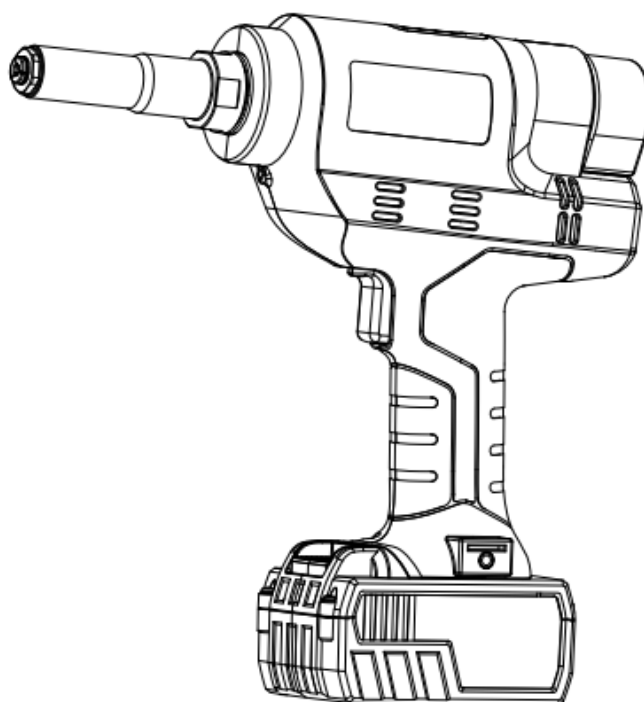




Electric Riveting Tool

MS-ZD20S



P.N. of Tool		MS-ZD20S
Motor		18V, DC motor
Operating temp. range	°C	0-60
Noise	<i>dBA</i>	
Max. Vibration	<i>m/s²</i>	
Weight of Tool	<i>kg</i>	1.8
Effective Displacement	<i>mm</i>	0~8
PULL Pressure (Max.)	<i>kN</i>	20

Meishan CRRC Fastening System CO., Ltd.



