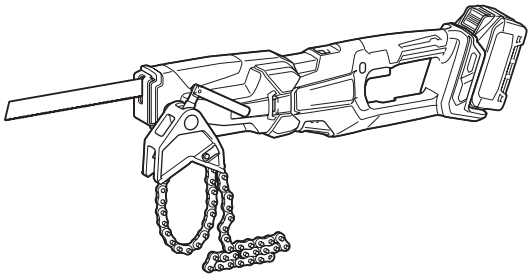
ENGLISH: Original instructions

INSTRUCTION MANUAL

Cordless Recipro Saw

JR003G



Read before use.

SPECIFICATIONS

Model:		**JR003G**
Length of stroke		26 mm
Strokes per minute		0 - 2,200 min^{-1}
Max. cutting capacities (with chain vise)	Cast iron pipe (with mortar lining): (using 280mm diamond blade)	169 mm
	Cast iron pipe (without mortar lining)	220 mm
	Iron pipe	220 mm
	Steel pipe	220 mm
Max. cutting capacities (without chain vise): (using thin recipro saw blade)	Pipe	130 mm
	Wood (using 300mm thin recipro saw blade)	255 mm
Overall length (with BL4040)		583 mm
Rated voltage		D.C. 36 V - 40 V max
Net weight		4.5 - 6.8 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 net weight value includes the lightest and heaviest combination of the attachment(s) and battery cartridge(s) which are specified in the instruction manual.

Applicable battery cartridge and charger

Battery cartridge	BL4020* / BL4025* / BL4040* / BL4050F* / BL4080F * : Recommended battery
Charger	DC40RA / DC40RB / DC40RC / DC40WA / BCC01 / BCC02

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

Read instruction manual.

Wear eye protection.

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.

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}) : 82 dB (A)
Sound power level (L_{WA}) : 90 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) can 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 total value(s) depending on the ways in which the tool is used.**

⚠***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 continuous vibration total value (tri-axial vector sum) determined according to EN62841-2-11:
Work mode: cutting boards
Vibration emission ($a_{h,B}$) : 14.9 m/s^2
Uncertainty (K) : 1.6 m/s^2
Work mode: cutting wooden beams
Vibration emission ($a_{h,WB}$) 15.3 m/s^2
Uncertainty (K) : 1.8 m/s^2

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) can 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 total value(s) depending on the ways in which the tool is used.**

⚠***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).**

Declarations of Conformity

For European countries only

The Declarations of conformity are included in 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.

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

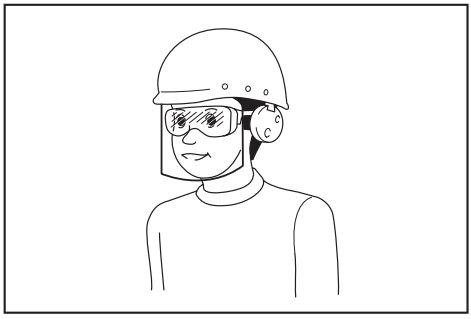
1. **Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools.** Unmodified plugs and matching outlets will reduce risk of electric shock.
2. **Avoid body contact with earthed or grounded surfaces, such as pipes, radiators, 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 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 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 recipro 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. **Use the blade that sufficiently extends beyond the workpiece when the blade exposure from the shoe is minimal.** Failure to do so may cause the blade to break.
6. **Check for the proper clearance around the workpiece before cutting so that the recipro saw blade will not strike the floor, workbench, etc.**
7. **Hold the tool firmly.**
8. **Keep hands away from moving parts.**
9. **Do not leave the tool running. Operate the tool only when hand-held.**
10. **Always switch off and wait for the recipro saw blade to come to a complete stop before removing the recipro saw blade from the workpiece.**
11. **Do not touch the recipro saw blade or the workpiece immediately after operation; they may be extremely hot and could burn your skin.**
12. **Do not operate the tool at no-load unnecessarily.**
13. **Always use the correct dust mask/respirator for the material and application you are working with.**
14. **Some material contains chemicals which may be toxic. Take caution to prevent dust inhalation and skin contact. Follow material supplier safety data.**
15. **Before operation, make sure that there is no buried object such as electric pipe, water pipe or gas pipe in the workpiece.** Otherwise, the recipro saw blade may touch them, resulting an electric shock, electrical leakage or gas leak.
16. **When operating the tool at heights, ensure that there are no people below.** Dropping materials or tool may cause a serious injury.
17. **If you accidentally drop or dump the tool, inspect the tool and the recipro saw blade for any damage, cracks, or deformation.** These issues can cause an accident or personal injury.
18. **If the tool malfunctions or makes abnormal noises during use, immediately turn off the tool and stop using it.** Contact the store you purchased it or your local Makita service center for inspection and repair. Continuing to use the tool may cause damage or unexpected injury.

