

MEMO

Aimsak

Operation Instructions

BL22M80

21.6 V BRUSHLESS IMPACT DRIVER

BL22Q80

21.6 V BRUSHLESS IMPACT WRENCH

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**WARNING****Read all safety warnings and instructions.**

Failure to follow all instructions may result in electric shock, fire and / or serious personal injury.

[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.

Aimsak

MADE IN KOREA (2017-08)

PU050290

Aimsak Inc.

【 Tool Specification 】

► Specification

	BL22M80 Brushless Impact Driver	BL22Q80 Brushless Impact Wrench
Voltage	21.6 Vd.c.	
No load speed	218 N·m	315 N·m
Impact per minute	0~1,300 / 3,100 / 3,600 min ⁻¹	0~1,000 / 2,400 / 2,800 min ⁻¹
Max. Torque	0~1,400 / 3,400 / 4,000 ipm	0~1,100 / 2,700 / 3,200 ipm
Chuck capacity	6,35 mm (1/4" HEX)	12,7 mm (1/2" Square)
Switch	Various Speed Control	
Net. Weight	1,7 kg	1,8 kg

► Contents

	BL22T80	BL22R80
Cordless Tool	1 EA	1 EA
Battery	2 EA	2 EA
Charger	1 EA	1 EA
Operation Instructions	1 EA	1 EA
Plastic Case	1 EA	1 EA

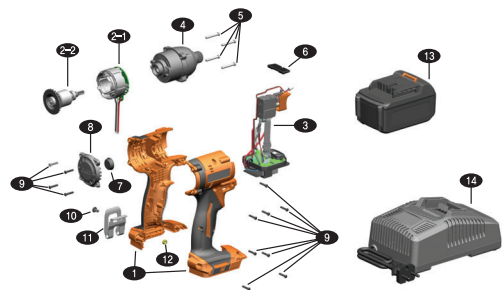
※ Due to our continuing program of research and development, the specifications herein are subject to change without notice,

※ Note : Specifications may be changed by the requirement of country.

【 Exploded View 】

BL22M80

* 21.6 V Brushless Impact Driver



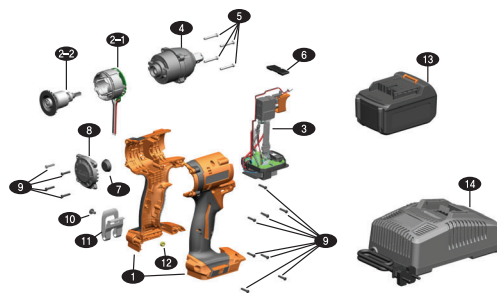
Part Name

NO.	Part Name	Q'ty
1	Housing	1
2-1	Stator	1
2-2	Rotor	1
3	Switch	1
4	Gear Box	1
5	Screw (+)	4
6	Cap	1
7	Name Tag	1
8	Reversing Lever	1
9	Star Screw	12
10	Screw (+)	1
11	Belt Hook	1
12	Nut	1
13	Battery	2
14	Charger	1

※ The Specifications herein are subject to change without notice,

BL22Q80

* 21.6 V Brushless 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
5	Screw (+)	4
6	Cap	1
7	Name Tag	1
8	Reversing Lever	1
9	Star Screw	12
10	Screw (+)	1
11	Belt Hook	1
12	Nut	1
13	Battery	2
14	Charger	1

【 Safety Instructions 】



WARNING

Read all safety warnings and instructions.

Failure to follow all instructions may result in electric shock, fire and / or serious personal injury.

Save all warnings and instructions for future reference.

The term "Power tool" in the warnings refers to corded power tool 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.

3. Personal safety

- ▶ **Stay alert, watch what you are doing and use common sense when operating power tools.** Do not use power tools 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.
- ▶ **Use safety equipment.** Always wear proper eye protection. Safety equipment such as dusk-mask, non-skid safety shoes and hearing protection, must be used for appropriate conditions. These will reduce personal injuries.
- ▶ **Prevent unintentional starting.** Ensure the switch is at off-position before connecting to power source and/or battery pack, picking up or carrying the tool. Carrying power tools with your finger on the switch may cause accidents.
- ▶ **Remove any adjusting key or wrench before turning on the power tool.** A wrench or a key left attached to a retaining part of the power tool may result in personal injury.
- ▶ **Do not overreach.** Keep proper footing and balance at all times. This enables better control of the power tool in unexpected situations.
- ▶ **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.
- ▶ **If devices are provided with the connection of dust extraction and collection facilities, ensure these are connected and properly used.** Use of dust collection can reduce dust-related hazards.

