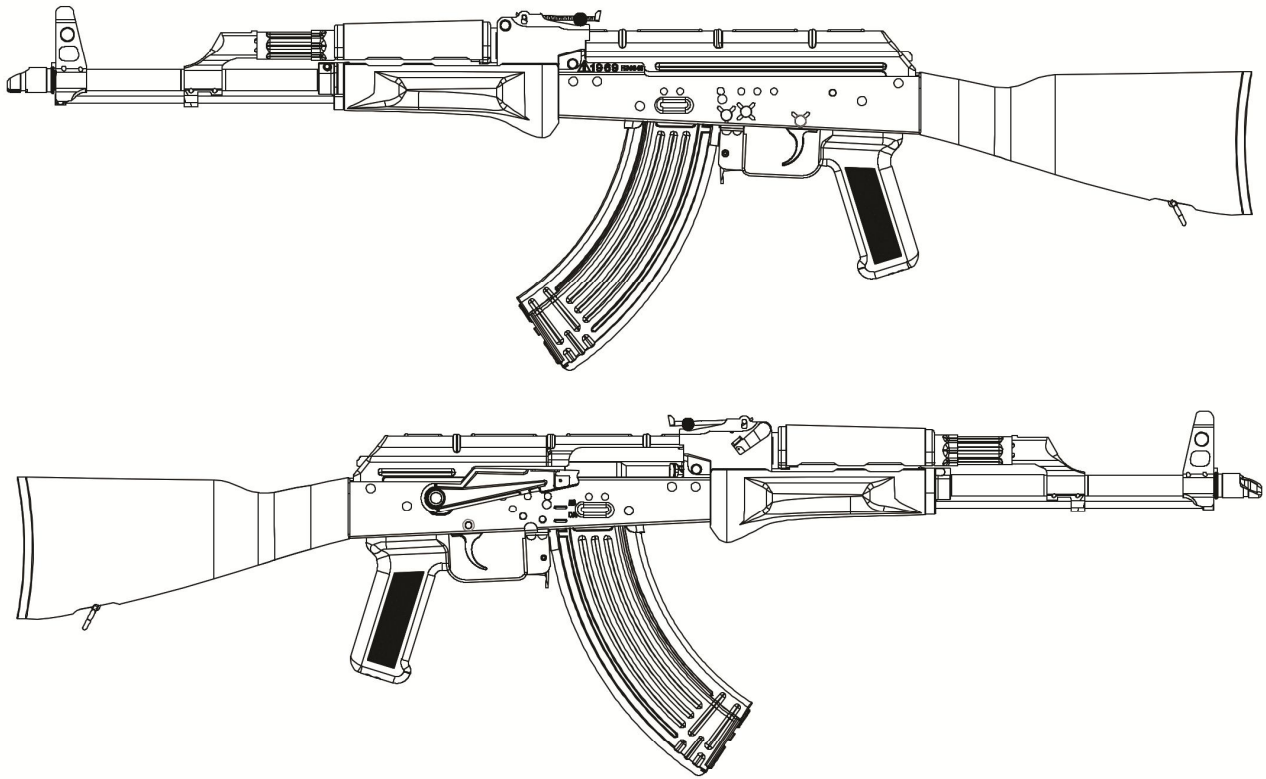


# INSTRUCTION AND SAFETY MANUAL



## CELCIUS AKM

SEMI-AUTOMATIC TRAINING WEAPON  
CAL 6.00mm

Please read this booklet carefully  
before using your rifle

The CELCIUS Training Weapon AKM is a 1:1 realistic design based on Izhmash Russian AKM, build for non-lethal training for the military/law enforcement. The Celcius Training Weapon (CTW) is **NOY A TOY**. The most important is ALWAYS handling the CTW as if it is a real weapon. The higher level of preparedness required of law enforcement, military and professional trainer may override several of the following safety instructions. Please read this user manual thoroughly before you start using the CTW. User is required to handle it properly. Serious injuries can happen if the CTW is handled inappropriately. If there is anything you do not understand about CTW, get help from someone qualified in the safe handling of CTW. This instruction manual applies for CTW and it should always accompany this CTW. When you lend, give, or sell the CTW, be sure this manual goes with it. Always wear maximum protection when you operate CTW, protective goggles that enclose the eye area, helmets which cover the ears, long-sleeve uniform, tactical vests and gloves.

