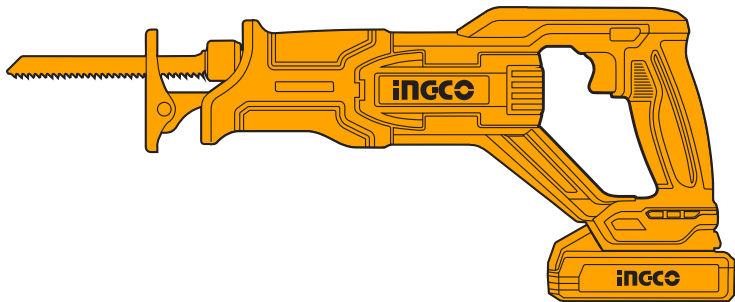


INGCO

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PRODUCT MANUAL

CORDLESS RECIPROCATING SAW



CRSLI2108, UCRSLI2108
CRSLI2108xy, UCRSLI2108xy
x (blank, 1, 2, 3, 4, 5, 6, 7, 8, 9, E, S, A, M)
y (blank, -1, -2, -3, -4, -5, -6, -7, -8, -9, E, S, A, M)



SCAN FOR VIDEO

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.

1) Work area safety

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

2) Electrical safety

- a) **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.*
- b) **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.*
- c) **Do not expose power tools to rain or wet conditions.** *Water entering a power tool will increase the risk of electric shock.*
- d) **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.*
- e) **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.*
- f) **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.*

3) Personal safety

- a) **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.*
- b) **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.*
- c) **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.*
- d) **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.*
- e) **Do not overreach. Keep proper footing and balance at all times.** *This enables better control of the power tool in unexpected situations.*
- f) **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.*
- g) **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.*
- h) **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.*

4) Power tool use and care

- a) **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.*
- b) **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.*
- c) **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.*

- d) **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.*
- e) **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.*
- f) **Keep cutting tools sharp and clean.** *Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.*
- g) **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.*
- h) **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.*

5) Battery tool use and care

- a) **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.*
- b) **Use power tools only with specifically designated battery packs.** *Use of any other battery packs may create a risk of injury and fire.*
- c) **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.*
- d) **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.*

- e) **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.*
- f) **Do not expose a battery pack or tool to fire or excessive temperature.** *Exposure to fire or temperature above 130 °C may cause explosion.*
- g) **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.*

6) Service

- a) **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.*
- b) **Never service damaged battery packs.** *Service of battery packs should only be performed by the manufacturer or authorized service providers*

BATTERY TOOL SAFETY WARNINGS

Save these instructions.

⚠ CAUTION!

Only use genuine original batteries. *Use of non-genuine batteries, or batteries that have been altered, may result in the battery bursting causing fires, personal injury, and damage. It will also void the warranty for the tool and charged and dark areas invite accidents.*

⚠ WARNING!

- a) **Do not dismantle, open or shred secondary cells or batteries.**
- b) **Keep batteries out of the reach of children.** *Battery usage by children should be supervised. Especially keep small batteries out of reach of small children.*
- c) **Seek medical advice immediately if a cell or a battery has been swallowed.**
- d) **Do not expose cells or batteries to heat or fire.** *Avoid storage in direct sunlight.*
- e) **Do not short-circuit a cell or a battery.** *Do not store cells or batteries haphazardly in a box or drawer where they may short-circuit each other or be short-circuited by other metal objects.*
- f) **Do not remove a cell or battery from its original packaging until required for use.**
- g) **Do not subject cells or batteries to mechanical shock.**
- h) **In the event of a cell leaking, do not allow the liquid to come in contact with the skin or eyes.** *If contact has been made, wash the affected area with copious amounts of water and seek medical advice.*
- i) **Do not use any charger other than that specifically provided for use with the equipment.**
- j) **Observe the plus (+) and minus (-) marks on the cell, battery and equipment and ensure correct use.**
- k) **Do not use any cell or battery which is not designed for use with the equipment.**
- l) **Do not mix cells of different manufacture, capacity, size or type within a device.**
- m) **Always purchase the battery recommended by the device manufacturer for the equipment.**
- n) **Keep cells and batteries clean and dry.**
- o) **Wipe the cell or battery terminals with a clean dry cloth if they become**

dirty.

