

# M39020 ( BT-1)

## 14.4V Battery Operated Rivet Tool



**Marson is making installation more efficient with the BT-1 battery-powered cordless rivet tool. It features all the reliability and performance you would expect from Marson.**

**The BT-1 can set open end blind rivets ranging from:  
3/32" (2.4 mm) – 3/16" (4.8 mm)**

### **Specifications:**

**Stroke length: 0.79" (20 mm)**

**Pulling force: 1,870 lbs. (850 kg)**

**Weight (with Li-ion battery pack): 4.6 lbs. (2.1 kg)**

**Battery pack: 14.4 V / Li-ion / 3.0 A.h**

**Recharge time: approximately 60 minutes**

**Alcoa  
Fastening  
Systems**



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## FUNCTIONAL GUIDES



- (A) STORAGE FOR ANOTHER NOSEPIECES
- (B) IMPACT RESISTANT COMPOSITE HOUSING
- (C) EASY CHANGE REPLACEABLE CARBON BRUSHES
- (D) MANDREL COLLECTION BOX
- (E) NON-SLIP, SOFT GRIP HANDLE REDUCES VIBRATION AND FATIGUE
- (F) ERGONOMICAL DESIGNED HANDLE
- (G) EASY CONNECT SLIDING BATTERY SYSTEM
- (H) BATTERY FUEL GAUGE (LI-ION ONLY)

### **"READ ALL INSTRUCTIONS"**

Always observe the safety regulations applicable in your country to reduce the risk of fire, electric shock and personal injury. Understand the following safety instructions before attempting to operate this product. Always wear eye protection when working with power tools. Keep these instructions in a safe place.

### **WARNING!**

**Always wear safety glasses when operating or performing maintenance on this tool.**

### General Safety Rules

### Work Area Safety

- **Keep your work area clean and well lit.** Cluttered benches and dark areas invite accidents.
- **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 bystanders, children, and visitors away while operating a power tool.** Distractions can cause you to lose control.

## Personal Safety

- **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use tool while tired or under the influence of drugs, alcohol, or medication.** A moment of inattention while operating power tools may result in serious personal injury.
- **Dress properly. Do not wear loose clothing or jewelry. Contain long hair. Keep your hair, clothing, and gloves away from moving parts.** Loose clothes, jewelry, or long hair can be caught in moving parts.
- **Do not overreach. Keep proper footing and balance at all times.** Proper footing and balance enables better control on the tool in unexpected situations.
- **Use safety equipment. Always wear eye protection.** Dust mask, on-skid safety shoes, hard hat, or hearing protection must be used for appropriate conditions.

## Use and Care

- **Use clamps or other practical ways to secure and support the work piece to a stable platform.** Holding the work piece by hand or against your body is unstable and may lead to loss of control.
- **Do not force tools. Use the correct tool for your application.** The correct tool will do the job better and safer at the rate for which it is designed.
- **Do not use tool if switch does not turn it on or off.** Any tool that cannot be controlled with the switch is dangerous and must be repaired.
- **Store idle tools out of reach of children and other untrained persons.** Tools are dangerous in the hands of untrained users.
- **Check for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the tool operation. If damaged, have the tool serviced before using.** Many accidents are caused by poorly maintained tools.

**Use only accessories that are recommended by the manufacture for your model. Accessories that may be suitable for one tool, may become hazardous when used on another tool.**

## Service

- **Tool service must be performed only by qualified repair personnel. When servicing a tool, use only identical replacement parts. Follow instructions in the Maintenance section of this manual. Use of unauthorized parts or failure to follow maintenance instructions may create a risk of electric shock or injury.**