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.

NOTICE: Makita is not responsible for any accidents resulting from the use of non-genuine Makita batteries or batteries that have been modified. Genuine Makita batteries have been rigorously evaluated for compatibility with Makita tools and chargers, in line with applicable legislation and safety standards.

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).**

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

⚠*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.

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.

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

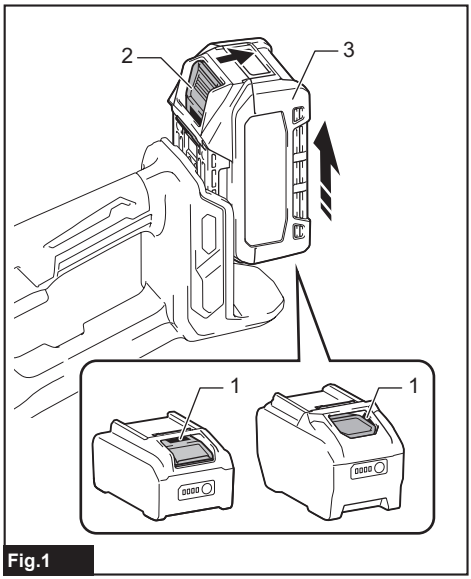


Fig.1

► **1.** Red indicator **2.** Button **3.** Battery cartridge

⚠*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.

Tool / battery protection system

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

Overload protection

When the tool/battery is operated in a manner that causes it to draw an abnormally high current, the tool stops automatically. 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.

Overheat protection

When the tool/battery is overheated, the tool stops automatically. In this situation, let the tool/battery cool before turning the tool on again.

Overdischarge protection

When the battery capacity is not enough, the tool stops automatically. In this case, remove the battery from the tool and charge the battery.

Protections against other causes

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

1. Turn the tool 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 tool and battery(ies) cool down.

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

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.

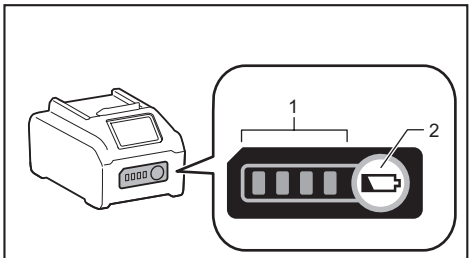


Fig.2

► **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.

Speed adjusting dial

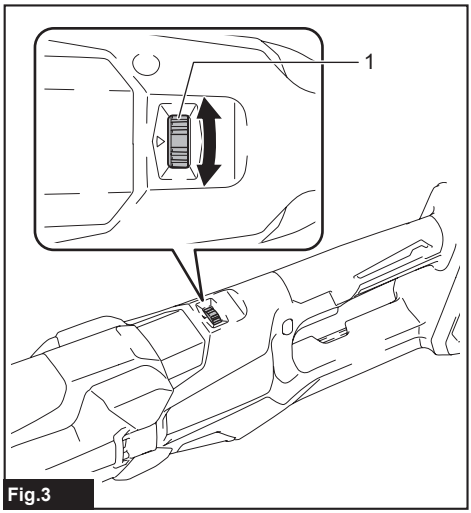


Fig.3

► **1.** Speed adjusting dial

The strokes per minute can be adjusted just by turning the speed adjusting dial. This can be done even while the tool is running. The dial is marked 1 (lowest speed) to 5 (full speed). Turn the speed adjusting dial between 1 and 5 according to your work.
Refer to the table to select the proper speed for the workpiece to be cut.

Number on adjusting dial	Strokes per minute
5	2,200
4	1,850
3	1,500
2	1,150
1	800

Workpiece to be cut	Number on adjusting dial
Cast iron pipes	5
Iron pipes	2 - 5
Stainless steel	1

NOTE: If the tool is operated continuously at low speeds for a long period of time, the operation life of the motor will be reduced.