4. Use and care

- ▶ **Do not force the power tool.** Use the correct power tool for your application. The correct application will do better job and safer at the rate for which it was designed.
- ▶ **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.
- ▶ **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.** Such preventive safety measures reduce the risk of starting the power tool accidentally.
- ▶ **Store idle power tools out of the reach of children and do not allow people unfamiliar with the power tool or these instructions to operate the power tool.** Power tools are dangerous in the hands of untrained users.
- ▶ **Maintain power tools.** Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tools operation. If damaged, have the power tool repaired before use. Many accidents are caused by poorly maintained power tools.

- ▶ **Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
- ▶ **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 different operations from those intended could result in a hazardous situation.

5. Li-ion Battery use and care

- ▶ **Li-ion Battery can be recharged by 100% even if it is not fully discharged.** (Li-ion battery has no memory effect*)
- * Memory effect : After first use, or neglect long-term use 70~80% of the exercise becomes ability phenomenon.
- ▶ **Use power tools with specifically designated battery packs.** Use of any other battery packs may create a risk of injury and fire.
- ▶ **Ensure that the outside surface of battery terminal is clean.** It causes fire, explosion.
- ▶ **Cool off the power tool for 10 minutes before you replace to a new battery if you operated it until discharged.** Heat leads to damage of tool and battery.
- ▶ **Do not disassemble the battery, and protect against shock.** Short circuits occurs and may cause fires and explosions.
- ▶ **Allow heated batteries to cool off before charging.** Refer to the enclosed with an NTC temperature monitor which allows charging only within a temperature range of 0~55°C. Or it will cause serious damage to the battery pack.
- ▶ **Do not use the battery charger connect to transformers as DC power charger or engine generator.** Due to failure and fire.
- ▶ **The charger has been designed to stop to charge the battery in cold weather below 0°C.** Charge the battery at room temperature – 0°C~45°C (32°F ~113°F).
- ▶ **Avoid enclosed place while charging and use in well-ventilated place.** Also, do not cover with fabrics and vinyl while charging due to risk of fire.
- ▶ **Do not disassemble the battery charger randomly.** Due to risk of failure.
- ▶ **Have your battery charger repaired by an authorized Repair Center.**

6. Service

- ▶ **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. This will extend battery life.
- ▶ **Avoid to contact (+) and (–) terminal with metal.** Also do not keep and move with metal necklace and hairpin, due to risk of fires, burns and explosion by short-circuit.
- ▶ **Do not connect (+) and (–) in reverse way, do not charge as (+) and (–) polarity reversed.** Charging as the change of battery polarity has a risk of fire or explosion.
- ▶ **Do not expose battery to water or rain.**
- ▶ **Never completely discharge the battery pack.** If it is not used for long time, recharge once in 3 months because it cannot be charged when completely discharged. If so, contact nearest repair center.
- ▶ **Do not let Li-ion battery discharged fully and fully charge the battery if it will not be used for a long time.** The battery may not be able to be charged after battery is fully discharged. In this case, contact authorized repair center.

- ▶ Ensure that batteries are charged using the correct charger recommended by the manufacturer. Otherwise, It may cause the risk of fire or explosion.
- ▶ Do not expose the battery to the sunshine for a long time period due to risk of fire and explosion.
- ▶ Overloading or using in high temperature causes of battery electrolyte.
If skin made any contact with electrolyte, wash immediately with soap and water.
Ensure that if electrolyte gets in to your eyes, rinse them out with water and seek medical attention right away. Liquid comes out from the battery irritates skin and causes fire.
- ▶ Do not put the battery next to fire or burn it even if it is damaged badly or completely discharged due to risk of fire and explosion.
- ▶ Ensure battery is disposed safely as instructed by manufacturer. Do not throw the battery away in household garbage, fire or water due to risk of fire, explosion and environmental pollution.

◆ Li-ion Battery Charger Instructions.



WARNING!

Use the correct voltage of charger.