## Additional Safety Rules

## Battery Charger

- **Caution:** To reduce risk of injury, charge only the authorized batteries. Other types of battery may burst, causing personal injury and damage.
- Before using battery charger, read all instructions and cautionary markings on batteries, chargers and products using batteries.
- Do not allow anything to cover or clog the charger vents.
- Do not expose charger to rain, snow or wet conditions.
- To reduce the risk of damage to electric plug and cord, pull by plug rather than cord when disconnecting charger.
- Use of an attachment not recommended or sold by the manufacturer may result in a risk of fire, electric shock, or injury to persons.
- Make sure cord for charger is located so that it will not be stepped on, tripped over, or otherwise subjected to damage or stress.
- Do not abuse the power cord. Never use the cord to carry the charger. Keep cord away from heat, oil, water, sharp edges, or moving parts. Replace damaged cords *immediately*.
- Do not operate charger if it has been damaged in any way, contact our repair center.
- To reduce risk of electric shock, unplug charger from outlet before attempting any maintenance or cleaning. Turning off controls will not reduce this risk.
- Do not disassemble charger or battery cartridge. Incorrect reassembly may result in a risk of electric shock or fire.

## Battery Pack

- Do not charge battery when temperature is below 0°C(32°F) or above 40° C(104° F).
- Do not attempt to use a step-down transformer, an engine generator or DC power receptacle.
- Do not short the battery pack: Do not touch the terminals with any conductive material. Avoid storing battery cartridge in a container with other metal objects such as nails, coins, paper clips, etc.
- Do not expose battery cartridge to water or rain. A battery short can cause large current flow, overheating, possibly burns and even a break-down.
- Do not store the machine and battery pack in locations where the temperature may reach or exceed 50° C (122° F).
- Do not incinerate the battery pack even if it is severely damaged or completely worn out. The battery pack can explode in a fire.
- Be careful not to drop, shake, or strike the battery.
- Do not charge inside a box or container of any kind. The battery must be placed in a well ventilated area during charging.
- Do not dispose of battery packs into household waste, fire or water. Battery packs should be collected, recycled or disposed of in an environmentally-friendly manner.

**CAUTION:** The battery will be automatically shut off when working with an unusual rivet during the riveting process. If this happens, wait for five seconds and then depress the “RESET” button and remove the battery and reattach again.

## Battery Pack

- For optimum battery life, store the Li-ion battery pack following use without charging it
- Do not charge battery when ambient temperature is below 0°C (32°F) or above 40°C (104°F). If the battery pack is used when the battery temperature is below 0°C (32°F), the tool may fail to function properly.
- This battery pack has the built-in “Battery Fuel Gauge.” Press the gauge button (1) to check the fuel condition of the battery pack. If you notice the battery fuel gauge only left with one red light that means the battery is running low.
- Charge the battery pack immediately, or the power of the tool may not reach to your desired torque.

## Battery Pack Life

The rechargeable batteries have a limited life. If the operation time becomes extremely short after recharging, replace the battery pack with a new one.

**Battery Recycling** *The batteries must be recycled or disposed properly.*

## Charging The Battery

- When charging a cool battery pack below 0°C (32°F) in a warm place, leave the battery pack at the place and wait for more than one hour to warm up the battery to the level of the ambient temperature. Otherwise battery pack may not be fully charged.
- Cool down the charger when charging more than two battery packs consecutively.
- Do not insert your fingers/ nails into contact hole, when holding charger or any other occasions.
- Place charger in a relatively cool and well-ventilated area.
- Plug charger into the AC outlet. CAUTION: Ensure that the power source to be utilized conforms to the power requirement specified on the product nameplate.



Turn the battery up-side-down and slide the battery into charger while keeping the alignment marks line up. Slide the forward in the direction of the arrow. Do not force battery as it should slide easily into place with nominal force. Any difficulty doing so would indicate an incorrect alignment.

If the power lamp (red) does not light immediately or goes out soon after the charger is plugged in, contact our repair center.