NOTE: The speed adjusting dial can be turned only as far as 5 and back to 1. Do not force it past 5 or 1, or the speed adjusting function may no longer work.

NOTE: During the cutting of stainless steel pipes, the blade strokes at low speed. If you press the recipro saw blade strongly to the workpiece, the overload protection system may be activated.

NOTE: Generally, faster speeds allow you to cut materials quickly, but the blade gets damaged sooner. Conversely, slower speeds result in slower cutting, but the blade lasts longer. Adjust the blade speed according to your needs.

Switch action

⚠*CAUTION:* 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.

⚠*CAUTION:* When not operating the tool, push the trigger-lock button from A side to lock the switch trigger in the OFF position.

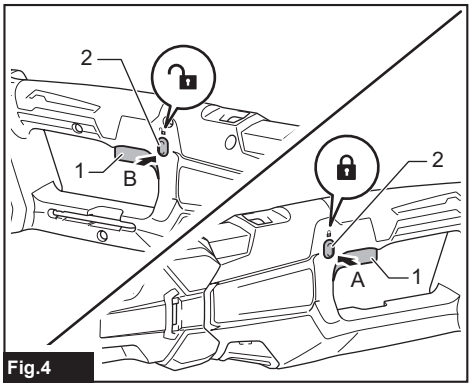


Fig.4

► **1.** Switch trigger **2.** Trigger-lock button

To prevent the switch trigger from accidentally pulled, the trigger-lock button is provided.
To start the tool, depress the trigger-lock 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 trigger-lock button from A side.

Electric brake

This tool is equipped with an electric brake. If the tool consistently fails to quickly stop after the switch trigger is released, have the tool serviced at a Makita service center.

Electronic function

The tool is equipped with the electronic functions for easy operation.

Constant speed control

The speed control function provides the constant rotation speed regardless of load conditions.

Soft start feature

Soft start feature reduces starting reaction.

Accidental re-start preventive function

Even if you install the battery cartridge while pulling the switch trigger, the tool does not start.
To start the tool, first release the switch trigger and then pull the switch trigger.

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.

Hex wrench storage

When not in use, store the hex wrench as shown in the figure to keep it from being lost.

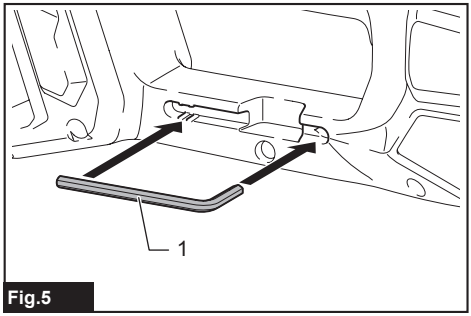


Fig.5

► **1.** Hex wrench

Installing or removing the recipro saw blade

⚠*CAUTION:* Always clean out all chips or foreign matter adhering to the blade and around the blade clamp. Failure to do so may cause insufficient tightening of the blade, resulting in a serious injury.

To install the recipro saw blade, first loosen the clamp bolt with a hex wrench.

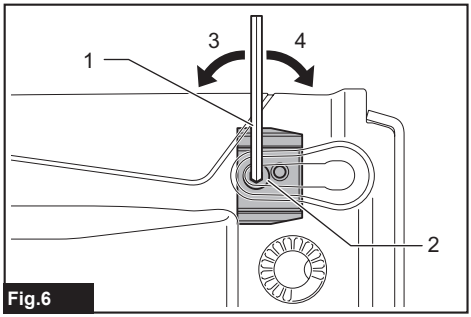


Fig.6

► **1.** Hex wrench **2.** Clamp bolt **3.** Loosen **4.** Tighten

Insert the recipro saw blade straight into the slot of the blade clamp, ensuring projection of the blade clamp fits into the hole of the blade. Then, tighten the clamp bolt with the hex wrench. Finally, pull the blade lightly to ensure that it is securely attached.

