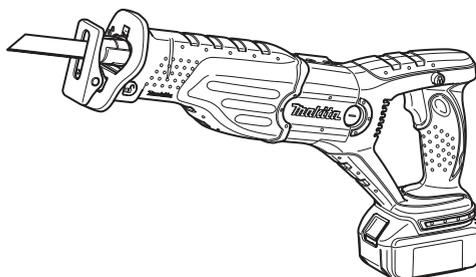


INSTRUCTION MANUAL



# Cordless Recipro Saw

## DJR181



Read before use.

# SPECIFICATIONS

Model		DJR181
Length of stroke		28 mm
Strokes per minute(min <sup>-1</sup> )		0 - 2,900
Max. cutting capacities	Pipe	130 mm
	Wood	255 mm
Overall length		499 mm
Net weight		3.5 - 3.8 kg
Rated voltage		D.C. 18 V

- 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 combination, according to EPTA-Procedure 01/2014, are shown in the table.

## Applicable battery cartridge and charger

Battery cartridge	BL1815N / BL1820 / BL1820B / BL1830 / BL1830B / BL1840 / BL1840B / BL1850 / BL1850B / BL1860B
Charger	DC18RC / DC18RD / DC18RE / DC18SD / DC18SE / DC18SF

- 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.

## Symbols

The following show the symbols used for the equipment. Be sure that you understand their meaning before use.



Read instruction manual.



Only for EU countries  
Do not dispose of electric equipment or battery pack together with household waste material!  
In observance of the European Directives, on Waste Electric and Electronic Equipment and Batteries and Accumulators and Waste Batteries and Accumulators and their implementation in accordance with national laws, electric equipment and batteries and battery pack(s) that have reached the end of their life must be collected separately and returned to an environmentally compatible recycling facility.

### Intended use

The tool is intended for sawing wood, plastic and ferrous materials.

### Noise

The typical A-weighted noise level determined according to EN62841-2-11:

Sound pressure level ( $L_{pA}$ ): 86 dB (A)

Sound power level ( $L_{WA}$ ): 97 dB (A)

Uncertainty (K): 3 dB (A)

**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

The vibration total value (tri-axial vector sum) determined according to EN62841-2-11:

Work mode : cutting boards

Vibration emission ( $a_{h,B}$ ): 12.5 m/s<sup>2</sup>

Uncertainty (K): 2.0 m/s<sup>2</sup>

Work mode : cutting wooden beams

Vibration emission ( $a_{h,WB}$ ): 14.0 m/s<sup>2</sup>

Uncertainty (K): 1.5 m/s<sup>2</sup>

**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).

## EC Declaration of Conformity

### For European countries only

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

## 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.

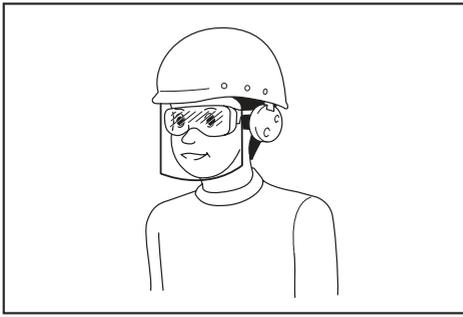
### Electrical Safety

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.**

### Cordless reciprocating saw safety warnings

1. **Hold the power tool by insulated gripping surfaces, when performing an operation where the cutting accessory may contact hidden wiring.** Cutting accessory contacting a "live" wire may make exposed metal parts of the power tool "live" and could give the operator an electric shock.
2. **Use clamps or another practical way to secure and support the workpiece to a stable platform.** Holding the workpiece by hand or against your body leaves it unstable and may lead to loss of control.
3. **Always use safety glasses or goggles.** Ordinary eye or sun glasses are NOT safety glasses.
4. **Avoid cutting nails. Inspect workpiece for any nails and remove them before operation.**
5. **Do not cut oversized workpiece.**

