and/or doctor for advice before operating this power tool.

### Personal safety

1. **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.
2. **Use personal protective equipment. Always wear eye protection.** Protective equipment such as a dust mask, non-skid safety shoes, hard hat or hearing protection used for appropriate conditions will reduce personal injuries.
3. **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 tool.** Carrying power tools with your finger on the switch or energising power tools that have the switch on invites accidents.
4. **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.
5. **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.
6. **Dress properly. Do not wear loose clothing or jewellery. Keep your hair and clothing away from moving parts.** Loose clothes, jewellery or long hair can be caught in moving parts.
7. **If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used.** Use of dust collection can reduce dust-related hazards.
8. **Do not let familiarity gained from frequent use of tools allow you to become complacent and ignore tool safety principles.** A careless action can cause severe injury within a fraction of a second.
9. **Always wear protective goggles to protect your eyes from injury when using power tools.** The goggles must comply with ANSI Z87.1 in the USA, EN 166 in Europe, or AS/NZS 1336 in Australia/New Zealand. In Australia/New Zealand, it is legally required to wear a face shield to protect your face, too.



**It is an employer's responsibility to enforce the use of appropriate safety protective equipments by the tool operators and by other persons in the immediate working area.**

### Power tool use and care

1. **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.
2. **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.
3. **Disconnect the plug from the power source and/or remove the battery pack, if detachable, from 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.
4. **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.
5. **Maintain power tools and accessories. 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.
6. **Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
7. **Use the power tool, accessories and 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.
8. **Keep handles and grasping surfaces dry, clean and free from oil and grease.** Slippery handles and grasping surfaces do not allow for safe handling and control of the tool in unexpected situations.
9. **When using the tool, do not wear cloth work gloves which may be entangled.** The entanglement of cloth work gloves in the moving parts may result in personal injury.

### Battery tool use and care

1. **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.
2. **Use power tools only with specifically designed battery packs.** Use of any other battery packs may create a risk of injury and fire.
3. **When battery pack is not in use, keep it away from other metal objects, like paper clips, coins, keys, nails, screws or other small metal objects, that can make a connection from one terminal to another.** Shorting the battery terminals together may cause burns or a fire.
4. **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.

5. **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.
6. **Do not expose a battery pack or tool to fire or excessive temperature.** Exposure to fire or temperature above 130 °C may cause explosion.
7. **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.

### Service

1. **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.
2. **Never service damaged battery packs.** Service of battery packs should only be performed by the manufacturer or authorized service providers.
3. **Follow instruction for lubricating and changing accessories.**

### Lawn scarifier and lawn aerator safety warnings

1. **Do not use the machine in bad weather conditions, especially when there is a risk of lightning.** This decreases the risk of being struck by lightning.
2. **Thoroughly inspect the area for wildlife where the machine is to be used.** Wildlife may be injured by the machine during operation.
3. **Thoroughly inspect the area where the machine is to be used and remove all stones, sticks, wires, bones, and other foreign objects.** Thrown objects can cause personal injury.
4. **Before using the machine, always visually inspect to see that the tines and the tines assembly are not worn or damaged.** Worn or damaged parts increase the risk of injury.
5. **Check the grass catcher frequently for wear or deterioration.** A worn or damaged grass catcher may increase the risk of personal injury.
6. **Keep guards in place. Guards must be in working order and be properly mounted.** A guard that is loose, damaged, or is not functioning correctly may result in personal injury.
7. **Keep all cooling air inlets clear of debris.** Blocked air inlets and debris may result in overheating or risk of fire.
8. **While operating the machine, always wear non-slip and protective footwear. Do not operate the machine when barefoot or wearing open sandals.** This reduces the chance of injury to the feet from contact with the moving tines.
9. **While operating the machine, always wear long trousers.** Exposed skin increases the likelihood of injury from thrown objects.
10. **Do not operate the machine in wet grass. Walk, never run.** This reduces the risk of slipping and falling which may result in personal injury.
11. **Do not operate the machine on excessively steep slopes.** This reduces the risk of loss of control, slipping and falling which may result in personal injury.

12. **When working on slopes, always be sure of your footing, always work across the face of slopes, never up or down and exercise extreme caution when changing direction.** This reduces the risk of loss of control, slipping and falling which may result in personal injury.
13. **Use extreme caution when reversing or pulling the machine towards you. Always be aware of your surroundings.** This reduces the risk of tripping during operation.
14. **Hold the machine by insulated gripping surfaces only, because the tines may contact hidden wiring.** Tines contacting a "live" wire may make exposed metal parts of the machine "live" and could give the operator an electric shock.
15. **Do not touch tines and other hazardous moving parts while they are still in motion.** This reduces the risk of injury from moving parts.
16. **When clearing jammed material or cleaning the machine, make sure all power switches are off and the battery packs are disconnected.** Unexpected operation of the machine may result in serious personal injury.
17. **Be sure to stop the scarifier blades if the machine has to be tilted for transportation when crossing surfaces other than grass and when transporting the machine to and from the area in which it is to be used.**
18. **Do not tilt the machine when switching on the machine.**

## SAVE THESE INSTRUCTIONS.

**⚠WARNING:** DO NOT let comfort or familiarity with product (gained from repeated use) replace strict adherence to safety rules for the subject product.

**MISUSE** or failure to follow the safety rules stated in this instruction manual may cause serious personal injury.

## IMPORTANT SAFETY INSTRUCTIONS

**⚠WARNING:** Read all safety warnings and all instructions. Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury.

## Save all warnings and instructions for future reference.

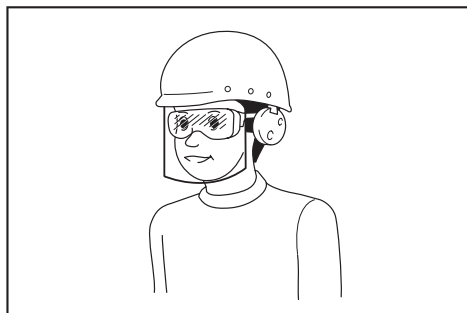
### Training

1. **Read the instructions carefully. Be familiar with the controls and the proper use of the machine.**
2. **Never allow children or people unfamiliar with these instructions to use the machine. Local regulations can restrict the age of the operator.**
3. **Never operate the machine while people, especially children, or pets are nearby.**
4. **Keep in mind that the operator or user is responsible for accidents or hazards occurring to other people or their property.**

5. **Children should be supervised to ensure that they do not play with the machine.**
6. **Physical condition - Do not operate machine while under the influence of drugs, alcohol, or any medication.**

### Preparation

1. **While operating the machine, always wear substantial footwear and long trousers. Do not operate the machine when barefoot or wearing open sandals. Avoid wearing clothing or jewelry that is loose fitting or that has hanging cords or ties. They can be caught in moving parts.**
2. **Before use, always visually inspect the machine for damaged, missing or misplaced guards or shields.**
3. **Be sure the area is clear of other people before operating the machine. Stop the machine if anyone enters the area.**
4. **Always wear protective goggles to protect your eyes from injury when using power tools. The goggles must comply with ANSI Z87.1 in the USA, EN 166 in Europe, or AS/NZS 1336 in Australia/New Zealand. In Australia/New Zealand, it is legally required to wear a face shield to protect your face, too.**



It is an employer's responsibility to enforce the use of appropriate safety protective equipments by the tool operators and by other persons in the immediate working area.

