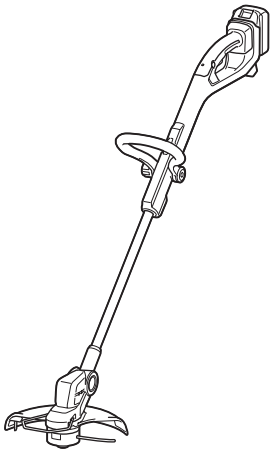
EN	Cordless Grass Trimmer	INSTRUCTION MANUAL	8
SV	Batteridriven grästrimmer	BRUKSANVISNING	18
NO	Batteridrevet gresstrimmer	BRUKSANVISNING	28
FI	Akkukäyttöinen viimeistelyleikkuri	KÄYTTÖOHJE	38
DA	Akku græstrimmer	BRUGSANVISNING	47
LV	Bezvada zāles apgriezējmašīna	LIETOŠANAS INSTRUKCIJA	57
LT	Belaidė žoliapjovė	NAUDOJIMO INSTRUKCIJA	67
ET	Akuga murutrimmer	KASUTUSJUHEND	77
RU	Аккумуляторная Коса	РУКОВОДСТВО ПО ЭКСПЛУАТАЦИИ	87

DUR193



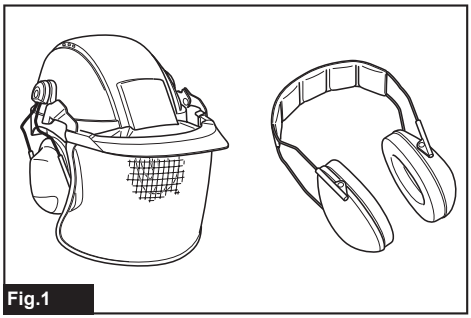


Fig.1

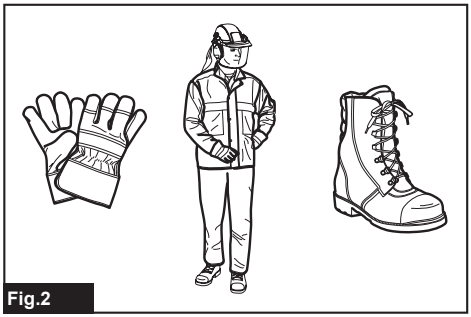


Fig.2

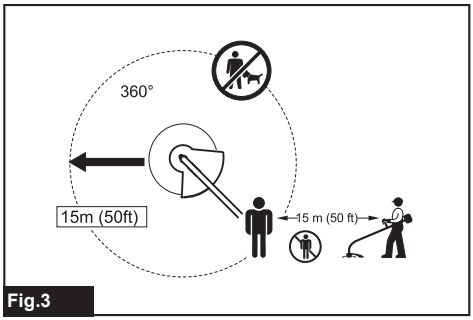


Fig.3

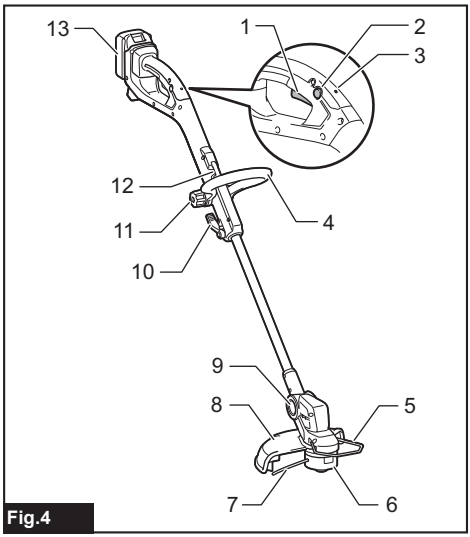


Fig.4

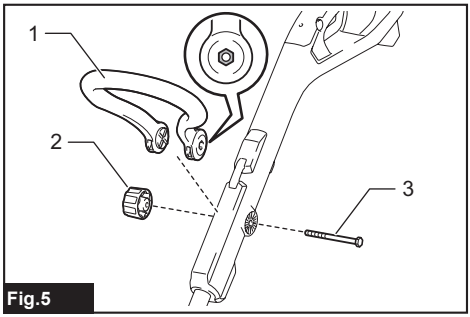


Fig.5

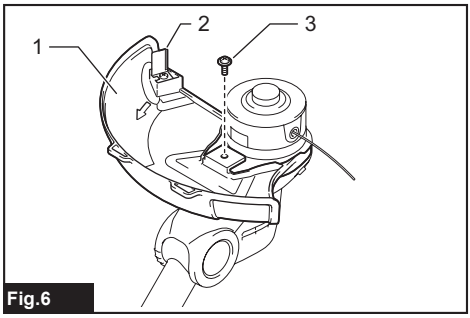
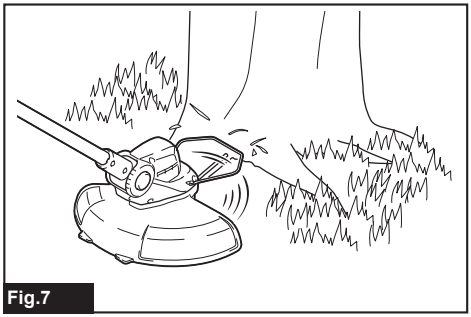


