



## USER MANUAL

### 使用說明書

# CORDLESS 2" RIGHT ANGLE DIE GRINDER

鋰電無碳刷2"直角刻磨機

**BEX®**  
Be Xcellent

Located on the toolhousing are the model and serial numbers of your tool, please record these.


請您紀錄位於包裝盒上的工具型號與序號。


Model Number: \_\_\_\_\_  
型號

Serial Number: \_\_\_\_\_  
序號

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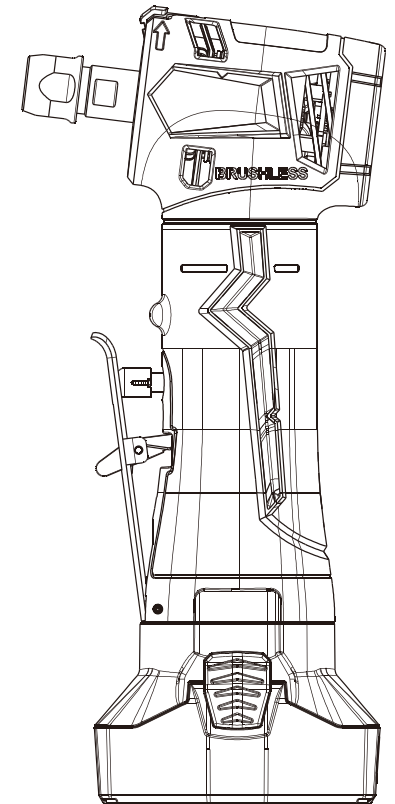
Made in Taiwan

 IMPROPER AND UNSAFE USE OF THIS TOOL WILL RESULT IN DEATH OR SERIOUS INJURY. IT IS VERY IMPORTANT THAT THE INTENDED OPERATOR OF THIS TOOL READS AND UNDERSTANDS THIS MANUAL BEFORE OPERATING THIS TOOL. KEEP THIS MANUAL AVAILABLE FOR OTHERS BEFORE THEY USE THE TOOL.

 不當或不安全使用本工具可能導致死亡或嚴重傷害。  
操作本工具的使用者務必在操作前仔細閱讀並理解本手冊內容。請將本手冊保留，供其他使用者在使用工具前參閱。





▲ **WARNING:** Please read the instructions and warnings for this tool carefully before use. Failure to do so could lead to serious injury.

▲ **重要事項:** 使用本工具前，請仔細閱讀操作說明與警告內容。  
未遵守可能導致嚴重傷害。



**GA200**

#### Explanation of symbols

Wear eye protectors	Warning	Read instruction before use	Wear hearing protectors
			
Direct current	Rated Revolutions per Minute (RPM)	Volts	
<b>D.C.</b>	n XXXX min <sup>-1</sup>	<b>V</b>	

#### Noise – GA200

The typical A-weighted noise level determined according to EN60745-2-23 :

Sound pressure level (LpA) : 64.1 dB(A)

Sound power level (LWA) : 75.1 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 – GA200

The vibration total value determined according to EN60745-2-23:

Vibration emission (ah) : 28.29 m/S<sup>2</sup> or less

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 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.

▲ **WARNING** : Be sure to identify safety measure 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).

#### FCC

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference and

(2) This device must accept any interference received, including interference that may cause undesired operation.

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**General power tool safety Warning**  
**▲ WARNING Read all safety warnings, instructions, illustrations and specifications**  
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.

**Hold the power tool by insulated gripping surfaces, when performing an operation where the fastener may contact hidden wiring or its own cord.** Fasteners contacting a "live" wire may make exposed metal parts of the power tool "live" and could give the operator an electric shock.

**General Power Tool Safety Warnings -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.

**General Power Tool Safety Warnings**

- 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 (GFCI) protected supply.** Use of an GFCI reduces the risk of electric shock.

**General Power Tool Safety Warnings- 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 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 battery, picking up or carrying the tool.** Carrying power tools with your finger on the switch or energizing 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 jewelry. Keep your hair, clothing and gloves away from moving parts.** Loose clothes, jewelry 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.
- i) **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.**



#### General Power Tool Safety Warnings- 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 plug from the power source and/or the battery pack 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. 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.

#### General Power Tool Safety Warnings-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 behavior 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.

#### General Power Tool Safety Warnings-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.

#### Specific safety rules for Die Grinder

- **Hold 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.
- **Know your power tool. Read operator’s manual carefully. Learn its applications and limitations, as well as the specific potential hazards related to this power tool.** Following this rule will reduce the risk of electric shock, fire, or serious injury.
- **Protect your lungs. Wear a face or dust mask if the operation is dusty.** Following this rule will reduce the risk of serious personal injury.
- **Protect your hearing. Wear hearing protection during extended periods of operation.** Following this rule will reduce the risk of serious personal injury.
- Guards must be provided and adjusted properly as per the manufacturer’s manual to protect you. Replace damaged guards because if an abrasive wheel breaks while rotating, it can cause a serious injury.
- Follow User’s Manual for the safe use of grinder wheel guards.
- Do not use wheels that are cracked or those that excessively vibrate.
- Keep the power cord away from the grinding wheel and the material being ground.
- Make sure the work area is clear of flammable materials and that combustible dust is not allowed to accumulate.
- **Safety Warnings Common for Grinding, Sanding, Wire Brushing, Polishing, Carving or Abrasive Cutting-Off Operations:**
  - a) **This power tool is intended to function as a grinder, sander, wire brush, polisher, carving or cut-off tool. 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.

- b) **Do not use accessories which are not specifically designed and recommended by the tool manufacturer.** Just because the accessory can be attached to your power tool, it does not assure safe operation.
- c) **The rated speed of the grinding accessories must be at least equal to the maximum speed marked on the power tool.** Grinding accessories running faster than their rated speed can break and fly apart.
- d) **The outside diameter and the thickness of your accessory must be within the capacity rating of your power tool.** Incorrectly sized accessories cannot be adequately controlled.
- e) **The arbor size of wheels, sanding drums or any other accessory must properly fit the spindle or collet of the power tool.** Accessories that do not match the mounting hardware of the power tool will run out of balance, vibrate excessively and may cause loss of control.
- f) **Mandrel mounted wheels, sanding drums, cutters or other accessories must be fully inserted into the collet or chuck.** If the mandrel is insufficiently held and/or the overhang of the wheel is too long, the mounted wheel may become loose and be ejected at high velocity.
- g) **Do not use a damaged accessory. Before each use inspect the accessory such as abrasive wheels for chips and cracks, sanding drum for cracks, tear or excess wear, wire brush for loose or cracked wires. If power tool or accessory is dropped, inspect for damage or install an undamaged accessory. After inspecting and installing an accessory, position yourself and bystanders away from the plane of the rotating accessory and run the power tool at maximum no-load speed for one minute.** Damaged accessories will normally break apart during this test time.
- h) **Wear personal protective equipment. Depending on application, use face shield, safety goggles or safety glasses. As appropriate, wear dust mask, hearing protectors, gloves and workshop apron capable of stopping small abrasive or workpiece fragments.** The eye protection must be capable of stopping flying debris generated by various operations. The dust mask or respirator must be capable of filtering particles generated by your operation. Prolonged exposure to high intensity noise may cause hearing loss.



i) **Keep bystanders a safe distance away from work area. Anyone entering the work area must wear personal protective equipment.**

Fragments of workpiece or of a broken accessory may fly away and cause injury beyond immediate area of operation.