6. Check for the proper clearance beyond the workpiece before cutting so that the blade will not strike the floor, workbench, etc.
  7. Hold the tool firmly.
  8. Make sure the blade is not contacting the workpiece before the switch is turned on.
  9. Keep hands away from moving parts.
  10. Do not leave the tool running. Operate the tool only when hand-held.
  11. Always switch off and wait for the blade to come to a complete stop before removing the blade from the workpiece.
  12. Do not touch the blade or the workpiece immediately after operation; they may be extremely hot and could burn your skin.
  13. Do not operate the tool at no-load unnecessarily.
  14. Always use the correct dust mask/respirator for the material and application you are working with.
  15. Some material contains chemicals which may be toxic. Take caution to prevent dust inhalation and skin contact. Follow material supplier safety data.
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. Be careful not to drop or strike battery.
  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. 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.

## 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 battery cartridge.
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 the tool and battery cartridge in locations where the temperature may reach or exceed 50 °C (122 °F).

## 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

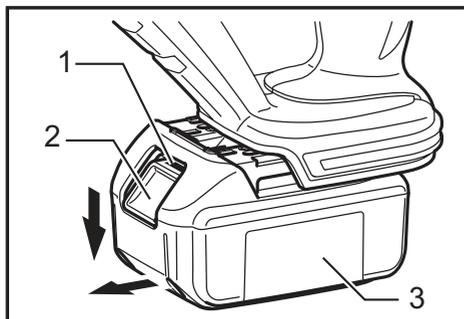
1. Charge the battery cartridge before completely discharged. Always stop tool operation and charge the battery cartridge when you notice less tool power.
2. Never recharge a fully charged battery cartridge. Overcharging shortens the battery service life.
3. Charge the battery cartridge with room temperature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

## FUNCTIONAL DESCRIPTION

### ⚠ CAUTION:

- Always be sure that the tool is switched off and the battery cartridge is removed before adjusting or checking function on the tool.

## Installing or removing battery cartridge



- 1. Red indicator 2. Button 3. Battery cartridge

### ⚠ CAUTION:

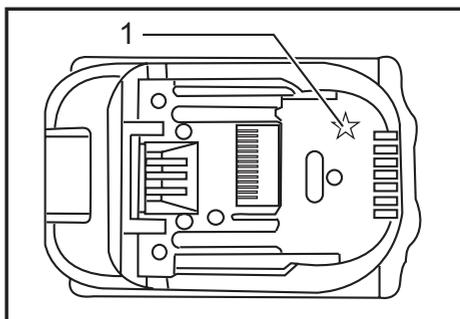
- Always switch off the tool before installing or removing of the battery cartridge.
- **Hold the tool and the battery cartridge firmly when installing or removing battery cartridge.** Failure to hold the tool and the battery cartridge firmly may cause them to slip off your hands and result in damage to the tool and battery cartridge and a personal injury.

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 on the upper side of the button, it is not locked completely.

### ⚠ 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.
- Do not install the battery cartridge forcibly. If the cartridge does not slide in easily, it is not being inserted correctly.

## Battery protection system (Lithium-ion battery with star marking)



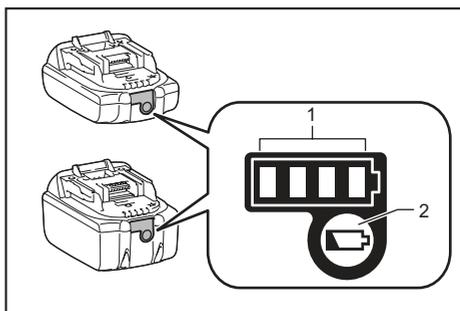
- 1. Star marking

Lithium-ion batteries with a star marking are equipped with a protection system. This system automatically cuts off power to the tool 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, release the trigger switch on the tool and stop the application that caused the tool to become overloaded. Then pull the trigger switch again to restart. If the tool does not start, the battery is overheated. In this situation, let the battery cool before pulling the trigger switch again.
- **Low battery voltage:**  
The remaining battery capacity is too low and the tool will not operate. In this situation, remove and recharge the battery.