## **CAUTION**

Failure to heed the warnings in this booklet may result in serious injury to you and others, as well as damage to the rifle or other property. Take note of the following warnings on gun handling before attempting to use your rifle:

1. Follow the safety and manual instruction
2. Shoot only at targets and legal training
3. Become proficient with CTW
4. Safely and efficiently operate CTW
5. ALWAYS assume CTW is loaded, until you have checked it yourself
6. Always point your CTW in a safe direction
7. Keep your finger off the trigger until you are ready to shoot
8. Do not shoot unless you are absolutely sure of your target and what is behind it
9. Always ensure that the barrel is clear of obstruction, and only use ammunition specifically intended for the gun
10. Keep CTW away from children and untrained adults
11. Wear eye protection when shooting
12. Never use CTW while under the influence of Alcohol or Drugs

## **WARNING**

Use only original, high quality ammunition which is in good condition. Only use ammunition of the caliber for which your gun is chambered. Stop firing immediately when there is a feeding problem, check the chamber and make sure if it is clean. And then check the magazine as well.

The recommended battery voltage is between 11.1v 1300mAh 20C (minimum) to 14.8v 1400mAh 25C (maximum).

## NOTICE

Celcius Technology shall not be responsible for injury, death, or damage to property resulting from either intentional, or accidental discharge of this CTW, or from its function when used to purposes or subjected to treatment for which it was not designed. Celcius Technology will not responsible for careless, or improper handling, unauthorized adjustment, or parts replacement, corrosion, neglect, or the use of wrong caliber ammunition, or use of ammunition other than original high quality manufactured BBs that is in good condition, or any combination thereof. Celcius Technology will not responsible any claims involving this CTW for any reason or cause when such claims are made by the second or subsequent owner.

### Battery Preparation

The CTW uses Ni-CD, Ni-MH, or Li-Po battery. Before usage, ensure that your battery is fully charged. Use suitable battery for each Cylinder Unit.

#### CAUTION

**STOP SHOOTING WHEN THE BATTERY IS LOW, fuse will blow** when the current carried exceeds the rated value for an excessive time. Continue firing when the battery is low may also damage the MOSFET and other electrical components.

#### 1. Charge the Battery

Always fully charge a new battery before use. Firing a CTW with a drained battery can damage the motor and ECU, as it won't have enough power to operate the ECU and motor properly. The best way maintain a longer life of the battery is using a good quality smart charger with overcharge protection.

Since 2011 CTW ECU is programmed with low battery indicator and it also stops the gun when the battery is low; a blue light will blink when the battery is around 9v. Continuing to use a CTW when the battery is low may damage the ECU, MOSFET and motor.

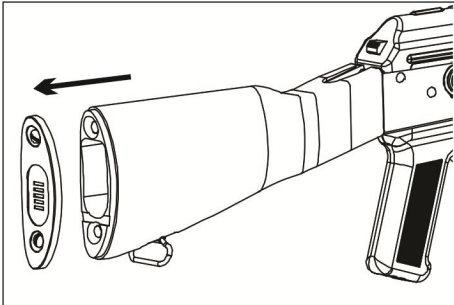
#### Using of Lithium Polymer Battery

- Only use Lipo Charger
- Do not drop the battery
- Do not store or charge battery pack inside your CTW or in extreme temperatures. Extreme temperature could ignite fire.
- Charge the LiPo before it completely drained
- For 300 – 400 fps / M120 – M 130 Cylinder, use 11.1v 2400mAh Lipo Battery
- For 450 – 550 fps / M 140 – M160 Cylinder, use 14.8v 1200mAh Lipo Battery
- To understand more details about Celcius Lithium Polymer Battery please read the User Manual provided inside the battery package or visit Celcius website [www.celciustechnology.com/manual.html](http://www.celciustechnology.com/manual.html)

## 2. Battery Installation

The internal stock of the CELCIUS AKM is designed for the MOSFET compartment, and also enlarged so user can put variety of batteries inside the stock. Therefore the stock wall is thin and not suitable for abuse like run over by a car, or to be used to hit hard objects. A customized reinforced version can be made upon request.