j) **Hold power tool by insulated gripping surfaces only, 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.

k) **Always hold the tool firmly in your hand(s) during the start-up.** The reaction torque of the motor, as it accelerates to full speed, can cause the tool to twist.

l) **Use clamps to support workpiece whenever practical. Never hold a small workpiece in one hand and the tool in the other hand while in use.** Clamping a small workpiece allows you to use your hand(s) to control the tool. Round material such as dowel rods, pipes or tubing have a tendency to roll while being cut, and may cause the bit to bind or jump toward you.

m) **Never lay the power tool down until the accessory has come to a complete stop.** The spinning accessory may grab the surface and pull the power tool out of your control.

n) **After changing the bits or making any adjustments, make sure the collet nut, chuck or any other adjustment devices are securely tightened.** Loose adjustment devices can unexpectedly shift, causing loss of control, loose rotating components will be violently thrown.

o) **Do not run the power tool while carrying it at your side.** Accidental contact with the spinning accessory could snag your clothing, pulling the accessory into your body.

p) **Regularly clean the power tool's air vents.** The motor's fan will draw the dust inside the housing and excessive accumulation of powdered metal may cause electrical hazards.

q) **Do not operate the power tool near flammable materials.** Sparks could ignite these materials.

r) **Do not use accessories that require liquid coolants.** Using water or other liquid coolants may result in electrocution or shock.

#### Kickback and related warnings

Kickback is a sudden reaction to a pinched or snagged rotating wheel, sanding band, brush or any other accessory. Pinching or snagging causes rapid stalling of the rotating accessory which in turn causes the uncontrolled power tool to be forced in the direction opposite of the accessory's rotation.

For example, if an abrasive wheel is snagged or pinched by the workpiece, the edge of the wheel that is entering into the pinch point can dig into the surface of the material causing the wheel to climb out or kick out. The wheel may either jump toward or away from the operator, depending on direction of the wheel's movement at the point of pinching. Abrasive wheels may also break under these conditions. Kickback is the result of power tool misuse and/or incorrect operating procedures or conditions and can be avoided by taking proper precautions as given below.

a) **Maintain a firm grip on the power tool and position your body and arm to allow you to resist kickback forces.** The operator can control kickback forces, if proper precautions are taken.

b) **Use special care when working corners, sharp edges etc. Avoid bouncing and snagging the accessory.** Corners, sharp edges or bouncing have a tendency to snag the rotating accessory and cause loss of control or kickback.

c) **Do not attach a toothed saw blade.** Such blades create frequent kickback and loss of control.

d) **Always feed the bit into the material in the same direction as the cutting edge is exiting from the material (which is the same direction as the chips are thrown).** Feeding the tool in the wrong direction causes the cutting edge of the bit to climb out of the work and pull the tool in the direction of this feed.

e) **When using rotary files, cut-off wheels, high-speed cutters or tungsten carbide cutters, always have the work securely clamped.** These wheels will grab if they become slightly canted in the groove, and can kickback. When a cut-off wheel grabs, the wheel itself usually breaks. When a rotary file, high-speed cutter or tungsten carbide cutter grabs, it may jump from the groove and you could lose control of the tool.

#### Safety warnings specific for grinding and abrasive cutting-off operations:

a) **Use only wheel types that are recommended for your power tool and only for recommended applications.**

**For example: do not grind with the side of a cut-off wheel.** Abrasive cut-off wheels are intended for peripheral grinding, side forces applied to these wheels may cause them to shatter.

b) **For threaded abrasive cones and plugs use only undamaged wheel mandrels with an unrelieved shoulder flange that are of correct size and length.** Proper mandrels will reduce the possibility of breakage.

c) **Do not "jam" a cut-off wheel or apply excessive pressure. Do not attempt to make an excessive depth of cut.** Overstressing the wheel increases the loading and susceptibility to twisting or snagging of the wheel in the cut and the possibility of kickback or wheel breakage.

d) **Do not position your hand in line with and behind the rotating wheel.** When the wheel, at the point of operation, is moving away from your hand, the possible kickback may propel the spinning wheel and the power tool directly at you.

e) **When wheel is pinched, snagged or when interrupting a cut for any reason, switch off the power tool and hold the power tool motionless until the wheel comes to a complete stop. Never attempt to remove the cut-off wheel from the cut while the wheel is in motion otherwise kickback may occur.**

Investigate and take corrective action to eliminate the cause of wheel pinching or snagging.

f) **Do not restart the cutting operation in the workpiece. Let the wheel reach full speed and carefully re-enter the cut.** The wheel may bind, walk up or kickback if the power tool is restarted in the workpiece.

g) **Support panels or any oversized workpiece to minimize the risk of wheel pinching and kickback.** Large workpieces tend to sag under their own weight. Supports must be placed under the workpiece near the line of cut and near the edge of the workpiece on both sides of the wheel.

h) **Use extra caution when making a "pocket cut" into existing walls or other blind areas.** The protruding wheel may cut gas or water pipes, electrical wiring or objects that can cause kickback.

#### Safety warnings specific for wire brushing operations:

a) **Be aware that wire bristles are thrown by the brush even during ordinary operation. Do not overstress the wires by applying excessive load to the brush.** The wire bristles can easily penetrate light clothing and/or skin.

b) **Allow brushes to run at operating speed for at least one minute before using them.**

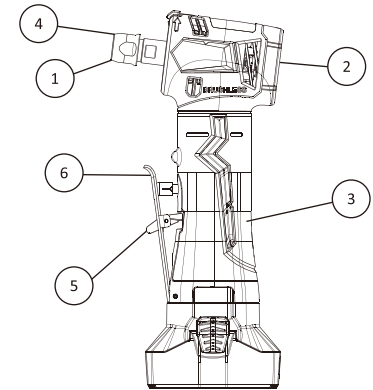
**During this time no one is to stand in front or in line with the brush.** Loose bristles or wires will be discharged during the run-in time.

c) **Direct the discharge of the spinning wire brush away from you.** Small particles and tiny wire fragments may be discharged at high velocity during the use of these brushes and may become imbedded in your skin.

### Specification

Model No	GA200
RPM no	0 – 24500
Collet	1/4"
Accessory Collet Ø	1/8"
Max Accessory Ø	2" / 55 mm
Spindle Thread Size Ø	16mm
Volts	14.4V d.c.
Length	111mm
Tool Weight	0.89 kg
Battery Type	EB14020-A1
Charger Type	EC1412-A1

### Function Description



1	Collet nut	4	LED
2	Mode selector	5	Switch lock-off
3	Handle	6	Paddle switch

### ASSEMBLY AND INSTRUCTION

⚠ **To reduce the risk of serious personal injury, turn unit off and remove the battery pack before making any adjustments or removing / installing attachments or accessories.** An accidental start-up can cause injury

#### Removing/Inserting the Battery

To remove the battery, push in the release buttons and pull the battery pack away from the tool.

To insert the battery, slide the pack into the body of the tool. Make sure it latches securely into place.

⚠ **Always remove battery pack before changing or removing accessories.**

⚠ **Only use accessories specifically recommended for this tool. Others may be hazardous.**

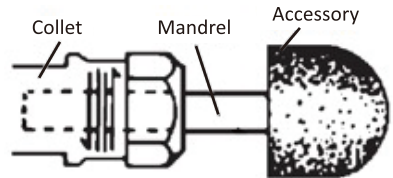
#### Installing Collets

The collet must be attached to the collet nut before installing the collet assembly to the tool. Be sure that the collet size matches the size of the mandrel you will use, otherwise the collet may break.