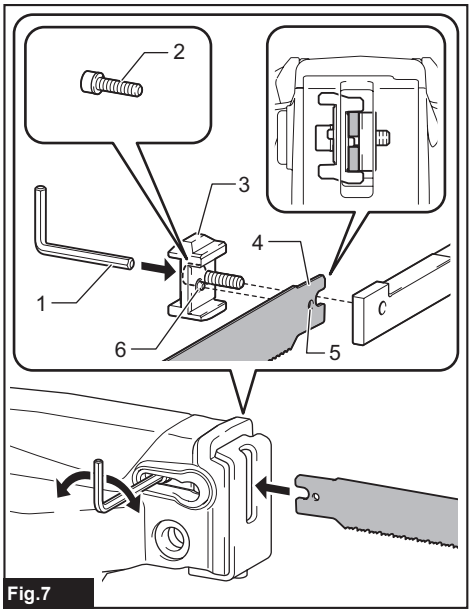


Fig.7

► **1.** Hex wrench **2.** Clamp bolt **3.** Blade clamp **4.** Recipro saw blade **5.** Hole **6.** Projection

Installing the thin recipro saw blade

Optional accessory

When using the thin recipro saw blade, use the blade clamp S. When installing the blade, insert it straight aligning the slot of the blade clamp.

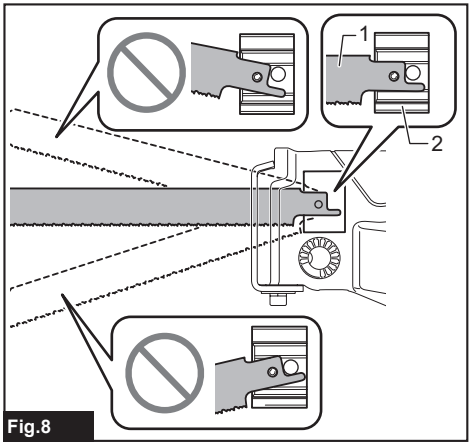


Fig.8

► **1.** Thin recipro saw blade **2.** Blade clamp S

To remove the recipro saw blade, follow the installation procedure in reverse.

Installing or removing the blade clamp

⚠*CAUTION:* Always use appropriate blade clamp for the recipro saw blade. Otherwise, the blade may be ejected or folded and cause a personal injury.

You can change the blade clamps according to your work.

NOTE: You can use both sides of the blade clamp.

1. To remove the blade clamp, install the battery, lightly pull the switch trigger, and move the clamp bolt to wide-open position. Then remove the battery from the tool.

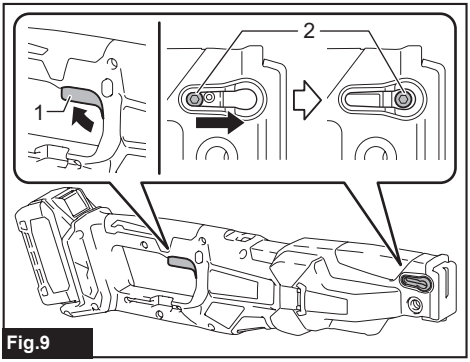


Fig.9

► **1.** Switch trigger **2.** Clamp bolt

2. Remove the clamp bolt with a hex wrench.

3. Loosen the bolt with a hex wrench and open the shoe.

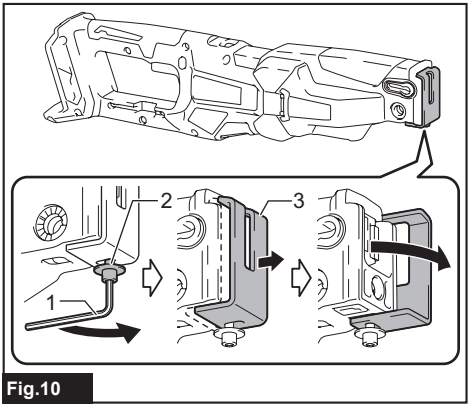


Fig.10

► **1.** Hex wrench **2.** Bolt **3.** Shoe

4. Remove the blade clamp. Insert the new blade clamp into the gap in the orientation shown in the figure. Then, tighten the clamp bolt to secure the blade clamp.

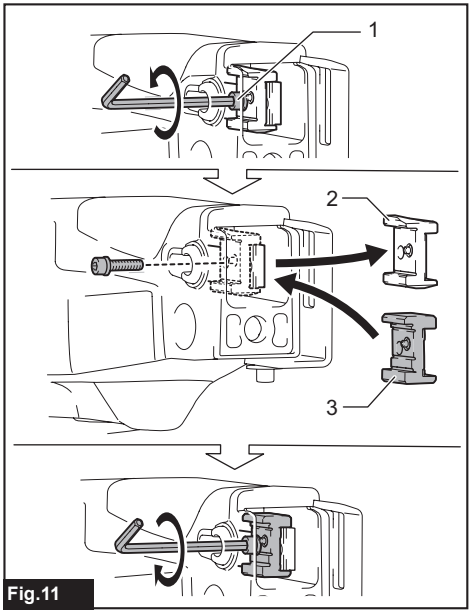


Fig.11

► **1.** Clamp bolt **2.** Blade clamp **3.** Blade clamp S

5. Close the shoe and tighten the bolt for the shoe.

Refer to the table below for the correspondence between blade clamps and blades.