## Indicating the remaining battery capacity

*Only for battery cartridges with the indicator*



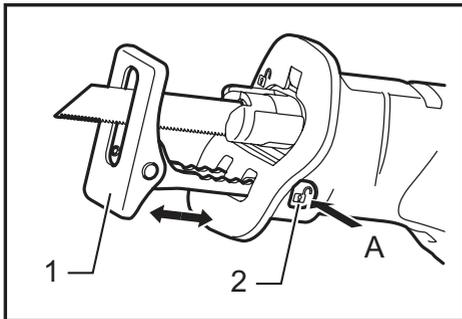
- 1. Indicator lamps 2. Check button

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

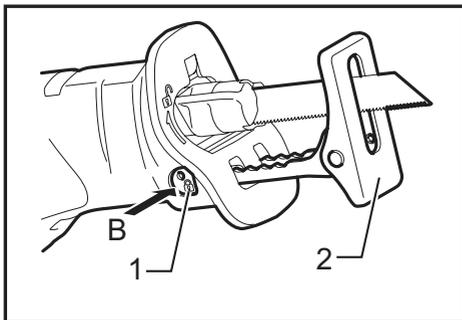
Indicator lamps			Remaining capacity
Lighted	Off	Blinking	
■	□	▧	75% to 100%
■ ■ ■ ■			
■ ■ ■	□		50% to 75%
■ ■	□ □		25% to 50%
■	□ □ □		0% to 25%
▧	□ □ □ □		Charge the battery.
■ ■ □ □	□ □		The battery may have malfunctioned.
□ □ ■ ■		↑ ↓	

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

## Adjusting the shoe



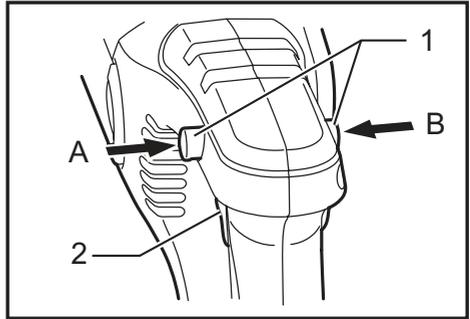
► 1. Shoe 2. Shoe button



► 1. Shoe button 2. Shoe

When the blade loses its cutting efficiency in one place along its cutting edge, reposition the shoe to utilize a sharp, unused portion of its cutting edge. This will help to lengthen the life of the blade. To reposition the shoe, push the shoe button in the "A" direction with a click and reposition as shown in the figure which allows you to make five-way adjustment. To secure the shoe, push the shoe button in the "B" direction with a click.

## Switch action



► 1. Lock-off button 2. Switch trigger

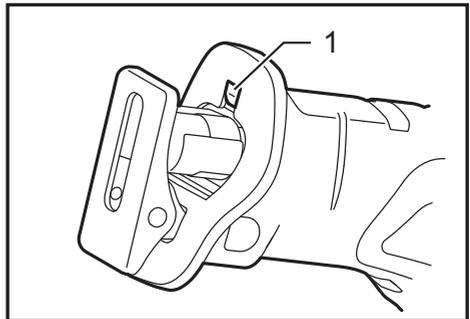
### CAUTION:

- Before inserting the battery cartridge into the tool, always check to see that the switch trigger actuates properly and returns to the "OFF" position when released.
- When not operating the tool, depress the lock-off button from A side to lock the switch trigger in the OFF position.

To prevent the switch trigger from accidentally pulled, the lock-off button is provided. To start the tool, depress the lock-off button from B side and pull the switch trigger.