1. To **assemble**, place collet on an even surface, and place the nut over the collet.
2. Press down on the nut to snap the nut and collet together.
3. To **disassemble**, use a rod to push the collet out of the nut.

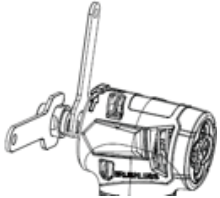
#### Installing Accessories

1. Remove dust and debris from the collet body before inserting accessory.
2. Insert the collet with the collet nut attached into the collet body. Thread the collet nut onto the spindle but do not tighten it yet.
3. Spindle but do not tighten it yet. Clean the accessory mandrel and insert it into the collet all the way.



4. Hold the spindle shaft steady with a 14mm open end wrench and securely tighten the collet nut with 19mm open end wrench.

5. Reverse the procedure when removing the accessory.



#### Operation

⚠ **WARNING : To reduce the risk of serious personal injury, turn unit off and remove the battery pack before making any adjustments or removing / installing attachments or accessories. An accidental start-up can cause injury.**

Mode	1	2	3	4
RPM	10000	15000	20000	24500

### Using the Mode Selector

The mode selector button is used to adjust the rotation speed (RPM) for the application. To select the mode:

1. Push the switch lock-off forward then squeeze and release the paddle switch. The current mode indicator number is lit.



2. Press the mode selection button to switch between 4 modes. When the desired mode indicator number is lit, begin work

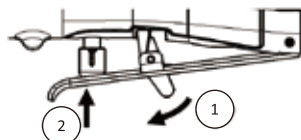
3. To enter to Torque Compensation, follow step 1 and press the current mode selection button. When the mode indicator number is blink, begin work. Press same mode selection button to stop.

**NOTE:** MODE 1, 2, and 3 have torque compensation, while MODE 4 is for maximum speed and light cutting, without power compensation or blinking indicator.

**NOTE:** In the general operating mode, when applying a higher force on the working material, the motor will experience a decrease in speed in order to output a higher torque to meet the demand. However, if the special torque-enhancing mode (Turbo mode) is selected, it can compensate for the power appropriately to increase the rotational speed and maintain higher cutting efficiency. Nevertheless, the power consumption will also increase accordingly.

### General Operation

1. If you have just installed an accessory or are beginning a period of work, test it by letting it spin for one minute before applying it to the workpiece.  
2. Use a clamp, vise or other practical means to hold your work.  
3. To start the tool, push the switch lock-off forward (1) and squeeze the paddle switch (2). **NOTE:** An LED is turned on when the switch is pushed.



4. Allow accessory to come to full speed before beginning work.

5. Control pressure and surface contact between accessory and workpiece.

6. To stop the tool, release the switch. Make sure the tool comes to a complete stop before laying the tool down.

7. Three-stage adjustable angle illumination mechanism

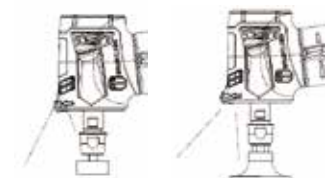


a) Parallel to the spindle position: Suitable for illuminating accessories with smaller diameters during operation.



b) In an inclined angle position relative to the spindle: Suitable for illuminating accessories with larger diameters during operation.

**▲ WARNING :** Never use an accessory that has been dropped. Out-of-balance or damaged accessories can mar workpiece, damage the tool, and cause stress that may cause accessory failure.



### BATTERY SPECIFICATION & SAFETY

EB14020-A1	
Rated Voltage	14.4V
Rated Capacity	2Ah
Cell type	Li-ion
Dimension	L x W x H 89x59x105 (mm)

- Do not throw the battery into fire, nor heat the battery.
- Do not disassemble nor modify the battery Pack.
- Do not leave the battery in a place of high temperature.( 60°C or more)
- To prevent the battery from water or moisture.
- Do not add strong shock, nor drop the battery.
- Do not solder lead directly to the battery body.
- Do not heat nor solder the terminals of the battery.
- Do not short “+” and “-” terminal of the battery with a kind of metal.
- Do not charge beyond the condition which described on the delivery specification.
- Do not reverse-charge or reverse-connect the battery.
- When recharging, please use a special charger (EC1412-A1).
- Please regularly check the battery capacity. When the voltage of the battery is lower than the terminal voltage, its capacity may drop and cannot be recovered.
- If the battery is stored over 3 months, it should be checked again about the remaining capacity and charge the battery.  
**Remarks: Please refer to the technical data sheet for the battery specifications.**

### BATTERY SPECIFICATION & SAFETY


Battery Charger Specification	
Charger	EC1412-A1
Battery mode	EB14020-A1
Output voltage	16.6V
Protection class	Electrical protection class II
AC supply voltage	100VAC~240VAC
Mains frequency	50Hz~60Hz
Operating Temperature	0°C to 45°C
Storage Temperature	-20°C to 70°C

State of Charge indicator			
	State	Red LED	Green LED
1	Stand-by Mode	OFF	flashes (0.5sec ON, 0.5sec OFF)
2	Battery Pack Install And Charging	ON	OFF
3	CV Constant voltage charging mode	OFF	flashes (0.1sec ON, 0.1sec OFF)
4	CC Constant current charging mode	ON	OFF
5	Charging complete	OFF	ON
6	Temperature protection	Red LED flashes	
7	Abnormal Protection	Red & Green LED all on	

## Battery Charger Safety

- **Keep work area clean and well lit.** Cluttered and dark areas invite accidents.
- **Do not operate the appliance in explosive atmospheres, such as in the presence of flammable liquids, gases or dust.** Chargers can cause sparks which may ignite dust or fumes.
- **Keep children and other persons away from the area while the charger is in use.**
- **The supply cord plug must match the outlet. Modification of the plug in any way is not permissible.** Unmodified plugs and corresponding power outlets reduce the risk of electric shock.
- **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.
- **Do not abuse the supply cord. Never use the supply cord to carry, pull or unplug the appliance. Keep the cord away from heat, oil, sharp edges or moving parts.** Damaged or entangled cords increase the risk of electric shock.
- **Only use the battery charger in areas which are dry.** Water entering an electric appliance increases the risk of electric shock.
- **Use the charger only to charge the batteries approved for use with this charger.**
- **Do not use a charger if its casing or electric supply cord is defective.**
- **Store chargers out of reach of children when not in use. Do not allow persons unfamiliar with the appliance or these instructions to operate it.** Chargers are dangerous in the hands of untrained users.
- **Maintain the appliance carefully. Check to ensure that no parts are broken or damaged in such a way that the appliance can no longer function correctly. If damaged, have the appliance repaired before use.**
- **Use chargers and the corresponding batteries in accordance with these instructions and as is specified for this particular model.** Use of chargers for applications different from those intended could result in hazardous situations.
- **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.
- **When not in use, keep the battery and the charger away from paper clips, coins, keys, nails, screws or other small metal objects that could cause a short circuit at the battery terminals or the charging contacts.** A short circuit at the battery terminals or charging contacts could result in personal injury (burns) or fire.
- **Under abusive conditions, liquid may be ejected from the battery, avoid contact with the liquid. If contact accidentally occurs, flush with water. If the liquid comes into contact with the eyes also consult a doctor.** Liquids ejected from the battery may cause irritation or burns.
- **Take care to ensure that the charger is standing in a steady, secure position.** A falling battery or charger may present a risk of injury to yourself or others.
- **Avoid touching the contacts.**
- **Batteries that have reached the end of their life must be disposed of safely and correctly to avoid environmental pollution.**
- **This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given super-vision or instruction concerning use of the appliance by a person responsible for their safety.**
- **Children must be instructed not to play with the appliance.**
- **Take care to ensure that the batteries suffer no mechanical damage**

- **Do not charge or continue to use damaged batteries (e.g. batteries with cracks, broken parts, bent or pushed-in and/or pulled-out contacts).**

-  **Do not touch the supply cord or extension cord if they are damaged while working. Disconnect the supply cord plug from the power outlet.** Damaged supply cords or extension cords present a risk of electric shock.
- **Never operate the appliance when it is dirty or wet.** Under unfavorable conditions, dampness or dust adhering to the surface of the appliance, especially dust from conductive materials, may present a risk of electric shock. Dirty or dusty appliances should thus be checked at a service center at regular intervals, especially if used frequently for working on conductive materials.