连接世界 与你同行
Work with You to Connect the World

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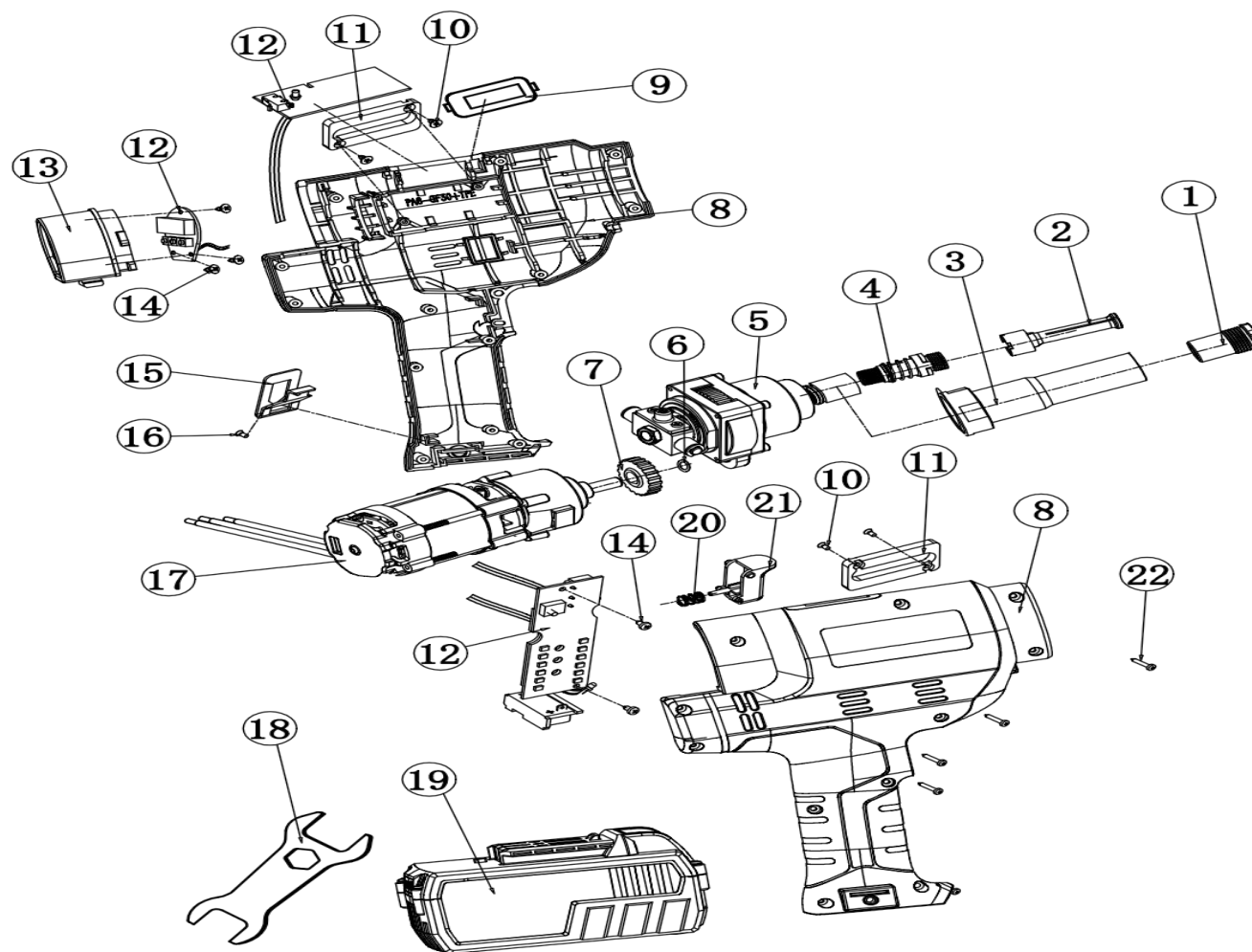
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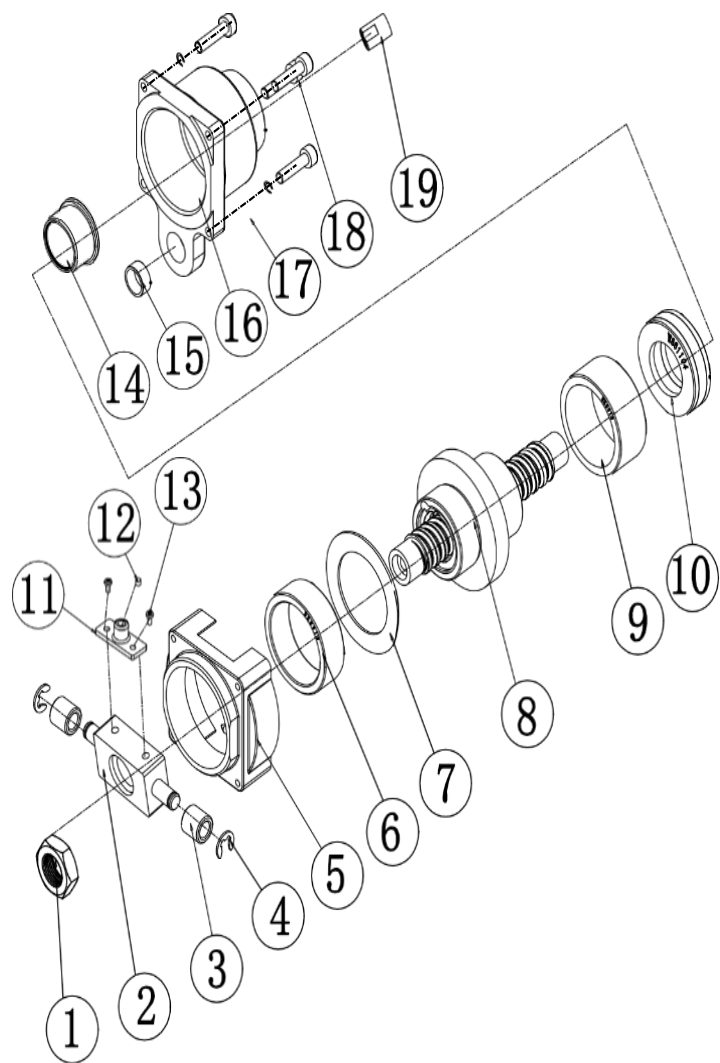
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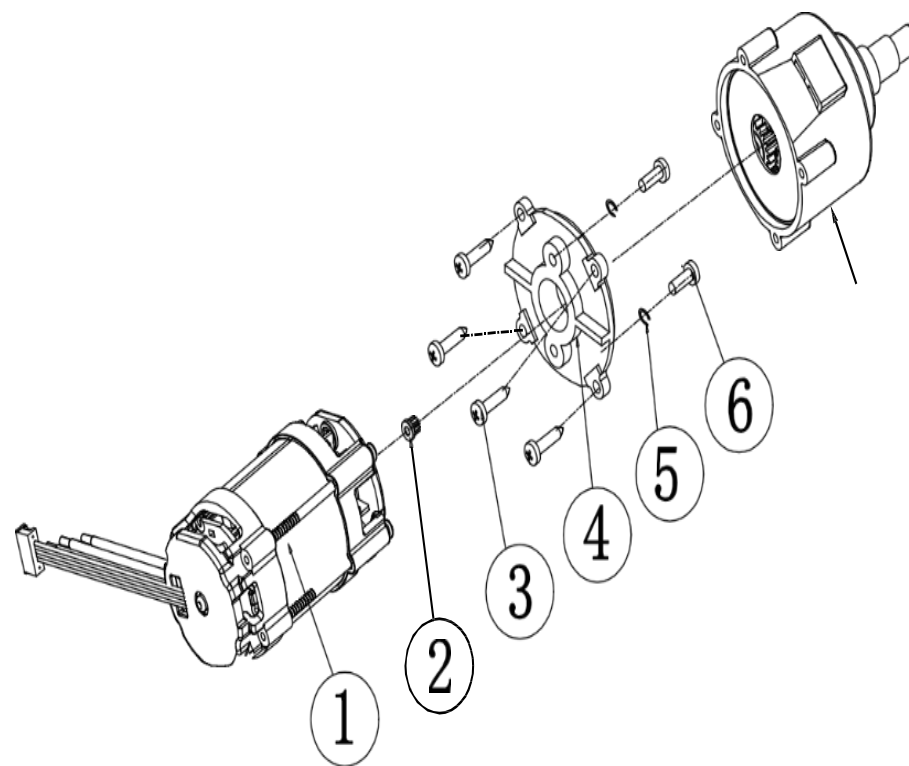
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A



B



C

List of Accessories in Exploded View A

No.	Item	Size	Quantity
1	Anvil		1
2	Claw		1
3	6mm jacket		1
4	Spindle assembly		1
5	Drive assembly		1
6	Torsion pad		1
7	Output gear	45 teeth	1
8	Left and right housings		1
9	General assembly of cover plate		1
10	Flat machine self-tapping screw	Flat machine self-tapping ST3x10	4
11	Guide rail		2
12	Circuit board assembly		1
13	General assembly of digital display cover plate		1
14	Machine self-tapping screw	Machine cross self- tapping screw ST3x10	5
15	Belt fastener		1
16	Hexagon socket cap screw	M4*8 GB/T70.1-2008	1
17	Reducer assembly		1
18	Wrench		1
19	Battery pack	B1805/18V/2P5S	1
20	Trigger spring		1
21	Trigger switch		1
22	Machine self-tapping screw	Machine cross self- tapping screw ST3x14	11