Blade type	Blade clamp type
Recipro saw blade for chain vise	Blade clamp
Thin recipro saw blade	Blade clamp S

Installing or removing the front grip

To install the front grip, align the ▲ marks on the front grip and the tool as shown in the figure, and mount it onto hole of the tool. Then, insert the grip shaft into the holes and tighten the bolt from the opposite side to secure it.

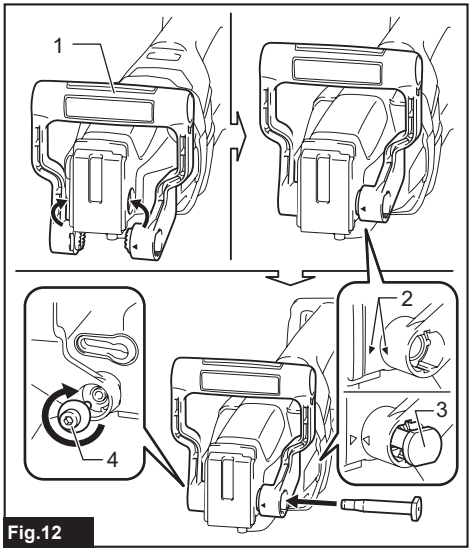


Fig.12

► **1.** Front grip **2.** ▲ mark **3.** Grip shaft **4.** Bolt

To remove the front grip, follow the installation procedure in reverse.

NOTICE: **Insert the grip shaft into the front grip from the side with the ▲ mark.**

Installing or removing the chain vise

⚠***CAUTION:*** **Do not attach the chain vise on the cut-off side of the workpiece.** The tool may fall and cause a personal injury.