## Maintenance

**▲ WARNING: To reduce the risk of injury, always unplug the charger and remove the battery pack from the charger or tool before performing any maintenance. Never disassemble the tool, battery pack or charger. Contact a Service facility for ALL repairs.**

### Maintaining Tool

- Keep your tool, battery pack and charger in good repair by adopting a regular maintenance program. Inspect your tool for issues such as undue noise, misalignment or binding of moving parts, breakage of parts, or any other condition that may affect the tool operation. Return the tool, battery pack, and charger to a Service facility for repair.
- If the tool does not start or operate at full power with a fully charged battery pack, clean the contacts on the battery pack. If the tool still does not work properly return the tool, charger and battery pack, to a Service for dealers.

**▲ WARNING: To reduce the risk of personal injury and damage, never immerse your tool, battery pack or charger in liquid or allow a liquid to flow inside them.**

### Cleaning

- Clean dust and debris from vents. Keep handles clean, dry and free of oil or grease.
- Use only mild soap and a damp cloth to clean, since certain cleaning agents and solvents are harmful to plastics and other insulated parts. Some of these include gasoline, turpentine, lacquer thinner, paint thinner, chlorinated cleaning solvents, ammonia and household detergents containing ammonia.
- Never use flammable or combustible solvents around tools.

### Repairs

For repairs, return the tool, battery pack and charger to the nearest service center.

## Troubleshooting

When protection occurs, Indicator Light of the tool will flash to prompt, and the details are shown in the table below

【Note】Flashing at intervals of 1.5 seconds and at a flashing frequency of 0.25 seconds

Symptom	Occurred abnormal	Trouble shooting
Continuously blinks once.	■ Battery voltage protection.	■ Leave Tool reinsert the battery, and press the trigger. ■ Replace a fully charged battery, and press the trigger. ■ Contact Service if the problem persists.
Continuously blinks 2 times.	■ Tool motor temperature protection. ■ Tool battery temperature protection. ■ Tool Control board temperature protection.	■ Leave Tool reinsert the battery, and press the trigger. ■ Remove battery, wait temperature recover and reinsert battery. ■ Contact Service if the problem persists.
Continuously blinks 3 times.	■ Tool over current.	■ Leave Tool, reinsert the battery, and press the trigger. ■ Contact Service if the problem persists.
The tool doesn't work and the battery status not displayed blinks.	■ Tool motor abnormal.	■ Leave Tool, reinsert the battery, and press the trigger. ■ Contact Service if the problem persists.
For failure other than above situation, please stop using the tool and contact your local dealer for service.		

Tel:+886-4-2359-8877

Address:No. 24, 36th Road, Taichung Industrial Park Taichung, Taiwan



符號說明

佩戴護目鏡	警告	使用前請先詳讀說明書	佩戴聽力保護裝置
			
直流電	每分鐘轉速	伏特	
<b>D.C.</b>	n XXXX min <sup>-1</sup>	<b>V</b>	

噪聲 – GA200

根據 EN60745-2-23 標準測定的典型 A 加權噪音級：  
聲壓級(LpA)：64.1分貝(A)  
聲功率等級(LWA)：75.1分貝(A)  
不確定性的測量 (K)：3 分貝 (A)

注意：所聲明的噪音排放值是依據標準測試方法測得的，可用於比較不同工具之間的噪音程度。

注意：所聲明的噪音排放值亦可用於初步評估暴露情況。

- ▲ 警告：請佩戴聽力保護裝置
- ▲ 警告：實際使用電動工具時的噪音排放可能會因工具的使用方式，尤其是加工的工件類型而與聲明值有所不同。
- ▲ 警告：確保根據實際使用條件 (包括工具關閉時、空轉時以及觸發時的所有操作循環部分) 估算暴露情況，制定保護操作員的安全措施。

振動 – GA200

根據 EN60745-2-23 標準測定的總振動值：  
振動產生值 (ah)：28.29 m/S<sup>2</sup>，或更低  
不確定性的測量 (K)：1.5 m/S<sup>2</sup>

注意：所聲明的總振動值是依據標準測試方法測得的，可用於比較不同工具之間的振動程度。

注意：所聲明的總振動值亦可用於初步評估暴露情況。

- ▲ 警告：所聲明的總振動值是依據標準測試方法測得的，可用於比較不同工具之間的振動程度。
- ▲ 警告：確保根據實際使用條件 (包括工具關閉時、空轉時以及觸發時的所有操作循環部分) 估算暴露情況，制定保護操作員的安全措施。

聯邦通訊委員會 (FCC)

本設備符合聯邦通信委員會 (FCC) 規則第 15 部分。操作必須符合以下兩個條件：

- (1) 本設備不會造成有害干擾訊號，並且
- (2) 本設備必須接受任何接收到的干擾，包括可能導致操作不正常的干擾訊號。

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### 一般電動工具安全警告

▲警告：請閱讀所有的安全警告、使用說明、圖片和規格。未遵守以下所有的使用說明可能導致觸電、引發火災或造成嚴重受傷。請保留所有的警告和使用說明以供日後參考。

在警告中，「電動工具」指的是您的插電式電動工具或電池式電動工具。

在進行緊固件可能接觸到隱藏的電線或自身電線的操作時，請握住絕緣的握把表面來使用電動工具。緊固件接觸到「帶電」的電線可能會使電動工具的裸露金屬部分「通電」，並可能會使操作人員觸電。

### 一般電動工具安全警告-工作場地安全

- a) 請保持工作區域乾淨且有良好照明，雜亂或黑暗的區域容易引發事故。
- b) 請勿在易爆炸環境中操作電動工具，例如存有易燃液體、氣體或粉塵的地方。電動工具會產生火花，可能引燃粉塵或煙霧。
- c) 操作電動工具時，請讓兒童和旁觀者遠離。分心可能讓您無法安全操作工具。

### 一般電動工具安全警告-用電安全

- a) 請勿以任何方式修改插頭，電動工具的插頭必須與插座相匹配。未經修改的插頭和匹配的插座能降低電擊危險。
- b) 避免身體與接地的表面(如管道、散熱器、爐具和冰箱)接觸。如果身體接觸接地的表面，會增加電擊危險。
- c) 不要將電動工具暴露於雨水或潮濕環境中。若有水進入電動工具會增加電擊危險。
- d) 不得以錯誤方式使用電源線。請勿使用電線進行搬運、拉扯或拔出電動工具。電線應遠離熱源、油、鋒利邊緣或活動零件。損壞或纏繞的電線會增加電擊危險。
- e) 在戶外操作電動工具時，請使用適合戶外使用的延長線。使用戶外專用的電線可以降低觸電的風險。
- f) 若無法避免在潮濕的地方操作電動工具，請使用漏電保護裝置(GFCI)。使用GFCI可降低觸電的風險。