- p) **Secondary cells and batteries need to be charged before use.** *Always use the correct charger and refer to the manufacturer's instructions or equipment manual for proper charging instructions.*
- q) **Do not leave a battery on prolonged charge when not in use.**
- r) **After extended periods of storage, it may be necessary to charge and discharge the cells or batteries times to obtain maximum performance.**
- s) **Retain the original product literature for future reference.**
- t) **Use the cell or battery only in the application for which it was intended.**
- u) **When possible, remove the battery from the equipment when not in use.**
- v) **Dispose of properly.**

Tips for maintaining maximum battery life

- a) **Charge the battery cartridge before completely discharged.** *Always stop tool operation and charge the battery cartridge when you notice less tool power.*
- b) **Never recharge a fully charged battery cartridge.** *Overcharging shortens the battery service life.*
- c) **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.*
- d) **Charge the battery cartridge if you do not use it for a long period (more than six months).**

Important safety instructions for battery cartridge

- a) **Before using battery cartridge, read all instructions and cautionary markings on battery charger, battery, and) product using battery.**
- b) **Do not disassemble battery cartridge.**
- c) **If operating time has become excessively shorter, stop operating immediately.** *It may result in a risk of overheating, possible burns and even an explosion.*
- d) **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.*
- e) **Do not short the battery cartridge:**
 - *Do not touch the terminals with any conductive material.*
 - *Avoid storing battery cartridge in a container with other metal objects such as nails, coins, etc.*

- *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.*
- f) **Do not store the tool and battery cartridge in locations where the temperature may reach or exceed 50°C (122°F).**
- g) **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.*
- h) **Be careful not to drop or strike battery.**
- i) **Do not use a damaged battery.**
- j) **Follow your local regulations relating to disposal of battery.**

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 battery is operated in a manner that causes it to draw an abnormally high current, the tool automatically stops without any indication. 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.

Transportation

Batteries comply with all applicable shipping regulations as prescribed by industry and legal standards (for more information, check with the manufacturer).

Transporting batteries can possibly cause fire if the battery terminals inadvertently come in contact with conductive materials. When transporting batteries, make sure that the battery terminals are protected and well insulated from materials that could contact them and cause a short circuit.

The information provided in this section of the manual is provided in good faith and believed to be accurate at the time the document was created. However, no warranty, expressed or implied, is given. It is the buyer's responsibility to ensure

that its activities comply with the applicable regulations.

Protecting the environment

Separate collection. This product must not be disposed of with normal household waste.

Should you find one day that your product needs replacement, or if it is of no further use to you, do not dispose of it with household waste. Make this product available for separate collection.

Separate collection of used products and packaging allows materials to be recycled and used again. Re-use of recycled materials helps prevent environmental pollution and reduces the demand for raw materials.










Local regulations may provide for separate collection of electrical products from the household, at municipal waste sites or by the retailer when you purchase a new product.

Rechargeable battery pack

This long-life battery pack must be recharged when it fails to produce sufficient power on jobs which were easily done before. At the end of its technical life, discard it with due care for our environment:

- Run the battery pack down completely, then remove it from the tool.
- Lithium-ion cells are recyclable. Take them to your dealer or a local recycling station. The collected battery packs will be recycled or disposed of properly.

THE SYMBOLS IN INSTRUCTION MANUAL

	<p>Read the instruction manual before using.</p>
	<p>CE conformity.</p>
	<p>Safety alert. Please only use the accessories supported by the manufacturer.</p>
	<p>Wear safety glasses, hearing protection and dust mask.</p>
	<p>Waste electrical products should not be disposed of with household waste. Please recycle where facilities exist. Check with your Local Authority or retailer for recycling advice.</p>
	<p>Charging the battery only below 40°C</p>
	<p>Always recycle batteries.</p>
	<p>Do not destroy battery by fire.</p>
	<p>Do not expose battery to water</p>

ADDITIONAL SAFETY WARNING**Cordless reciprocating saw warnings**

- a) **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.
- b) **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.
- c) **Always use safety glasses or goggles.** Ordinary eye or sun glasses are NOT safety glasses.
- d) **Avoid cutting nails.** Inspect workpiece for any nails and remove them before operation.
- e) **Do not cut oversize workpiece.**
- f) **Check for the proper clearance beyond the workpiece before cutting so that the blade will not strike the floor, workbench, etc.**
- g) **Hold the tool firmly.**
- h) **Make sure the blade is not contacting the workpiece before the switch is turned on.**
- i) **Keep hands away from moving parts.**
- j) **Do not leave the tool running.** Operate the tool only when hand-held.
- k) **Always switch off and wait for the blade to come to a complete stop before removing the blade from the workpiece.**
- l) **Do not touch the blade or the workpiece immediately after operation; they may be extremely hot and could burn your skin.**
- m) **Do not operate the tool at no-load unnecessarily.**
- n) **Always use the correct dust mask/respirator for the material and application you are working with.**
- o) **Some material contains chemicals which may be toxic.** Take caution to prevent dust inhalation and skin contact. Follow material supplier safety data.
- p) **Before operation, make sure that there is no buried object such as electric pipe, water pipe or gas pipe in the workpiece.** Otherwise, the reciprocating saw blade may touch them, resulting an electric shock, electrical leakage or gas leak.