There are holes on cover so the heat from the battery can escape, with this holes user can also check when there is any malfunction with the battery, like smoke or fire for example.

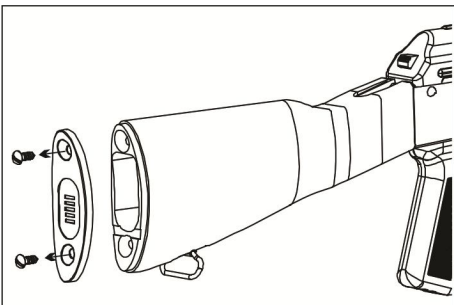


### Magnet Version

The stock cover is held by two magnets. Removing screws can be frustrating when user is in rush for replacing the battery during the training or game. The advantage is user can replace the battery quickly. But this design may not be suitable for extreme training.

To install the battery, simply pull the stock cover. Insert the battery and then connect the plug correctly.

**Make sure that the negative and positive is right. INVERTED INPUT WILL INSTANTLY BLOW THE MOSFET**



### Screw Version

By using two screws the stock will be installed firmly to the stock, just like the real AKM. To install the battery, remove the screws, and pull the metal cover. Insert the battery and then connect the plug correctly.

**Make sure that the negative and positive is right. INVERTED INPUT WILL INSTANTLY BLOW THE MOSFET**

## 3. Magazine Loading

### CAUTION

Spray a little amount of silicone lubricant into a new magazine. Always use a silicon based lubricant and do not use any lubricant that contain petroleum. Marui and SPANJAARD silicone lubricant are recommended for magazine inner case lubrication.

Use only high quality BBs. High qualities BBs are essential to ensure the maximum function of the magazine and tight inner barrel. USE ONLY CLEAN, DRY, ORIGINAL, HIGH QUALITY BBs IN GOOD CONDITION. High quality BBs manufacturers design their products within exacting engineering to reach the

maximum balance, precision, and good accuracy. Avoid contacting the BBs with bare hands since moisture, oil or dirt may be transferred onto the BBs and affect the projectile. Place the mouth of the BB loader over the magazine's feeding port. When you start feeling resistance while pressing the lever, it shows the magazine is already full or BBs are misaligned. It is important not to overload the magazine as this will prevent the BBs from jamming. If the BBs are misaligned, stop loading it, take the BBs out and reload it again.

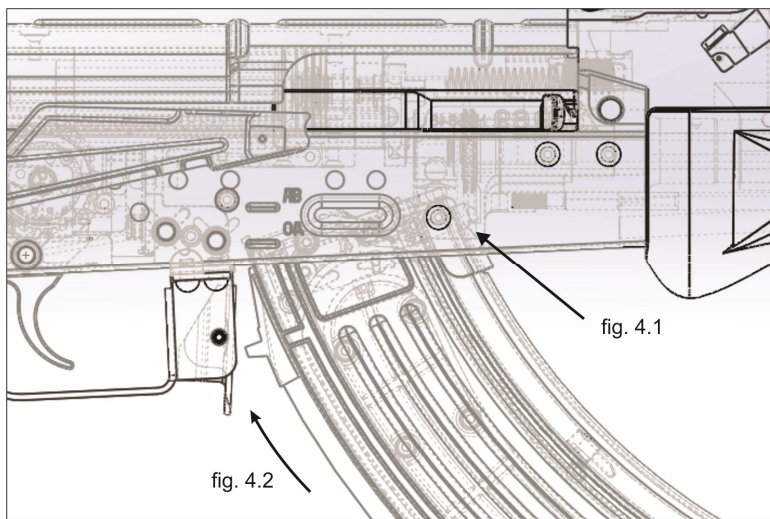
The patented **CELCIUS AKM magazine** can load 150rds BBs. The **standard version** is suitable for **12 rounds per second**. And the **high speed version** is suitable for **22 rounds per second**. For the best performance and durability, please empty the magazine after training, so the spring is not compressed for a long period of time. Please keep in mind that the BBs will not feed properly due to lack of spring tension or not enough lubrication inside the magazine.

### WARNING

Stop firing when the BB does not feed properly to avoid damage of the hop up rubber, nozzle, and other internal parts.

