

## MEMO

Aímsak

## Operation Instructions

BLDC

1/2" SQ

## BL22HQ1000

21.6 V Brushless High Torque Impact Wrench

3/4" SQ

## BL22HQ1300

21.6 V Brushless High Torque Impact Wrench

BL22HQ1000 (1/2")



BL22HQ1300 (3/4")

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※ Product images may differ from the actual product.

**[CAUTION]**

Do not use too much force to use the tool. Select the right tool for the purpose and application to enhance work efficiency. Be advised that any use of a tool that doesn't meet its specifications may result in decreased performance and shortened lifespan.



To ensure safety, make sure that you read, understand and observe the safety instructions.

Aímsak

MADE IN KOREA (2020-03)

PU050364 / A0

Aímsak Inc.

## 【Tool Specification】

### ► Specification

Spec	Model	BL22HQ1000 (1/2")	BL22HQ1300 (3/4")
		21.6 V Brushless High Torque Impact Wrench	
Voltage		DC 21.6 Vd.c.	
No load speed		0~600 / 1,500 / 1,800 min <sup>-1</sup>	
Impact per minute		0~2,300 ipm	
Max. torque		1,000 N·m	1,300 N·m
Anvil size		12.7 mm (1/2" Square)	19 mm (3/4" Square)
Switch		Various speed Control	
Battery		B60L22D	
		Li-Ion 21.6 Vd.c.	
Net Weight		3.5 kg	3.54 kg
Charger		ALC 4640M	
Charger input		AC 200 – 240V / 50 – 60Hz	

※ Check model number of purchased product and read operation instructions.

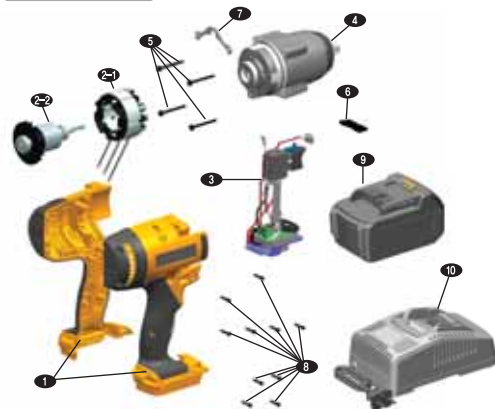
※ Aimsak battery is designed to be used for Aimsak products only. Battery is compatible with same voltage capacity (21.6V, 18V, 14.4V, 10.8V, 7.2V) if battery type (ex. Slide, plug-in) is the same.

## 【Exploded View】

※ In the exploded view for each product, functions and parts are subject to change without prior notice with performance improvement.

**BL22HQ1000**

\* Brushless High Torque Impact Wrench



### Part Name

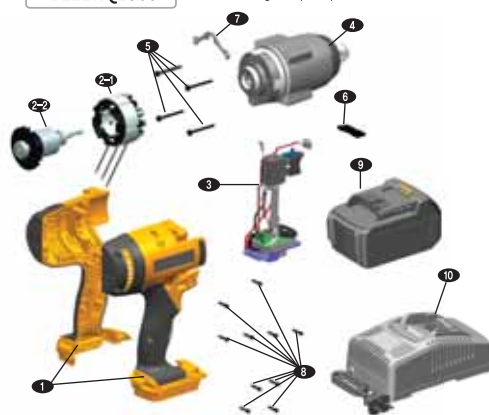
NO.	Part Name	Q'ty
1	Housing	1
2-1	Stator	1
2-2	Rotor	1
3	Switch	1
4	Gear Box (1/2")	1
5	Bolt (+)	4
6	Reversing Lever	1
7	Holder Carabiner	1
8	Star Screw	10
9	Battery	2
10	Charger	1

### ► Contents

Item	Model	BL22HQ1000	BL22HQ1300
Middle torque wrench		1 EA	1 EA
Battery		2 EA	2 EA
Charger		1 EA	1 EA
Operation Manual		1 EA	1 EA
Carrying Case		1 EA	1 EA

**BL22HQ1300**

\* Brushless High Torque Impact Wrench



### Part Name

NO.	Part Name	Q'ty
1	Housing	1
2-1	Stator	1
2-2	Rotor	1
3	Switch	1
4	Gear Box (3/4")	1
5	Bolt (+)	4
6	Reversing Lever	1
7	Holder Carabiner	1
8	Star Screw	10
9	Battery	2
10	Charger	1

## 【Safety Instructions】

**Please read the Manual thoroughly and observe the safety instructions. Keep manual in a safe and handy place for easy reference.**

Make sure to observe the following safety instructions at all times to remain safe as from electric shock, fire or any other hazard while using or charging the tool. Do not become careless or inattentive after becoming familiar with its usage; always follow the safety rules. Any violation of the safety instructions or incorrect use of the tool may result in serious injury. The terms "power tool" in the CAUTION refers to either electric or battery-operated power tool.