- During charging, the charging lamp (green) will start flashing. When charging is completed, an internal electronic switch will automatically be triggered to prevent overcharging.
- Charging will not start if the battery pack is warm. For example, immediately after heavy-duty operation. The yellow standby lamp will be flashing until the battery cools down.
- If the temperature of the battery pack is 0° C or less, charging takes longer to fully charge the battery pack than the standard charging time. Even when the battery is fully charged, it will have approximately 50% of the power of a fully charged battery at normal operation temperature.
- Once the battery is fully charged, the green lamp will be lit to indicate the gone into a trickle charge mode.

## Li-ion Battery Pack

**Your battery pack is not fully charged at the time of purchase.**

# Be sure to charge the battery before first use.

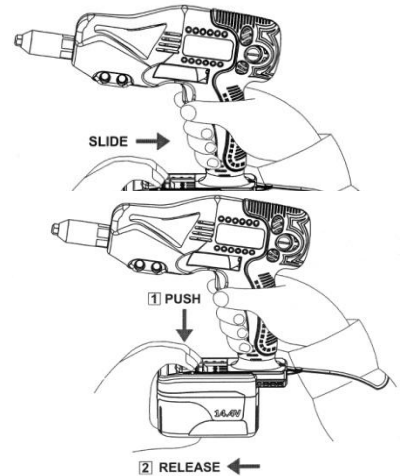
## Attaching or Removing Battery Pack

To connect battery, line up the tracks and attach the battery pack. Slide toward the battery pack until it locks into positions with a click.

### Operation:

This product had been carefully inspected prior to leaving the factory. It should provide you with years of satisfying service under normal operating conditions. Do not, however, force the tool to perform outside its design parameters. Such usage will void the warranty.

To remove the battery pack, push on the RED button on the top and release the battery pack.



- Slide battery into the bottom of the housing handle until a click sound occurs. Do not force battery as it should slide easily into place with nominal force. Any difficulty in doing so would indicate an incorrect alignment.
- When attaching the battery pack, a long beep sound will occur for 2 seconds this indicates that the electric currents are connected between the battery and the tool and it is ready to use.
- Before operating, check if the diameter of the nose piece collates with the diameter of the rivet.
- Put the rivet into the nose piece and plug into the work piece then depress the trigger. Do not release the trigger until the rivet is set.

### NOTE:

**If you release the trigger before the rivet is set, the rivet will go back to the original unset position. After releasing the trigger, you MUST have a one second interval before next setting the next rivet.**



When the rivet is set, either tilt the tool forward to let the spent mandrel fall out or tilt the tool backwards and let the spent mandrel fall into the collect box.



When the collection box is almost full, push it out and remove spent mandrels.



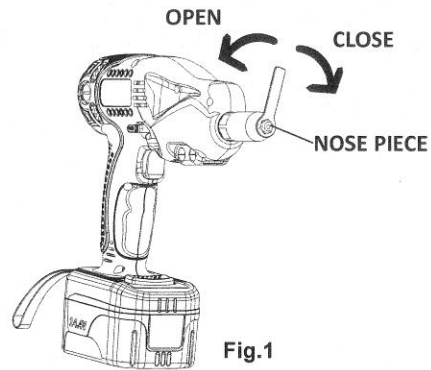
When pushing (pulling) the trigger, if four short beep sounds are heard that indicates the battery needs to be recharged or changed. Change the battery pack immediately.

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## Nose Piece Replacement:

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1. Use the wrench or the 3 in 1 wrench to disassemble the nose piece and replace the size of the desired nose piece. Then, tighten it by either wrench.