1. To install the chain vise, place it on the workpiece.

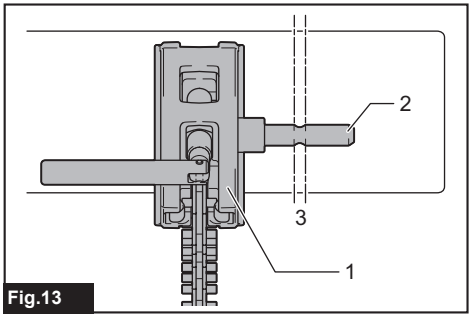


Fig.13

► **1.** Chain vise **2.** Vise pin **3.** Cutting position

2. Wrap the chain around the workpiece. Then, push the chain into the chain vise hook to secure it.

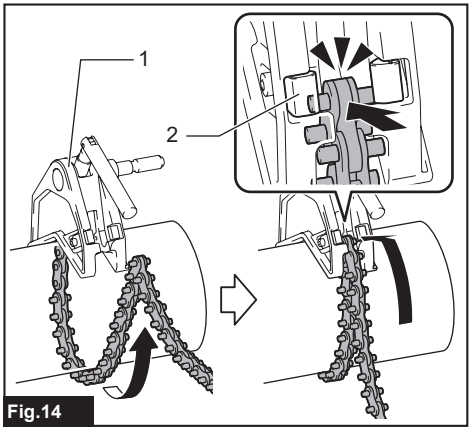


Fig.14

► **1.** Chain vise **2.** Chain vise hook

3. Bend the vise lever and turn it clockwise to tighten the chain.

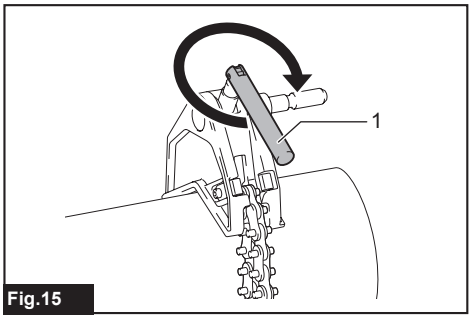


Fig.15

► **1.** Vise lever

4. Push the tool into the vise pin of the chain vise until it is secured by the ball plunger.

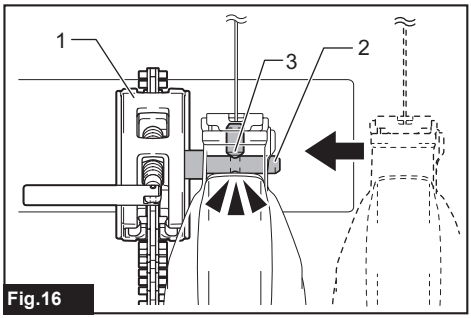


Fig.16

► **1.** Chain vise **2.** Vise pin **3.** Ball plunger

NOTE: You can install the chain vise from both of the right and left sides.

5. To remove the chain vise, follow the installation procedure in reverse.

OPERATION

⚠***CAUTION:*** **Always wear gloves to protect your hands from hot flying chips when cutting metal.**

⚠***CAUTION:*** **Be sure to always wear suitable eye protection which complies with current national standards.**

⚠***CAUTION:*** **Always use a suitable coolant (cutting oil) when cutting metal.** Failure to do so will cause premature blade wear.

⚠***CAUTION:*** **Do not quirk the recipro saw blade during cutting.** If blade wobbling occurs, adjust the blade speed.

⚠***CAUTION:*** **When cutting a pipe containing water inside, be careful not to wet the tool.** If water enters the tool, it may result in breakdown of the tool or battery cartridge.

⚠***CAUTION:*** **Do not perform no-load operation with the recipro saw blade installed.** It may cause a personal injury.

⚠***CAUTION:*** **During cutting, do not place your hands or grip any part except the handle.**

⚠***CAUTION:*** **Keep your hands, face, and other body parts away from the recipro saw blade and the ejected chips.**

⚠***CAUTION:*** **When operating the tool without the chain vise or clamp vise, 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.

⚠***CAUTION:*** **When operating the tool without the chain vise or clamp vise, always install the front grip.**

⚠***CAUTION:*** **When operating the tool without the chain vise or clamp vise, do not allow your hands holding the front grip to touch the cut workpiece at the end of cutting.** Touching the workpiece may result in personal injury.

Cutting with chain vise or clamp vise (Optional accessory)

Before starting the operation, fix the vise to the workpiece and install the tool to the vise securely.
Bring the recipro saw blade into light contact with the workpiece. Pull the switch trigger lightly to turn the tool on at low speed, and slowly lift the tool to cut the workpiece. Then, increase the speed to continue cutting.

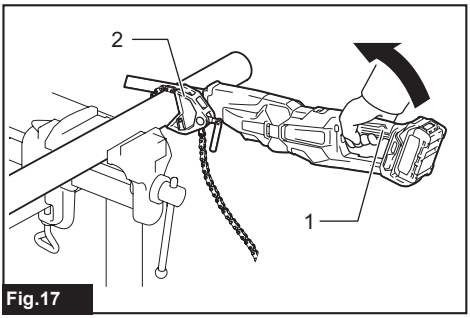


Fig.17

► **1.** Handle **2.** Chain vise

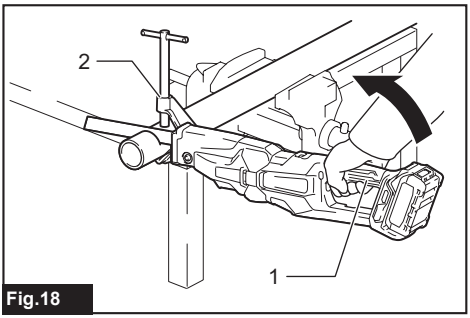


Fig.18

► **1.** Handle **2.** Clamp vise (optional accessory)

Type of the clamp vise	Appropriate material size
Clamp vise 50	10 - 61 mm
Clamp vise 100	73 - 114 mm
Clamp vise 150	140 - 169 mm

Cutting without chain vise or clamp vise

Before starting the operation, install the front grip. Press the shoe firmly against the workpiece to stabilize the tool. Bring the recipro saw blade into light contact with the workpiece. First, make a cut at low speed. Then, increase the speed to continue cutting.