### 1. Work area

- ▶ **Keep work area clean and well lighted.** Cluttered and dark area may cause injuries.
- ▶ **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.
- ▶ **Keep children and bystanders away while operating power tool.** Distractions can cause you to lose control.

### 2. Electrical safety

- ▶ **Power tool plugs must match the outlet. Never modify the plug in anyway. Do not use any adapter plugs with earthed (grounded) power tools.** Unmodified plugs and matching outlets will reduce risk of electric shock.
- ▶ **Avoid body contact with the earthed or grounded surface, such as pipes, radiators, or refrigerators.** There is an increased risk of electric shock if your body is earthed or grounded.

- ▶ **Do not expose power tools to rain or wet conditions.** Water entering into power tool will increase the risk of electric shock.
- ▶ **Do not abuse the cord.** Never use the cord of carrying, pulling or unplugging the power tool. Keep the cord away from heat, oil, sharp edges or moving parts. Damaged or entangled cords increase the risk of electric shock.
- ▶ **When operating power tools at outdoor, use an extension cord suitable for outdoor use.** Use of a cord suitable for outdoor reduces the risk of electric shock.
- ▶ **If operating a power tool in a damp location is unavoidable, use a residual current device (RCD) protected supply.** Use of a RCD reduces the risk of electric shock.
- ▶ **When working on possible contact of wire or cord with hidden fastener, grab insulated surface of power tools.** If fastener contacts with "conductive" wire, exposed metal part of power tools can be conducted and there is risk of electric shock.
- ▶ **Use appropriate power input for charger.**

### 3. Personal safety

- ▶ **Stay alert, watch what you are doing and use common sense when operating power tools.** A moment of inattention while operating power tools may result in serious personal injury.
- ▶ **Do not use power tools while you are tired or under the influence of drugs, alcohol or medication.** Inattention while operating power tools may result in serious personal injury.
- ▶ **Use personal protective equipment. Always wearing the eye protection.** The use of protective equipment such as dust mask, non-skid safety shoes, hard hat or hearing protection under appropriate conditions will reduce the risk of personal injury.
- ▶ **Be careful to do not start the tool accidentally. Ensure the switch is in the OFF position before connecting to a power source and/or battery pack, picking up or carrying the tool.** Carrying power tools with a finger on the switch or turning tools on while their switch is in the ON position invites accidents. Place reversing lever in neutral position while storing or carrying the tool.
- ▶ **Do not use the tool in an awkward position. Keep proper footing and stay balanced at all times to enable better control of the power tool in unexpected situations.**
- ▶ **Dress properly. Do not wear loose clothes or jewelry. Keep hair, clothing and gloves away from moving parts.** Loose clothes, jewelry or long hair can be caught in moving parts.

### 4. Power Tool Use and Care

- ▶ **Do not use too much force when using the tool.** Select the right tool for the purpose and application to enhance work efficiency and safety. Be advised that any use of a tool that doesn't meet its specifications may result in decreased performance and shortened lifespan.
- ▶ **Do not use a tool with a broken power switch.** Any power tool with a broken switch is dangerous and must be repaired.
- ▶ **Disconnect the plug from the power source and/or the battery pack from the power tool before making any adjustments, changing accessories or storing power tools.** These preventive safety measures reduce the risk of the accidental start of power tools.
- ▶ **Keep cutting tools sharp and clean.** Well-managed cutting tools with sharp cutting edges are well operated and easy to control.