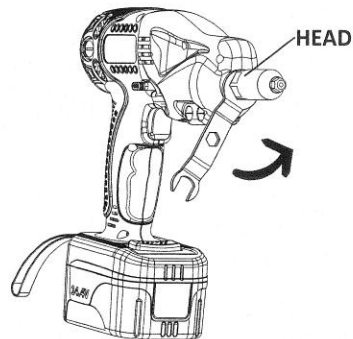


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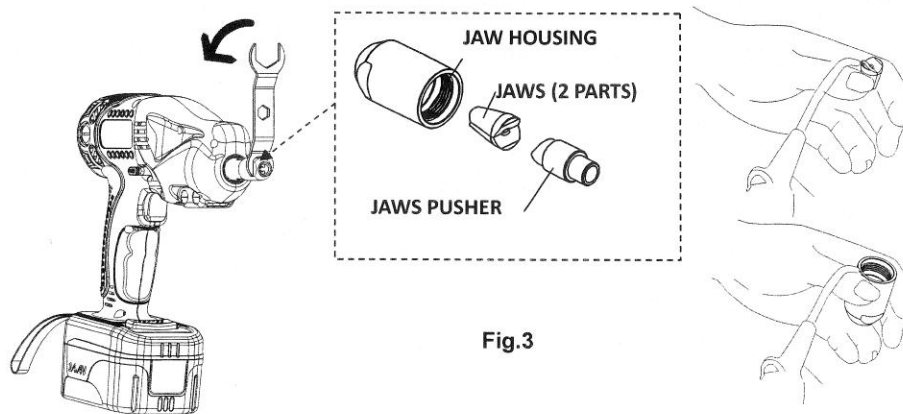
## Maintenance/ Cleanness

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1. Use the big end of the 3 in 1 wrench to disassemble the head.



2. Use the small end of the 3 in 1 wrench to disassemble the jaws housing and take out the jaws and the jaws pusher. Clean the dusts by blow guns or cloth. ◦



3. When assembling, install the jaws into the jaws housing, and then install the jaws pusher by aligning the ramp of the jaws. Next, tighten the jaws housing then the nose head back to the housing.

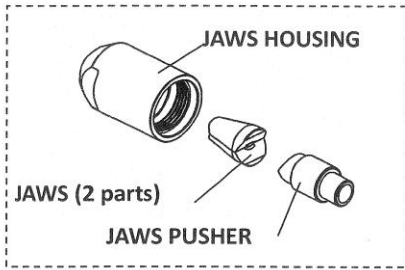
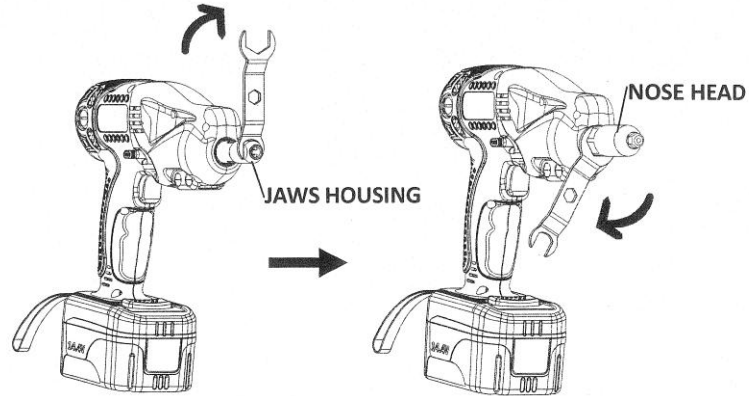


Fig.4



### Motor Brushes (set of 2)

The BT-1, if and when necessary, allows you the option to replace the motor brushes. On each side of the tool there is a screw plug located at rear of the tool. Simply unscrew the screw plug and remove the brush and replace it on each side with a new brush set.



## LIMITED TOOL WARRANTY

Alcoa Fastening Systems - Marson division warrants that this tool will be free from defects in material and workmanship under normal service and for ninety (90) days from the date of purchase. This warranty applies to the purchaser of the tool for original use only. All other warranties, whether expressed or implied, including any warranties of merchantability or fitness for purpose are hereby excluded.

Should this tool fail during this ninety (90) day period, and no unauthorized repairs have been made, return the tool freight prepaid to the factory for free of charge replacement of any part or parts found by Alcoa Fastening System - Marson division to be defective due to faulty material or workmanship. This represents the sole obligation of Alcoa Fastening Systems - Marson under this warranty. In no event shall Alcoa Fastening Systems - Marson division be liable for any consequential or special damages arising from the purchase or use of this tool. You may have other rights which vary from state to state.