Fig.6


Fig.7

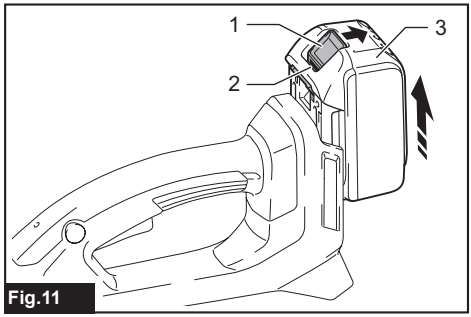


Fig.11

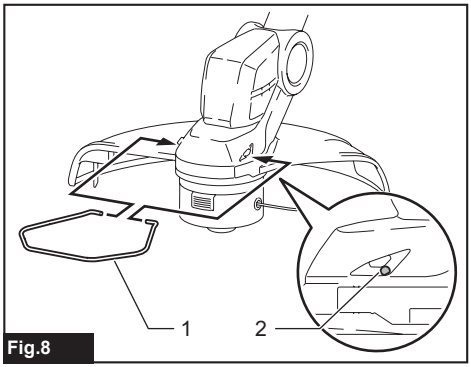


Fig.8

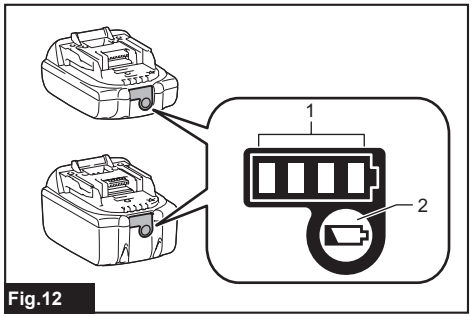


Fig.12

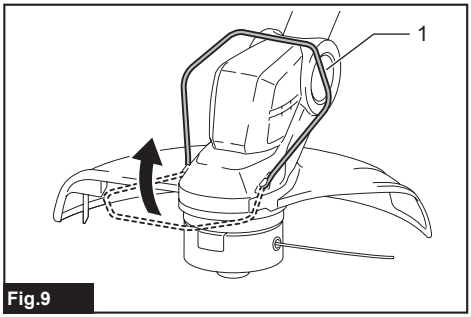


Fig.9

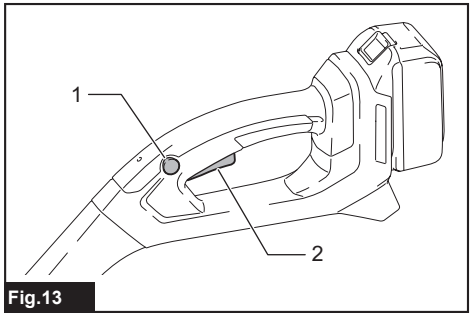


Fig.13

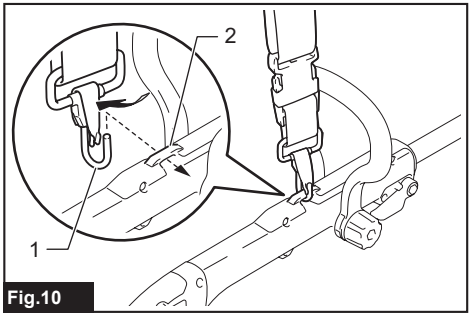


Fig.10

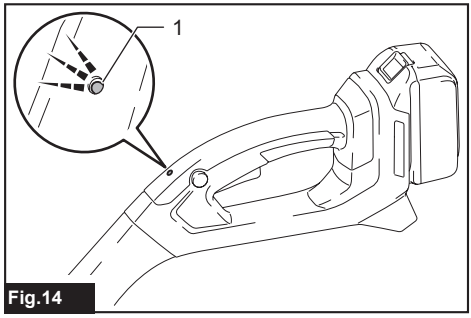


Fig.14

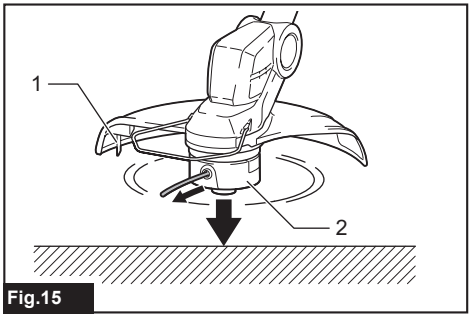


Fig.15

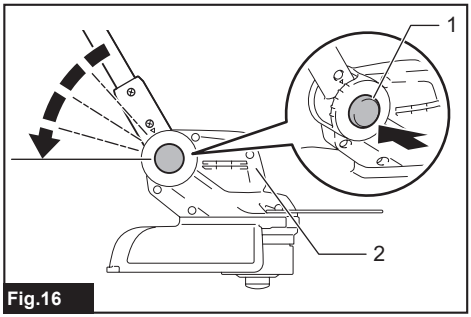