List of Accessories in Exploded View B

No.	Item	Size	Quantity
1	Stainless steel nut	M12x1 6mm	1
2	Guide block		1
3	Guide wheel		2
4	E-type circlip M4	Φ4	2
5	Finished aluminum rear cover		1
6	Needle bearing	HK3012 Φ30*Φ37*16	1
7	Wear-resistant gasket	Φ30*Φ41*0.7	1
8	Ball screw assembly	73 teeth	1
9	Needle bearing	HK3016 Φ30*Φ37*16	1
10	Plane thrust bearing		1
11	Machine screw	M3*6	2
12	High-temperature magnetic column	Magnetic bead Φ3x4	1
13	Magnetic bead holder		1
14	Locating sleeve		1
15	Needle bearing	HK0709Φ7*Φ11*Φ9	1
16	Extended iron front cover		1
17	Spring washer		4
18	Hexagon socket bolt		4
19	6mm spindle	M3*25 Grade 12.9	1

List of Accessories in Exploded View C

No.	Item	Size	Quantity
1	Inductive brushless motor		1
2	Motor gear		1
3		Self-tapping ST3*12	4
4	Plastic gearbox		1
5	Spring washer	M3	2
6	Machine screw	M3*8	2
7	Reducer assembly		1

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1 Safety

Please read all instructions carefully. Failure to follow the instructions listed below will cause fire or serious injury. Meishan CRRC Fastening System Co., Ltd. is not responsible for damage or personal injury caused by unsafe use, lack of maintenance or improper operation. Do not tear off warning signs, labels or stickers. If you have any questions or concerns, please contact Meishan CRRC Fastening System Co., Ltd. for relevant instructions.

1.1 Workplace safety

1. **Keep the workplace clean and bright.** Chaotic and dark places can cause accidents.
2. **Do not operate the electric tools in an explosive environment, such as flammable liquid, gas or dust.** Sparks generated by electric tools can ignite dust or gases.
3. **Keep away from children and bystanders when operating electric tools.** Inattention can cause you to lose control of the tool.

1.2 Electrical safety

1. **The plugs of electric tools must be mating with the sockets. Never modify the plugs in any way.** Electric tools that need to be grounded cannot use any conversion plug. Unmodified plugs and mating socket-outlets will reduce the risk of electric shock.
2. **Do not expose electric tools to rain or humid environment.** Water ingress into electric tools will increase the risk of electric shock.
3. **Do not abuse the flexible cords. Never use flexible cords to handle, pull or unplug electric tools. Keep flexible cords away from heat, oil, sharp edges or moving parts. Damaged or tangled cords will increase the risk of electric shock.**
4. **When using electric tools outdoors, use extension cords suitable for outdoor use. Wires suitable for outdoor use will reduce the risk of electric shock.**
5. **Electric tools will generate electromagnetic fields (EMF) that are harmless to users. However, users of pacemakers and other similar medical devices shall consult the manufacturer and/or doctor of their device for advice before operating this electric tool.**

1.3 Personal safety

1. **Stay alert, pay attention to the operation and keep awake when operating electric tools. Do not operate electric tools when you are tired or have reactions to drugs, alcohol or treatment.** Instantaneous negligence in the operation of electric tools will cause serious personal injury.

2. **Use personal protective equipment.** Always wear goggles. Protective devices, such as dust masks, anti-skid safety shoes, safety helmets and hearing protection under appropriate conditions can reduce personal injury.
3. **Prevent accidental starting.** Make sure that the switch is in the OFF position before connecting the power supply and/or battery pack, picking up or carrying tools. Handling tools with fingers on the switch or energizing when the switch is turned on will cause danger.
4. **Remove all adjusting keys or wrenches before turning on the electric tools.** Wrenches or keys left on rotating parts of electric tools will cause personal injury.
5. **Do not overstretch your hands. Always pay attention to your footing and body balance.** In this way, the electric tools can be better controlled in case of accidents.
6. **Dress appropriately.** Do not wear loose clothing or jewelry. Keep your hair and clothes away from moving parts. Loose clothing, accessories or long hair may get caught in moving parts.
7. **Please always wear goggles when using electric tools to avoid eye injury.** Safety glasses must comply with ANSI Z87.1 of the United States, EN 166 of Europe or AS/NZS 1336 of Australia/New Zealand. In Australia/New Zealand, face masks are required by law to protect the face.
8. **Stay alert, pay attention to the operation and keep awake when operating electric tools. The operator shall not operate the electric tools under fatigue, drugs, alcohol or treatment reaction.** Distraction during operation of the electric tools will cause serious personal injury.

1.4 Use and Precautions of Electric Tools

1. **Do not use electric tools reluctantly, and use appropriate electric tools according to the purpose.** Choosing the right rated power tool will make your work more efficient and safer.
2. **If the switch cannot turn on or off the power supply, do not use this electric tool.** Electric tools that cannot be controlled by switches are dangerous and must be repaired.
3. **Unplug the power supply and/or remove the battery pack (if removable) before any adjustment, accessory replacement or storage of electric tools.** This anti-beat safety measure reduces the risk of accidental starting of the electric tools.
4. **Store unused electric tools outside the reach of children, and do not allow people who are unfamiliar with electric tools or understand these instructions to operate them.** Electric tools are dangerous in the hands of untrained users.
5. **Maintain the electric tools and their accessories. Check whether the moving parts are adjusted in place or stuck, and check for damage to parts and other conditions affecting the**

operation of electric tools. In case of any damage, the electric tools shall be repaired before use. Many accidents are caused by poor-maintained electric tools.

6. Keep the cutting tool sharp and clean. Well-maintained tools with sharp cutting edges are difficult to jam and easy to control. WD-40 metal cleaner can be used for tool bit lubrication.

7. Select electric tools, accessories and tool bits according to the operation instructions and considering the operating conditions and operations to be carried out. The use of electric tools for operations that are incompatible with their purpose may lead to hazardous situations.

8. Keep the handle and gripping surface dry, clean and free of grease. In unexpected cases, slippery handles cannot guarantee grip safety and control of the tool.

9. Do not wear cloth work gloves that may become entangled when using this tool. Cloth work gloves caught in moving parts may cause personal injury.