## Charger Indicator Lights



### Red Light

Charger is plugged into AC outlet. and ready to charge.



### Yellow Flashing

When the temperature of the battery is too low temperature of the battery goes up to over 0°C(<32°F). The lamp will change from the yellow flashing to green flashing automatically and the charging will start. (If after 70 minutes, the lamp changes from yellow flashing to yellow light, contact our repair center.)

- When the temperature of the battery is too high (>40° C(104° F)), it is in a trickle charge mode until the temperature of the battery drops to under 40° C(104° F). The lamp will change from the Yellow Flashing to Green Flashing automatically and start to charge. (If after 70 minutes, the lamp changes from yellow flashing to yellow light, contact our repair center)
- When the voltage of the battery is too low (below 10.8 voltage), it is in a trickle charge mode until the voltage of the battery reaches to the standard value. The lamp will change from the yellow flashing to green flashing automatically and start to charge. (If after 20 minutes, the lamp changes from yellow flashing to yellow light, contact our repair center)



### Yellow Light

The battery and the charger are not connected. (If the yellow light still on after trying to re-attach the battery, contact our repair center)



### Green Flashing

Now start charging



### Green Flashing

Battery is approximately 50% charged.



### Green Flashing

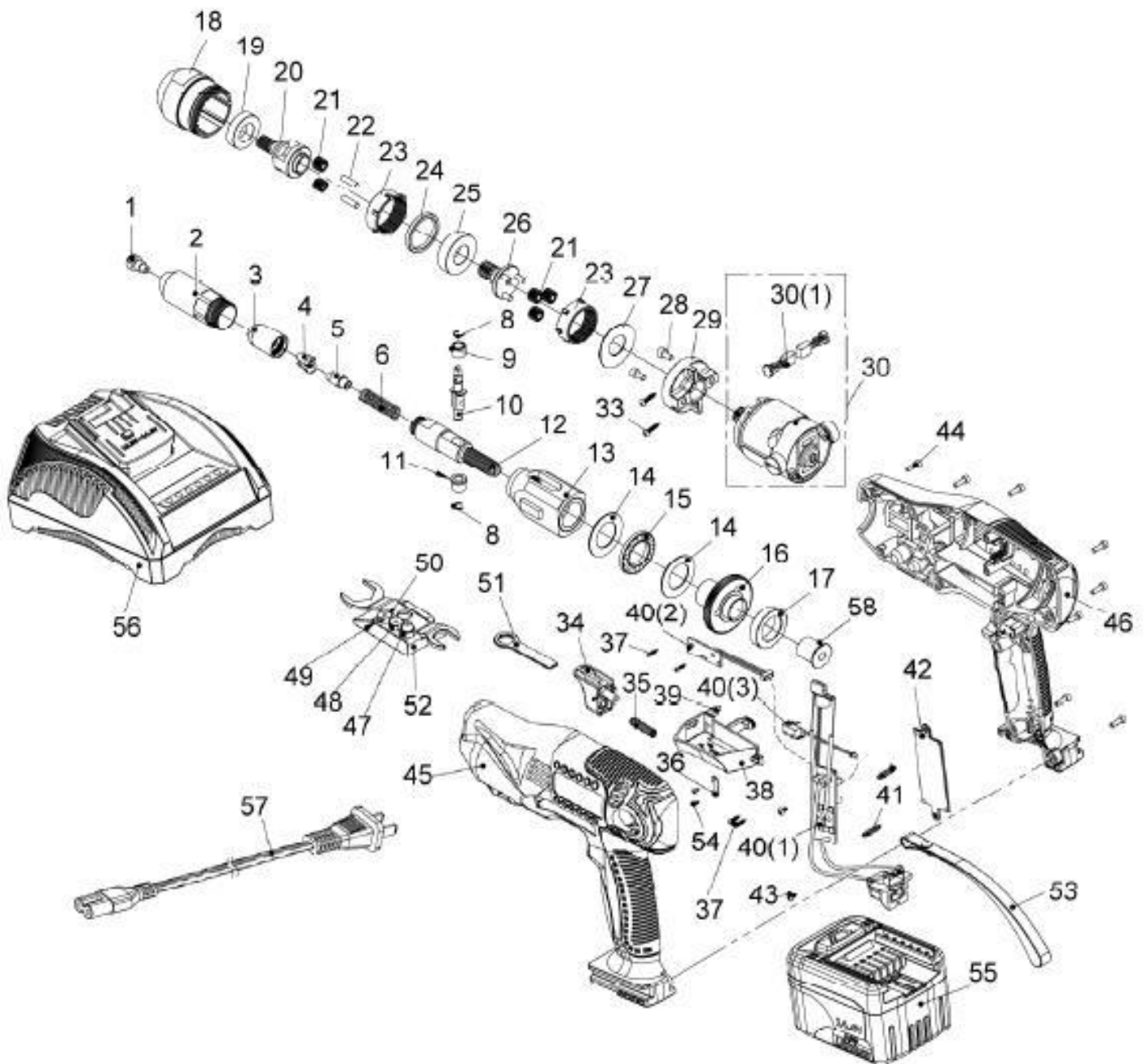
Battery is approximately 80% charged.