Fig.16

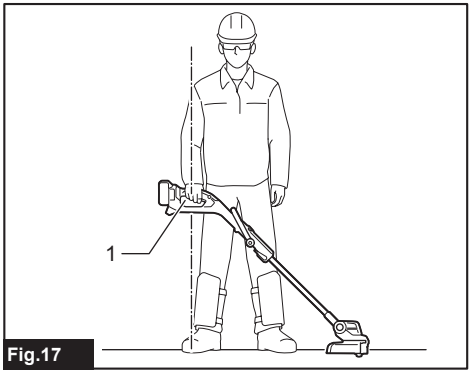


Fig.17

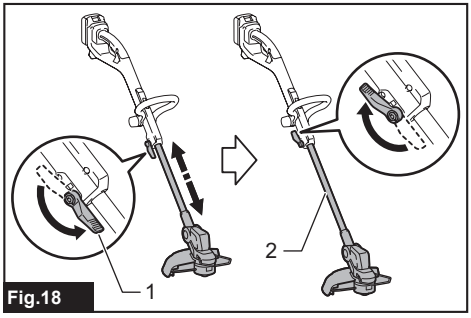


Fig.18

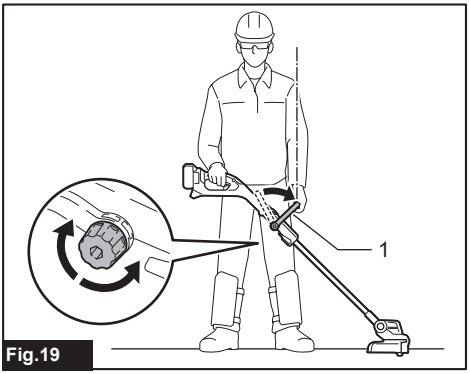
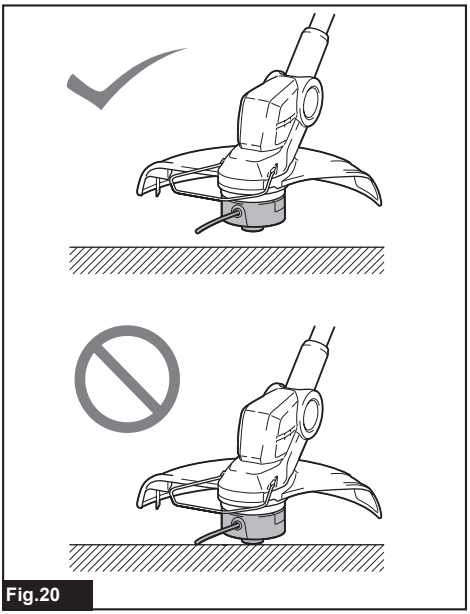
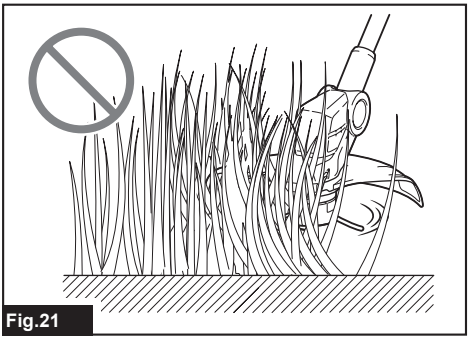
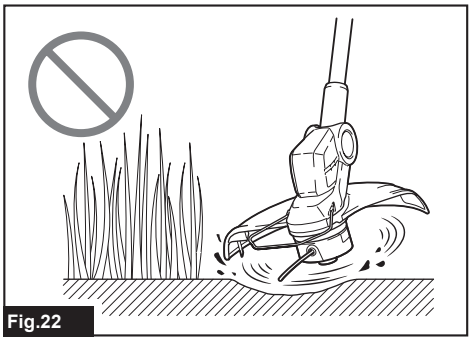
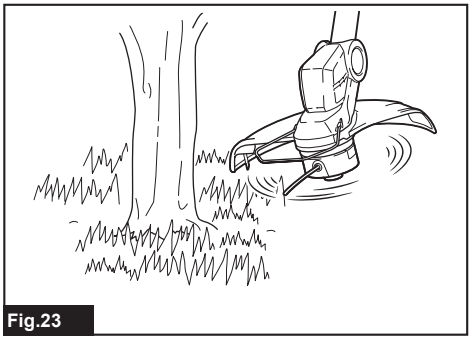


Fig.19


Fig.20


Fig.21


Fig.22


Fig.23

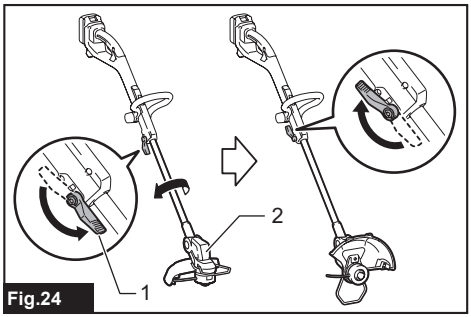
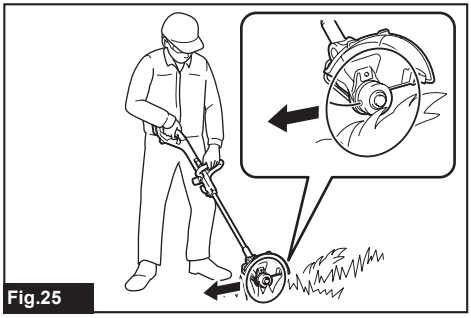