1.5 Important Safety Precautions for Battery Pack

1. Before using the battery pack, please carefully read all instructions and warning signs on (1) the battery charger, (2) the battery, and (3) the product where the battery is used.

2. Do not remove or modify the battery pack. Otherwise, it may cause fire, overheating or explosion.

3. If the running time of the machine becomes too short, please stop using it immediately. Otherwise, it may cause overheating, fire or even explosion.

4. If the electrolyte enters your eyes, please rinse it with clean water and seek medical attention immediately. Otherwise, it may result in impaired vision.

5. Do not short-circuit the battery pack:

(1) Do not allow any conductive material to touch the terminal.

(2) Avoid placing the battery pack in the same container with other metal objects such as nails and coins.

(3) Do not put the battery pack in water or expose it to rain.

A short circuit of the battery will generate a large current, resulting in overheating and may cause fire or even breakdown.

6. Do not store and use tools and battery packs in places where the temperature may reach or exceed 50°C.

7. Do not burn the battery pack even if it has been severely damaged or completely worn. The

battery pack will explode in a fire.

8. Do not shoot nails, cut, squeeze, throw or drop the battery pack, or hit it with hard objects. Otherwise, it may cause fire, overheating or explosion.

9. Do not use a damaged battery.

10. The lithium-ion battery supplied with this tool shall meet the requirements of dangerous goods regulations. Special requirements on packaging and marking shall be followed for commercial transportation by third parties or forwarding agents, etc. Consult professionals in dangerous goods for the preparation of transportation projects. At the same time, please observe national regulations that may be more detailed. Please use adhesive tape for protection and do not obscure the contact information on the surface, and securely encapsulate the battery so that it cannot be moved inside the packaging.

11. When discarding the battery pack, it is necessary to remove it from the tool and dispose of it in a safe place. Please follow local regulations on how to dispose of waste batteries.

12. Use batteries only for products specified by MS. Mounting the battery to an incompatible product will cause fire, overheating, explosion or electrolyte leakage.

13. If the tool has not been used for a long time, the battery must be taken out of the tool.

14. During and after using the tool, the battery pack temperature may be high, which is easy to cause burns or low-temperature scalds. Be careful when handling the high-temperature battery pack.

15. Do not touch the terminal of the tool immediately after using it; otherwise, burns may be caused.

16. Avoid sawdust, dust or dirt from being stuck in the terminals, holes and grooves of the battery pack. Otherwise, it may result in performance degradation or fault of the tool or battery pack.

17. Keep the battery away from children.

1.6 Prompt for Maintenance of Battery Maximum Service Life

1. Charge the battery pack in time before it is completely depleted. When the tool battery is found to be low, stop the operation of the tool and charge the battery pack.

2. Do not recharge a fully charged battery pack. Overcharging will shorten the service life of the battery.

3. Please charge the battery pack at room temperature of 10°C-40°C. Please allow the hot battery pack to cool down before charging. Remove the battery pack from the tool or charger

when not in use.

4. If the battery pack has not been used for a long time (more than six months), please charge it.

1.7 Maintenance safety

1. Send your tools to professional maintenance personnel and use the same spare parts for replacement. This will ensure the safety of the tool being serviced.
2. For replacement of accessories, please follow the instructions in this Manual.
3. Please use genuine parts from Meishan CRRC Fastening System Co., Ltd. to replace worn or damaged parts. Parts other than those of Meishan CRRC Fastening System Co., Ltd. may damage the tool or cause it to malfunction.

2 Standard operation

2.1 Technical Specification

2.1.1 Specifications

Specifications and Parameters of Rivet Driver

Items	Calculation unit	Parameters
Voltage	V_{DC}	18
Type of battery used	/	Lithium-ion
Weight (excluding battery pack)	Kg	1.8
Riveting stroke	mm	0~8
Riveting force	N	20×10^3

Specifications and Parameters of Battery Pack

Items	Calculation unit	Parameters
-------	------------------	------------

Battery	<i>Ah</i>	5
Weight	<i>Kg</i>	0.58
Length	<i>mm</i>	117
Height	<i>mm</i>	62
Width	<i>mm</i>	74
Charging time	<i>min</i>	50~60

2.1.2 Charger Specifications:

Items	Calculation unit	Parameters	Parameters
Charger		<i>NA</i>	<i>NA</i>
Type of battery		Dedicated for lithium-ion	Dedicated for lithium-ion
Input voltage	<i>V_{AC}</i>	110~120	220~240
Input frequency	<i>Hz</i>	60	50
Output voltage	<i>V</i>	21	21
Output current	<i>A</i>	8	8
Weight	<i>Kg</i>	0.80	0.80

2.3 Contents of packing box

The contents of the packing box for electric tools include:

Toolkit*1	Charger*1	Battery*2	Outer sleeve*1	Connecting shaft*1
Short tail jaw *1	Short tail breaking jaw*	Breaking tool bit *1	MS-ZD20S electric tool *1	Universal anvil*1
Instructions*1				

2.4 List of Main Accessories

	Part name	Model	Quantity
A-①	Anvil	MS-7922-01	1
A-②	Claw	MS-7922-02B	1
A-③	Outer sleeve	/	1
A-④	Connecting shaft	/	1

Warning: To reduce the risk of serious personal injury, please disconnect the tool battery pack before any adjustment or removal/installation of accessories!

3 Tool Use and Settings

3.1 Main purpose

MS-ZD20S tool is used for installation and removal of 1/4" Aluminum Monotail. The tool is a professional electric tool. Keep the tool out of reach of children. Inexperienced operators need to be trained and supervised when using this tool.



- a. Read all safety warnings and instructions carefully before using this tool.
- b. Always wear qualified hearing and eye protection when using installation tools.
- c. Warning: Do not use in the presence of moisture or flammable liquids or gases!

Electrical safety:

The motor drive of this tool is only suitable for one voltage. During on-site construction, it is necessary to frequently check whether the battery pack voltage corresponds to the rated voltage. And

make sure that the voltage of charger corresponds to power supply voltage.