5. **Check the blades or blade bolts carefully for cracks or damage before operation. Replace cracked or damaged blades or blade bolts immediately.**
6. **Remove foreign matters such as rocks, wire, bottles, bones and large sticks from the work area before operating the machine to prevent personal injury or damage to the machine.**
7. **Objects struck by the scarifier blades can cause severe injuries to persons. The lawn should always be carefully examined and cleared of all objects prior to each operation.**
8. **Watch for holes, ruts, bumps, rocks, or other hidden objects. Uneven terrain could cause a slip and fall accident. Tall grass can hide obstacles.**
9. **Use personal protective equipment. Always wear eye protection. Protective equipment such as a dust mask, non-skid safety shoes, hard hat or hearing protection used for appropriate conditions will reduce personal injuries.**

## Operation

1. Do not overreach. Keep the balance at all times. Always be sure of the footing on slopes. Walk, never run.
2. Stop the machine and turn off the machine, and make sure that all moving parts have come to a complete stop:
  - whenever you leave the machine,
  - before clearing blockages or unclogging chute,
  - before checking, cleaning or working on the machine,
  - after striking a foreign object. Inspect the machine for damage and make repairs before restarting and operating the machine,
  - whenever the machine starts vibrating abnormally.
3. Never operate the machine with defective guards or shields, or without safety devices, for example grass basket, in place.
4. Avoid using the machine in bad weather conditions especially when there is a risk of lightning.
5. Wear eye protection and stout shoes at all times while operating the machine.
6. Operate the machine only in daylight or in good artificial light.
7. Switch on the machine carefully according to instructions and with feet well away from the scarifier blades.
8. Take care against injury to feet and hands from the scarifier blades.
9. Always ensure that the ventilation openings are kept clear of debris.
10. Operate the machine across the face of slopes, never up and down. Exercise extreme caution when changing direction on slopes. Do not operate the machine excessively steep slopes.
11. Use extreme caution when reversing or pulling the machine towards you.
12. Stop the blades if the machine has to be tilted for transportation when crossing surfaces other than grass, and when transporting the machine to and from the area to be used.
13. Do not tilt the machine when switching on the motor, except if the machine has to be tilted for starting. In this case, do not tilt it more than absolutely necessary and lift only the part, which is away from the operator. Always ensure that both hands are in the operating position before returning the machine to the ground.
14. Do not put hands or feet near or under rotating parts. Keep clear of the discharge opening at all times.
15. Do not transport the machine while the machine is turned on.
16. Avoid operating the machine in wet grass.
17. Always keep a firm hold on the handle.
18. Don't grasp the exposed scarifier blades or cutting edges when picking up or holding the machine.
19. Keep hands and feet away from rotating scarifier blades. Caution - Blades coast after the machine is switched off.
20. Stop operation immediately if you notice anything unusual. Switch off the machine. Then inspect the machine.
21. Never attempt to make working depth adjustments while machine is running.
22. Release switch lever and wait for blade rotation to stop before crossing driveways, walks, roads, and any gravel-covered areas. Also turn off the machine if you leave the machine, reach to pick up or remove something out of your way, or for any other reason that may distract you from what you are doing.
23. If the machine strikes a foreign object, follow these steps:
  - Stop the machine, release the switch lever and wait until the scarifier blades come to a complete stop.
  - Remove the battery cartridge.
  - Thoroughly inspect the machine for any damage.
  - Replace the scarifier blades if they are damaged in any way. Repair any damage before restarting and continuing to operate the machine.
24. If the machine starts to vibrate abnormally (check immediately)
  - inspect for damage,
  - replace or repair any damaged parts,
  - check for and tighten any loose parts.
25. Do not pull the machine backwards unless absolutely necessary. When you are compelled to back the machine from a fence or other similar obstruction, look down and behind before and while moving backwards.
26. Shut the motor off and wait until the scarifier blades come to a complete stop before removing the grass catcher. Beware that the blades coast after turn off.
27. When you use the machine on muddy ground, wet slope, or slippery place, pay attention to your footing.
28. Do not submerge the machine into a puddle.
29. When operating the machine, pay attention to piping and wiring.

## Maintenance and storage

1. Replace worn or damaged parts for safety. Use only genuine replacement parts and accessories.
2. Inspect and maintain the machine regularly.
3. When not in use, store the machine out of the reach of children.
4. Keep all nuts, bolts, and screws tight to be sure the equipment is in safe working condition.
5. Check the grass basket frequently for wear or deterioration. For storage, always make sure the grass basket is empty. Replace a worn grass basket with a new factory replacement for safety.
6. Use only the manufacturer genuine scarifier blades specified in this manual.
7. Be careful during adjustment of the machine to prevent entrapment of the fingers between moving scarifier blades and fixed parts of the machine.

8. Check the blade mounting bolt at frequent intervals for proper tightness.
  9. Always allow the machine to cool down before storing.
  10. When servicing the scarifier blades, be aware that, even though the power source is switched off, the blades can still be moved.
  11. Never remove or tamper with safety devices. Check their proper operation regularly. Never do anything to interfere with the intended function of a safety device or to reduce the protection provided by a safety device.
  12. Do not leave the machine unattended outdoors in the rain.
  13. When storing the machine, avoid direct sunlight and rain, and store it in a place where it does not get hot or humid.
7. Do not wet the terminal of battery with liquid such as water, or submerge the battery. Do not leave the battery in the rain, nor charge, use, or store the battery in a damp or wet place. If the terminal gets wet or liquid enters inside of battery, the battery may be short circuited and there is a risk of overheat, fire, or explosion.
  8. After removing the battery from the machine or charger, be sure to attach the battery cover to the battery and store it in a dry place.
  9. Do not replace the battery with wet hands.
  10. Avoid dangerous environment. Don't use the machine in damp or wet locations or expose it to rain. Water entering the machine will increase the risk of electric shock.
  11. If the battery cartridge gets wet, drain the water inside and then wipe it with a dry cloth. Dry the battery cartridge completely in a dry place before use.

#### Battery tool use and care

1. 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.
2. Use power tools only with specifically designated battery packs. Use of any other battery packs may create a risk of injury and fire.
3. When battery pack is not in use, keep it away from other metal objects, like paper clips, coins, keys, nails, screws or other small metal objects, that can make a connection from one terminal to another. Shorting the battery terminals together may cause burns or a fire.
4. 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.
5. Do not use a battery pack or machine that is damaged or modified. Damaged or modified batteries may exhibit unpredictable behaviour resulting in fire, explosion or risk of injury.
6. Do not expose a battery pack or tool to fire or excessive temperature. Exposure to fire or temperature above 130 °C may cause explosion.
7. Follow all charging instructions and do not charge the battery pack or machine 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.

#### Electrical and battery safety

1. Do not dispose of the battery(ies) in a fire. The cell may explode. Check with local codes for possible special disposal instructions.
2. Do not open or mutilate the battery(ies). Released electrolyte is corrosive and may cause damage to the eyes or skin. It may be toxic if swallowed.
3. Do not charge battery in rain, or in wet locations.
4. Do not charge the battery outdoors.
5. Do not handle charger, including charger plug, and charger terminals with wet hands.
6. Do not replace the battery in the rain.