### 一般電動工具安全警告-人身安全

- a) 在操作電動工具時，請保持警覺，依據常識判斷當下作業需求和環境。不要在疲倦或受藥物、酒精或藥品影響時使用電動工具。在操作電動工具時，瞬間的疏忽可能導致嚴重人身傷害。

b) 使用個人防護設備。始終佩戴護目鏡。在適當條件下佩戴防塵口罩、穿上防滑安全鞋、戴安全帽或聽力保護裝備等防護設備，可以有效減少人身傷害。

c) 防止工具意外啟動。在連接電池、拿起工具，搬運工具前，請確保開關處於關閉狀態。搬運電動工具時手指放在開關上或開關處於通電狀態時容易引發事故。

d) 在電動工具接通之前，取下所有定位鍵或扳手。遺留在電動工具旋轉零件上的扳手或定位鍵有可能會導致人身傷害。

e) 請避免伸手去拿取工具。時刻注意立足點和身體平衡。以確保在意外情況下能妥善控制電動工具。

f) 著裝適當。不要穿著寬鬆衣物或佩戴飾品。請將頭髮、衣物和手套遠離活動零件。寬鬆衣物、飾品或長髮可能會捲入活動零件當中。

g) 如果提供了與排屑、集塵設備連接用的裝置，要確保他們連接完好且使用得當。使用集塵設備可減少因塵屑引起的危險。

h) 請勿因頻繁使用本工具而自認熟練導致您大意輕忽工具的安全原則。一時的疏忽隨即會造成人身重傷。

i) 使用電動工具時，請務必佩戴護目鏡，以防眼睛受到傷害。護目鏡需符合美國 ANSI Z87.1 標準、歐洲 EN 166 標準或澳洲／紐西蘭 AS/NZS 1336 標準。若於澳洲／紐西蘭地區，法定需佩戴面罩以保護臉部。



## 一般電動工具安全警告

### -電動工具使用和注意事項

- a) 使用電動工具時請勿用蠻力。根據用途使用適當的電動工具。選擇具有適當設計額定值的電動工具使您工作更有效率、更安全。
- b) 如果電動工具的開關無法接通或關閉，請勿使用該工具。任何無法透過開關控制的電動工具都是危險的，且必須進行修理。
- c) 在進行任何調整、更換配件或貯存電動工具之前，請先將插頭從電源上拔掉，或將電池從電動工具上取下。這些預防性安全措施能降低意外啟動電動工具的危險。
- d) 閒置的電動工具貯存在兒童無法拿到的地方，並且不要讓不熟悉該電動工具或對這些說明不了解的人操作它。讓未經訓練的使用者操作電動工具是相當危險的。
- e) 保養電動工具。檢查活動零件是否對準或卡住，零件是否損壞，以及其他可能影響電動工具運轉的情況。如果發現損壞，請在使用前進行修理。許多事故都是由於電動工具維護不善所造成的。
- f) 保持切削刀具鋒利和清潔。保養良好的有鋒利切削刀的刀具不易被卡住而且容易控制。
- g) 按照使用說明書，考慮作業條件和進行的作業來使用電動工具、配件和工具的刀頭等。將電動工具用於那些與其用途不符的操作可能會導致危險。
- h) 把手及握持區應保持乾燥、潔淨，且不得沾染任何油液或油脂。易滑脫的把手及握持區將無法讓您在發生意外狀況時安全地抓緊並控制工具。

## 一般電動工具安全警告

### -電池式工具使用和注意事項

- a) 僅使用原廠指定的充電器充電。將適用於一種電池組的充電器用到其他電池組時會發生著火危險。
- b) 只有在配有專用電池組的情況下才使用電動工具。使用其他電池組可能會發生損壞和火災風險。
- c) 當電池組未使用時，請將其遠離其他金屬物品，如迴紋針、硬幣、鑰匙、釘子、螺絲或其他小型金屬物品，以防一端與另一端連接。電池端部短路會引起燃燒或火災。
- d) 在不當的使用情況下，電池可能會釋放液體，請避免接觸之。如不慎接觸，請用清水沖洗。如液體接觸眼睛，請立即就醫。電池釋放的液體可能會引起刺激或灼傷。
- e) 請勿使用損壞或改裝過的電池組或工具。損壞或改裝過的電池可能會出現無法預期的反應，導致火災、爆炸或人身受傷風險。
- f) 請勿將電池組或工具暴露於火源或高溫環境中。暴露於火源或高於130°C的溫度可能會導致爆炸。
- g) 請遵循所有充電指示，並勿在說明書指定的溫度範圍外對電池組或工具進行充電。不當充電或在超出指定溫度範圍內充電，可能會損壞電池並增加火災風險。

## 一般電動工具安全警告-維修

- a) 請由合格的維修人員使用相同的更換零件來維修您的電動工具。這將確保所維修的電動工具的安全性。
- b) 請勿自行維修已損壞的電池組。電池組的維修應僅由原廠或授權服務商來進行維修。

## 電動刻磨機的特定安全規則

- 在進行操作時，切割配件可能接觸到隱藏的電線，請握住絕緣的握把表面來使用電動工具。切割配件接觸到「帶電」的電線可能會使電動工具的裸露金屬部分「通電」，並可能會使操作人員觸電。
- 請仔細閱讀本手冊，了解此電動工具的用途、限制，以及潛在危險。依指示作業可以降低人員觸電、引發火災或造成嚴重傷害。
- 如果操作過程中會有塵土飛揚的現象，請佩戴面罩或防塵口罩來保護您的肺。依指示作業可以減少重傷風險。
- 如需長時間操作，請佩戴聽力保護裝置以保護您的耳朵。依指示作業可以減少重傷風險。
- 請勿使用有裂痕或振動過大的砂輪。
- 將電源線遠離砂輪和正在磨削的材料。
- 確保工作區域沒有易燃材料，且沒有粉塵堆積。
- 研磨、打磨、刷絲、拋光、雕刻或磨削切割等作業的常見安全警告：
  - a) 這個電動工具的用途包括砂輪、刻磨機、鋼絲刷、拋光機、雕刻機或切割機。請閱讀所有附帶的安全警告、使用說明、圖片和規格。若未遵守所有以下指示，可能導致觸電、火災和/或嚴重人身受傷。
  - b) 請勿使用非專門設計和原廠推薦的配件。即便該配件可以安裝在您的電動工具上，亦不保證能安全進行操作。
  - c) 打磨配件的額定速度必須至少要與電動工具上標示的最大速度相同。若使打磨配件的運行速度超過其額定速度，可能會導致其斷裂並飛散。
  - d) 所使用配件的外徑和厚度必須落在您的電動工具的容量額定值範圍內。尺寸不合的配件在使用上可能會不受控制。
  - e) 砂輪、磨砂滾輪或任何其他配件的軸徑必須與電動工具的主軸或筒夾相匹配。尺寸不符合電動工具安裝硬體的配件在運行時將無法保持平衡且振動過大，可能導致工具失控。
  - f) 必須將芯軸安裝的砂輪、磨砂滾輪、切割器或其他配件完全插入筒夾或夾頭中。如果芯軸不夠固定及/或砂輪的懸出部份過長，可能導致安裝的砂輪鬆動並以高速彈出。
  - g) 請勿使用損壞的配件。每次使用前請檢查配件情況，例如砂輪是否有缺口和裂痕、磨砂滾輪是否有裂痕、撕裂或過度磨損、鋼絲刷是否有鬆動或裂痕。如果電動工具或配件掉落，請檢查是否有任何損壞或重新安裝未損壞的配件。在檢查並安裝配件後，讓自己和旁觀人員遠離旋轉配件的平面，並以最大無負荷速度運行電動工具一分鐘。損壞的配件通常會在此測試時間內破裂。

