

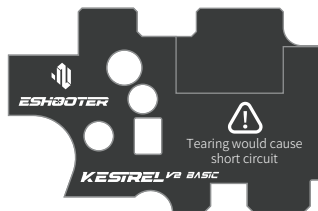
***KESTREL<sup>v2</sup> BASIC***

**Instruction Manual** v1.0

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## Specification



Voltage Range	3.75V—17V
Current	20mA
Dimensions (L/W/H)	47.4 x 28.7 x 1(mm)
Product Weight	24.6g
Temperature Range	-15°C—100°C
Humidity	≤80%

## Product Features

- KESTREL is a ETU Enter programming by pull the trigger manually.
- KESTREL is compatible with standard Tokyo Marui V2 gearbox.
- This is totally prewired with T-plug connector and mini fuse.
- New shooting experience: pre-cocking, active braking, etc.
- The highest battery voltage limit is 17v (LiPo/LiFe, 4 cells, 14.8v).

## Cautions

1. Relevant technical skill is required for the installation of KESTREL into your AEG.
2. In order to avoid any damage, please read through this instruction manual before installation.
3. Your AEG might be damaged by short circuit or battery misconnection which is not under the warranty. This might even cause fire or battery explosion.
4. KESTREL does support brushless motors.
5. KESTREL will go to sleep mode if your AEG is idle for an hour. Battery connection is required to reset to restart.
6. Please disconnect the battery after using your AEG, as KESTREL maintains a small power consumption even this is not operated.
7. Do not connect the battery when your AEG points at yourself, others, or any creatures.
8. Do not modify or repair KESTREL by yourself. Avoid immersing in any kind of liquid and keep away from any thermal shock equipment.
9. **Need to remove the mechanical trigger lock . If you don't remove it, you can not program and reset.**

## Toolkit Checklist



0.2mm : (DIAM 6mm/ID  
3.2mm/THK0.2mm)\*2Pcs



0.3mm : (DIAM 6mm/ID  
3.2mm/THK 0.3mm)\*8Pcs



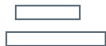
0.5mm : (DIAM 6mm/ID  
3.2mm/THK 0.5mm)\*8Pcs



Plum blossom  
metalgasket \*2Pcs



M2x4screw\*2Pcs



Heat shrink tube\*2



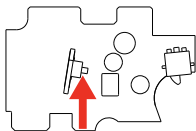
Deans-T\*1



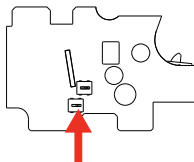
Sticker\*1

## Product Overview

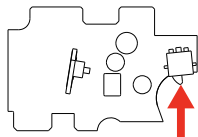
**Trigger Detection:** Check the trigger movement by physical buttons, achieved high precision controls.



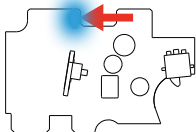
**Mode Detection:** Two detection switches for mode switching, suitable for extend working life and higher precision.



**Gear Detection:** The micro switch is useful for detecting the switch and detecting the cam at the bottom of the gear to determine the gear position.

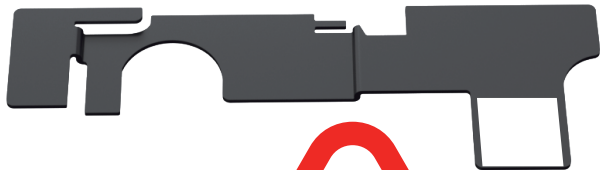
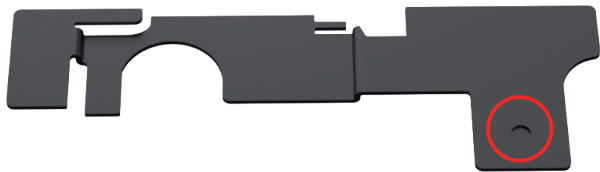
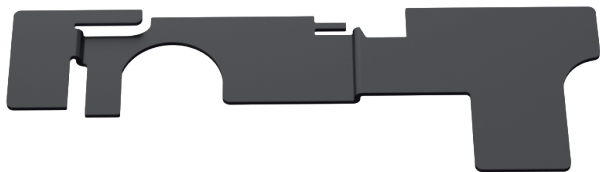


**Self-test function:** Press any switch and the blue light will turn on, indicating that the switch function is normal.



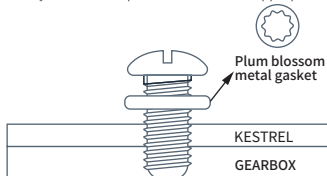


Please ensure that the surface where the selector plate contacts the detection switch is smooth. If there is any dent, please attach a sticker, otherwise the detection switch will be damaged!