#### Service

1. 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.
2. Never service damaged battery packs. Service of battery packs should only be performed by the manufacturer or authorized service providers.

## SAVE THESE INSTRUCTIONS.

**⚠WARNING:** DO NOT let comfort or familiarity with product (gained from repeated use) replace strict adherence to safety rules for the subject product.

MISUSE or failure to follow the safety rules stated in this instruction manual may cause serious personal injury.

### Important safety instructions for battery cartridge

1. Before using battery cartridge, read all instructions and cautionary markings on (1) battery charger, (2) battery, and (3) product using battery.
2. Do not disassemble or tamper with the battery cartridge. It may result in a fire, excessive heat, or explosion.
3. If operating time has become excessively shorter, stop operating immediately. It may result in a risk of overheating, possible burns and even an explosion.
4. If electrolyte gets into your eyes, rinse them out with clear water and seek medical attention right away. It may result in loss of your eyesight.
5. Do not short the battery cartridge:
  - (1) Do not touch the terminals with any conductive material.
  - (2) Avoid storing battery cartridge in a container with other metal objects such as nails, coins, etc.
  - (3) Do not expose battery cartridge to water or rain.

A battery short can cause a large current flow, overheating, possible burns and even a breakdown.

6. Do not store and use the tool and battery cartridge in locations where the temperature may reach or exceed 50 °C (122 °F).
7. Do not incinerate the battery cartridge even if it is severely damaged or is completely worn out. The battery cartridge can explode in a fire.
8. Do not nail, cut, crush, throw, drop the battery cartridge, or hit against a hard object to the battery cartridge. Such conduct may result in a fire, excessive heat, or explosion.
9. Do not use a damaged battery.
10. The contained lithium-ion batteries are subject to the Dangerous Goods Legislation requirements.

For commercial transports e.g. by third parties, forwarding agents, special requirement on packaging and labeling must be observed.

For preparation of the item being shipped, consulting an expert for hazardous material is required. Please also observe possibly more detailed national regulations.

Wrap or mask off open contacts and pack up the battery in such a manner that it cannot move around in the packaging.

11. When disposing the battery cartridge, remove it from the tool and dispose of it in a safe place. Follow your local regulations relating to disposal of battery.
12. Use the batteries only with the products specified by Makita. Installing the batteries to non-compliant products may result in a fire, excessive heat, explosion, or leak of electrolyte.
13. If the tool is not used for a long period of time, the battery must be removed from the tool.
14. During and after use, the battery cartridge may take on heat which can cause burns or low temperature burns. Pay attention to the handling of hot battery cartridges.
15. Do not touch the terminal of the tool immediately after use as it may get hot enough to cause burns.
16. Do not allow chips, dust, or soil stuck into the terminals, holes, and grooves of the battery cartridge. It may cause heating, catching fire, burst and malfunction of the tool or battery cartridge, resulting in burns or personal injury.
17. Unless the tool supports the use near high-voltage electrical power lines, do not use the battery cartridge near high-voltage electrical power lines. It may result in a malfunction or breakdown of the tool or battery cartridge.
18. Keep the battery away from children.

## SAVE THESE INSTRUCTIONS.

**CAUTION:** Only use genuine Makita batteries. Use of non-genuine Makita batteries, or batteries that have been altered, may result in the battery bursting causing fires, personal injury and damage. It will also void the Makita warranty for the Makita tool and charger.

## Tips for maintaining maximum battery life

1. Charge the battery cartridge before completely discharged. Always stop tool operation and charge the battery cartridge when you notice less tool power.
2. Never recharge a fully charged battery cartridge. Overcharging shortens the battery service life.
3. Charge the battery cartridge with room temperature at 10 °C - 40 °C (50 °F - 104 °F). Let a hot battery cartridge cool down before charging it.
4. When not using the battery cartridge, remove it from the tool or the charger.
5. Charge the battery cartridge if you do not use it for a long period (more than six months).

## ASSEMBLY

**WARNING:** Always be sure that all the battery cartridges are removed before carrying out any work on the machine. Failure to remove all the battery cartridges may result in serious personal injury from accidental start-up.

**WARNING:** Never start the machine unless it is completely assembled. Operation of the machine in a partially assembled state may result in serious personal injury from accidental start-up.

## Installing the handle

**NOTICE:** When installing the handles, be careful not to pinch the cord between the handles. If the cord is damaged, the switch may not work.

1. Raise the lower handle.
2. Align the hole in the lower handle with the hole in the middle handle, then insert the bolt from the inside, and then tighten the thumb nut from the outside. Perform the same procedure on the other side.

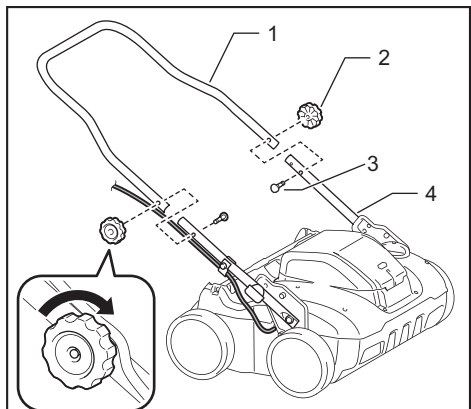


Fig.1

- 1. Middle handle 2. Thumb nut 3. Bolt 4. Lower handle



3. Align the hole in the middle handle with the hole in the upper handle, then insert the bolt from the inside, and then tighten the thumb nut from the outside. Perform the same procedure on the other side.

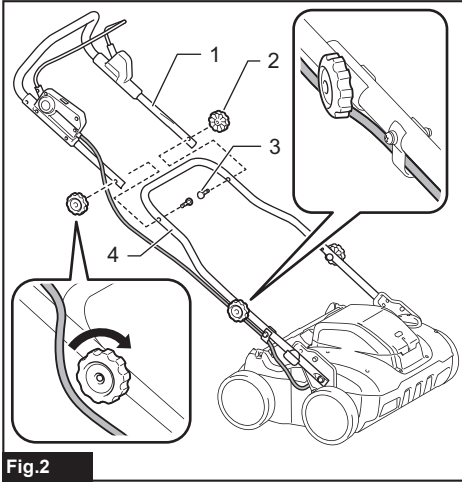


Fig.2

► 1. Upper handle 2. Thumb nut 3. Bolt 4. Middle handle

**NOTE:** Make sure that the cord is not caught between the handle and the thumb nut.

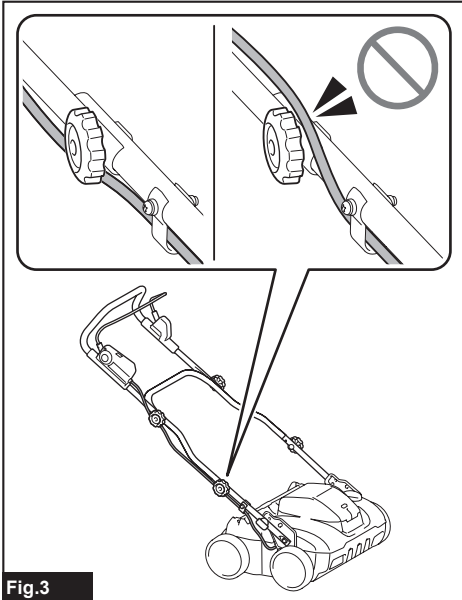


Fig.3

## Installing or removing the grass basket

To install the grass basket, follow the steps below.

