

MEMO

Aimsak

Operation Instructions

BLDC

BL18C70

18 V Brushless Reciprocating Saw



BL18C70

BL22C80

21.6 V Brushless Reciprocating Saw



BL22C80

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[Cautions]

- ▶ Do not attempt to overload, after consider intensity of the work using right power tools. If operating time has become excessively shorter, stop operating immediately. It may result in a risk of overheating, possible burns and even an explosion.
- ▶ Always be sure that the dust-cap is installed, when you work on the ceiling with dust, if you do not installed dust-cap, it may cause the tool will be breakdown.

▲ **WARNING** Read all safety warnings and instructions. Failure to follow all instructions may result in electric shock, fire and/or serious personal injury.

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Aimsak Inc.

【Tool Specification】

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

Model	BL18C70	BL22C80
Spec	18 V Brushless Reciprocating Saw	21.6 V Brushless Reciprocating Saw
Voltage	DC 18 Vd.c.	DC 21.6 Vd.c.
No load speed	2,400 / 3,050 / 3,400 spm	2,500 / 3,100 / 3,400 spm
Stroke	22mm	22mm
Switch	Variable Speed Control	Variable Speed Control
Battery	2.5kg	2,6kg
Net. Weight	ALC 4640M	
	AC100-110V / AC 200-240V / 50-60 Hz	

※ Aimsak battery is developed for Aimsak products only. Under the same voltage (e.g., 21.6V, 18V, 14.4V, 10.8V, 7.2V) or same mechanical specifications by battery type (e.g., slide, plug-in), it is compatible regardless of capacity (ampere: Ah).

【Exploded View】

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

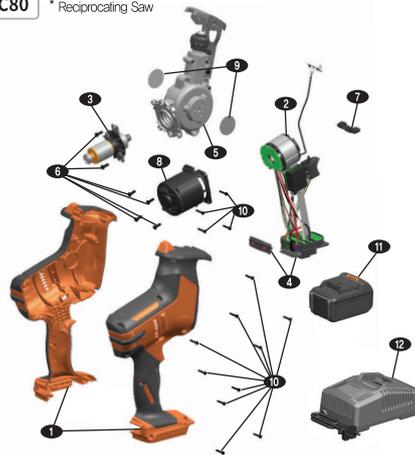
BL18C70 * Reciprocating Saw



Part Name

NO.	Part Name	Q'ty
1	Housing	1
2	Stator	1
3	Rotor	1
4	Switch	1
5	Gear Box	1
6	Bolt (+)	6
7	Lock Lever	1
8	Motor Cover	1
9	Antidust Tape	2
10	Star Screw (T10)	14
11	Battery	2
12	Charger	1

BL22C80 * Reciprocating Saw



Part Name

NO.	Part Name	Q'ty
1	Housing	1
2	Stator	1
3	Rotor	1
4	Switch	1
5	Gear Box	1
6	Bolt (+)	6
7	Lock Lever	1
8	Motor Cover	1
9	Antidust Tape	2
10	Star Screw (T10)	14
11	Battery	2
12	Charger	1

【Part Name】 <See Fig. 1>

<Fig. 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 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 Safety

- ▶ **Keep work area clean and well lit.**
Cluttered or dark areas invite accidents.
- ▶ **Do not operate power tools in an explosive atmospheres such as in the presence of flammable liquids, gases or dust.**
Any spark from power tools may ignite the dust or fumes.
- ▶ **Keep children and bystanders away while operating the power tool.**
Distractions can cause a loss of control.

2. Electrical Safety

- ▶ **Power tool plugs must match the outlet. Never modify the power plug in any way. Do not use any adapter plugs with grounded power tools.**
Unmodified plugs and matching outlets will reduce the risk of electric shock.
- ▶ **Avoid body contact with grounded surfaces such as pipes, radiators, microwave ovens and refrigerators.**
There is an increased risk of electric shock by contacting these surfaces.
- ▶ **Do not expose power tools to rain or wet conditions.**
Water entering a power tool will increase the risk of electric shock.
- ▶ **Do not abuse the cord. Never use the cord for 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 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.
- ▶ **If operating a power tool in a humid place is unavoidable, use earth leakage circuit breaker (ELCB).**
The use of the ELCB reduces the risk of electric shock

3. User Safety

- ▶ **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool when tired or under the influence of drugs, alcohol or medication.**
A moment of inattention while operating power tools may result in serious personal injury.

- ▶ **Use personal protective equipment. Always wear 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 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.
- ▶ **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.
- ▶ **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 clothing or jewelry. Keep hair, clothing and gloves away from moving parts.** Loose clothes, jewelry or long hair can be caught in moving parts.
- ▶ **When using dust-proof equipment or dust collector, make sure that it is properly connected.** The use of such unit can reduce dust-related hazards.