Fig.24


Fig.25

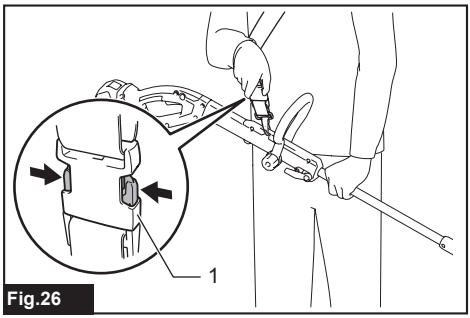


Fig.26

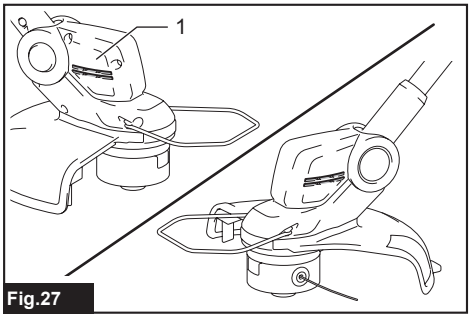


Fig.27

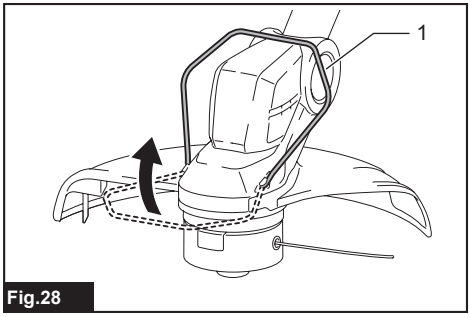


Fig.28

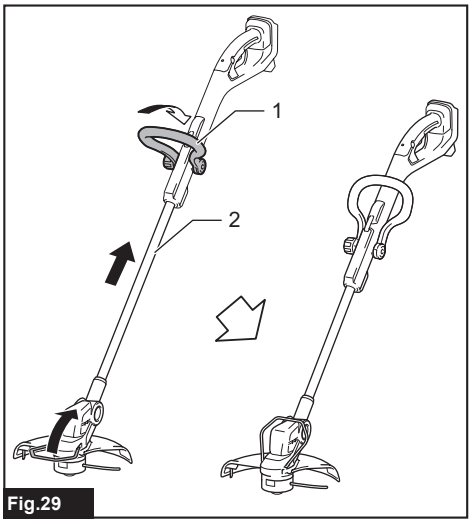


Fig.29

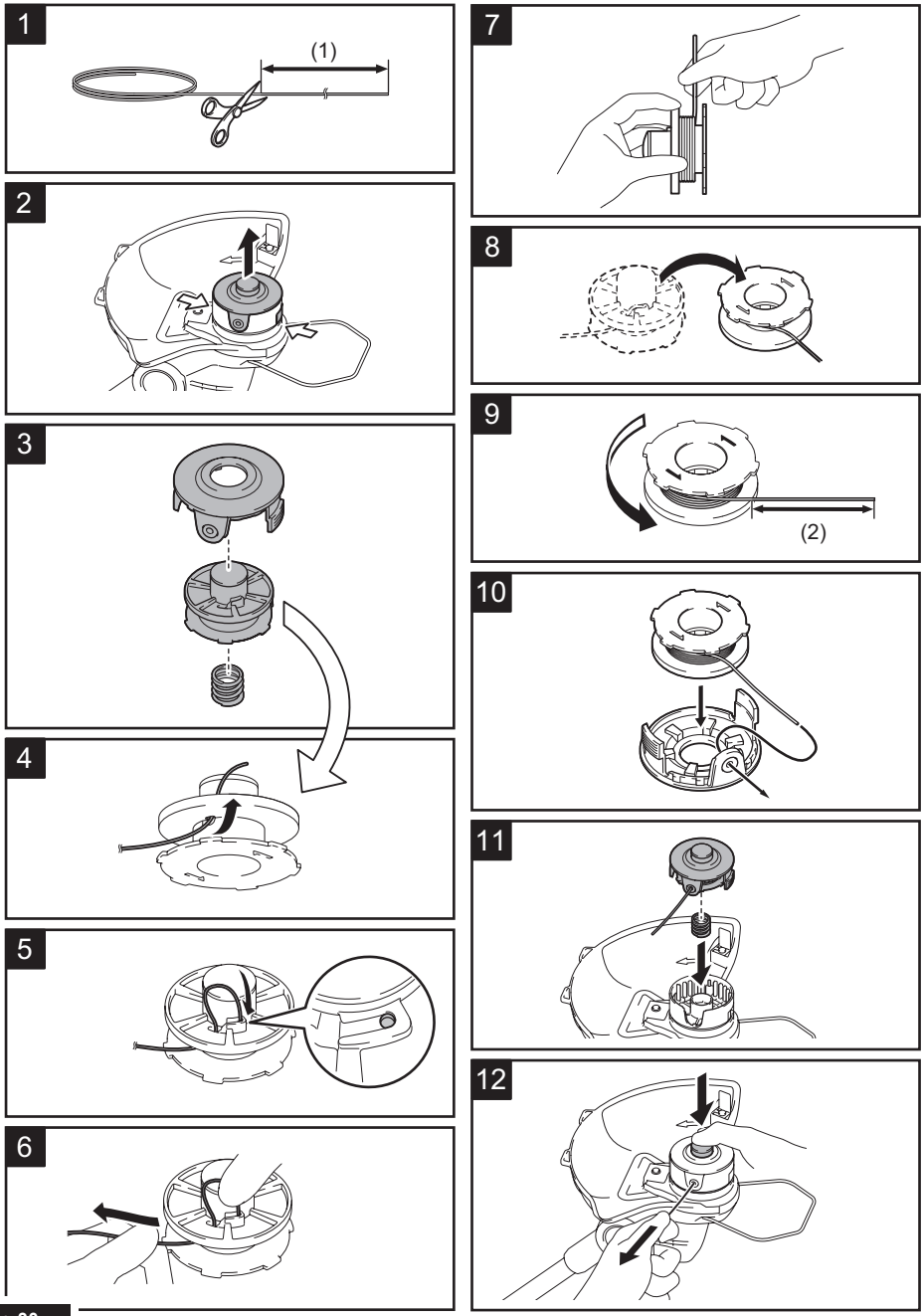


Fig.30

SPECIFICATIONS

Model:		DUR193
No load speed (without cutting tool)		7,800 min^{-1}
Overall length		1,228 - 1,436 mm
Nylon cord diameter		1.65 mm
Applicable cutting tool and cutting diameter	Nylon cutting head (P/N: 191Y39-5)	260 mm
Rated voltage		D.C. 18 V
Net weight		2.3 - 2.6 kg

- Due to our continuing program of research and development, the specifications herein are subject to change without notice.
- Specifications and battery cartridge 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	BL1815N / BL1820B / BL1830B / BL1840B / BL1850B / BL1860B
Charger	DC18RC / DC18RD / DC18RE / DC18SD / DC18SE / DC18SF / DC18SH

- 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.