- ▶ **Keep power tools out of the reach of children. Do not allow a person who is unfamiliar with the power tools or has failed to read the Manual to operate them.** Power tools can be dangerous in the hands of untrained users.
- ▶ **Handle power tools with caution. Check for misalignment or binding of moving parts, breakage of parts and any other conditions that may affect the power tool operation.** Any defect is found, make sure that it is repaired before use. Poor maintenance often causes accidents.
- ▶ **Before using power tools, accessories and tools, observe the instructions and guidelines for a particular type and consider work conditions and details.** The use of such items for purposes other than those specified herein may result in hazardous situations.
- ▶ **Before operation, tightly fix the work piece. Do not hold it by hand.** This may result in bodily injury. Make sure that it is fixed by a holding device before operation.
- ▶ **Check if the power is switched off before connecting the power cable or inserting the battery.** If the battery is inserted when the power is ON, an accident may occur.
- ▶ **If a tool halts due to overload during operation, stop the operation immediately.** If it is used in overload conditions, its lifespan can drop considerably.

### 5. Cautions for Battery and Charger

- ▶ **Do not use the battery and charger in the vicinity of flammable materials (e.g., lacquer, paint, benzene, thinner, gasoline, etc.).** Doing so can lead to fire or explosion.
- ▶ **Do not expose the battery and charger to sunlight or other high-temperature environments, and keep away from fire.** Failure to do so may cause fire or explosion. Check if the battery and charger terminals are stained with metal powders or dirt. Such contamination may result in electric shock.
- ▶ **Do not leave the tool in a place where strong static electricity can occur.** Doing so may result in fire or explosion.
- ▶ **Make sure that there is no small metal pieces (e.g., chuck adapter, nail, clip, coin, etc.) near the battery and charger.** Such metal can cause a short and result in fire.
- ▶ **Do not expose the battery or charger to wet or humid environments. Keep it dry at all times.** If it is wet, overcurrent may occur, causing overheating, fire, electric shock or fault.
- ▶ **Do not keep the battery or charger together with small metallic pieces (e.g., screw, metallic adapter, nail, solder wire, cross bit, drill bit, metal clip/powder, etc.) in a plastic box or toolbox.** Doing so can generate shorts and lead to fire or explosion.

### 6. Li-ion Battery Instructions

Li-ion batteries can give 100% performance when they are charged at any amount or are not completely discharged. ※ Li-ion batteries do not have a memory effect. What is "memory"?

At first use or after being left unused for a long time, the battery has 70-80% of its original storage capacity.

- ▶ **Do not expose the battery to rain or water.** A battery short circuit causes overcurrent and can result in overheating, fire or faults.
- ▶ **After charging, make sure that the battery is stored with a cover.**
- ▶ **Use the proper batteries for each power tool.**  
The use of wrong batteries may result in bodily injury or fire.
- ▶ **If a tool is continuously operated until a battery pack is discharged, cool it down at room temperature for about 10 minutes prior to battery replacement.**  
This measure can reduce the risk of battery and tool damage.
- ▶ **If batteries are hot, make sure that they are cooled before being charged.** They have a NTC temperature sensor for charging at 0-45°C only, which in turn extends their lifespan. They will not charge in a different temperature range. If the temperature returns back to the normal range, charging will resume. If used in normal conditions, Li-ion batteries can be charged more than 2,000 times.
- ▶ **Secondary batteries have their lifespan as well.** If a battery life shortens, contact the customer service center for battery replacement.
- ▶ **Do not store batteries fully discharged. If they are left unused for a long time, make sure that they are charged.** If fully discharged, batteries may not charge anymore. Please contact the customer service center.
- ▶ **Do not disassemble the batteries under any circumstances. Keep them safe from external shock.** Short circuits may result in a fire or explosion.
- ▶ **Do not contact the positive and negative terminals with a metallic object.** If batteries are stored with a metal component, necklace, hairpin or other metallic object, a short may occur and result in bodily injury, fire or explosion.
- ▶ **Make sure that positive and negative poles are right corresponded. Do not charge the battery when positive and negative poles are reversed.**  
Doing so can lead to a fire or explosion.
- ▶ **In the event of excessive use or at high temperature, electrolytes can spill from the battery.** If this touches the user's skin, wash off with soap immediately. If this gets into eyes, wash with clean water and see a doctor right away. This substance can cause vision loss. It can damage skin and cause burns.
- ▶ **If the battery is severely damaged or fully discharged, do not leave it near fire.**  
Doing so may result in fire or explosion.
- ▶ **When the battery is dead, cover the terminals with insulation tape prior to disposal and have it collected by a professional battery collector or nearby representative agency.**  
**Do not throw the battery into a trash can, fire or water.**  
Doing so will cause environmental pollution and could lead to fire or explosion.
- ▶ **If any abnormalities such as heating is detected during charging, unplug the power cable immediately.**  
Failure to do so can lead to fire or explosion.