Please take out the battery pack before any tool adjustment!

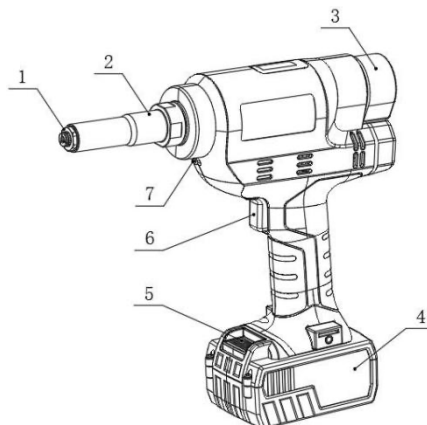
Preparations before use

- Select the gun head corresponding to the rivet model and install it.
- Confirm that the battery pack is fully charged
- Insert the battery pack into the tool, press and quickly release the trigger switch to restore the tool to its initial position (check whether the tool starts and rotates abnormally)

3.2 Operating Instructions

Description of Machine Components

The part number in the picture refers to the picture number of the electric riveter.



1. Three-jaw/rivet nozzle; 2. Riveter head cover; 3. Digital display adjustment module; 4. Battery pack; 5. Self-locking button; 6. Switch; 7. LED lamp

Rechargeable battery

Note: When you receive this product, the battery has been partially charged.

- To ensure that the battery is fully charged, be sure to fully charge it with a charger before first use. Please pay attention to the charging indicator light on the charger (red light for charging, and green light for full charging).
- Li-ion batteries can be recharged at any time without affecting their lifetime. Interrupting the charging process will not damage the battery.

- The battery is equipped with a temperature monitoring system, which can only be charged between 0°C and 45°C.

Installation and Removal of Battery

- The battery (4) is equipped with a self-locking button (5);
- Insert the battery (4) into the electric riveter, press and hold the self-locking button (5) to fully push it in until it is firmly locked;
- To take out the battery (4), press down the self-locking button (5) and pull it out of the electric riveter. Do not pull hard.

Operation mode

- Insert the battery;
- Press the switch, and the riveter starts to work; when the riveting movement stops, release the switch; the three claws return to the initial position, and the riveting is completed, and one riveting stroke of the riveter ends.
- The riveter has an overload protection device. When the riveter is overloaded due to installation of rivets beyond the working range, for example, the riveting process will be stopped and the digital display will give an error code prompt. In this case, please remove and reinsert the battery. By pressing the switch, the three claws return to their initial position and are ready again.
- The control device recognizes a blockage on return (e.g. too much dirt, foreign material or debris in the steel shell). At the same time, the riveter stops returning and automatically moves to the final position at the rear end immediately, and the digital display gives an error code prompt.
- Always troubleshoot after removing the battery. The battery is then re-inserted and the switch briefly operated, and the device returns to its front end final position and is ready again.
- The LED light and digital display screen are displayed at the beginning of the riveting process. When the switch is not operated for 5 minutes, it will be automatically powered off and extinguished.



Before assembling the riveter head, please ensure that the battery pack has been removed from the tool!

Note: Before riveting, check and confirm whether the jaws and anvil (cutter head) are selected correctly. Misuse will cause serious consequences! !

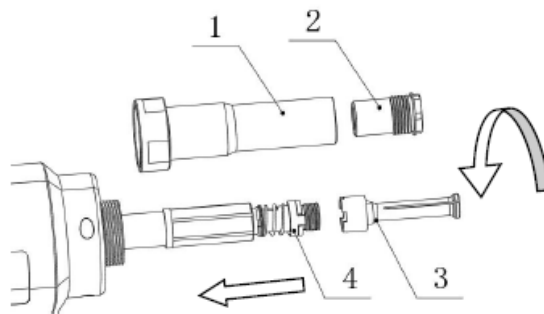
The following table shows the matching comparison between rivet gun head and rivet product:

No.	Rivet model	Jaw model	Service life (times)	Anvil model	Service life (times)
1	1/4" Aluminum Monotail	MS-7922-02B	10000	MS-7922-01	10000
2	1/4" Aluminum Monotail	MS-7922CC-02 (disassembly)	10000	MS-7922CC-01B	1000

Gun Head Assembly

Before assembling the gun head, make sure that the tool is separated from the battery!

Replacement steps of three-jaw and rivet nozzle



I. Removal of Three-jaw and Rivet Nozzle

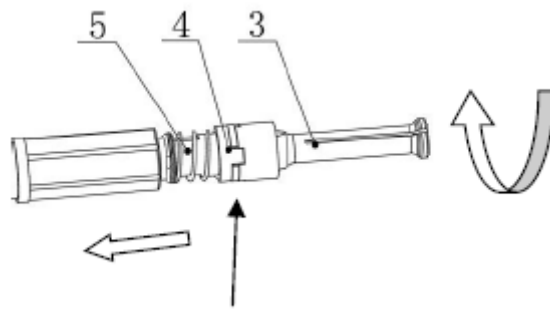
A. 1.Riveter head jacket; 2. Rivet nozzle; 3. Three-jaw; 4. Clamp ring.

B. Loosen and remove the rivet nozzle (2) from the riveter head cover (1) counterclockwise with a wrench;

C. Loosen and remove the riveter head cover (1) counterclockwise from the machine with a wrench;

D. Press the collar (4) with one hand in the direction indicated by the arrow, and unscrew and remove the three-jaw (3) counterclockwise with the other hand.

Note: During removal, all parts shall be rotated counterclockwise for removal.



II. Three-jaw Assembly

A. 5.Spindle; 4. Clamp ring; 3. Three-jaw.

B. Press the collar (4) with one hand in the direction indicated by the arrow, and rotate the three-jaw (3) clockwise with the other hand to screw on the thread of the spindle (5) until it is screwed into the bottom so that the rear end face of the three-jaw (g) fully fits the front step surface of the spindle (5).