RESIDUAL RISKS

Even when the power tool is used as prescribed it is not possible to eliminate all residual risk factors. The following hazards may arise in connection with the power tool's construction and design:

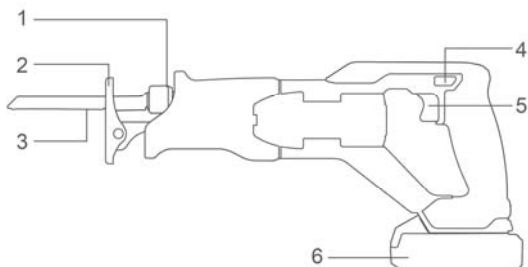
- a) Health defects resulting from vibration emission if the power tool is being used over longer period of time or not adequately managed and properly maintained.
- b) Injuries and damage to property to due to broken accessories that are suddenly dashed.

WARNING!

This power tool produces an electromagnetic field during operation. This field may under some circumstances interfere with active or passive medical implants. To reduce the risk of serious or fatal injury, we recommend persons with medical implants to consult their physician and the medical implant manufacturer before operating this power tool.

INTENDED USE

The power tool is suitable for sawing wood, plastic, metal and building materials on a firm surface. It is suitable for straight and curved cuts. When using designated suitable bimetal saw blades, flush cutting is also possible. The saw blade recommendations are to be observed.

SPECIFICATIONS**Components**

- | | |
|---------------------------------|-----------------------|
| 1. Locking sleeve for saw blade | 4. Switch push button |
| 2. Adjustable footplate | 5. ON/OFF switch |
| 3. Saw blade | 6. Battery pack |

Technical specifications

Model No.		CRSLI2108 CRSLI2108xy	UCRSLI2108 UCRSLI2108xy
Max. cutting capacities	Wood	210mm	8-1/4"
	Metal	12mm	1/2"
Strokes per minute		0-2800/min	
Rated voltage		D.C. 20V	

Model No. NOTE: x (blank, 1,2,3,4,5,6,7,8,9,E,S,A,M); y (blank, -1,-2,-3,-4,-5,-6,-7,-8,-9,E,S,A,M)

- 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.

Accessories

1. Saw blades 2 pcs
2. Hex key 1 pcs

⚠ WARNING!

Only use original battery pack and battery charger as below for this power tool:

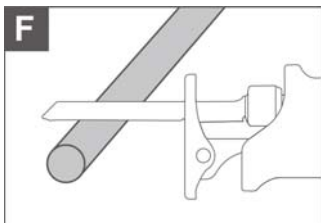
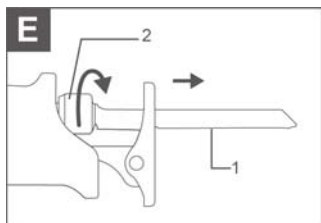
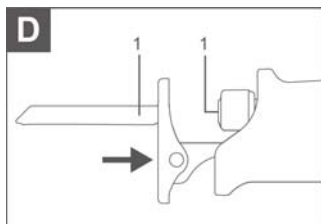
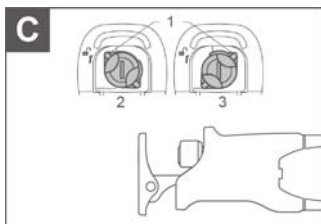
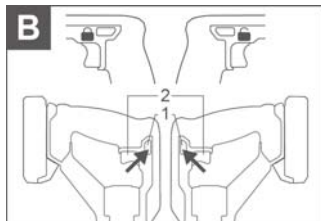
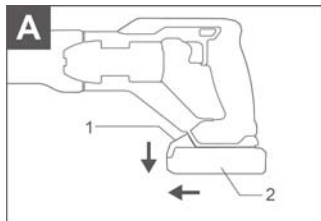
Product	Battery pack		
Model No.	Type	Rated voltage	Rated capacity
FBLI2001 FBLI2001xy	Lithium-Ion	18.5V d.c., 20V Max	2.0Ah
FBLI2002 FBLI2002xy			4.0Ah
FBLI2003 FBLI2003xy			5.0Ah

Model No. NOTE: x (blank, 1,2,3,4,5,6,7,8,9,E,S,A,M); y (blank, -1,-2,-3,-4,-5,-6,-7,-8,-9,E,S,A,M)