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 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 condition that may affect the power tools' operation.**
If any defect is found, make sure that it is repaired before use. Poor maintenance often causes accidents.
- ▶ **Keep cutting tools sharp and clean.** Well-managed cutting tools with sharp cutting edges are well operated and easy to control.
- ▶ **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.
- ▶ **If a rechargeable tool or charger having a USB port is used, make sure that there is no short between USB connector pins.**
Shorts may result in fire or explosion.

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 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 purposes 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.
- ▶ **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.**

9. Safety Instructions

- ▶ **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.
- ▶ **Use clamps or another practical way to secure and support the workpiece to a stable platform.** Holding the work by hand or against your body leaves it unstable and may lead to loss of control.
- ▶ **Do not operate this tool for long periods of time. Vibration caused by the operating action of this tool may cause permanent injury to fingers, hands, and arms.** Use gloves to provide extra cushion, take frequent rest periods, and limit daily time of use.

⚠ **WARNING:** Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are;

- a. lead from lead based paints,
- b. crystalline silica from bricks and cement and other masonry products, and
- c. arsenic and chromium from chemically treated lumber

Your risk from these exposures varies, depending on how often you do this type of work, to reduce your exposure to these chemicals: work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

【 Operating Instructions 】

◆ Operation

▶ Notices 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.

◆ Precaution

▶ Metal

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

▶ Wood

Avoid cutting treated wood included material to harmful for human such as lead-based paint and so on. It may cause to impair your health. Wood dust particles may result allergic reaction and asthma to contact a partical of dust and inhale it. A beech and Oak may cause serious health problem. Some material contains chemicals which may be toxic. Take caution to prevent dust inhalation and skin contact. Follow material supplier safety data.

- Power tools create sparks which may ignite the dust or fumes.
- Make sure that work area is well ventilated.
- Always use safety goggles or glasses with side shields.
- Protective equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.



▶ Installing or removing the blade (Refer to Fig. 2)

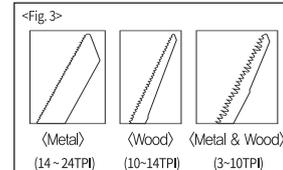
1. The Switch off first and be sure that push the lock-button  and make the tool doesn't operate.
2. The blade clamp sleeve rotates and hold in this position, Insert the blade into the blade clamp as far as it will go.

- * Make sure that the blade cannot be extracted even though you try to pull it out.
- * If you do not insert the blade deep enough, the blade may be ejected unexpectedly during operation. This can be extremely dangerous.



▶ Select of the blade (Refer to Fig. 3)

Only use accessory or attachment for its stated purpose it will help to enhance a work efficiency and to lengthen the life of the blade



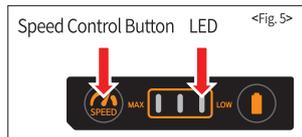
▶ Trigger Lock-On / Lock-Off (Refer to Fig. 4)

To lock the trigger, push the trigger lock to the right. The trigger will not work while the switch is in the locked position. Lock the trigger when storing the tool and when the tool is not in use. To unlock the trigger, push the trigger lock to the left. The electric brake engages when the trigger is re-released, causing the blade to stop and allowing you to proceed with your work.



▶ Speed Level Display (Refer to 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.

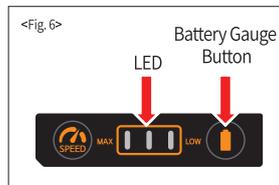


LED Display	BL18C70	BL22C80
	SPEED	SPEED
3 lights on	3,400 spm	3,400 spm
2 lights on	3,050 spm	3,100 spm
1 light on	2,400 spm	2,500 spm

▶ Battery Gauge Display (Refer to Fig. 6)

LED of speed level display on top of tool lights up a couple of seconds when trigger is pulled. Check the battery remaining as below.

LED Display	Battery Remaining
3 lights on	(over) 80%
2 lights on	(over) 50%
1 light on	(over) 20%
1 blinking	20% or less



⚠ CAUTION! Safe Mode Display

LED light shows as below for abnormal status of tools.

Issue	LED Indicator		Handling Tips
	On	Off	
Low voltage	LED Off		Contact designated repair center by Aimsak or the customer service center.
High temperature battery protection	LED On 0.7s / Off 0.3s		Let the tool cool down before use. Do not overload the tool.
High temperature switch protection	LED On 0.3s / Off 0.7s		Let the tool cool down before use. Do not overload the tool.
Overcurrent cut - off	LED On 0.05s / Off 0.1s On 0.2s / Off 0.65s (2 times Flashing)	 	Avoid the work out of tool ability range.

▶ Installing and removing battery (Refer to Fig. 7-1, 7-2)

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.

<Fig. 7-1>

<Inserting Battery>



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

<Fig. 7-2>

<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	▶ Ready for charging
Charging  ▶ Red LED on	▶ Battery is charging
Finish  ▶ Green LED on	▶ Fully charged
Battery High Temperature  ▶ Red & Green LED on	▶ Battery temperature has missed the normal range (0~45 °C) Charge will automatically start when allowable temperature is reached
Battery low voltage  Red/Green	▶ 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