Recommended cord connected power source

Portable power pack	PDC01

- The cord connected power source(s) listed above may not be available depending on your region of residence.
- Before using the cord connected power source, read instruction and cautionary markings on them.

Noise

Applicable standard : EN50636-2-91

Cutting tool	Sound pressure level (L_{pA}) dB(A)		Sound power level (L_{WA}) dB(A)	
	L_{pA} dB(A)	Uncertainty (K) dB(A)	L_{WA} dB(A)	Uncertainty (K) dB(A)
Nylon cutting head	73.2	2.1	83.1	3.9

- Even if the sound pressure level listed above is 80 dB (A) or less, the level under working may exceed 80 dB (A). Wear ear protection.

NOTE: The declared noise emission value(s) has been measured in accordance with a standard test method and may be used for comparing one tool with another.

NOTE: The declared noise emission value(s) may also be used in a preliminary assessment of exposure.

⚠***WARNING:*** **Wear ear protection.**

⚠***WARNING:*** **The noise emission during actual use of the power tool can differ from the declared value(s) depending on the ways in which the tool is used especially what kind of workpiece is processed.**

⚠***WARNING:*** **Be sure to identify safety measures to protect the operator that are based on an estimation of exposure in the actual conditions of use (taking account of all parts of the operating cycle such as the times when the tool is switched off and when it is running idle in addition to the trigger time).**

Vibration

Applicable standard : EN50636-2-91

Type	Left hand		Right hand	
	$a_{h,W}$ (m/s^2)	Uncertainty K (m/s^2)	$a_{h,W}$ (m/s^2)	Uncertainty K (m/s^2)
Nylon cutting head	$\leq$ 2.5	1.5	$\leq$ 2.5	1.5

NOTE: The declared vibration total value(s) has been measured in accordance with a standard test method and may be used for comparing one tool with another.

NOTE: The declared vibration total value(s) may also be used in a preliminary assessment of exposure.

⚠***WARNING:*** **The vibration emission during actual use of the power tool can differ from the declared value(s) depending on the ways in which the tool is used especially what kind of workpiece is processed.**

⚠***WARNING:*** **Be sure to identify safety measures to protect the operator that are based on an estimation of exposure in the actual conditions of use (taking account of all parts of the operating cycle such as the times when the tool is switched off and when it is running idle in addition to the trigger time).**

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 tool and bystanders must be at least 15 m.
	Warning; Disconnect battery before maintenance.
	Wear safety glasses.
	Wear ear protection.
	Wear eye and ear protection.
	Do not expose to moisture.
 Ni-MH Li-ion	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.

EC Declaration of Conformity

For European countries only

The EC declaration of conformity is included as Annex A to this instruction manual.

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.

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.

1. **Be familiar with the controls and proper use of the equipment.**
2. **Cutting elements continue to rotate after the motor is switched off.**
3. **Never allow children or people unfamiliar with the instructions to use the machine. Local regulations may restrict the age of the operator.**
4. **Stop using the machine while people, especially children, or pets are nearby.**
5. **Only use the machine in daylight or good artificial light. Avoid using the machine in bad weather conditions especially when there is a risk of lightning.**
6. **Before using the machine and after any impact, check for signs of wear or damage and repair as necessary.**
7. **Take care against injury from any device fitted for trimming the filament line length. After extending new cutter line always return the machine to its normal operating position before switching on.**
8. **Never fit metal cutting elements.**
9. **This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.**
10. **Use the tool with the utmost care and attention.**
11. **Operate the tool only if you are in good physical condition. Perform all work calmly and carefully. Use common sense and keep in mind that the operator or user is responsible for accidents or hazards occurring to other people or their property.**
12. **Never operate the tool when tired, feeling ill or under the influence of alcohol or drugs.**
13. **The tool should be switched off immediately if it shows any signs of unusual operation.**
14. **Keep fingers away from switch trigger when not operating the tool and when moving from one operating position to another.**

Intended use of the tool

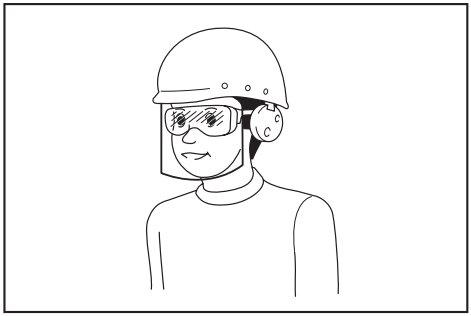
1. **Use right tool. The cordless grass trimmer is only intended for cutting grass, light weeds. It should not be used for any other purpose such as hedge cutting as this may cause injury.**

Personal protective equipment

► **Fig.1**

► **Fig.2**

1. **Dress Properly. The clothing worn should be functional and appropriate, i.e. it should be tight-fitting but not cause hindrance. Do not wear either jewelry or clothing which could become entangled with high grass. Wear protective hair covering to contain long hair.**
2. **When using the tool, always wear sturdy shoes with a non-slip sole. This protects against injuries and ensures a good footing.**
3. **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.