Tool speed is increased by increasing pressure on the switch trigger. Release the switch trigger to stop. After use, always press in the lock-off button from A side.

## Lighting up the front lamp



► 1. Lamp

### CAUTION:

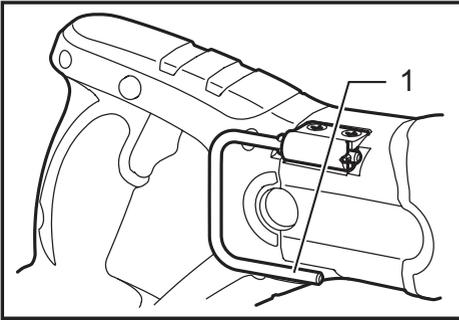
- Do not look in the light or see the source of light directly.

Pull the switch trigger to light up the lamp. The lamp keeps on lighting while the switch trigger is being pulled. The light automatically goes out 10 - 15 seconds after the switch trigger is released.

### NOTE:

- Use a dry cloth to wipe the dirt off the lens of lamp. Be careful not to scratch the lens of lamp, or it may lower the illumination.

## Hook



► 1. Hook

### ⚠ CAUTION:

- Depress the lock-off button from A side to lock the switch trigger in the OFF position. (See the section titled "switch action".)
- Never hook the tool at high location or on potentially unstable surface.

The hook is convenient for hanging the tool temporarily. To use the hook, simply lift up hook until it snaps into the open position.

When not in use, always lower hook until it snaps into the closed position.

## ASSEMBLY

### ⚠ CAUTION:

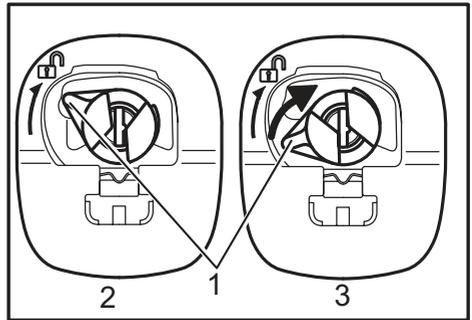
- Always be sure that the tool is switched off and the battery cartridge is removed before carrying out any work on the tool.

## Installing or removing the saw blade

### ⚠ CAUTION:

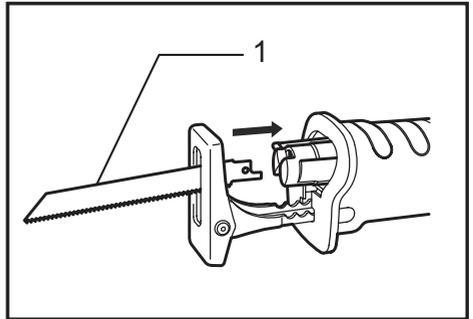
- Always clean out all chips or foreign matter adhering to the blade, blade clamp and/or slider. Failure to do so may cause insufficient tightening of the blade, resulting in a serious injury.

To install the saw blade, always make sure that the blade clamp lever is in released position  on the insulation cover before inserting the saw blade. If the blade clamp lever is in fixed position, rotate the blade clamp lever in the direction of the arrow so that it can be locked at the released position .



► 1. Blade clamp sleeve 2. Released position 3. Fixed position

Insert the saw blade into the blade clamp as far as it will go. The blade clamp lever rotates and the saw blade is fixed. Make sure that the saw blade cannot be extracted even though you try to pull it out.



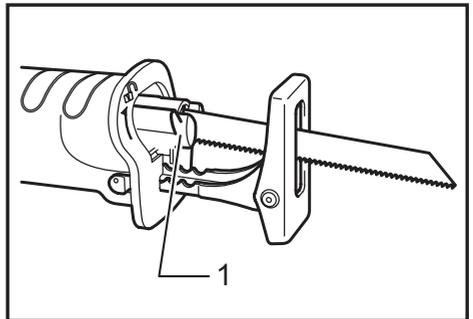
► 1. Blade

### NOTE:

- If you do not insert the saw blade deep enough, the saw blade may be ejected unexpectedly during operation. This can be extremely dangerous.