- h) 穿戴個人防護裝備。根據應用情況，可使用面罩、安全護目鏡或安全眼鏡。必要時，請戴上防塵口罩、聽力保護器、手套和能夠阻止小型磨料或工件碎片的工作圍裙。眼部防護配件必須要能夠阻擋各種操作產生的飛濺物。防塵口罩或呼吸器必須要能夠過濾操作中所產生的顆粒。長時間暴露在高強度噪音下可能導致聽力損失。
- i) 請讓旁觀人員待在工作區域的安全距離之外。任何進入工作區域的人員都必須穿戴個人防護裝備。工件的碎片或破損配件可能會飛出操作區域並進一步造成傷害。
- j) 在進行操作時，切割配件可能接觸到隱藏的電線，使用電動工具時，請僅握住絕緣的握把表面。切割配件接觸到「帶電」的電線可能會使電動工具的裸露金屬部分「通電」，並可能會使操作人員觸電。
- k) 工具啟動時，請務必持續緊握住工具。當馬達加速到全速時，反作用力可能會使工具扭曲。
- l) 在可能的情況下，請使用夾具支撐工件。在使用工具時，絕不要一手拿著小工件，另一手拿著工具。夾住小工件可以讓您用手來控制工具。銷釘棒、管子或管材等圓形材料在切割時容易滾動，可能會導致刀頭卡住或失控彈跳並傷到您。
- m) 在配件完全停止之前，請勿將電動工具放下。旋轉中的配件可能會卡在接觸表面，並使電動工具脫手。
- n) 在更換刀具或進行任何調整後，請確保筒夾、螺帽、夾頭或任何其他調整裝置已緊密固定。鬆動未固定的調整裝置可能會意外移位而導致失控，鬆動未固定的旋轉部件則會被急速拋出。
- o) 請勿在電動工具攜帶於身側時運行之。若意外接觸旋轉配件，配件可能會纏住您的衣物，從而接觸您的身體並造成傷害。
- p) 請定期清潔電動工具的通風口。引擎的風扇會將灰塵吸入機殼內，過多的金屬粉末可能會造成用電危險。
- q) 請勿在易燃物附近操作電動工具。火花可能引燃這些物質。
- r) 請勿使用需要液體冷卻劑的配件。使用水或其他液體冷卻劑可能導致觸電或遭到電擊。

## 回彈與相關安全說明

「回彈」是當砂輪、砂圈磨頭、鐵刷或其他配件受到擠壓或斷裂時會出現的突發狀況。夾緊或勾住等情況導致旋轉配件迅速停滯，而使失控之工具朝配件旋轉方向的反方向轉動。

例如，如果砂輪被工件卡住或夾住，進入夾點的砂輪邊緣可能會刺入材料表面，造成砂輪脫離或跳出。根據砂輪被卡住時的運動的方向，砂輪可能會因此跳向或跳離操作人員。在這種情況下，砂輪也可能因此斷裂。回彈的發生乃機具誤用或不當操作之結果。採用如下所述之適當程序可避免此情況發生。

- 雙手緊握電動工具，並穩住您的雙臂和身體，以便能控制住回彈衝擊力。若操作人員採取適當的預防措施，便能夠有效控制住回彈力。
- 在處理角落、銳利邊緣等時要特別小心。避免造成配件彈跳和卡件。旋轉中的配件容易卡在角落或銳利的邊緣處，或從工件上反彈出來，進而造成失控或回彈。
- 不要安裝齒狀鋸片。該種鋸片容易發生回彈並失去控制。
- 請始終以切割刀離開切割材料的方向（也就是碎屑被拋出的方向）將刀頭送入材料中。進刀方向錯誤會使刀頭的切削刀飛離切割物，並將刀具往進刀方向拉扯。
- 在使用旋轉刀具、切割輪、高速切削器或碳化鎢刀具時，請務必將工作材料牢牢夾緊。若該類刀具在溝槽中稍微傾斜，它們可能會卡住並回彈。切割輪一旦卡住，通常即會斷裂。當旋轉刀具、高速切削器或碳化鎢刀具卡住時，則可能會從溝槽中彈出而失控。

## 研磨和磨削切割操作時的特定安全警告：

- 請僅使用適用於您的電動工具，並僅將其使用於推薦用途。例如：請勿使用切割輪的邊緣磨削。磨削切割片應使用於周邊磨削，對其施加側面力量可能會導致輪片破碎。
- 針對螺紋研磨錐和研磨塞，請僅使用無損壞的砂輪芯軸，並且確認其尺寸和長度正確、墊圈邊緣亦無損壞。使用合適的芯軸可以減少斷裂破損的可能性。
- 請勿使切割片「卡死」或施以太大的壓力。請勿嘗試進行過深的切割。過度施壓會增加砂輪負荷，使輪片在切割過程中容易扭曲或卡住，並有可能發生回彈或輪片斷裂的危險。
- 不要將手放在轉輪的正前方和後方。當輪子在操作時移位脫離您的手時，可能會發生回彈，將旋轉輪和電動工具直接朝你方向推進。
- 當輪片遭夾住、卡住或因任何原因中斷切割時，請關閉電動工具並保持靜止，直到輪片完全停止。切勿在輪片運轉時嘗試從切口中取出輪片，否則可能會發生回彈情形。靜待停止後，請確認輪片夾住或卡住的原因，並採取適當措施解決。
- 轉輪在切口內時，請勿再次啟動機具。請先讓切割轉輪達到全速運轉，再小心地繼續切割。若轉輪在切口內時重新啟動機具，可能會造成轉輪黏合、向上移動或產生回彈。
- 操作時請支撐固定住面板或任何大型工件，以減少砂輪夾住和回彈的風險。大型工件往往會因自身重量而下垂。支撐物必須放置在靠近切割線的工件下方，另外靠近砂輪兩側的工件邊緣處也需支撐。
- 在現有牆壁或其他盲區進行「開孔切割」時，請務必格外小心。突出的砂輪可能會切到瓦斯管、水管、電線或其他可能會造成回彈的物體。

## 針對鋼絲刷操作的安全警告：

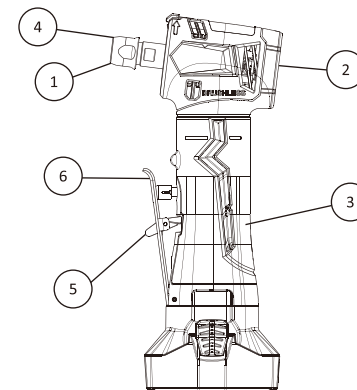
- 請注意，即使正常進行操作，鋼絲刷也可能會甩出金屬刷毛。請勿對刷子施加過大的負荷而使其過度受壓。鋼絲刷毛很容易穿透輕薄的衣服和/或皮膚。
- 在使用鋼絲刷之前，請使其以正常運行速度運轉至少一分鐘。同一時間，任何人都不得站在鋼絲刷的前方或與其成一直線。在此運作期間，鬆脫的刷毛或金屬絲會被甩出。
- 將旋轉鋼絲刷的排出口指向遠離自己身體的方向。在使用這些鋼絲刷時，可能會有細小顆粒和微小的線材碎片高速飛出，並可能會嵌入您的皮膚中。