### Green Light

Charging is complete. (Full charge)

# Schematic and Parts List for BT-1



	Part #	Description	Qty.		Part #	Description	Qty.
1	M96101	Nosepiece 3/16"(4.8mm)	1	33	M96133	Screw	2
2	M96102	Head	1	34	M96134	Trigger	1
3	M96103	Jaw-Housing	1	35	M96135	Spring	1
4	M96104	Jaws (set of 2)	1	36	M96136	Spacer	1
5	M96105	Jaw-Pusher	1	37	M96137	Screw	4
6	M96106	Spring	1	38	M96138	Mandrel Collection Box	1
8	M96108	Snap Ring	2	39	M96139	Slice	1
9	M96109	Bushing	1	40	M96140-1	(1)Circuit Board	1
10	M96110	Slip Roller Assembly	1		M96140-2	(2)Sensor Assembly	1
11	M96111	Bushing	1		M96140-3	(3)Switch Assembly	1
12	M96112	Transmission	1	41	M96141	Interval pillar	2
13	M96113	Transmission Housing Assembly	1	42	M96142	Plates	1
14	M96114	Washer	2	43	M96143	Screw	2
15	M96115	Thrust Bearing	1	44	M96144	Screw	13
16	M96116	Power Transfer Gear	1	45	M96145	Housing Left Cover Assembly	1
17	M96117	Ball Bearing	1	46	M96146	Housing Right Cover Assembly	1
18	M96118	Gear Box	1	47	M96147	Nosepiece 3/32" (2.4mm)	1
19	M96119	Ball Bearing	1	48	M96148	Nosepiece 1/8" (3.2mm)	1
20	M96120	Gear Cage	1	49	M96149	Nosepiece 5/32" (4.0mm)	1
21	M96121	Planet Gear	5	50	M96150	3 in 1 Wrench	1
22	M96122	Pin	2	51	M96151	Wrench	1
23	M96123	Gear Ring	2	52	M96152	Wrench Place	1
24	M96124	Ring	1	53	M96153	Lanyard	1
25	M96125	Ball Bearing	1	54	M96154	Screw	2
26	M96126	Pin Cage Assembly	1	55	M39023	Li-ion 3.0Ah Battery Pack	1
27	M96127	Washer	1	56	M39025	Battery Charger	1
28	M96128	Screw	2	57	M96157	AC Wire	1
29	M96129	Motor Holder	1	58	M96158	Bushing	1
30	M96030	Motor Assembly	1				
	M96030-1	Carbon Brush (Set of 2)	1				