1. Open the rear cover.

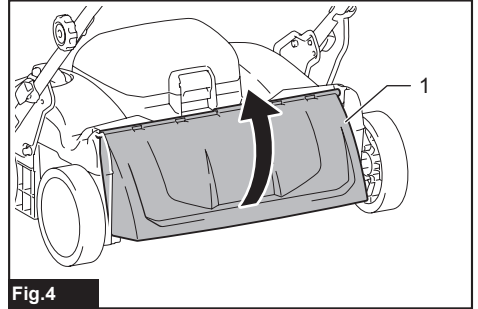


Fig.4

► 1. Rear cover

2. Hold the handle of the grass basket, and then install the grass basket by inserting the rod of the grass basket into the grooves on the machine as shown in the figure.

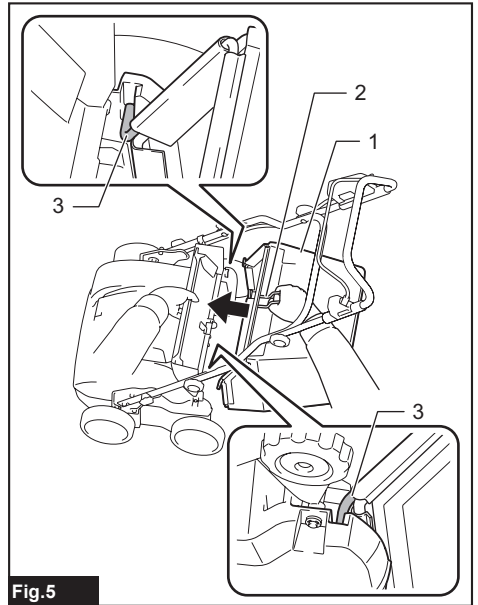


Fig.5

► 1. Grass basket 2. Handle 3. Rod

To remove the grass basket, open the rear cover, and then remove the grass basket by holding the handle.

# FUNCTIONAL DESCRIPTION

**CAUTION:** Always be sure that the machine is switched off and the battery cartridges are removed before adjusting or checking function on the machine.

## Applications of scarifier blades

### Vertical cutter

The vertical cutter removes the thatch and moss from the lawns and cut the roots of lawns vertically. The vertical cutter loosens the soil and increases the aeration of lawns, and let the water go into the roots of lawns and prevent the water from staying on the surface.

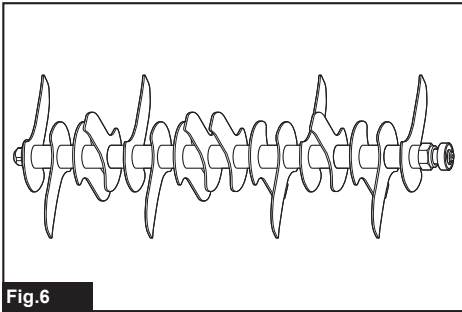


Fig.6

### Thatching blades

The thatching blades remove the thatch and mosses from the lawns without cutting the roots of lawns.

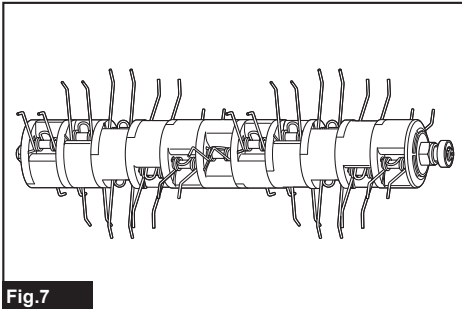


Fig.7

## Installing or removing battery cartridge

**CAUTION:** Always switch off the machine before installing or removing of the battery cartridge.

**CAUTION:** Hold the machine and the battery cartridge firmly when installing or removing battery cartridge. Failure to hold the machine and the battery cartridge firmly may cause them to slip off your hands and result in damage to the machine and battery cartridge and a personal injury.

**CAUTION:** Make sure that you lock the battery cover before use. Otherwise, mud, dirt, or water may cause damage to the product or the battery cartridge.

**CAUTION:** Always install the battery cartridge fully. If not, it may accidentally fall out of the machine, causing injury to you or someone around you.

**CAUTION:** Do not install the battery cartridge forcibly. If the cartridge does not slide in easily, it is not being inserted correctly.

**CAUTION:** Hold the battery cover firmly when installing or removing the battery cartridge.

To install the battery cartridge;

1. Pull up the locking lever, and then open the battery cover.

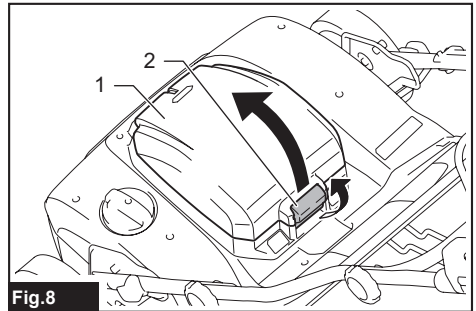


Fig.8

- 1. Battery cover 2. Locking lever

2. Align the tongue on the battery cartridge with the slot on the machine, and then slide the cartridge until it locks in place with a little click.

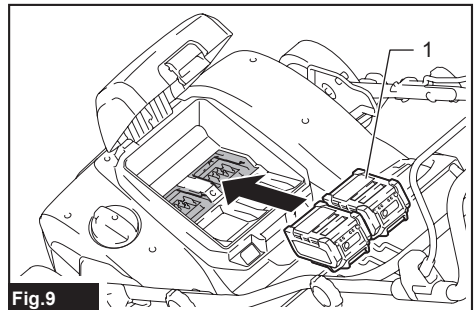


Fig.9

- 1. Battery cartridge

3. Close the battery cover and push it until it is latched with the locking lever.

### To remove the battery cartridge;

1. Pull up the locking lever and open the battery cover.
2. Pull out the battery cartridge from the machine while sliding the button on the front of the cartridge.
3. Close the battery cover.

## Machine / battery protection system

The machine is equipped with a machine/battery protection system. This system automatically cuts off power to the motor to extend machine and battery life. The machine will automatically stop during operation if the machine or battery is placed under one of the following conditions:

### Overload protection

When the battery is operated in a manner that causes it to draw an abnormally high current, the machine automatically stops and the main power lamp blinks in green. In this situation, turn the machine off and stop the application that caused the machine to become overloaded. Then turn the machine on to restart.

### Overheat protection

When the machine is overheated, the machine stops automatically and the main power lamp lights up in red. In this case, let the machine and batteries cool before turning the machine on again.

**NOTE:** When the battery is overheated, the main power lamp blinks in red.

### Overdischarge protection

When the battery capacity is not enough, the machine stops automatically and the main power lamp blinks in red. In this case, remove the battery from the machine and charge the battery cartridges or change the battery cartridges to fully charged ones.