## 規格

### ■ 電池充電器規格

型號	GA200
RPM n <sub>o</sub>	0 – 24500
筒夾	1/4"
配件筒夾直徑	1/8"
最大配件直徑	2" / 55 mm
主軸螺紋直徑大小	16mm
伏特	14.4V d.c.
長度	111mm
工具重量	0.89 kg
電池類型	EB14020-A1
充電器類型	EC1412-A1

## 功能描述



1	筒夾螺帽	4	LED 燈
2	模式選擇面板	5	安全開關鎖
3	握把	6	長扳機

## 組裝與說明

▲ 為降低嚴重人身受傷風險，請在進行任何調整或拆卸/安裝配件時先將設備關閉且移除電池組。意外啟動可能會導致受傷。

### 移除/安裝電池

如要移除電池，請按下釋放鈕，再將電池組移除。如要安裝電池，將電池插入工具。請確保電池已安裝完畢。

▲ 如要更換或移除配件，請先移除電池組。

▲ 請僅使用適用此工具的配件，使用其他不相容之配件有危險之虞。

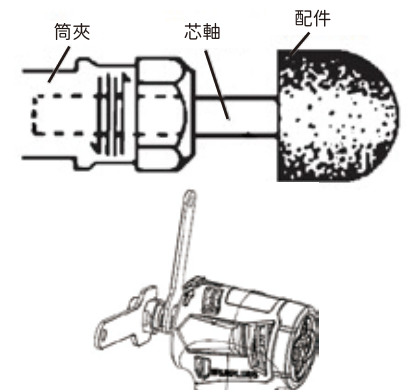
## 安裝筒夾

在安裝筒夾組件到工具之前，必須先將筒夾安裝到筒夾螺帽上。請確保筒夾的尺寸與您將使用的芯軸尺寸相符，否則筒夾可能會斷裂。

- 組裝時，先將筒夾放在平坦的表面上，然後將螺帽放在筒夾上。
- 向下按壓螺帽，將螺帽和筒夾卡在一起。
- 拆卸時，請使用長桿將筒夾從螺帽中推出

## 安裝配件

- 在插入配件之前，請先清除筒夾本體上的灰塵和碎屑。
- 將筒夾連同筒夾螺帽插入筒夾本體。將筒夾螺帽鎖在主軸上，但先不要鎖緊。
- 清潔配件芯軸，並將其完全插入筒夾中。



- 使用一把14mm的開口扳手固定主軸軸承，並使用一把19mm開口扳手鎖緊筒夾螺帽。
- 移除配件時，請按照相反的步驟進行。



## 操作

模式	1	2	3	4
每分鐘轉速 (RPM)	10000	15000	20000	24500

▲ 警告：為降低嚴重人身受傷風險，請在進行任何調整或拆卸/安裝配件時先將設備關閉且移除電池組。意外啟動可能會導致受傷。

## 模式選擇面板

模式選擇按鈕用於調整應用程式的每分鐘轉速 (RPM)。

選擇模式：

1. 將安全開關鎖向上推，然後壓下並鬆開長扳機。當前模式指示燈將亮起。



2. 按下模式選擇按鈕，以在4種模式間進行切換。當所需的模式指示燈亮起時，開始作業。

3. 若要進入動力補償模式，請按照步驟1並按下目前模式選擇按鈕。當模式指示燈閃爍時，開始作業。按下相同的模式選擇按鈕即可停止。

注意：模式1、2、3均具有動力補償功能，而模式4用於最大速度運轉和輕度切割作業，不具備動力補償或閃爍指示燈。

注意：在一般操作模式下，當對加工材料施加較大的力時，馬達轉速會下降，以輸出更大的動力來滿足需求。然而，如果選擇了特殊的動力補償模式 (Turbo增壓模式)，則可以適當地加強動力以提高轉速，並維持更高的切割效率。然而，相應地耗電量也會增加。

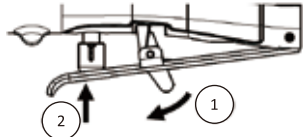
## 一般操作

1. 如果您剛安裝好一個配件或正要開始進行作業，請先讓它旋轉一分鐘，然後再套在工件上進行測試。

▲ 警告：請勿使用掉落或摔過的配件。無法保持平衡或損壞的配件可能會傷到工件、損壞工具並造成應力，可能將導致配件故障。

2. 使用夾子、鉗子或其他實用方法來固定您的作業項目。

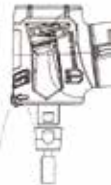
3. 啟動工具時，將安全開關鎖解除後向上推 (1)，然後壓下長扳機 (2)。注意：按下扳機時，LED燈將會亮起。



4. 開始作業前，請確保配件已經達到最高轉速。
5. 控制附件與工件之間的壓力與表面接觸情形。
6. 停止工具時，請釋放長扳機。確保工具完全停止後再放下。
7. 三段式可調角度照明機制

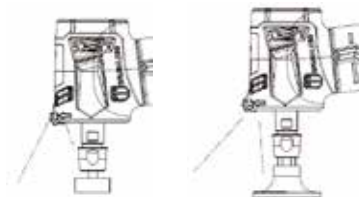


a) 平行於主軸位置：適用於操作過程中為直徑較小的配件照明。



▲ 警告：請勿使用掉落或摔過的配件。無法保持平衡或損壞的配件可能會傷到工件、損壞工具並造成應力，可能將導致配件故障。

b) 相對於主軸的傾斜角度位置：適用於操作過程中為直徑較大的配件照明。



## 維護保養

▲ 警告：為了降低傷害風險，在進行任何維護保養工作前，請務必拔掉充電器插頭並將充電器或工具的電池組取出。請勿拆解工具、電池組或充電器。聯絡售服中心進行所有維修。

## 維護工具

- 透過定期維護計劃保持工具、電池組和充電器的良好狀態。檢查工具是否有異常噪音、零件對不准、活動零件卡住、零件損壞或任何其他可能影響工具運作的情況。如有問題，請將工具、電池組和充電器送回售服中心維修。
- 如果工具無法啟動或在使用完全充電的電池組時無法達到全功率，請清潔電池組上的接觸點。如果工具仍然無法正常運作，請將工具、充電器和電池組送回售服中心。

▲ 警告：為了降低傷害和損壞率，請勿讓工具、電池組或充電器泡水或受潮。

## 清潔

- 清潔通風孔上的灰塵和碎屑。保持手柄乾淨、乾燥，並且無油或油脂。
- 僅使用溫和的肥皂和濕布進行清潔，因為某些清潔劑和溶劑對塑料和其他絕緣部件有害。例如汽油、松節油、油漆稀釋劑、油漆稀釋劑、氯化清潔劑、氨水以及含氯的家用清潔劑。
- 切勿在工具周圍使用易燃或可燃的溶劑。

## 維修

如需維修，請將工具、電池組和充電器送至最近的售服中心。

## 電池規格與安全使用事項

EB14020-A1	
額定電壓	14.4V
額定容量	2Ah
電池類型	鋰離子
尺寸	長 x 寬 x 高 89 x 59 x 105 (mm)