Electrical and battery safety

1. **Avoid dangerous environment. Don't use the tool in damp or wet locations or expose it to rain. Water entering the tool will increase the risk of electric shock.**
2. **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.**
3. **Use power tools only with specifically designated battery packs. Use of any other battery packs may create a risk of injury and fire.**
4. **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.**
5. **Under abusive conditions, liquid may be ejected from the battery; avoid contact. If contact accidentally occurs, flush with water. If liquid contacts eyes, seek medical help. Liquid ejected from the battery may cause irritation or burns.**

6. **Do not dispose of the battery(ies) in a fire. The cell may explode. Check with local codes for possible special disposal instructions.**
7. **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.**
8. **Do not charge battery in rain, or in wet locations.**

Starting up the tool
► Fig.3

1. **Make sure that there are no children or other people within a working range of 15 meters (50 ft), also pay attention to any animals in the working vicinity. Otherwise stop using the tool.**
2. **Before use always check that the tool is safe for operation. Check the security of the cutting tool and the guard and the switch trigger/lever for easy and proper action. Check for clean and dry handles and test the on/off function of the switch.**
3. **Check damaged parts before further use of the tool. A guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other condition that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced by our authorized service center unless indicated elsewhere in this manual.**
4. **Switch on the motor only when hands and feet are away from the cutting tool.**
5. **Before starting make sure that the cutting tool has no contact with hard objects such as branches, stones etc. as the cutting tool will revolve when starting.**
6. **Make sure there are no electrical cables, water pipes, gas pipes etc. that could cause a hazard if damaged by use of the tool.**

Method of operation

1. **Never operate the machine with damaged guards or without the guards in place.**
2. **Only use the tool in good light and visibility. During the winter season beware of slippery or wet areas, ice and snow (risk of slipping). Always ensure a safe footing.**
3. **Take care against injury to feet and hands from the cutting tool.**
4. **Keep hands and feet away from the cutting means at all times and especially when switching on the motor.**
5. **Never cut above waist height.**
6. **Never stand on a ladder and run the tool.**
7. **Never work on unstable surfaces.**
8. **Don't overreach. Keep proper footing and balance at all times.**
9. **Remove sand, stones, nails etc. found within the working range. Foreign particles may damage the cutting tool and can cause to be thrown away, resulting in a serious injury.**
10. **Should the cutting tool hit stones or other hard objects, immediately switch off the motor and inspect the cutting tool.**
11. **Before commencing cutting, the cutting tool must have reached full working speed.**
12. **During operation always hold the tool with both hands. Never hold the tool with one hand during use. Always ensure a safe footing.**
13. **All protective equipment such as guards supplied with the tool must be used during operation.**
14. **Except in case of emergency, never drop or cast the tool to the ground or this may severely damage the tool.**
15. **Never drag the tool on the ground when moving from place to place, the tool may become damaged if moved in this manner.**
16. **Always remove the battery cartridge from the tool:**
    - **whenever leaving the tool unattended;**
    - **before clearing a blockage;**
    - **before checking, cleaning or working on the tool;**
    - **before making any adjustments, changing accessories or storing;**
    - **whenever the tool starts vibrating unusually;**
    - **whenever transporting the tool.**
17. **Don't force the tool. It will do the job better and with less likelihood of a risk of injury at the rate for which it was designed.**
18. **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.
19. **Take a rest to prevent loss of control caused by fatigue.** We recommend to take a 10 to 20-minute rest every hour.
20. **Do not use the tool on steep slopes.**
21. **The shoulder harness must be used during operation, if supplied with the tool.**

Maintenance instructions

1. **The condition of the cutting tool, protective devices and shoulder harness must be checked before commencing work.**
2. **Turn off the motor and remove the battery cartridge before carrying out maintenance, replacing the cutting tool and cleaning the tool.**
3. **After use, disconnect the battery cartridge from the tool and check for damage.**
4. **Check for loose fasteners and damaged parts such as nearly halfway cut-off state in the cutting tool.**
5. **When not in use store the equipment in a dry location that is locked up or out of children's reach.**
6. **Use only the manufacturer's recommended replacement parts and accessories.**
7. **Always ensure that ventilation openings are kept clear of debris.**
8. **Inspect and maintain the tool regularly, especially before/after use. Have the tool repaired only by our authorized service center.**

9. **Keep handles dry, clean and free from oil and grease.**

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.
    Tape 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).**

PARTS DESCRIPTION

Parts description

► **Fig.4**

1	Switch trigger	2	Lock-off button
3	Indication lamp	4	Loop handle
5	Wire guard	6	Nylon cutting head
7	Nylon cord	8	Protector
9	Angle adjustment button	10	Lock lever
11	Thumb nut	12	Hanger for shoulder harness
13	Battery cartridge	-	-

ASSEMBLY

⚠***CAUTION:*** **Always be sure that the tool is switched off and the battery cartridge is removed before carrying out any work on the tool.**

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

Installing the loop handle

Attach the loop handle to the tool by securing it with a hex bolt and the thumb nut as shown in the figure.

► **Fig.5: 1.** Loop handle **2.** Thumb nut **3.** Hex bolt

The angle of loop handle is adjustable. To adjust the angle of loop handle, loosen the thumb nut, then set the loop handle at a proper angle according to your work, and then tighten the thumb nut firmly.

Installing the protector

⚠***CAUTION:*** **While installing the protector, be careful not to contact the nylon cord cutter on the protector.** Contact with the cutter could result in personal injury.

► **Fig.6: 1.** Protector **2.** Nylon cord cutter **3.** Screw

Mount the protector by fitting it on to the motor housing, and then secure it with the screw.

Installing the wire guard

NOTICE: **Do not expand the wire guard outward too much. Otherwise it may break.**

► **Fig.7**

To reduce the risk of damaging the objects in front of the cutting head, attach the wire guard to the motor housing so that it controls the cutting range.

Slightly expand the wire guard outward and then insert it into the holes of the motor housing.