### Protections against other causes

Protection system is also designed for other causes that could damage the machine and allows the machine to stop automatically. Take all the following steps to clear the causes, when the machine has been brought to a temporary halt or stop in operation.

1. Turn the machine off, and then turn it on again to restart.
2. Charge the battery(ies) or replace it/them with recharged battery(ies).
3. Let the machine and battery(ies) cool down.

If no improvement can be found by restoring protection system, then contact your local Makita Service Center.

**NOTICE:** If the machine stops due to a cause not described above, refer to the section for troubleshooting.

## Indicating the remaining battery capacity

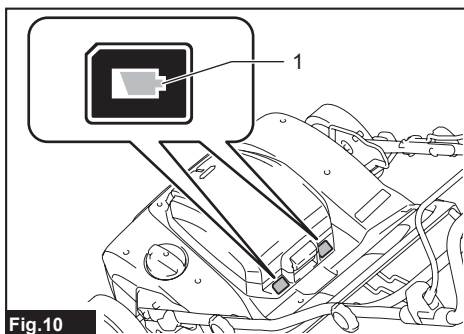


Fig.10

► 1. Battery indicator

When the remaining battery capacity gets low, the battery indicator blinks on the applicable battery side. By further use, the machine stops and the battery indicator lights up. In this situation, charge the battery cartridge.

**NOTE:** If two battery cartridges are installed, the battery installed on the left side is used first.

**NOTE:** If two battery cartridges are installed, the machine automatically switches the battery when the battery in use becomes empty.

## Indicating the remaining battery capacity

Press the check button on the battery cartridge to indicate the remaining battery capacity. The indicator lamps light up for a few seconds.

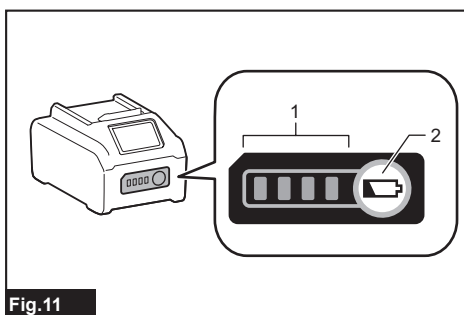


Fig.11

► 1. Indicator lamps 2. Check button

Indicator lamps			Remaining capacity
Lighted	Off	Blinking	
■	□	▧	75% to 100%
■ ■ ■ ■			
	□		50% to 75%
■ ■ ■ □			
	□	□	25% to 50%
■ ■ □ □			
	□	□	0% to 25%
■ □ □ □			
▧	□	□	Charge the battery.
▧ □ □ □			
■ ■ □ □	↑ ↓	□ □	The battery may have malfunctioned.
□ □ ■ ■			

**NOTE:** Depending on the conditions of use and the ambient temperature, the indication may differ slightly from the actual capacity.

**NOTE:** The first (far left) indicator lamp will blink when the battery protection system works.

## Main power switch

**WARNING:** Always turn off the main power switch when not in use.

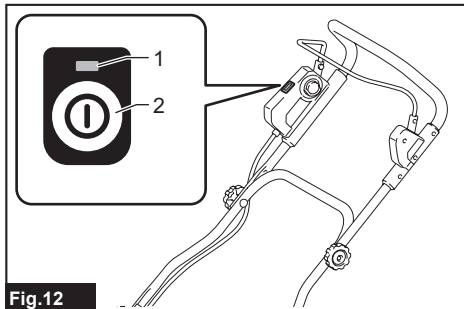


Fig.12

► 1. Main power lamp 2. Main power switch

To turn on the machine, press the main power switch. The main power lamp lights up in green. To turn off the machine, press the main power switch again.

**NOTE:** If the main power lamp lights up in red or blinks in red or green, refer to the instructions for machine/battery protection system.

**NOTE:** This machine employs the auto power-off function. To avoid unintentional start up, the main power switch will automatically shut down when the switch lever is not pulled for a certain period after the main power switch is turned on.

## Switch action

**WARNING:** Before installing the battery cartridge, always check to see that the switch lever actuates properly and returns to the original position when released. Operating the machine with a switch that does not actuate properly can lead to loss of control and serious personal injury.

**NOTE:** The machine does not start without pressing the switch button even if the switch lever is pulled.

**NOTE:** The machine may not start due to the overload when you try to operate the machine on solid soil. In this case, set the working depth shallower.

This machine is equipped with the switch button. If you notice anything unusual with the switch button, stop the operation immediately and have it checked by your nearest Makita Authorized Service Center.

1. Install the battery cartridges, and then close the battery cover.

2. Press the main power switch.

**NOTE:** The main power lamp blinks in green if you press the main power switch while pulling the switch lever. Release the switch lever before pressing the main power switch.

3. Pull the switch lever toward you while holding down the switch button. Release the switch button when the motor starts running.

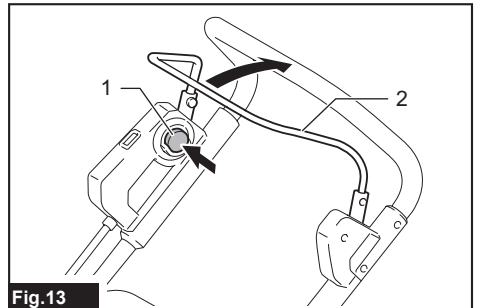


Fig.13

► 1. Switch button 2. Switch lever

4. Release the switch lever to stop the motor.

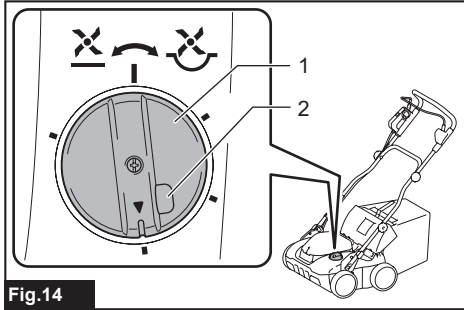
## Adjusting the working depth

**WARNING:** Never put your hand or leg under the machine body when adjusting the working depth.

**NOTICE:** When transporting the machine, be sure to set the adjusting dial to the far left position so that the scarifier blades do not touch the ground.

**NOTICE:** When using the thatching blades, do not set the working depth deeper than -4 mm. If the working depth is too deep, it may accelerate the wear of the thatching blades.

To adjust the working depth, turn off the machine, and then turn the adjusting dial while pressing the lock-off button.



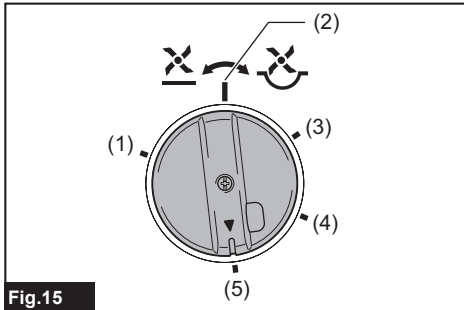
**Fig.14**

► 1. Adjusting dial 2. Lock-off button

The working depth can be adjusted in the range of between -12 mm and 5 mm.

When you turn the adjusting dial to the far left position, the working depth becomes the shallowest (5 mm from the ground). When you turn the adjusting dial to the far right position, the working depth becomes the deepest (-12 mm from the ground). When you set the adjusting dial to the upper center position, the working depth becomes 0.