**ALWAYS KEEP AND CARRY YOUR CTW UNLOADED, EXCEPT WHEN YOU INTEND TO SHOOT**

## 4. Rifle Loading

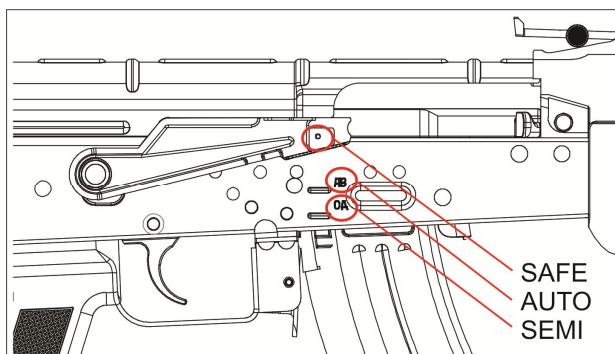


Insert the loaded magazine into the magazine well by hooking the front portion of the magazine into its proper notch located at the front of the magazine well (fig. 4.1).

Push the magazine up and rearward at the same time until you hear a click, indicating the magazine is properly connected (fig. 4.2)

**ALWAYS** put your finger off the trigger until you are ready to shoot.

## SAFETY



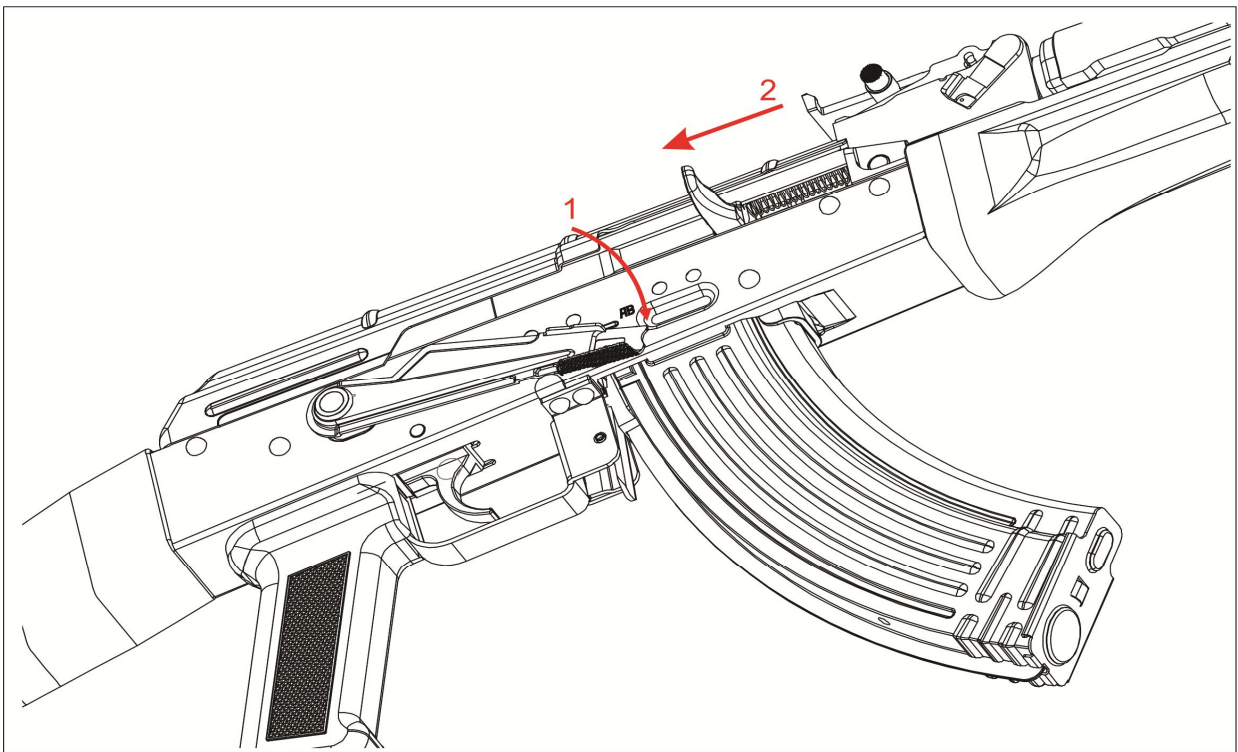
The safety lever is located on the right side of the receiver. It is "ON" (safe) when the lever is in the top position. It is "OFF" (automatic) when the lever is in the middle position, and it is "OFF" (semi) when the lever is in the lower position. When in the "On" (safe) position, the safety stops the gun from firing