## Preparation for Installation

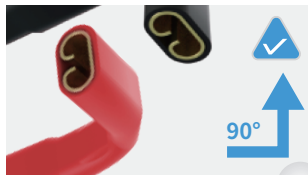
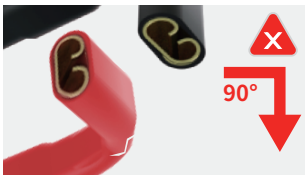
1. Please follow all the safety precautions procedure in order to avoid any damage of your AEG, no matter how experienced you are.
2. Installation of **KESTREL** is required a good technical knowledge of the gearbox mechanism. This is strongly recommended the installation should be done by the relevant technical persons. Any damage caused by mis-use or incorrect installation is not covered by the warranty.
3. **KESTREL** does not support the infinite torque-up gear.
4. Apply a thin layer of grease only, excessive grease application might cover the gap between the sensors and teeth which can be resulted in the cycle detection problem. Please use appropriate viscosity and density of grease.



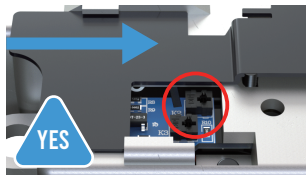
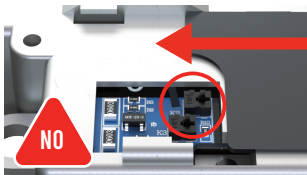
5. Please place the washers and gasket in the correct sequence by the diagram indicated, incorrect placement might cause the damage of **KESTREL** which is not covered by the warranty.
6. Please stick the wires to the bottom of the gearbox or the motor gear may damage the wires.



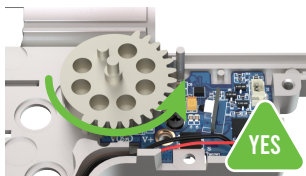
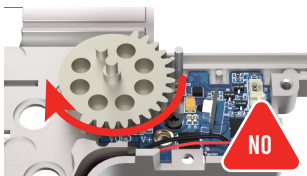
7. Please bend the connector according to the below picture, the wrong direction may cause the connector to break.



8. Please slide the selector plate in the correct direction as below picture, otherwise the detection switch may be damaged!



**Note: Do not turn the gear clockwise, otherwise the switch will be damaged. The resulting damage to KESTREL is not covered by the product warranty.**



## Installation Instruction

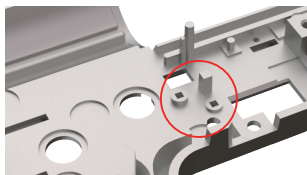
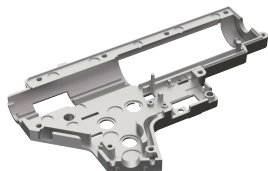
You will need:

Philips screwdriver/Flat Head screwdriver/Metal file or milling machine/

Solvent/Grease/An Android phone or an iPhone/iPad

Follow the following steps:

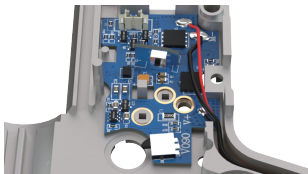
1. Remove the gearbox from the AEG body.
2. Disassemble the gearbox and remove all the internals.
3. Clean the gearbox case with proper solvent.
4. Pay attention to the marked area. If you find it is not smooth, use the metal file to prepare the surface. The gearbox surface should be smooth, sharp edges may damage KESTREL



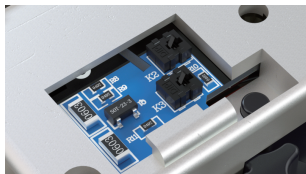
**Note: This area should be sanded to the right height to avoid damage to the KESTREL**

## Installation Notes

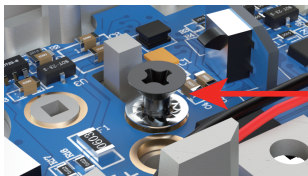
1. Put the bottom plate on the bottom of the gearbox, please check whether the bottom plate is placed flat in the gearbox.



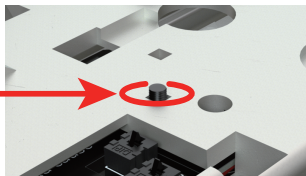
2. Please make sure the detection switch does not touch the gearbox shell.



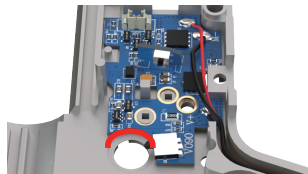
3. Take the plum blossom metal gasket in the kit and place on the screw hole, secure the bottom part to the gearbox case by original screw or the one from the kit.



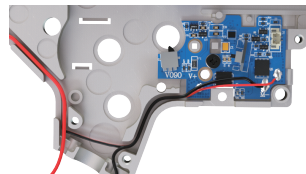
4. If the screw in the left picture protrudes out of the gearbox, please grind it flat.



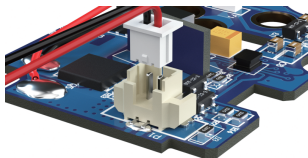
5. Make sure the arc of the bottom plate position is aligned with the arc of the gearbox hole.



6. Make sure the wires are close to the inner wall of the gearbox.



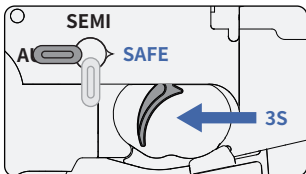
Please install the switch (Note: This switch is only for gel blaster, and the switch can be removed for non gel blaster.)