The table below shows the relationship between the number in the figure and the approximate working depth.



**Fig.15**

Number	Working depth
(1)	5 mm
(2)	0 mm
(3)	- 4 mm
(4)	- 8 mm
(5)	- 12 mm

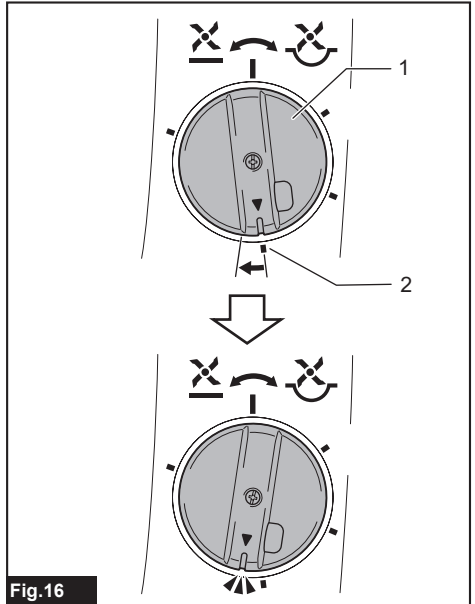
**NOTE:** The working depth can be set in 1 mm increments.

**NOTE:** The working depth figures should be used just as a guideline. Depending on lawn or soil conditions, the actual working depth may become slightly different from the set depth.

**NOTE:** Try a test operation in a less conspicuous place to get the desired depth.

**NOTE:** When you turn the adjusting dial to the right and set it to the lower scale of the machine, the working depth is set to -12 mm.

If the set working depth cannot be obtained when you set the adjusting dial to the lower scale of the machine depending on the conditions such as lawn environment or wear of scarifier blades, you can operate the machine with a setting one step deeper by turning the adjusting dial to the right beyond the lower scale.



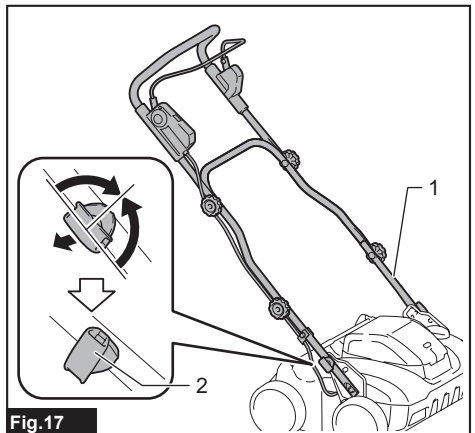
**Fig.16**

► 1. Adjusting dial 2. Lower scale

## Adjusting the handle height

The handle height can be adjusted in two levels.

1. Hold the middle handle, and then turn the knob 90° while pulling the knob on the lower handle to release the locking pin. Perform the same procedure on the other side.



**Fig.17**

► 1. Lower handle 2. Knob

**NOTE:** Supporting the handle makes it easier to release the locking pin when pulling the knob.

2. Adjust the handle height, and then turn the knob on both sides 90°. Make sure that the knobs are securely fixed.

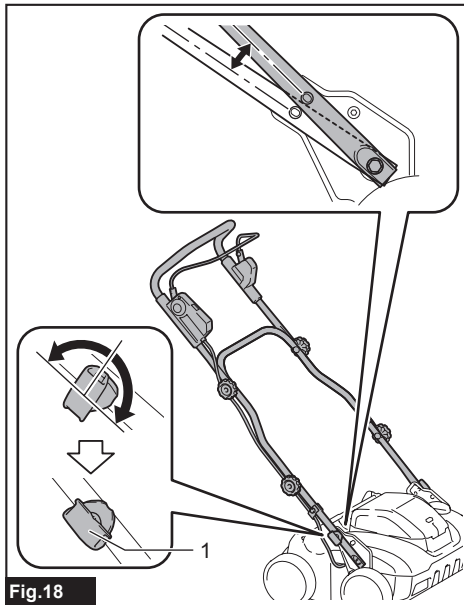


Fig.18

► 1. Knob

## Using the rear discharge

Using the rear discharge allows you to discharge the cut grass to the ground from the rear side of the machine without gathering the cut grass in the grass basket. When you operate the machine using the rear discharge, be sure to remove the grass basket, and close the rear cover.

## Electronic function

The machine is equipped with the following electronic functions.

- Electric brake  
This machine is equipped with an electric brake. If the machine consistently fails to quickly stop the scarifier blades after releasing the switch lever, have the machine serviced at Makita Authorized Service Center.

# OPERATION

## Operating the machine

**⚠WARNING:** Before operating the machine, remove sticks and stones from the work area. Also, remove any weeds from the work area in advance.

**⚠WARNING:** Always wear the safety goggles or safety glasses with side shields when operating the machine.

**⚠CAUTION:** If the cut grass or foreign object blocks up inside of the machine body, be sure to remove the battery cartridges and wear gloves before removing the grass or foreign object.

**NOTICE:** Use this machine only on lawns. Do not use this machine on weeds.



Fig.19

**NOTICE:** Before operating the machine, be sure to mow the lawn to a height of approximately 20 mm to 30 mm. If the lawn is too long, it may interfere with the operation of the machine.

Hold the handle firmly with both hands when operating the machine. The operating speed guideline is approximately 5 to 8 meters per 10 seconds.

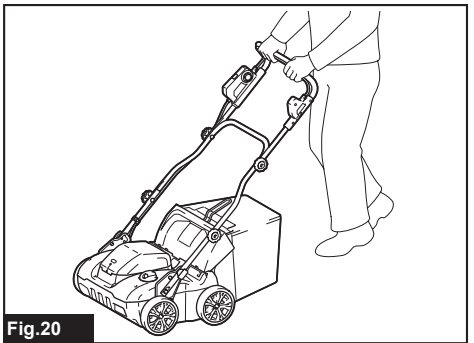


Fig.20

**NOTE:** When working on dense lawn, if a poor finish is found after operation, or decrease of the motor speed is found during operation, decrease the operating speed lower than recommended in this manual, or set the working depth shallower.

Use the marks on the front side as a guide for working width.

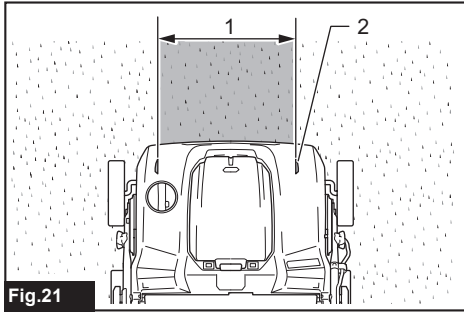


Fig.21

► 1. Working width 2. Mark

Periodically check the grass basket for cut grass. Empty the grass before it becomes full. Before each periodic check, be sure to stop and turn off the machine.

**NOTICE:** Using the machine with a full grass basket prevents the scarifier blades from rotating smoothly and puts extra load on the motor, which may result in a breakdown.

## Emptying the grass basket

**WARNING:** To reduce a risk of accident, regularly check the grass basket for any damage or weakened strength. Replace the grass basket if necessary.