## WARNING

- Always point the muzzle in a safe direction
- Never carry the CTW with a loaded magazine without having the safety "ON" (safe).
- No matter when the safety is "ON" (safe) or "OFF" (fire), always keep your finger off the trigger and the muzzle pointed in safe direction.
- Never totally depend on a mechanical / electronic safety. Always practice cautions gun handling.
- Always make sure that the chamber is clean and there is no obstruction in the barrel. Any dirt on the chamber or magazine can cause misfiring or other damage to the gun.

## 5. Firing

To simulate chambering, push the safety lever down to the fully auto, or semi position. Pull the bolt handle all the way back until it has reach the extent of its travel and then release it, allowing it to move forward under its own power. At this point the ECU is on, and the riffle is ready to fire. A pull or squeeze of the trigger will fire the rifle. If you are not ready to fire, place the safety lever in the "ON" (safe) position.

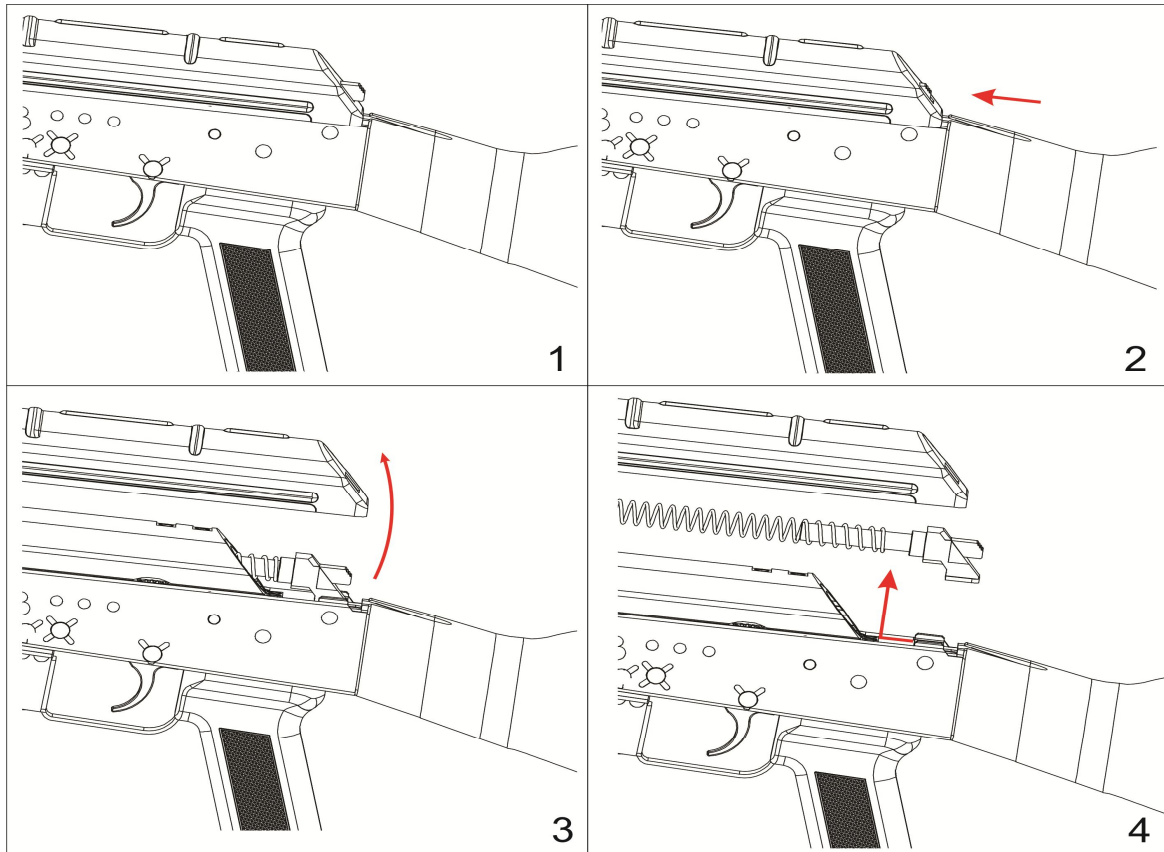


To fire the rifle, place the safety lever to fully auto or semi position. Aim the riffle at the target and pull the trigger gently. This action can continue until the magazine is empty. The CELCIUS Training Weapon AKM is equipped with mechanical and electrical function so that the rifle will stop firing when the magazine is empty. To unload the riffle, push the magazine release lever, and simultaneously pull forward and down on the magazine.