C. Check whether the concave surface of the three claws (3) and the boss of the collar (4) are stuck. If they are misaligned, rotate the three claws (3) to limit and align them with each other.

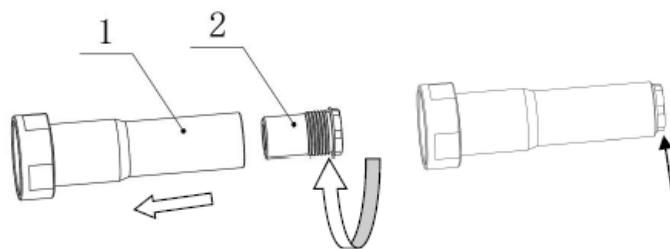
Note: On the premise that the concave surface of the three claws and the boss of the collar are clamped with each other, the minimum clearance must be ensured between the rear end face of the three claws and the front step surface of the connecting shaft (tighten as much as possible).

III. Assembly of Rivet Nozzle

A. 1.Riveter head cover; 2. Rivet nozzle.

B. Screw the rivet nozzle (2) to be replaced on the internal thread of the limit sleeve (1) in a clockwise direction, screw it to the end, and tighten the rivet nozzle on the limit sleeve with a wrench. Visually check that there is no gap between the two parts.

Note: Tighten the limit sleeve and rivet nozzle, and visually check that there is no gap between the two parts.



IV. Assembly of Sleeve Assembly

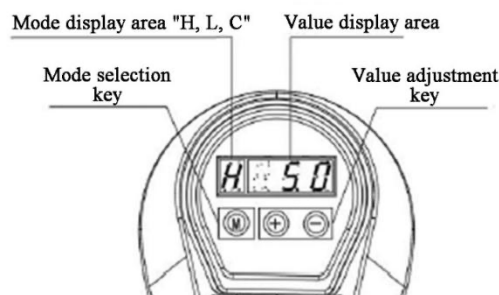
A. As shown in the right figure, install the sleeve assembly with rivet nozzle on the machine with three claws according to the arrow direction, and then tighten the sleeve assembly clockwise with a wrench.

Note: After the riveter head assembly is installed on the machine, tighten it with a wrench to prevent loosening during use.

3.3 Operation Guide for Adjustment during Working Riveting

3.3.1 Riveting Stroke Adjustment

A. After the machine is powered on, the display area of the digital display adjustment module will light up. Click the mode selection key M. When the mode display area displays "H", it has been in the riveting stroke adjustment mode. According to the plate thickness, click the adjustment value adjustment keys "+" and "-". At this time, "H" will start flashing, indicating that the value in the value display area can be adjusted to the plate thickness value to be riveted at this time. After adjustment, it is also necessary to long press the "M" key for 2 seconds to confirm the value of riveting stroke. When "H" no longer flashes, it indicates that the riveting stroke is confirmed successfully. If the riveted plate thickness is 3.5mm, click M button and the mode will be displayed as 'H'. Press '+' or '-' to start flashing "H" at this time. Adjust the value display area to display 3.5, and then long press M button for 2 seconds to stop flashing "H", indicating that the setting has been completed.

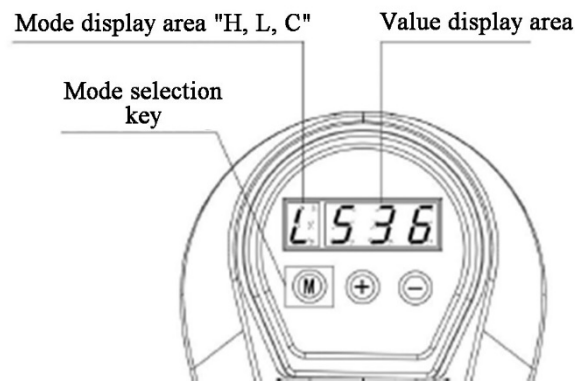


Attention

1. The riveting thickness range of the workpiece is 0-5mm (i.e., the machine can only perform riveting operation within the adjustment range of 0-8mm). Beyond this range, abnormal protection conditions will occur to the machine. Please do not perform riveting operation beyond the range.
2. In order to ensure the riveting quality, after stroke adjustment, please make slight fine adjustment according to the effect of trial pulling to achieve the most perfect riveting effect.

3.3.2 View of Single Riveting Count

After the machine is powered on, the display area of the digital display adjustment module will light up. Click the mode selection key M. When the mode display area displays "L", it has been in the single riveting count display mode. At this time, the single riveting count in the value display area can be viewed. If the value in the value display area is 536 in 'L' mode, it means that the single riveting count is 536.



Attention:

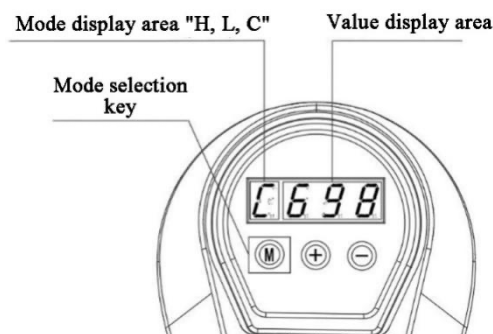
- 1. The number of rivets displayed in the single riveting count is the number of rivets pulled after a single power-on. When the riveting operation stops for more than 5 minutes after power-on, the machine will be automatically powered off and the single riveting count this time will be cleared.**
- 2. The single riveting count will also automatically return to zero after the battery pack is plugged and unplugged and powered on again.**
- 3. The maximum rivet count is 999, and a single rivet count exceeding 999 will not be counted.**

3.3.3 View of Total Riveting Count

A. After the machine is powered on, the display area of the digital display adjustment module will light up. Click the mode selection key M. When "C" is displayed in the mode display area, it has been in the total riveting count display mode. At this time, the total riveting count in the value display area can be viewed. At this time, the number displayed on the far right of the numerical display area represents the hundreds, the middle represents the thousands and the far left represents the ten thousand. If the value in the value display area is 698 in "C" mode, it indicates that the total riveting count is 69800.