## 7. Li-ion Charger Instructions

- ▶ **Do not use the charger for purpose other than charging.**  
**Check the battery voltage prior to charging. Do not use unauthorized batteries.**  
Use the batteries specified in the Manual only. Failure to do so may lead to fire or explosion.
- ▶ **Check the power plug and cord before using the charger.**  
Any defect may result in a fault or electric shock.

- ▶ **Do not carry or hang the charger by the power cord. Do not unplug the cable from the outlet by the power cord.** Keep the charger safe from heat, moisture and sharp edges. Failure to do so may lead to a short circuit.
- ▶ **Do not carry or hang the charger by the power cord. Do not unplug the cable from the outlet by the power cord.** Keep the charger safe from heat, moisture and sharp edges. Failure to do so may lead to a short circuit.
- ▶ **If the charger is damaged or overheated, unplug the power cable immediately.**  
Charging under such abnormal conditions may lead to fire or explosion.
- ▶ **Do not charge the battery in a plastic box or closed toolbox.**  
Doing so may result in fire or explosion.
- ▶ **Do not connect the charger to the DC outlet, engine generator, booster and transformer.**  
Doing so may lead to fire or explosion.
- ▶ **Do not cover the vent during charging.** Make sure that no metal or steel chip enters into the hole as these may cause fire or explosion.
- ▶ **Do not use the charger in a closed space. Use in well-ventilated environments.**
- ▶ **Do not cover with cloth or any other material while charging.** Doing so may lead to fire.
- ▶ **Do not disassemble the charger.** Doing so may lead to fire or fault.
- ▶ **Unplug the power cable after charging.** Failure to do so may result in fire or explosion.

## 8. Services

- ▶ **To repair a power tool, battery and charger, contact our customer service center.**  
Make sure that genuine parts are used for such repair to extend their safety.
- ▶ **Ensure that power tools are under proper care and management. Check that they are undamaged and function normally. It is also important to check all conditions which can influence the operation of tools. If any abnormality is detected, repair before use.**  
Unless the tools are properly repaired and managed, an accident can occur.
- ▶ **If any problem is found, contact our authorized customer service center.**

## 【Operating Instructions】

### ▶ Notice prior to Operation

In the event of overcurrent in the Li-ion battery, the current is cut off and the tool is stopped. The tool is automatically stopped to prevent battery damage at over-discharge. This function is designed to protect the Li-ion batteries.

- \* **The surface of the gearbox can become heated during continuous load work.**  
Put on gloves before operation to reduce the risk of burn accidents.

### ▶ How to Insert Socket <See Fig. 1>

- ① Set the switch in the OFF position, and move the forward/reverse lever to the neutral position.
- ② Push down the socket until it fits tightly as shown in the figure 1.
- ③ Rock the socket back and forth to check if it is properly fixed.



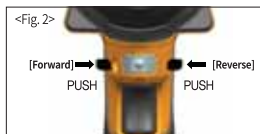
### ▶ Forward/Reverse Direction <See Fig.2>

Push down the forward/reverse lever to the end in the direction of the arrow.

**Forward** : Tightening

**Reverse** : Loosening

⚠ **CAUTION!** Set to Forward or Reverse only when the tool is not running.



### ▶ Switch <See Fig.3>

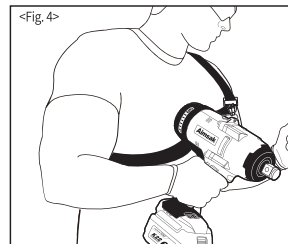
To start the tool, simply pull the switch trigger. Tool speed increases by increasing pressure on the switch trigger. Release the switch trigger to stop. Safety brake devices are set to the switch and stop immediately when you release the switch. Pull the switch trigger to light up the lamp. The lamp keeps on lighting while the switch trigger is being pulled. The lamp goes off after releasing the trigger.

#### ※ Lighting

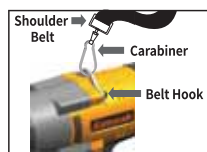
If the switch is pulled back, the front LED light is turned on for operation at night or in a dark place. If the tool stops, the LED light turns off in 10 seconds



### ▶ How to use Belt Hook <See Fig.4>



1. Put carabiner into the belt hook and connect shoulder belt.
2. Adjust the length of shoulder belt.



※ **shoulder belt.**  
(Sold Separately)

### ▶ Speed Level Display <See Fig.5>

LED of speed level display on top of tool lights up a couple of seconds when speed control button is pressed. Speed changes to level 3 ▷ Auto level ▷ level 2 ▷ level 3 each time when button is pressed. Tool Speed setting is saved to machine after 3 seconds and remains even after battery is changed.