1. Release the switch lever.
2. Turn off the machine.
3. Open the rear cover and take out the grass basket by holding the handle.

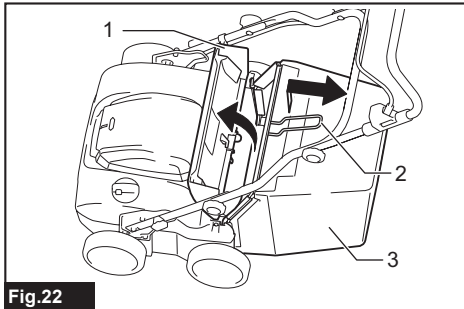


Fig.22

► 1. Rear cover 2. Handle 3. Grass basket

4. Empty the grass basket.

## MAINTENANCE

**WARNING:** Always be sure that all the battery cartridges are removed from the machine before storing or carrying the machine or attempting to perform inspection or maintenance.

**WARNING:** Wear gloves when performing inspection or maintenance.

**WARNING:** Always wear the safety goggles or safety glasses with side shields when performing inspection or maintenance.

**NOTICE:** Never use gasoline, benzine, thinner, alcohol or the like. Discoloration, deformation or cracks may result.

To maintain product SAFETY and RELIABILITY, repairs, any other maintenance or adjustment should be performed by Makita Authorized or Factory Service Centers, always using Makita replacement parts.

## Maintenance

1. Remove all the battery cartridges, and then close the battery cover.
2. Place the machine on its side. Clean grass clippings accumulated on the underside of the machine body.
3. Pour water toward the bottom of the machine to which the scarifier blades are attached.

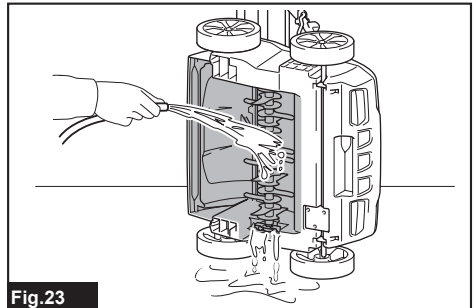


Fig.23

**NOTICE:** Do not wash the machine with high pressure water.

4. Check all nuts, bolts, screws, etc. for tightness.
5. Inspect moving parts for damage, breakage, and wear. Damaged or missing parts should be repaired or replaced.
6. Store the machine in a safe place out of the reach of children.

## Carrying the machine

**CAUTION:** Before carrying the machine, make sure that all the battery cartridges are removed.

When carrying the machine, hold the middle handle and the lower holding part on the front of the machine with two people as shown in the figure.

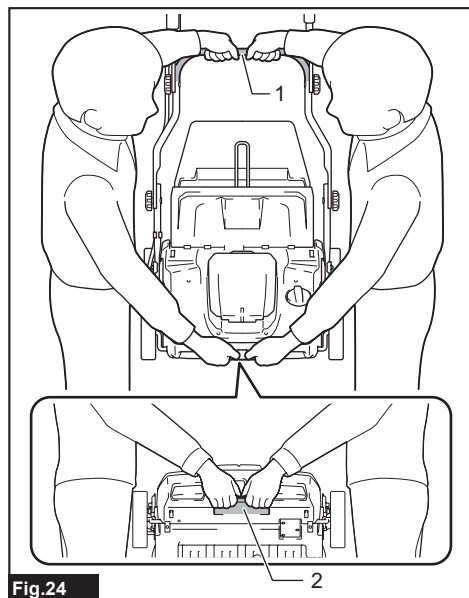


Fig.24

► 1. Middle handle 2. Lower holding part

## Storing

Store the machine indoors in a cool, dry and locked place. Do not store the machine in locations where the temperature may reach or exceed 40 °C.

1. Remove all the battery cartridges.

2. Loosen the thumb nuts on both sides of the lower handle, and then fold the upper and middle handles.

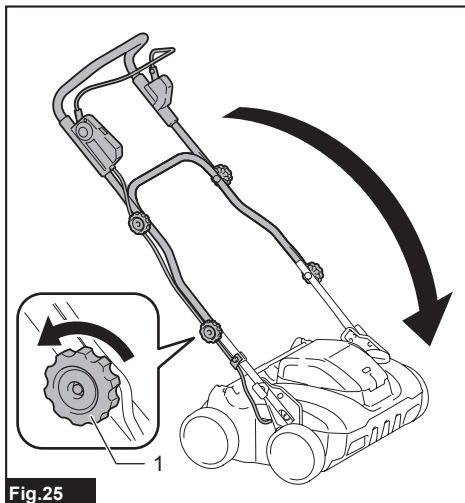


Fig.25

► 1. Thumb nut

**NOTICE:** Be careful not to pinch the cords when folding the handle.

3. Loosen the thumb nuts on both sides of the upper handle.

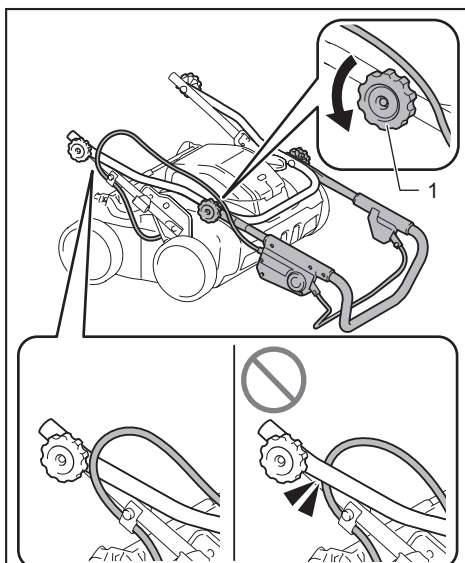


Fig.26

► 1. Thumb nut



4. Fold the upper handle as shown in the figure.

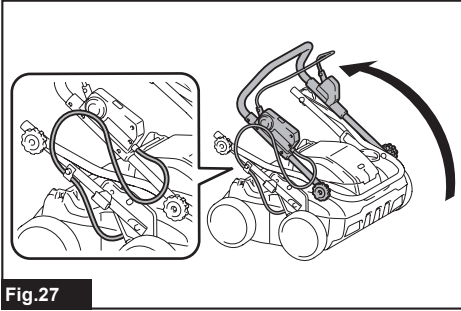


Fig.27

**NOTICE:** Be careful not to pinch the cords when folding the handle.

5. Place the grass basket as shown in the figure.

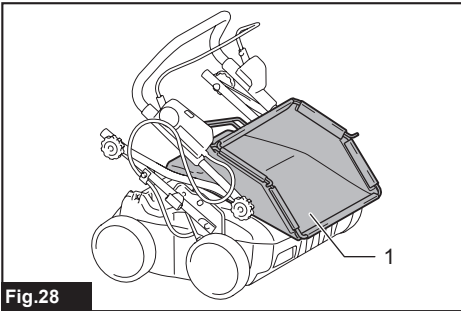


Fig.28

- 1. Grass basket

## Removing or installing the scarifier blades

**⚠ WARNING:** The scarifier blades coast for a few seconds after releasing the switch lever. Do not start any operation until the blades come to a complete stop.