► **Fig.8: 1.** Wire guard **2.** Hole

When wire guard is not in use, lift it for the idle position.

► **Fig.9: 1.** Wire guard

Attaching the shoulder harness

⚠***CAUTION:*** **Be sure to attach the hook of shoulder harness to the tool securely. If the hook is attached incompletely, it may come off and cause an injury.**

⚠***CAUTION:*** **When you use the tool in combination of the backpack-type power supply such as portable power pack, do not use the shoulder harness included in the tool package, but use the hanging band recommended by Makita.**

If you put on the shoulder harness included in the tool package and the shoulder harness of the backpack-type power supply at the same time, removing the tool or backpack-type power supply is difficult in case of an emergency, and it may cause an accident or injury. For the recommended hanging band, ask Makita Authorized Service Centers.

NOTICE: **Before operation, adjust the shoulder harness to the proper length to prevent fatigue.**

► **Fig.10: 1.** Hook **2.** Hanger

Attach the hook of shoulder harness to the tool as shown in the figure.

FUNCTIONAL DESCRIPTION

⚠***WARNING:*** **Always be sure that the tool is switched off and the battery cartridge is removed before adjusting or checking function on the tool.** Failure to switch off and remove the battery cartridge may result in serious personal injury from accidental start-up.

Installing or removing battery cartridge

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

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

⚠***CAUTION:*** **Always install the battery cartridge fully until the red indicator cannot be seen.** If not, it may accidentally fall out of the tool, 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.

► **Fig.11: 1.** Button **2.** Red indicator **3.** Battery cartridge

To remove the battery cartridge, slide it from the tool while sliding the button on the front of the cartridge.

To install the battery cartridge, align the tongue on the battery cartridge with the groove in the housing and slip it into place. Insert it all the way until it locks in place with a little click. If you can see the red indicator as shown in the figure, it is not locked completely.

Battery protection system

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

Overloaded:
The tool is operated in a manner that causes it to draw an abnormally high current.
In this situation, turn the tool off and stop the application that caused the tool to become overloaded. Then turn the tool on to restart.
If the tool does not start, the battery is overheated. In this situation, let the battery cool before turning the tool on again.

Low battery voltage:
The remaining battery capacity is too low and the tool will not operate. If you turn the tool on, the motor runs again but stops soon. In this situation, remove and recharge the battery.

Indicating the remaining battery capacity

Only for battery cartridges with the indicator
► **Fig.12: 1.** Indicator lamps **2.** Check button

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

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 brink when the battery protection system works.

Switch action

⚠***WARNING:*** **Before installing the battery cartridge into the tool, always check to see that the switch trigger actuates properly and returns to the "OFF" position when released.**

⚠***WARNING:*** **For your safety, this tool is equipped with the lock-off button which prevents the tool from unintended starting. Never use the tool if it starts when you pull the switch trigger without pressing the lock-off button.** Ask your local Makita Service Center for repairs.

⚠***WARNING:*** **Never disable the lock function or tape down the lock-off button.**

NOTICE: **Do not pull the switch trigger forcibly without pressing the lock-off button.** The switch may break.

► **Fig.13: 1.** Lock-off button **2.** Switch trigger

To prevent the switch trigger from being accidentally pulled, a lock-off button is provided.
To start the tool, press the lock-off button and pull the switch trigger. Release the switch trigger to stop. The lock-off button can be pressed from either the right or left side.

Indication lamp

► **Fig.14: 1.** Indication lamp

The indication lamp blinks or lights up when the battery becomes low or the tool is overloaded. Refer to the following table for the status and action to be taken.

Indication lamp	Status	Action to be taken
The lamp blinks in red.	The remaining battery is low.	Recharge the battery, or replace the battery with a charged one.
The lamp lights up in red.	The remaining battery is empty.	Recharge the battery, or replace the battery with a charged one.
	The tool has stopped due to overload.	Turn off the tool, and remove the cause of overload.

NOTE: The time at which the indication lamp blinks or lights up varies by the temperature around the work area and the battery cartridge conditions.

Nylon cutting head

NOTICE: **Do not bump the tool to the concrete or asphalt surface. Bumping to this kind of objects may cause the tool damage.**

NOTE: If the nylon cord does not feed out while bumping the head, rewind or replace the nylon cord by following the procedures in this manual.

NOTE: The bump and feed mechanism will not work properly if the nylon cutting head is not rotating.

► **Fig.15: 1.** Nylon cord cutter **2.** Nylon cutting head

The nylon cutting head has a bump and feed mechanism. To feed the nylon cord, bump the cutting head against the ground while the tool is running. As the nylon cord is feeding out, it will automatically be cut to the proper length by the cutter.

Adjusting the cutting angle

⚠*CAUTION:* Always be sure that the tool is switched off before adjusting the cutting angle.

The cutting angle can be adjusted in 5 steps. To change the cutting angle, change the angle of the motor housing while pressing the angle adjustment button.
► **Fig.16: 1.** Angle adjustment button **2.** Motor housing

NOTE: Make sure that the motor housing is securely locked before operating the tool.

OPERATION

⚠*CAUTION:* If the nylon cutting head accidentally impacts a rock or hard object during operation, stop the tool and inspect for any damage. If the nylon cutting head is damaged, replace it immediately. Use of a damaged cutting tool could result in serious personal injury.

Adjusting the handle position

⚠*CAUTION:* Before adjusting the shaft length, be sure to switch off the tool and remove the battery cartridge from the tool. Failure to do so may cause a personal injury.