※ Since RPM, torque, auto made spec. are different per model, make sure to check the spec. before setting.



※ No load rpm & torque per speed level

LED Display		BL22HQ1000 (1/2")		BL22HQ1300 (3/4")	
		No load rpm	Torque	No load rpm	Torque
3 Level		1,800 rpm	1,000 N·m	1,800 rpm	1,300 N·m
2 Level		1,500 rpm	700 N·m	1,500 rpm	900 N·m
1 Level		600 rpm	300 N·m	600 rpm	400 N·m

※ Lock function activates after pressing speed button and battery gauge check button at the same time for 2 seconds. Pressing same way for 2 seconds deactivate lock function. (Use lock function without change of speed)

### ▶ Error Mode Display ※ Continuous over-load operation decreases tool performance

An error mode functions as follows in illumination LED:

Issue	Display	LED Indicator On Off	Handling Tips
Terminal contact failure		LED Off	In the event of an error, check with authorized repair center or repair shop
High temperature battery protection		LED On 0.7s / Off 0.3s	Use the tool after let it rest for a whole. Do not overload the tool during the use.
High temperature switch protection		LED On 0.3s / Off 0.7s	Use the tool after let it rest for a whole. Do not overload the tool during the use.
Overcurrent shutdown		LED On 0.05s / Off 0.1s On 0.2s / Off 0.65s (2 times Flashing)	Avoid excessive work.
Motor sensor recognition error		LED On 0.5s / Off 0.5s	In the event of an error, check with authorized repair center or repair shop
Low voltage		LED Off	Recharge battery

## [Auto Mode] <See Fig. 6>

&lt;Fig. 6&gt;



Speed and torque changes automatically according to required load during operation. Pulling switch starts low speed rotation impact and rotation speed gradually increase. After pressing Auto button, display shows (A), and operation starts as Auto mode when pulling the switch.

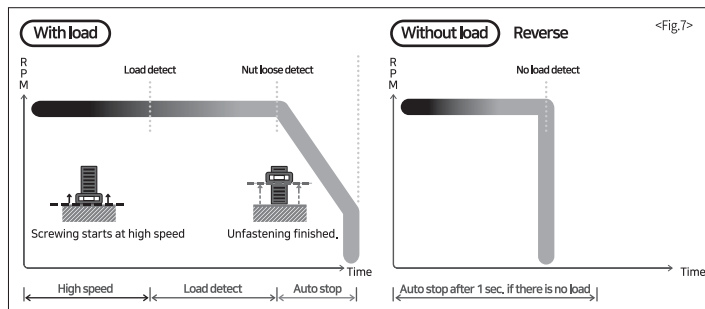
- ※ **Caution**
1. One time press of Auto button keeps Auto mode until pressing speed control button.
  2. Pressing speed control button during use of Auto mode stops Auto mode and switches to speed control mode.
  3. Auto mode does not activate during reverse (untightening screw) operation.
  4. Be careful with screw breakaway from operation during speed shifting low to high-speed at Auto mode.

## BL22HQ1300

## Auto Stop Mode <See Fig. 7>

High speed Auto stop

To avoid any safety risk, the machine will be automatically stopped within 2 seconds right after untightening work is completely finished



## ▶ Auto Mode at No Load Speed

※ Operation at no load speed when Auto Mode is Pressed

check

Model	Mode	Operation
BL22HQ1300	Forward	Tightening
High Torque Impact Wrench	Reverse	Automatically stop after 1 second.

## ▶ Fuel gauge <See Fig. 8>

After pulling switch, battery gauge display LED blinks several seconds. Refer to below for battery remains.

LED display	Detail	LED display	Detail
	3 light on More than 80%		1 light on 20% ~ 50%
	2 light on 50% ~ 80%		Below 20%

&lt;Fig. 8&gt;



## ▶ Installing and removing battery <See Fig. 9-1, 9-2>

Do not use force when inserting the battery. To insert the battery, align the rail on the battery with the groove in the housing and slip into place. Always insert it all the way until it locks in place with a little click. If not, it may accidentally fall out of the tool.