- ▶ Do not charge with other manufacturer batteries other than 'Aimsak'. It is only suitable for charging Aimsak batteries due to risk of fire and explosion.
- ▶ Ensure that the plug and power cord is properly used.
Do not use damaged charger due to electric shock.
- ▶ Ensure the switch is at off position before inserting battery pack. Inserting the battery pack into power tools that have the switch on may cause accidents.
- ▶ Keep the battery charger in a dry and frost-free place. Water entering in the battery charger create failure and electric shock.
- ▶ Do not carry the battery charger with power cord and not to plug out by the wire.
Protect from heat, water and sharp edge due to risk of short-circuit.
- ▶ Plug out immediately if battery charger is damaged or heated, due to fire and explosion when charging continuously.
- ▶ Ensure that charger terminal is clean. Dust may causes electric shock.
- ▶ Do not charge and operate the battery charger on combustible ground or surroundings due to its heating during the charging process. Heated battery charger currents may cause fire.

【 Operating Instructions 】

◆ Battery protection system

Flowing a over-current on a battery, the switch cuts off a current and the tool will be stopped. The switch automatically cuts off power to the motor to extend battery life. This tool is equipped with a battery protection system.

- ※ Continuous load work causes high temperature of gear box surface.
Make sure to wear gloves during tool operation to prevent the burn damage.

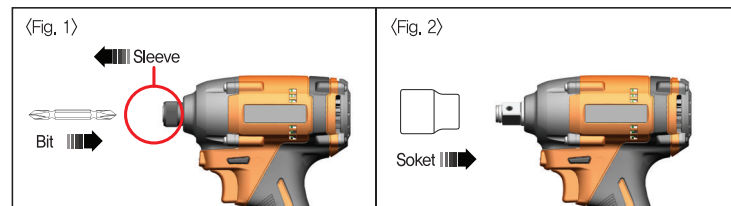
▶ How to insert bit (BL22M80) (Refer to Fig. 1)

- ① Place switch to "OFF" position, and place reverse lever to neutral.
- ② Pull sleeve to direction as showing in (Fig. 1), and insert bit to hexagon bit hole.
- ③ Release sleeve to fix bit in position.
- ④ Swing the bit back and forth to check the bit is properly fixed.

▶ How to insert socket (BL22Q80) (Refer to Fig. 2)

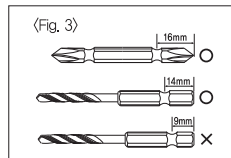
Always choose right size socket according to bolt and nut when using socket. Otherwise, tightening will not be easy and it may damage bolt and nut.

- ① Place switch to "OFF" position, and place reverse lever to neutral.
- ② Push socket as (Fig. 2) and push until socket is fixed in place.
- ③ Swing the socket to check the socket is properly fixed.



△ Caution! (Refer to Fig. 3)

1. If the bit is not inserted deep enough into the sleeve, the sleeve will not return to its original position and the bit will not be secured.
2. To install these types of bits (more than 14mm), follow the procedure.



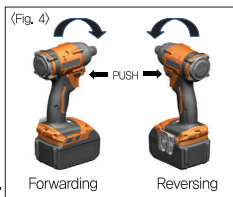
* Right (Fig. 3) bit is not a component of the product.

► Reversing the rotational direction (Refer to Fig. 4)

Clockwise rotation — press the reversing lever as the picture,
(Screwing in and tightening)
Counterclockwise rotation — press the reversing lever as the picture,
(Releasing screw operation)

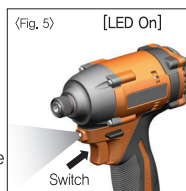
⚠ Caution!

Use the reversing switch only after the tool comes to a complete stop.



► Switch action (Refer to Fig. 5)

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.



► Abnormal display mode function (Refer to Fig. 5)

- In case of abnormal mode during operation, LED light shows the current status of the tool as shown below.
- LED operation automatically turns off after 10 seconds.

※ The LED positions of the BL22M80 and BL22Q80 are the same.

Issue	LED Indicator	
	On	Off
Terminal contact failure	LED Off	
High temperature battery protection	LED 3 SPACE On 0.7s / Off 0.3s	
High temperature switch protection	LED 3 SPACE On 0.3s / Off 0.7s	
Overcurrent shutdown	LED 3 SPACE On 0.05s / Off 0.1s On 0.2s / Off 0.65s (2 Time Flashing)	
Motor sensor recognition error	LED 3 SPACE On 0.5s / Off 0.5s	

► Speed control display function (Refer to Fig. 6)

Pressing speed control button turns on speed control display LED for several seconds. It changes to 3 Level > 1 Level > 2 Level > 3 Level each time pressing button. After setting speed control, it is stored in memory and stays even after changing the battery. Motor torque and no-load rpm per level setting is as follows.