If the lever is positioned inside the tool, switch on the tool just a second to let the blade out as shown in the figure. Remove the battery cartridge from the tool.

To remove the saw blade, rotate the blade clamp lever in the direction of the arrow fully. The saw blade is removed and the blade clamp lever is fixed at the released position .

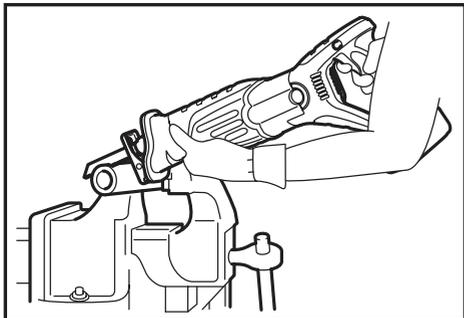


► 1. Blade clamp lever

#### NOTE:

- Keep hands and fingers away from the lever during the switching operation. Failure to do so may cause personal injuries.
- If you remove the saw blade without rotating the blade clamp lever fully, the lever may not be locked in the released position. In this case, rotate the blade clamp lever fully again, then make sure that the blade clamp lever locked at the released position.

## OPERATION



#### CAUTION:

- Always press the shoe firmly against the workpiece during operation. If the shoe is removed or held away from the workpiece during operation, strong vibration and/or twisting will be produced, causing the blade to snap dangerously.
- Always wear gloves to protect your hands from hot flying chips when cutting metal.
- Be sure to always wear suitable eye protection which conforms with current national standards.
- Always use a suitable coolant (cutting oil) when cutting metal. Failure to do so will cause premature blade wear.

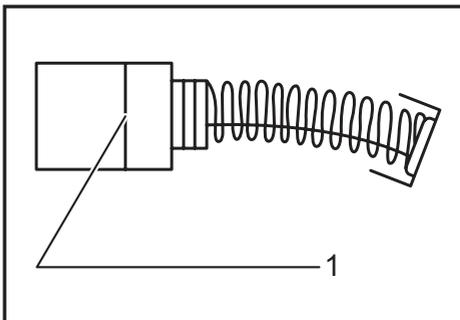
Press the shoe firmly against the workpiece. Do not allow the tool to bounce. Bring the blade into light contact with the workpiece. First, make a pilot groove using a slower speed. Then use a faster speed to continue cutting.

## MAINTENANCE

#### CAUTION:

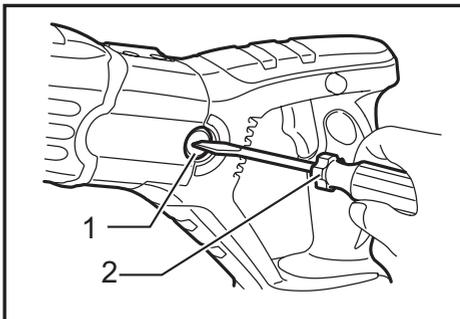
- Always be sure that the tool is switched off and the battery cartridge is removed before attempting to perform inspection or maintenance.
- Never use gasoline, benzene, thinner, alcohol or the like. Discoloration, deformation or cracks may result.

## Replacing carbon brushes



- 1. Limit mark

Remove and check the carbon brushes regularly. Replace when they wear down to the limit mark. Keep the carbon brushes clean and free to slip in the holders. Both carbon brushes should be replaced at the same time. Use only identical carbon brushes. Use a screwdriver to remove the brush holder caps. Take out the worn carbon brushes, insert the new ones and secure the brush holder caps.



- 1. Brush holder cap 2. Screwdriver

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

## 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.

- Recipro saw blades
- Makita genuine battery and charger
- Plastic carrying case

**NOTE:**

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



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