&lt;Fig. 9-1&gt;

### <Inserting Battery>



1. Insert the battery all the way until it locks in place with a click as the picture.

&lt;Fig. 9-2&gt;





### <Removing Battery>













1. Push the button as the picture.  
2. Withdraw it from the tool while sliding the button



## ► Indicators and Meaning (ALC 4540, ALC 4560, ALC 4640M)

Indicators		Meaning
Standby		► Green LED blinking
Charging		► Red LED on
Finish		► Green LED on
Battery High Temperature	 Red/Green	► Red & Green LED on
Battery low voltage		► Battery temperature has missed the normal range (0~45 °C) Charge will automatically start when allowable temperature is reached ► Pre-charging mode voltage of the battery is low (When constant voltage charging mode is switched to rise)

## ► Available Charger and Battery

	Battery	Available Charger
	B40L18B	   ALC 4540    ALC 4560    ALC 4640M
	B40L18A B52L18A	
	B20L18D/DF B25L18D/DF	
	B40L18D/DF B50L18D/DF	
	B50L22D B60L22D	 ALC 4640M
	B40L22B B50L22B B60L22B	

※ Charging battery B40L18B, B40L18A, B52L18A, B40L18D/DF, B50L18D/DF, B60L18D/DF use the charger ALC 4540, ALC 4560, ALC 4640M which can be checked voltage of each battery cell.  
 → Prevent overcharge for life and safety of battery.  
 → Charger ALC 4525 is not compatible.

※ Charging battery B40L22B, B50L22B, B60L22B use the charger ALC 4640M which can be checked voltage of each battery cell.  
 → Prevent overcharge for life and safety of battery.

## ► Battery Charger Troubleshooting

### 1. The LED light is not turned on when the battery is inserted

Cause	Solution
The power cord is not plugged in.	Check the power connection.
The power cord is not plugged in. Contact error because the charger terminal is corroded or bent.	Check the charger and battery terminals.
The battery is short-circuited.	Insert another battery and check if the charger functions normally.

### Any colored LED light other than red is turned on when the battery is inserted

Cause	Solution
Battery temperature is high.	If the battery is hot, the green and red LED lights will be turned on simultaneously. Wait until the battery is cooled enough and then reinsert it.
Battery temperature is low.	If the battery is cold, the LED light is OFF even though it is inserted into a charger. Leave the battery at room temperature. Once battery temperature rises to a rechargeable level, reinsert the battery.
Battery is at low voltage.	If the battery remains at low voltage due to over-discharge, the green and red LED lights will be turned on simultaneously in the beginning. This is a trickle charge mode activated to protect the battery. Check if the battery has returned to normal (red LED light) in a few minutes.

※ If the problem continues despite the said actions, contact the customer service center.

## 【Maintenance & Storage】

Make sure that the switch is turned off and the power supply disconnected before repair and maintenance.

► Keep the tool and vents clean at all times. Check and clean them regularly.

### ◆ Noise / Vibration

► Wear earplugs.

► According to measurement under EM 50260-1:199, the average noise level of 'A' is 78 dB(A) or below. During operation, noise can exceed 85 dB(A). The standard violation applied to the hands and arms is 2.5m/sq or less.

## 【Warranty】

- **The terms of warranty for the product is one year from the date of purchase. Unless the date of purchase is specified, the date of manufacture is applied.** However, please note whether the problem falls under the category of a paid repair service even during warranty period.
- The terms of the warranty for the motor and battery is 6 months from the date of purchase.
  - The battery is a consumable item. If the battery life ends, a new one should be used.
- **Paid Repair Service Guidelines**
- User negligence (soaking, external shock, overload work, etc.)
  - Natural disaster (fire, earthquake, etc.)
  - Product was randomly disassembled by the user
  - A fault resulting from repair or remodeling by a person/company other than Aimsak (or authorized agency)
  - A fault arising from operation in unusual work environments
  - Consumable items which become less efficient over time (carbon brush, bearing, sealing, power cord, chuck, etc.)
  - Bit, hand tools, giveaway, promotional gift (e.g., lantern)

### **Use the product within the scope of operation specified in the Manual.**

Failure to do so may result in product damage, reduction of lifespan or bodily injury. We shall not be responsible for such problems and they will not be covered by the warranty.

## MEMO