## 6. Changing the spring

Press the grooved end of the recoil spring guide (the receiver cover lock), at the same time, grasp the rear portion of the receiver cover and lift it up rearward off the receiver. With the receiver cover off, grip the end of the recoil spring guide assembly, and push it forward until it clears its slot in the receiver. Be careful as the recoil spring guide is under spring tension, if it slips from your grip it can cause injury to yourself or someone nearby. Lift the assembly up slightly and then remove it rearward from the cylinder assembly.



### **WARNING**

Any further disassembly beyond the parts breakdown above will automatically void all warranties.

To reassemble the recoil spring guide, simply reverse the sequence of the disassembly procedure. To insure trouble-free reassembly, we recommend that you pay close attention to the exact location and position of each part during disassembly.

### **CAUTION**

Without the receiver cover the gun can be fired normally. This will also allow you to adjust the hop up easily. It is very important that you always wear eye protection when firing. **DO NOT** touch the recoil spring guide, spring, or piston when firing without receiver cover.

## 7. Hop Up

Hop Up is designed to create a back-spin on the BB. This back-spin creates an extra aerodynamic boost to push the BB higher and further into the air. The larger the area, the more necessary it is to adjust the hop up to increase its shooting range.

To adjust the Hop Up, first remove the receiver cover. Press the grooved end of the recoil spring guide (the receiver cover lock), at the same time, grasp the rear portion of the receiver cover and lift it up rearward off the receiver. After removing the cover, ensure that the recoil spring guide is inserted properly inside the slot.

### CAUTION

Without the receiver cover the gun can be fired normally. It is very important that you always wear eye protection when firing. DO NOT touch the recoil spring guide, spring, or piston when firing without receiver cover.



The hop up adjuster ring is located in the chamber, and can be accessed from the opening on the right side of the gun. There is an opening on the hop up adjuster ring; it is used to easy installation and removal of the hop up adjuster plate so user does not have to remove the o-ring during maintenance. The hop up ring adjuster works in **both directions**; clock wise (**CW**) or counter clock wise (**CCW**), rotating further from the 12'o clock position will increase the hop up.

### WARNING

DO NOT use fully auto when adjusting the hop-up. Too much hop up can block the BB, and if a BB is jammed on fully auto, the timing of the returning piston will not match the movement of the sector gear, thus will damage the piston rack gear, sector gear, motor, and ECU.



## 8. Take Down and Maintenance

### Cleaning and Lubrication

The cylinder, nozzle, chamber, hop up, o-rings, and all moving components need to be cleaned and lubricated. Gearbox and gears also required a proper maintenance. Always use a silicon based lubricant and do not use any lubricant that contain petroleum. Marui and SPANJAARD silicone lubricant are recommended. If you are not experience with the CTW, please send the gun to the CELCIUS Authorized Service Centre, or find a qualified technician to do it for you.