► Auto Function

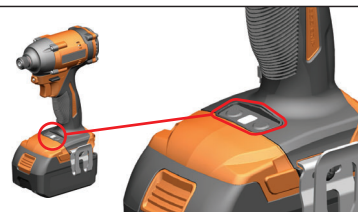
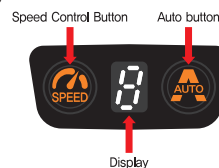


Speed and torque changes automatically according to required load during operation. Pulling switch starts low speed rotation impact and rotation speed gradually increase. After pressing Auto button, display shows (A), and operation starts as Auto mode when pulling the switch.

※ 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.

(Fig. 6)



※ No load rpm & torque per speed level

LED Display	BL22M80		BL22Q80	
	No load rpm	Torque	No load rpm	Torque
3 Level	3,600 rpm	218 N·m	2,800 rpm	315 N·m
2 Level	3,100 rpm	188 N·m	2,400 rpm	270 N·m
1 Level	1,300 rpm	80 N·m	1,000 rpm	115 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)

► Troubleshooting per display

※ Continuous over-load operation decreases tool performance

	Temp. sensor malfunction	Battery High Temp	Battery Low Voltage	Switch High Temp	Over current	Switch Trip
Display						
Trouble shooting	Check tool & battery with customer service	Use after battery temp. cool down	Use after battery charging	Use after switch temp. cool down	Over-load operation has been applied	Check tool & battery with customer service

► Fuel gauge (Refer to Fig. 7)

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

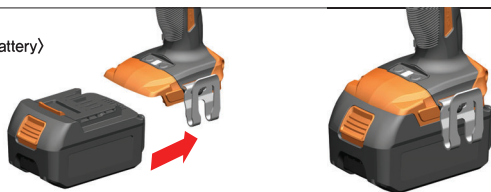
LED display	Detail	LED display	Detail
	More than 80%		20% ~ 50%
	50% ~ 80%		Below 20%



► Installing and removing battery (Refer to Fig. 8-1, 8-2)

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. 8-1)
(Inserting Battery)



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

(Fig. 8-2)
(Removing Battery)



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

► 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.

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

Indicators		Meaning
Standby		► Ready for charging.
Charging		► Battery is charging.
Finish		► Fully charged.
Battery High Temperature		► 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 a constant voltage charging mode is switched to rise.)

► Charger troubleshooting

1. If the LED lamp does not work,
 - Check connection of power cord into the outlet,
 - Check the cleanliness of power cord and battery terminal,
 - Insert another battery to check the charger working normally,
2. The green LED blinking when the battery is applied,
 - Low temperature : Let stand at room temperature until it reaches to normal temperature.

※ If this self-checking does not solve the problem, please contact with Aimsak or authorized repair center nearest you.

► Symbols

The following symbols are important for reading and understanding the operating instructions. Please take note of the symbols and their meaning.
The correct interpretation of the symbols will help you to use the machine in a better and safer manner.



Read all safety instructions



Wear hand protection



Wear head protection



Wear eye protection



Wear hearing protection



Wear dust mask



Caution for Hot surface



Caution for High voltage

【 Maintenance & Storage 】

Always be sure that the tool is switched off and the battery is removed before attempting to perform checking or maintenance.

- Keep the tool clean and check it regularly.

【 Warranty 】

► **Warranty period is one year from date of purchase, and manufacturing date is applied if there is no purchase date.** Some States in USA do not allow the exclusion or limitation of incidental or consequential damages, so some limitation or exclusion may not apply to you.

- Motor & Battery warranty period is six months from date of purchase.
- Since battery is consumable item, new one has to be purchased after its lifetime.

- The warranty does not apply where;

- Mishandling by user (such as immersion, external shock, overload operation, or etc.)
- Natural disasters (fire, earthquake, flood, etc.)
- Tool has been arbitrary disassembled by user
- Malfunction after repair or modification by unauthorized personal or repair shop
- Malfunction caused by not using for its purpose or normal work environment
- Natural wear of consumable parts
(carbon brush, bearing, sealing, electric cord, chuck, etc.)
- Bit, hand tool, gifts and promotional items

Use within scope of work range instructed in manual. Otherwise, damage or shorter lifetime of product will be occurred, or it may cause personal damage. This is out of manufacturer's responsibility and user cannot have repair of tools.

【 Environmental Protection 】

Li-ion

Do not dispose power tools and batteries into household waste.

Do not dispose power tools and batteries into fire or ocean.

Sort by eco-friendly recycling.

Defective or dead out battery packs must be recycled.



When power tools and batteries that are no longer usable, they must be collected separately and disposed by eco-friendly correct manner.

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