**⚠ WARNING:** Always remove all the battery cartridges when removing or installing the scarifier blades. Failure to remove all the battery cartridges may cause a serious injury.

**⚠ WARNING:** Always wear gloves when handling the scarifier blades.

## Guideline for replacing the vertical cutter

If the tips of the vertical cutter blades have reached the wear lines, replace the vertical cutter with a new one.

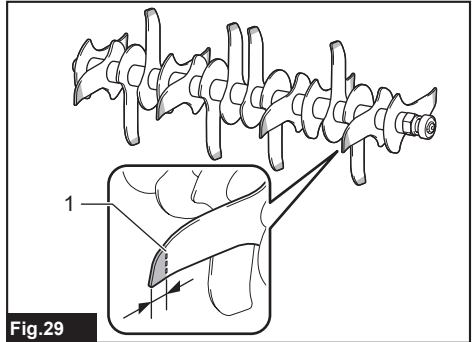


Fig.29

- 1. Wear line

## Removing the scarifier blades

1. Place the machine on its side so that the adjusting dial comes to the upper side.
2. Loosen the bolts, and then remove the bolt and the bracket.

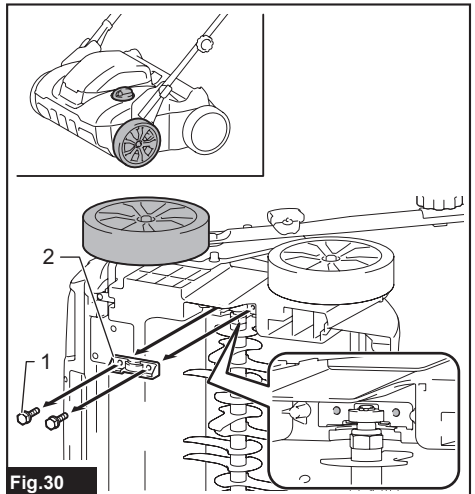


Fig.30

- 1. Bolt 2. Bracket

3. Lift the scarifier blades upward slightly, and then remove the scarifier blades from the machine.

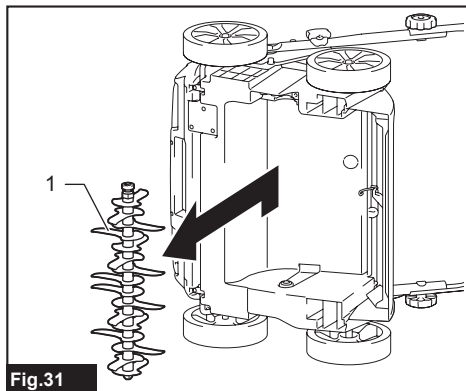


Fig.31

- 1. Scarifier blades

**NOTE:** If it is difficult to remove the scarifier blades from the machine, use the tool such as slotted screwdriver to lift the scarifier blades upward slightly.

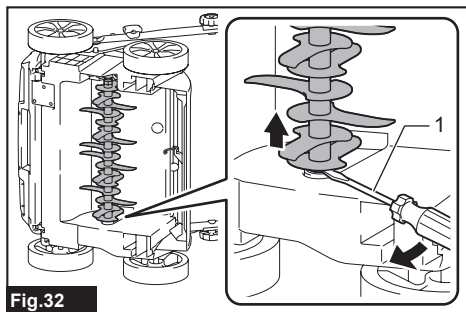


Fig.32

- 1. Slotted screwdriver

## Installing the scarifier blades

**⚠WARNING:** When you replace the scarifier blades, always follow the instructions provided in this manual.

**⚠WARNING:** Tighten the bolts clockwise firmly to secure the scarifier blades.

**⚠WARNING:** Make sure that the scarifier blades and all the fixing parts are installed correctly and tightened securely.

1. Place the one end of the scarifier blades into the hole on the machine, and then place the other end of the blades into the groove on the machine as shown in the figure.

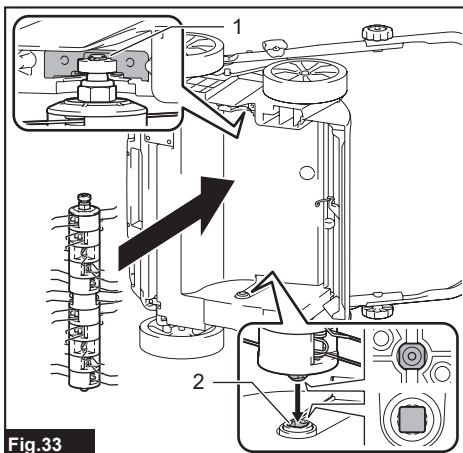


Fig.33

- 1. Groove 2. Hole

**NOTE:** When installing the scarifier blades, rotating the scarifier blades makes it easier to insert the end of blades into the hole.

2. Attach the bracket, and then tighten the bolts.

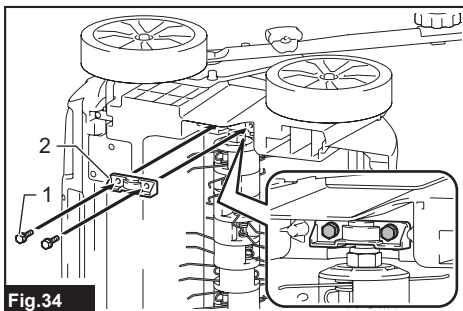


Fig.34

- 1. Bolt 2. Bracket

# TROUBLESHOOTING

Before asking for repairs, conduct your own inspection first. If you find a problem that is not explained in the manual, do not attempt to disassemble the machine. Instead, ask Makita Authorized Service Centers, always using Makita replacement parts for repairs.

State of abnormality	Probable cause (malfunction)	Remedy
Machine does not start.	Battery cartridge is not installed.	Install charged battery cartridge.
	Battery problem (under voltage)	Recharge the battery cartridge. If recharging is not effective, replace battery cartridge.
Motor stops running after a little use.	Battery's charge level is low.	Recharge the battery cartridge. If recharging is not effective, replace battery cartridge.
	Working depth is too deep.	Set the working depth shallower.
	Cut grass is clogged in the machine.	Remove the clogged grass from the machine.
Motor does not reach maximum RPM.	Battery cartridge is installed improperly.	Install the battery cartridge as described in this manual.
	Battery power is dropping.	Recharge the battery cartridge. If recharging is not effective, replace battery cartridge.
	The drive system does not work correctly.	Ask your local authorized service center for repair.
Scarifier blades do not rotate: ⇒ stop the machine immediately!	Foreign object such as branch is stuck in the scarifier blades.	Remove the foreign object.
	The drive system does not work correctly.	Ask your local authorized service center for repair.
Abnormal vibration: ⇒ stop the machine immediately!	Scarifier blades are imbalanced, excessively or unevenly worn.	Replace the scarifier blades.

## OPTIONAL ACCESSORIES

**⚠ CAUTION:** These accessories or attachments are recommended for use with your Makita machine specified in this manual. The use of any other accessories or attachments might present a risk of injury to persons. Only use accessory or attachment for its stated purpose.

If you need any assistance for more details regarding these accessories, ask your local Makita Service Center.

- Scarifier blades
- Makita genuine battery and charger

**NOTE:** Some items in the list may be included in the product package as standard accessories. They may differ from country to country.

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