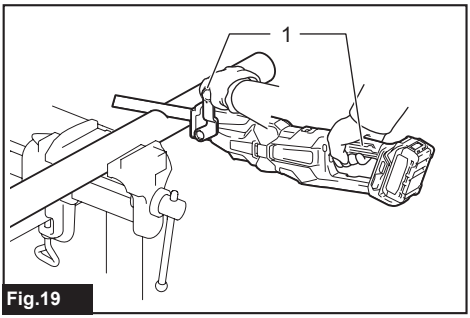


Fig.19

► **1.** Handle

NOTICE: **Do not cut the workpiece with the shoe away from the workpiece or without the shoe.** Doing so increases the reaction force which may break the recipro saw blade.

MAINTENANCE

CAUTION: **Always be sure that the tool is switched off and the battery cartridge is removed before attempting to perform inspection or maintenance.**

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

Cleaning inside of the shoe

You can remove dust and chips from the inside of the tool by opening the shoe.
Loosen the bolt with a hex wrench and open the shoe. Then, remove the dust and chips from the inside of the tool. After cleaning, close the shoe and tighten the bolt firmly with a hex wrench.

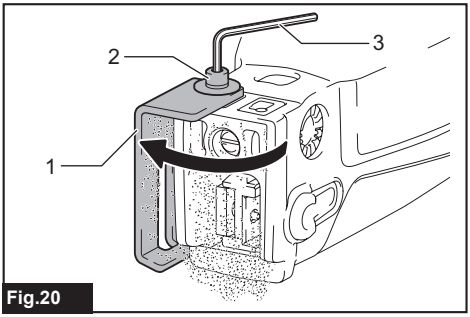


Fig.20

► **1.** Shoe **2.** Bolt **3.** Hex wrench

Air vent cleaning

The tool and its air vents have to be kept clean. Regularly clean the tool's air vents or whenever the vents start to become obstructed.

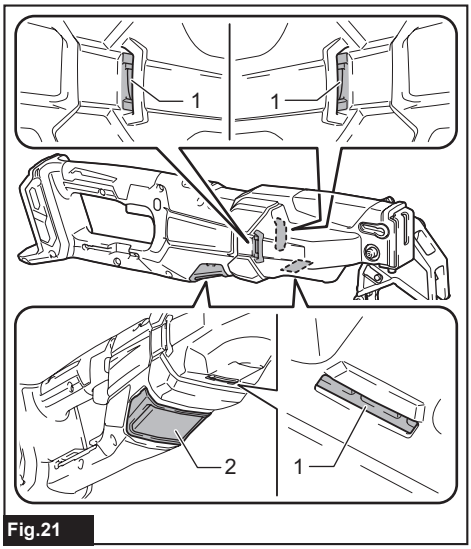


Fig.21

► **1.** Exhaust vent **2.** Inhalation vent

Remove the dust cover from inhalation vent and clean it for smooth air circulation.

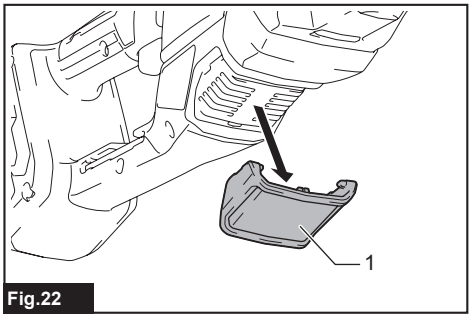


Fig.22

► **1.** Dust cover

NOTICE: **Clean out the dust cover when it is clogged with dust or foreign matters.** Continuing operation with a clogged dust cover may damage the tool.

Maintenance for the chain vise

Regularly lubricate the area of lock bolt on the chain vise as shown in the figure. This will improve the smooth movement of the lock bolt and ensure fastening.

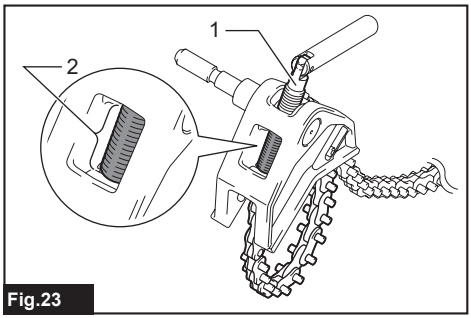


Fig.23

► **1.** Lock bolt **2.** Lubricating area

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.

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
- Recipro saw blades (for chain vise)
- Blade clamp S
- Clamp vise 50/100/150
- 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.

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