### **WARNING**

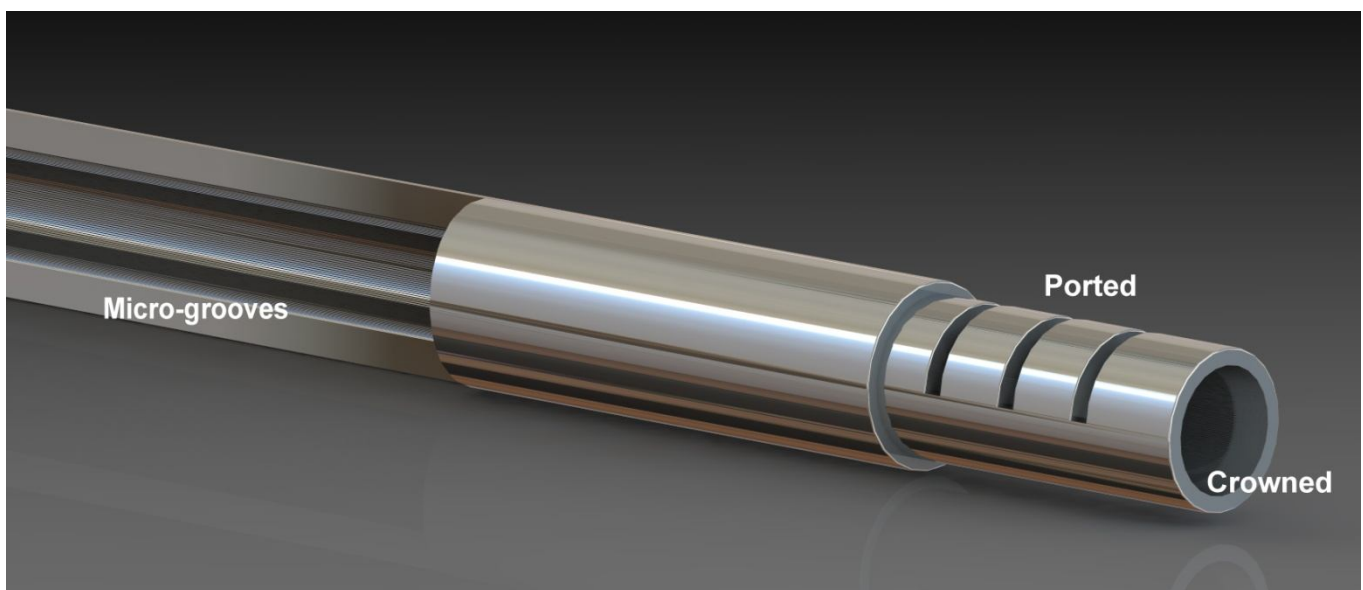
**Do not spray the gearbox with silicone oil; you may break the electronic sensor board (ECU).**

All the external components are made with a similar material just like the real AKM. When putting it away for a long-term storage, especially if your storage is near the sea, apply only a light coat of lubricant to the exterior. Do not over lubricate the working or moving parts. Grease and lubrication oils can be problematic especially if temperature fluctuate in your storage area.

### Inner Barrel

The CELCIUS Training Weapon AKM comes with the AKM Reformation Stainless Steel Inner Barrel. The inner barrel is tight, crowned and ported. The internal of the inner barrel is micro-grooved (straight lines inside the barrel). This design is proven to give greater accuracy for the gun.

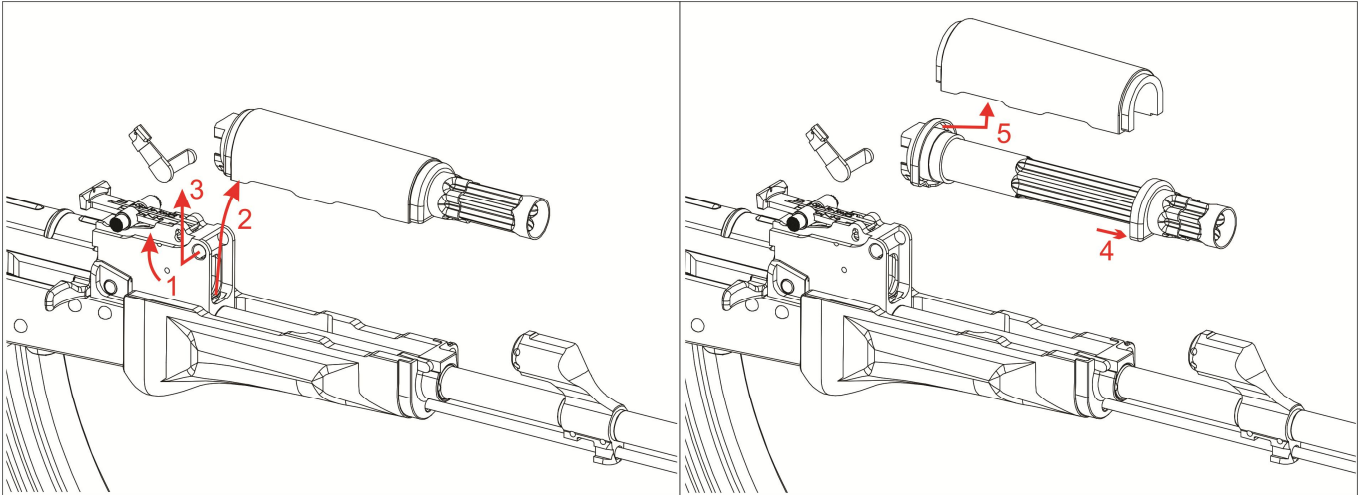
To clean the Reformation Inner Barrel, please only use the brush that provided with the gun. **DO NOT** use any clothes material or tissue paper, because the residue will stuck on the groove.