Adjust the length of the shaft and the cutting angle so that the nylon cutting head is flat to the ground when you hold the handle with your right hand.
► **Fig.17: 1.** Handle

To adjust the shaft length, open the lock lever, then adjust the length of the shaft, and then close the lock lever.
► **Fig.18: 1.** Lock lever **2.** Shaft

Adjust the position of the loop handle so that you can hold the loop handle when lowering your left hand.
► **Fig.19: 1.** Loop handle

Cutting the grass

Hold the grass trimmer with both hands, and move the grass trimmer from right to left slowly. Cut the grass a few times from the top of the grass at the tip of the nylon cord.

***NOTICE:* Do not cut high grass at a time.** Cutting the high grass at a time near the root may cause the nylon cutting head to be entangled by grass. This may cause the motor overload, resulting in damage to the grass trimmer.

***NOTICE:* Use the grass trimmer without getting the nylon cutting head into a contact with the ground surface.** Using the nylon cutting head contacting the ground surface may cause the motor under overload resulting in damage to the grass trimmer.

► **Fig.20**

***NOTICE:* Do not force the trimmer in densely growing grass.**

► **Fig.21**

***NOTICE:* Do not use the trimmer as if you dig out the ground.**

► **Fig.22**

Cutting the grass near tree, block, brick, or stone

Hold and tilt the grass trimmer at a height where the nylon cutting head does not touch the ground. Cut the grass using the nylon cord tip like knocking the ground.
► **Fig.23**

***NOTICE:* When cutting the grass, move the grass trimmer around the tree or blocks so that the nylon cord does not touch the tree or blocks.** It is recommended to keep the tool more than 5 cm away from the tree or block. If the nylon cord touch the tree or block, the nylon cord may be torn. If the nylon cord is torn in the nylon cutting head, set the nylon cord again referring to the replacement procedure in this manual.

Using the grass trimmer as an edger

Using the grass trimmer as an edger is suitable for cutting the grass growing along the bricks or blocks.

Open the lock lever, then extend the shaft to the maximum length, then rotate the motor housing 180°, and then close the lock lever.
► **Fig.24: 1.** Lock lever **2.** Motor housing

NOTE: You can also rotate the motor housing 180° when you shorten the shaft to the minimum length.

Lift up the wire guard, and move the grass trimmer as shown in the figure to cut the grass. You can cut the grass efficiently by walking in parallel along the bricks or blocks.
► **Fig.25**

Detaching the shoulder harness

⚠*WARNING:* Be extremely careful to maintain control of the machine when detaching the shoulder harness.

The shoulder harness features a means of quick release. Simply squeeze the sides of the buckle while holding the tool to release the tool from the shoulder harness.
► **Fig.26: 1.** Buckle

MAINTENANCE

⚠***WARNING:*** **Always be sure that the tool is switched off and battery cartridge is removed before attempting to perform inspection or maintenance on the tool.** Failure to switch off and remove the battery cartridge may result in serious personal injury from accidental start-up.

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.

Cleaning the tool

Clean the tool by wiping off dust, dirt, or cut off grass with a dry cloth or one dipped in soapy water and wrung out. If the cut off grass is adhered to the motor housing, be sure to remove it.

► **Fig.27: 1.** Motor housing

Storage

When storing the tool, raise the wire guard, shorten the shaft, and then fold the loop handle.

► **Fig.28: 1.** Wire guard

► **Fig.29: 1.** Loop handle **2.** Shaft

Replacing the nylon cord

⚠***WARNING:*** **Use nylon cord with diameter specified in "SPECIFICATIONS" only. Never use heavier line, metal wire, rope or the like.** Use recommended nylon cord only, otherwise it may cause damage to the tool and result in serious personal injury.

⚠***WARNING:*** **Make sure that the cover of the nylon cutting head is secured to the housing properly as described below.** Failure to properly secure the cover may cause the nylon cutting head to fly apart resulting in serious personal injury.

⚠***CAUTION:*** **When installing or removing the nylon cord, be careful not to contact the nylon cord cutter on the protector.** Contact with the cutter may result in personal injury.

Replace the nylon cord if the cord is not feeding any more.

► **Fig.30: (1)** Up to 8 m **(2)** 70 - 80 mm

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 dismantle the tool. Instead, ask Makita Authorized Service Centers, always using Makita replacement parts for repairs.

State of abnormality	Probable cause (malfunction)	Remedy
Motor does not run.	Battery cartridge is not installed.	Install the battery cartridge.
	Battery problem (under voltage)	Recharge the battery. If recharging is not effective, replace battery.
	The drive system does not work correctly.	Ask your local authorized service center for repair.
Motor stops running after a little use.	Battery's charge level is low.	Recharge the battery. If recharging is not effective, replace battery.
	Overheating.	Stop using of tool to allow it to cool down.
It does not reach maximum RPM.	Battery is installed improperly.	Install the battery cartridge as described in this manual.
	Battery power is dropping.	Recharge the battery. If recharging is not effective, replace battery.
	The drive system does not work correctly.	Ask your local authorized service center for repair.
Cutting tool does not rotate: ⇨ stop the machine immediately!	Foreign object such as a branch is jammed between the guard and the cutting tool.	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!	One end of the nylon cord has been broken.	Tap the nylon cutting head against the ground while it is rotating to cause the cord to feed.
	The drive system does not work correctly.	Ask your local authorized service center for repair.
Cutting tool and motor cannot stop: ⇨ Remove the battery immediately!	Electric or electronic malfunction.	Remove the battery and ask your local authorized service center for repair.

OPTIONAL ACCESSORIES

⚠***CAUTION:*** **These accessories or attachments are recommended for use with your Makita tool 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.

- Nylon cutting head
- Nylon cord (cutting line)
- Makita genuine battery and charger

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