Note:

1. The minimum unit displayed by the total counting function is 100, so a count less than 100 has been recorded by the machine but will not be displayed. When it reaches 100, the hundreds digit will rise by one place.
2. The maximum rivet count is 99900, and the total rivet count exceeding 99900 will not be counted.



3.4 Working indicator

- ✓ When the tool is inserted into the battery pack, press the trigger button to turn on the working indicator.
- ✓ When it stops working, the working indicator lamp will automatically go out at an interval of 5 min and light up when it is started again.

3.5 Charging of Battery Pack

This tool uses a C4244 charger. Please read all safety instructions before using the charger, which does not need adjustment and is easy to operate.

3.5.1 Charger Operation

Plug the charger into the corresponding AC power supply. The voltage of the power supply must match that specified on the charger rating plate. After the power supply is correctly plugged in, the indicator light turns green.

Charging process

- During charging, the charging indicator turns red and the power indicator goes out to start charging. During charging, the charging indicator lights up steadily. When the charging indicator goes out, the power indicator turns from red to green (press the button on the battery, and the four battery level indicators will light up), indicating that the charging is completed.
- After charging, unplug the charger from the power supply.

- The charging process can only be carried out when the battery temperature is within the allowable charging temperature range (**0-45°C**), and the charging cycle is **50-80min**.
- The charger cannot charge a battery pack that has failed. The charger will indicate the faulty battery pack by refusing to turn on the indicator.
- When the charger detects that the battery pack is overheated or undercooled, it will pause charging until the battery reaches a suitable temperature before the charger returns to the charging mode. If it is found that the battery pack cannot be charged when the construction is completed, it can continue charging only after the battery pack cools down to a suitable temperature.

Practical advice

After charging, the working time is significantly shortened, indicating that the battery is aged to some extent and must be replaced.

When the charger is used continuously or for several consecutive charging cycles, it may generate heat. However, this is harmless and does not indicate that the charger has technical defects.

3.5.2 Charger Cleaning



Warning: Electric shock hazard. Please disconnect the charger from the AC socket before cleaning!

Dirt and oil stains can be removed from the outside of the charger with a soft cloth or non-metallic brush. Do not use water or any cleaning solution!

3.6 Battery pack

Note: In order to ensure the best service life and performance of the lithium-ion battery pack, please fully charge the battery pack when using it for the first time.

3.6.1 Installing and Removing the Battery Pack

Installation of battery pack

- Align the battery pack with the guide rail at the bottom of the tool handle and slide it into the guide rail until the battery pack is firmly seated in the tool and does not come off.

Remove the battery pack

- Press the battery pack release button and pull out the battery pack firmly from the bottom of tool handle.

Storage recommendations

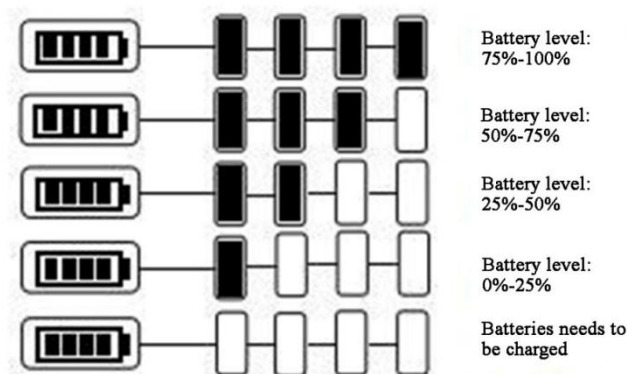
- The best storage location is a cool, dry place away from direct sunlight and overheating or undercooling. In order to obtain the best battery performance and service life, the battery pack should be placed at room temperature when not in use. For long-term storage, it is recommended to store a fully charged battery pack in a cool and dry place away from the charger for best performance.

Note: The battery pack shall not be completely used up during storage, and it needs to be charged before use.

3.6.2 About Battery Pack

The tail end of the battery pack used in this tool includes a gray button and a display gauge consisting of four green LED lights to indicate the remaining power level in the battery pack:

- Pick up the battery pack, press and hold the gray button, and the combination of four green LEDs will display the remaining power. When the power in the battery is lower than the usable limit, the display gauge does not illuminate or slightly illuminates, indicating that the battery pack will need to be charged.



Note: The display gauge only displays the remaining power on the battery pack. It does not indicate the function of the tool and varies according to product components, temperature, and end-user application.

4 Tool Use



Warning: Always observe the safety instructions and use regulations!

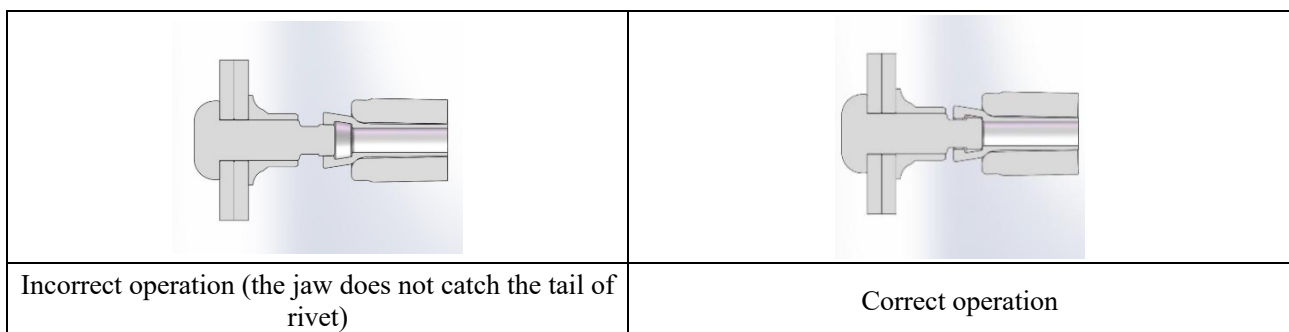
To reduce the risk of serious personal injury, please pull out the battery pack before any adjustment or installation/removal of components to prevent personal injury caused by starting!