Product	Battery pack charger			
Model No.	Input power	Input voltage	Output rated voltage	Output rated current
FCLI2001 FCLI2001xy	50W	220-240V ~50/60Hz	20V d.c.	2A
UFCLI2001 UFCLI2001xy		110-120V ~50/60Hz		
FCLI20411 FCLI20411xy FCLI2034 FCLI2034xy	105W	220-240V ~50/60Hz	21V d.c.	4A
UFCLI20411 UFCLI20411xy UFCLI2034 UFCLI2034xy		110-120V ~50/60Hz		

Model No. NOTE: x (blank, 1,2,3,4,5,6,7,8,9,E,S,A,M); y (blank, -1,-2,-3,-4,-5,-6,-7,-8,-9,E,S,A,M)

OPERATION PICTURE



OPERATION

Install and removing the battery cartridge (see Figure A)

1. Button; 2. 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.

⚠ CAUTION!

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

Switch action (see Figure B)

1. Lock-off button; 2. Switch trigger.

⚠ 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.**
- **When not operating the tool, depress the lock-off button from left 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 the right 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 the left 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 service center.

⚠ CAUTION!

- **Always be sure that the tool is switched off and the battery cartridge is removed before carrying out any work on the tool.**
- **Always clean out all chips or foreign matter adhering to the blade and around the blade clamp.**
- **Tightening of the blade, resulting in a serious injury.**

Installing or removing the reciprocating saw blade (see Figure C, D, E



To install the reciprocation saw blade, always make sure that the blade clamp lever (part of the blade clamp sleeve) 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 .

Figure C

1. Blade clamp lever; 2. Released position; 3. Fixed position.

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

Figure D

1. Reciprocation saw blade; 2. Blade clamp sleeve.

⚠ CAUTION!

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


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



Figure E

1. Reciprocation saw blade; 2. Blade clamp lever.

⚠ CAUTION!

Keep hands and fingers away from the lever during the switching operation.

Failure to do so may cause personal injuries.**NOTE:**

- If you remove the reciprocation 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 .
- If the blade clamp 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 before installing or removing the reciprocation saw blade.

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 form 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.**

Figure F

Press the shoe firmly against the workpiece. Do not allow the tool to bounce. Bring the reciprocation saw 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.

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

MAINTENANCE&MALFUNCTIONS

Possible malfunctions and methods of their eliminations

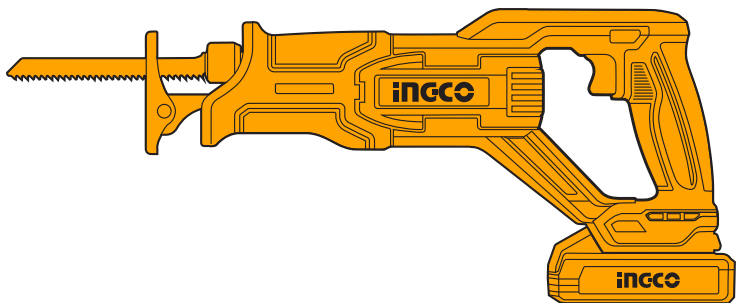
Malfunction	Probable causes	Actions
When the machine is turned on, the electric motor does not work.	<ul style="list-style-type: none"> ● Switch failure ● The power cord or wiring is broken, power cord plug malfunction; ● No brush contact with the collector; ● Wear/damage of brushes 	Disconnect the machine from the mains and contact a qualified specialist.
Formation of a circular fire on the collector	<ul style="list-style-type: none"> ● Brush wear/damage of the brush holder; ● Malfunction in the armature coil 	Disconnect the machine from the mains and contact a qualified specialist. Please don't repair the machine by your own.
When working, smoke or the smell of burning insulation appears from the ventilation openings.	<ul style="list-style-type: none"> ● Malfunction in the electric motor coil; ● Malfunction of the electrical part of the tool. 	
Increased noise in the gearbox	<ul style="list-style-type: none"> ● Wear/breakage of gears or bearings 	
When the machine is turned on, the spindle does not rotate	<ul style="list-style-type: none"> ● Gearbox failure. 	

Critical state criteria

Critical state criteria	Probable causes	Actions
Cracks on the surfaces of bearing and housing parts	Fatigue deformation of metal	Disconnect the machine from the mains and contact a qualified specialist. Please don't repair the machine by your own.
The power cord or plug is damaged	Overload or breakage	
Excessive wear or damage to the motor or reductor mechanism, or a combination of signs	Fatigue deformation of metal	

Critical state criteria

List of critical failures	Actions
Electric motor sparking	It is necessary to contact a qualified specialist
The appearance of extraneous noise	It is necessary to contact a qualified specialist
If the above malfunctions are detected, it is necessary to disconnect the machine from the mains and contact a qualified specialist	



MADE IN CHINA 1124.V01

   INGCO Global www.ingco.com

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