## Programming Function Description

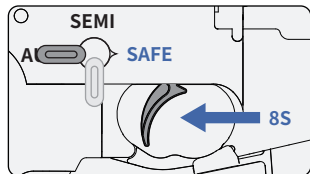
### Enter Programming

Switch the selector to the 'SAFE' and hold the trigger for 3 seconds. It will vibrate 3 times and the blue light will flash 3 times, indicating that it has entered the programming mode



### Reset

Long press 8s to reset original program(SAFE,SEMI-Single shot, AUTO-Full Auto, No pre-cocking).



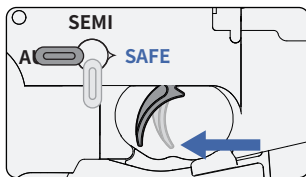
### Exit with Timeout

After entering programming and no operation for 8 seconds, it will automatically save and exit the programming mode.

### Pre-cocking Function

After entering the pre-cocking function, you need to continuously pull the trigger to select different pre-cocking levels.

After level selecting confirm, switch the selector to 'SEMI' or 'AUTO' to determine the setting of the pre-cocking level.



1. Pull trigger 1 time: Reset pre-cocking settings
2. Pull trigger 2 times: Pre-cocking level 1
3. Pull trigger 3 times: Pre-cocking level 2
4. Pull trigger 4 times: pre-cocking level 3
5. Pull trigger 5 times: pre-cocking level 4
6. Pull trigger 6 times: pre-cocking level 5

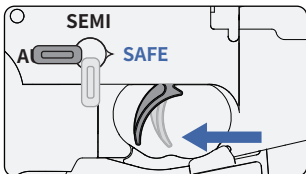
#### Remark:

The KESTREL Basic has an original self-learning function, which can automatically determine the position of pre-cocking stop based on different speeds and loads.

After replug or unplug the battery in the pre-cocking mode, it is normal for a single shot to fire a few more rounds when the trigger is pulled for the first time.

## SEMI Function

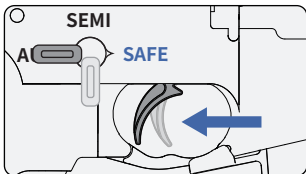
The 'SEMI' function will cycle between 'Single Shot' and 'BINARY'



Programming switching in 'Single Shot' mode, the function will turn to 'BINARY', and next switching will be back to 'Single Shot'.

## AUTO Function

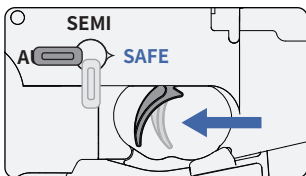
After programming, trigger from AUTO to 3 Burst Shots



Programming switching in 'Full Auto' mode, the function will turn to '3 BURST', and next switching will be back to 'Full AUTO'.

## Gel Blaster Feeding Time Setting

After entering the programming mode, pull the trigger 5 times in succession to enter this setting, pull the trigger again to select a different feed time (0.5-3 seconds):



1. Pull once: Turn off the feed setting.
2. Pull the trigger 2 times: the feeding time is 0.5 seconds.
3. Pull the trigger 3 times: the feed time is 1.0 seconds.
4. Pull the trigger 4 times: the feeding time is 1.5 seconds.
5. Pull the trigger 5 times: the feeding time is 2.0 seconds.
6. Pull the trigger 6 times: the feeding time is 3.0 seconds.

## Vibration/Light reminder

1. Power On: Motor vibrates 1 time
2. Jammed: Motor vibrates 2 times
3. Voltage High (more than 17v): Motor vibrates 3 times.
4. Low Battery (2s: less than 6v, 3s: less than 8.5v): Motor vibrates 5 times

## Warranty Card

Name: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Email: \_\_\_\_\_

Address: \_\_\_\_\_

Item Model: **KESTREL V2 BASIC** \_\_\_\_\_

Inspector: \_\_\_\_\_

Date of Production: \_\_\_\_\_

## After Sale Policy

**Please kindly provide Warranty Card, Purchase Invoice and packaged the product well before you send back for repairing or replacement**

1. We provide 3 months warranty time for KESTREL when you purchase.
2. We provide replacement service within 30 purchasing days if the product has a quality problem (non-artificial damage) and without disassembly marks.
3. The free maintenance service only be provided during our warranty period, and the product problem will be assessed and confirmed by our engineer whether it is be normal used. Shipping fee and door to door maintenance service are not included in our after sale policy.
4. For the following situation, we will not provide free maintenance .
  - 4.1 Users don't follow the requirement and installation steps from the product instruction and cause product damage and failure.
  - 4.2 Damage caused by the irresistible factors.
  - 4.3 The disassembly damage or failure caused by people who are not authorized by E-Shooter company.
  - 4.4 Without purchase proof or warranty card.
  - 4.5 The Warranty time is expired.
5. We refuse to provide maintenance service if the warranty card is not the original version, warranty record is not correct or be altered , as well as the card content is difficult to recognize.

CE RoHS



Pb-Free



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**ESHOOTER**

**KESTREL<sub>V2</sub> BASIC**

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