- 請勿將電池燒掉，也不要將電池拿去加熱。
- 請勿拆卸或重組電池組。
- 請勿將電池放在高溫的地方 (60°C或以上)。
- 請勿讓電池受潮或碰水。
- 請勿讓電池受到大力撞擊，也不要讓電池落地。
- 請勿直接將鉛焊接到電池本體。
- 請勿加熱或焊接電池的端子。
- 請勿使電池正、負端子短路。
- 請遵守運送規則上所述的條件。
- 請勿反向充電或逆向連接電池。
- 充電時，請用 EC1412-A1 專用充電器。
- 請定期檢查電池容量。當電池的電壓低於開路電壓時，電池的容量可能會下降，且無法恢復。如果電池放置時間超過3個月，應再次檢查剩餘容量並為電池充電。

備註：請參閱電池規格說明書。




電池規格與安全使用事項

電池充電器規格	
充電器	EC1412-A1
電池模式	EB14020-A1
輸出電壓	16.6V
保護等級	觸電防止保護等級 II
交流供電電壓	100VAC~240VAC
主要頻率	50Hz~60Hz
作業溫度	0°C to 45°C
儲存溫度	-20°C to 70°C

充電狀態指標			
	狀態	LED紅燈	LED綠燈
1	待機狀態	關閉	閃爍 (0.5秒開，0.5秒關)
2	電池組安裝與充電	開啟	關閉
3	定電壓 (CV) 充電模式	關閉	閃爍 (0.1秒開，0.1秒關)
4	定電流 (CC) 充電模式	開啟	關閉
5	充電完成	關閉	開啟
6	溫度保護	LED紅燈閃爍	
7	異常保護	LED 紅、綠燈皆亮起	

電池充電器安全使用事項

- 請保持工作區乾淨且明亮。雜亂或黑暗的區域容易發生意外。
- 請勿在易爆炸環境中充電，例如存有易燃液體、氣體或粉塵的環境。充電過程會產生火花，可能引燃粉塵或煙霧。
- 充電時，請讓兒童和人群遠離充電區域。
- 電源線插頭需與插座相匹配。請勿使用以任何方式改造的插頭。相應的插頭和插座可降低觸電風險。
- 避免身體與接地的表面(如管道、散熱器、爐具和冰箱)接觸。如果身體接觸接地的表面，會增加電擊危險。
- 不得以錯誤方式使用電源線。請勿使用電源線進行搬運、拉扯或拔出電動工具。電源線應遠離熱源、油、鋒利邊緣或活動零件。損壞或纏繞的電線會增加觸電危險。
- 請僅於乾燥的地方進行充電。電器受潮會增加觸電風險。
- 僅使用原廠出品對應的充電器為對應的電池充電。
- 請勿使用缺陷損壞的充電器或電源線。
- 充電器未使用時，請放置於兒童拿不到的地方。請勿讓不熟悉此設備或本說明書的人操作，以免發生危險。
- 請小心維護保養此產品。檢查確保沒有任何零件損壞或損毀以至於無法正常運轉。如果有損壞，請在使用前送修完畢。
- 請依照本說明使用充電器和相應電池，並且符合此型號之規定。以免使用不相容的充電器導致發生危險。
- 僅使用原廠指定的充電器進行充電。適用於一種電池組的充電器，若用於其他電池組，可能會引發火災風險。
- 不使用時，請將電池和充電器遠離迴紋針、硬幣、鑰匙、釘子、螺絲或其他可能導致電池端子或充電接觸點短路的小金屬物體。電池端子或充電接觸點的短路可能導致人身傷害(燒傷)或引起火災。
- 在不當使用情況下，電池可能會釋放液體；請避免接觸。如不慎接觸，請用水沖洗。如液體接觸眼睛，請立即就醫。電池釋放的液體可能會引起刺激或灼傷。
- 請確保持充電器放在穩定、安全的位置。不當擺放電池或充電器造成掉落可能會對您或他人造成傷害。
- 避免觸碰接點。
- 為避免環境污染，請務必妥善地處理廢電池。

- 身體、感官或心智能力受限、缺乏經驗和知識的人(包括兒童)不適合用本產品，除非他們在監督或指導之狀況下使用之。
- 請教育兒童不應隨意把玩此產品。
- 請小心確保電池不受機械損傷。
- 請勿充電或繼續使用損壞的電池(例如有裂痕、破損、彎曲或壓入或拉出接點的電池)。
-  在工作時，如果電源線或延長線損壞，請勿觸碰。請將電源線插頭拔掉。損壞的電源線或延長線可能會使您觸電。
- 請勿在使用髒污或受潮設備。在不當情況下，附著在設備表面上的水氣或灰塵，尤其是導電材料上的灰塵，可能會造成觸電風險。因此，有髒污或灰塵之設備應定期送去售服中心進行檢查，尤其是頻繁使用導電材料之設備。

### 維護保養

▲警告：爲了降低傷害風險，在進行任何維護保養工作前，請務必拔掉充電器插頭並將充電器或工具的電池組移除。請勿拆解工具、電池組或充電器。聯絡售服中心進行所有維修。

### 維護工具

- 通過定期維護設備，保持工具、電池組和充電器的良好狀態。檢查工具是否有異常噪音、零件對不准、活動零件卡住、零件損壞或任何其他可能影響工具運作的情況。將工具、電池組和充電器送回售服中心進行維修。
- 如果工具無法啟動或在使用完全充電的電池組時無法達到全功率，請清潔電池組上的接觸點。如果工具仍然無法正常運作，請將工具、充電器和電池組送回 經銷商的售服中心。

▲警告：爲了降低傷害和損壞率，請勿讓工具、電池組或充電器泡水或受潮。

### 清潔

- 清潔通風孔上的灰塵和碎屑。保持手柄乾淨、乾燥，並且無油或油脂。
- 僅使用溫和的肥皂和濕布進行清潔，因爲某些清潔劑和溶劑對塑料和其他絕緣部件有害。例如汽油、松節油、稀漆劑、油漆稀釋劑、含氯清潔劑、氨水以及含氨的家用清潔劑。
- 請勿在工具周圍使用易燃或可燃的溶劑。

### 維修

如需維修，請將工具、電池組和充電器送至最近的售服中心。

### 故障排除

當保護功能啟動時，工具的指示燈會閃爍以發出提示，詳細信息如下表所示：  
【注意】每間隔1.5秒就會閃爍，閃爍頻率爲0.25秒。

異常提示	發生異常	故障排除
持續閃爍一次	■ 電池電壓保護	■ 關掉工具，重新裝入電池，然後按下扳機。 ■ 更換已充滿電的電池，然後按下扳機。 ■ 若問題仍然存在，請聯繫售服中心。
持續閃爍兩次	■ 工具馬達溫度保護 ■ 工具電池溫度保護 ■ 工具控制面板溫度保護	■ 關掉工具，重新裝入電池，然後按下扳機。 ■ 移除電池，等待溫度恢復後再重新安裝電池。 ■ 若問題仍然存在，請聯繫售服中心。
持續閃爍三次	■ 工具過電流	■ 關掉工具，重新裝入電池，然後按下扳機。 ■ 若問題仍然存在，請聯繫售服中心。
工具無法正常運作且電池狀態顯示燈未閃爍。	■ 工具馬達異常	■ 關掉工具，重新裝入電池，然後按下扳機。 ■ 若問題仍然存在，請聯繫售服中心。
若出現上述情況以外的故障，請立即停止使用工具並聯繫當地經銷商尋求服務。		

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