Tool Operation

Installation of 1/4" Aluminum Monotail:

- Place **1/4" Aluminum Monotail** in workpieces
- Install the collar on the **1/4" Aluminum Monotail** and screw it in until it will not come off
- Place jaw collet at **1/4" Aluminum Monotail**
- Press and hold the trigger switch until it is released after the installation stroke is completed, and the tool returns to its original position

In order to avoid unnecessary accidents, when riveting or disassembling short-tailed rivets with tools, it is necessary to ensure normal operation. The operator shall install or disassemble them in strict accordance with the correct operation schematic diagram below, and try his best to avoid misoperation as shown in the figure; otherwise, improper installation or disassembly of rivets will be caused, even damage to moving components of the tool and endanger personal safety.



Note: If the switch is released before the end of the entire installation stroke, the tool will return to its original position. In this case, repeat the above operations until the installation is successful.

1/4" Aluminum Monotail Removal:

- Select the installed **1/4" Aluminum Monotail** to be removed
- Fully engage jaw ring groove portion with **1/4" Aluminum Monotail**
- Press and hold the trigger switch. After the disassembly is completed (the collar is loose or split into two pieces), release the trigger switch, and the tool returns to its original position

5. Repair and Maintenance

Attention

- a. Please remove the rechargeable battery before overhauling or maintaining the tool!

- b. Never clean the tool with gasoline, benzene, thinner, alcohol or similar items. Using these above may result in discoloration, deformation or cracks of the tool.
- c. In order to ensure the safety and reliability of the product, the product shall be repaired and maintained or adjusted by a maintenance service center authorized by Meishan CRRC Fastening System Co., Ltd. using the company's replacement parts.

5.1 Maintenance Frequency

Inspection item	Frequency
General Tools	Every day
Clean and lubricate anvils, jaws	5000
Check the anvil jaws for wear or damage	9000

Note: The charger and battery pack can not be repaired

Recommended lubricating oil: Mobile SCH100, Sumiplex MP no2, or equivalent products.

5.2 Cleaning



Warning: Always wear qualified eye protection when cleaning the equipment!

5.2.1 Tool Appearance

Keep the heat sink at the brushless motor (A-⑰) free of dust accumulation or dirt. Remove dust or dirt from the heat dissipation hole with a cloth if necessary.

Blow out dust or dirt from all vents with clean and dry air at least once a week. There is a risk of eye injury during this operation. Please wear qualified eye protection equipment.



Do not use solvents or irritating chemicals when cleaning the enclosure. Instead, use cloth, water, and mild soap! Do not allow any liquid to enter the tool!

5.2.2 Cleaning of the Gun Head

- Remove the outer sleeve (A-③) and anvil (A-①) assembly
- Separate the anvil (A-①) from the outer sleeve (A-③) with a tool, check the anvil (A-①) for damage, and replace it if any; check for impurities in the outer sleeve (A-③), and clean them if any

- Remove the connecting shaft (A-④) and jaw (A-②), check for damage, and replace them if any

Note: The anvil (A-①) and jaw (A-②) are vulnerable parts. If the construction status is affected, please replace them in time. For general cleaning, clean the inside of the anvil with a soft cloth or degreasing detergent and apply a thin layer of PTFE spray to the inside of the anvil and the end of the jaw.

5.3 Replacement of Other Parts

If the motor, gear, and other parts are damaged within the warranty period, please contact the Customer Service Center of Meishan CRRC Fastening in time. We will serve you wholeheartedly 24 hours a day.

5.4 Recovery of Tools and Batteries

- Do not discard used lithium batteries at will. If users return damaged batteries or tools to our company, we will provide certain discounts for your next product purchase.
- Except for lithium batteries and chargers, other optional accessories or devices are special accessories for electric tools listed in this manual. Using parts and components of other brands may cause abnormal use of tools or personal danger. If you need help or want to know more information on purchasing these materials, please consult the product after-sales service and maintenance center of Meishan CRRC Fastening System Co., Ltd.

6. Environmental protection

Collect separately. Do not dispose of this product together with other domestic waste!

- If one day you find that your MS-ZD20S tool needs to be replaced or you no longer need it, please do not dispose of it with other domestic waste. Please collect this product separately, and separate used products from packaging so that materials can be recycled. The reuse of recycled materials helps to prevent environmental pollution and reduce the need for raw materials.

7. EC Declaration of Conformity

Meishan CRRC Fastening System Co., Ltd.

Address: Road No.2, Hi-tech Zone, Dongpo district, Meishan City, Sichuan Province, China

We hereby declare and warrant that all materials, components, and product parts comply with the following EC directives:

2014/35/EU	Low voltage (LVD) command
2014/30/EC	Electromagnetic compatibility (EMC) command
(EU)2017/2102&(EU)2015/863&2011/65/EL	RoHS restrictions on hazardous substances

Equipment model: MS-ZD20S

Comply with the following test standards:

ENIEC61000-6-1:2019	ENIEC61000-6-3:2021
ENIEC61000-3-2:2019+A1:2021 EN	61000-3-3:2013+A1:2021+A2:2021
EN62841-1:2015	EN62321-4:2014
EN62321-5:2014	EN62321-6:2015
EN62321-7-1:2015	EN62321-7-2:2017
EN62321-8:2017	

Signature:

Issued in: China

Issuing date:

	This tool complies with EMC command 2014/30/EC
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8. List of Main Components

	Part name	Model	Quantity
A-①	Anvil	MS-7922-01	1
A-②	Claw	MS-7922-02B	1
A-③	Outer sleeve	/	1

A-④	Connecting shaft	/	1
	Breaking jaw	MS-7922CC-02 (removal)	1
	Breaking tool bit	MS-7922CC-01B	1