

## MEMO

**Aimsak****Operation Instructions****AI 414RW****14.4 V CORDLESS IMPACT RATCHET****Index**

1. Specification	2
2. Exploded view	2
3. Safety Instructions	3~6
4. Operating Instructions	7~10
5. Maintenance & Storage	10
6. Warranty	11

※ Product images may differ from the actual product.

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

**[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.

**Aimsak**

Add : 171, Yangcheong Songdae-Gil, Ohchang-eup, Cheongwon-gu,  
Cheongju-Si, Chungcheongbuk-do, Rep. of Korea,  
Representative No. 82-43-217-8400  
E-mail : aimsak@aimsak.com

MADE IN KOREA &lt;2020-07&gt;

PU050375 / A0

**Aimsak Inc.**

## 【 Tool Specification 】

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

Spec	Model	AI 414RW
		Impact Ratchet
Voltage		DC 14.4 Vd.c.
Square Drive Anvil		9.52mm (3/8" Square)
No Load RPM		0~280 min <sup>-1</sup>
Max. torque		60 N·m
Switch		Various Speed Control
Battery		Li-ion 14.4 V
Net Weight		0.98 kg
Charger		ALC 3540M
Charger input		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 】

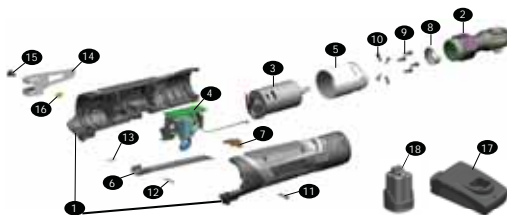
※ Product exploded view is subject to change without notice due to change of function and parts for product improvement.

AI 414RW

\* Impact Ratchet

\* Belt Hook : Sold Separately

Part Name



NO.	Part Name	Q'ty
1	Housing	1
2	Gear Box	1
3	Motor Ass'y	1
4	Switch Ass'y	2
5	Motor Bracket	1
6	Paddle Switch	1
7	Lock lever	1
8	Washer	1
9	Machine Screw	4
10	Motor Bracket	4
11	Screw	4
12	Spring Pin	1
13	Clamp Housing	2
14	Belt Hook	1
15	Screw	1
16	Nut	1
17	Charger (ALC3540M)	1
18	Battery (20P14A)	2

## 【 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

- **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 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. 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 clothing 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 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 tool 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.

#### 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 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.
- ▶ **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 】

### ◆ Tool Operation

#### ▶ Cautions before Operation

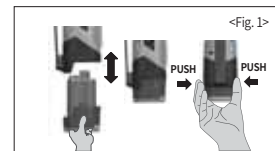
In the event of an overcurrent in Li-ion batteries, the switch cuts off an electrical current, and the tool stops. At over-discharge, the tool is automatically stopped to protect the Li-ion batteries.

\*Any stopping during operation because of overload is not a fault. It is safe to resume operations.

\*Continuous load work causes high temperature of gear box surface. Make sure to wear gloves to prevent burn damage.

#### ▶ Battery Installation and Removal <See Fig. 1>

Do not use too much force to insert the battery. Push up the battery until a click is heard. Failure to do so may cause the battery to be removed from the tool. To remove the battery, press buttons at two sides of battery and pull down.



#### ▶ Switch action <See Fig. 2>

The RPM is adjusted by the degree of triggering. To stop the tool, release the switch. Since the switch has a safety brake, the tool stops as soon as the switch is released. 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.



#### ⚠ CAUTION! Safe Mode Display

LED light shows as below for abnormal status of tools.

Issue	LED Indicator <span>On</span> <span>Off</span>	Handling Tips
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.

## ▶ Forward/Reverse Toggle <See Fig. 3, 4, 5>

**Forward :** Rotate the Forward/Reverse Toggle counterclockwise in tightening

**Reverse :** Rotate the Forward/Reverse Toggle clockwise in releasing

⚠ **Attention!** Check the direction of rotation before use



## ▶ Lock-Off Switch <See Fig. 6, 7, 8>

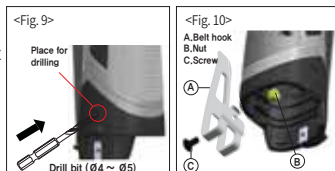
To lock the paddle switch, slide the lock switch to the locked position. To unlock the paddle switch, slide the lock switch to the unlocked position. The paddle switch will not work when the Always lock the paddle switch or remove the battery pack before performing maintenance, changing accessories, storing the tool and any time the tool is not in use.



## ▶ How to apply Belt Hook <See Fig. 9,10>

1. Remove the battery, and drill Ø4-Ø5 hole on belt hook groove on desired side by drill bit.
2. Place belt hook and nut on desired side and fasten the screw.

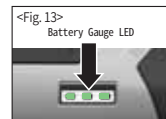
\* Belt Hook : Sold Separately



## ▶ Battery Gauge Display <See Fig.13>

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.

3 lights on	(over) 80%	1 lights on	(over) 20~50%
2 lights on	(over) 50~80%	Blink	20% or less



## ▶ Charger LED display indication

Indicators	Meaning
<b>Standby</b>	▶ Ready for charging
<b>Charging</b>	▶ Charging battery
<b>Finish</b>	▶ Battery fully charged
<b>Battery High Temperature</b>	▶ Charging is on hold due to out of possible charging temperature range of battery. (0~45°C) (Charging automatically starts when battery temperature reaches allowable temperature range.)
<b>Battery low voltage</b>	▶ Charger is in pre-charging mode due to low voltage of battery. (Charging automatically starts when battery voltage reaches allowable range.)

## ▶ Battery Charger Troubleshooting

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






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

2. 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 designated repair center by Aimsak or the customer service center.

### ► Applicable Charger per Battery

	Voltage	Battery	Applicable Charger
	14,4 V	B13P14 B15P14	 ALC 3540
		B20P14A B26P14A B30P14A	 ALC 3540M
		B40P14A B52P14A B60P14A	

※ To ensure the lifespan and safety of batteries, use ALC3540 or ALC3540M only for charging.

※ For charging B20P14A, B26P14A, B40P14A, B52P14A, B60P14A use charger that provides individual battery cell voltage check [ALC3540, ALC3540M]  
→ Individual battery cell voltage balancing circuit prevents overcharging and extends battery lifespan and safety

※ For charging B13P14N, B13P18, B15P14N, B15P18, use the guide for charger. <See Fig. 14>



<Fig. 14>

## 【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 for safe and right operation.

► Check and clean the tool 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 term 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 warranty even during warranty period.

- The term 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 must be purchased.

### ► Paid Warranty 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.