To see how it works: [www.youtube.com/watch?v=Gdusiv8uyCk](http://www.youtube.com/watch?v=Gdusiv8uyCk)

## Gas Tube and Upper Handguard

There may be more tactical designs for the rear sights, so the gas tube retaining pin is designed to be removable. For easy maintenance or modification with other than standard wooden handguard; the top handguard cap is not welded to the gas tube. It is stamped fitted with the gas tube. To remove the handguard use a little effort to pull the front handguard cap. You can also use a rubber hammer to push it forward.

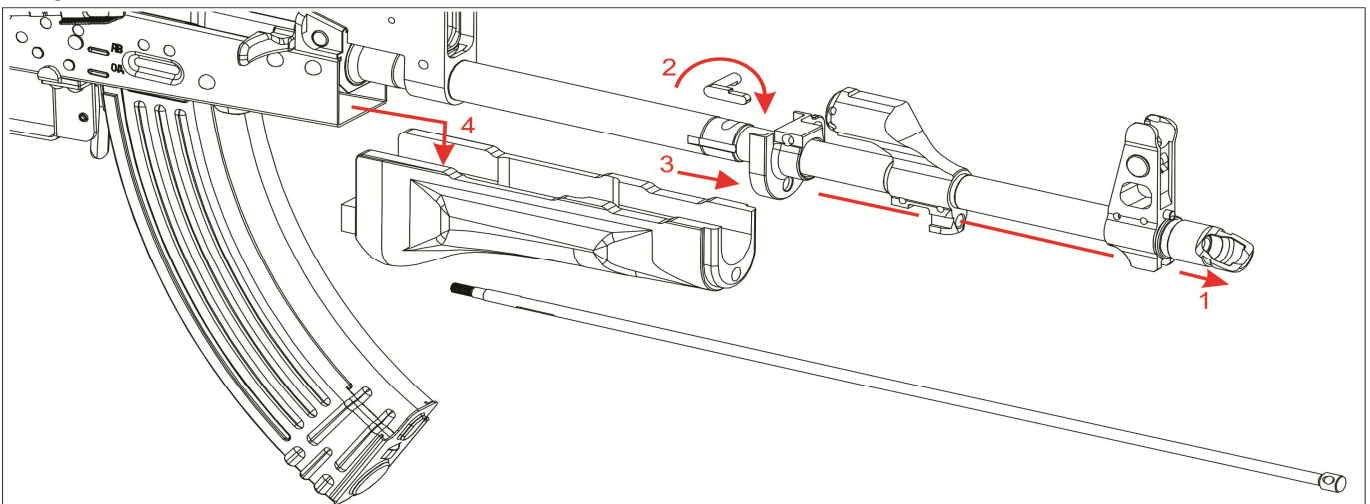


1. Rotate the Gas Tube Lock clockwise
2. Remove the Gas Tube
3. Leave or remove the Gas Tube Lock

4. Move the Front Cap forward
5. Remove the Top Handguard

## Lower Handguard

In the future, there may be more tactical designs for the Lower Handguard Band , so the retaining pin is designed to be removable.



1. Remove the cleaning rod
2. Rotate the retaining pin clockwise

3. Slide the Handguard Band
4. Pull the Lower Handguard

Thank you for choosing CELCIUS! We hope that you find the instruction on this user manual clearly and easily to follow.

Celcius Technology reserves the right to modify this manual, upgrade the ECU software, and products without prior notice. The illustration in this user manual may slightly differ from your gun, depending on the model you purchased.

If you lost this manual, you can always download it again from our website:

[www.celciustechnology.com/manual.html](http://www.celciustechnology.com/manual.html)

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