

# **SYSTEMA**

## **Professional Training Weapon System**

**Model M16A3**

**User's Manual**





## **Preface**

Thank you for your recent acquisition of the Systema Professional Training Weapon System. With decades of experiences in making the finest airsoft upgrade components and countless hours of research and development, we are confident that you will find years of excellent and trouble-free service from the Systema Professional Training Weapons. I would like to thank you for the opportunity to serve you as well as the community that your agency in turn may serve, and I hope you will find this to be an exceptional training tool, helping officers prepare for the unexpected.

Best regards,

Kumi Yoshida  
CEO, Systema Engineering

## **Before You Begin...**

Please take the time and familiar yourself with the Systema Professional Training Weapon, and read this user's manual thoroughly. Remember the Professional Training Weapon is **NOT A TOY**. Although it is designed and engineered to be a safe and effective force-on-force, non-leathal training tool, as with any other activities or training exercises that **serious injuries to you or others can occur** if the unit is handled inappropriately, misused, or improperly disassembled.

## **Safety Precautions and Equipments**

First and foremost, ALWAYS handle the Professional Training Weapon as if it is a real weapon, first to minimize the possibility of accidents but more so to promote and exercise safe firearm handling practices.

Secondly, wear appropriate protections during training. We strongly encourage making full-sealing, ANZI 87.1-1989 rated tactical goggles a REQUIRED equipment for every participants during force-on-force training using Systema Professional Training Weapons. Ballistic shooting glasses that does not provide a complete seal around the user's eyes are generally considered insufficient eye protections. If your agency already utilize tactical goggles during operations, use it during training as well!

Furthermore, other appropriate body protections should also be employed as the situation calls for. In extreme close-range engagements using the Systema Training Weapons, helmets, long-sleve uniforms, tactical vests and gloves are also recommended.

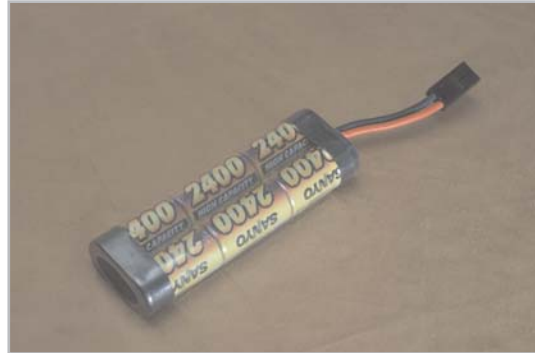
The bottom line is, officer safety is our utmost concern and must not be taken lightly!

# Chapter 1 — Basic Operations

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## Preparations

The Systema Training Weapon uses a high-power, rechargeable 8.4v Ni-CD battery pack as its power source. Before each training session, please ensure your battery pack(s) are fully charged for optimal performance. Refer to your battery charger's instructions on how to charge the battery pack (as well as discharge / conditioning cycles as needed) . Both the battery packs and battery chargers are available from your Systema dealer.



In addition, before and after each training sessions, visually inspect each Systema Training Weapon for damages. If any structural damages to the unit is found, contact your Systema dealer for repair or replacements.

## Battery Installations

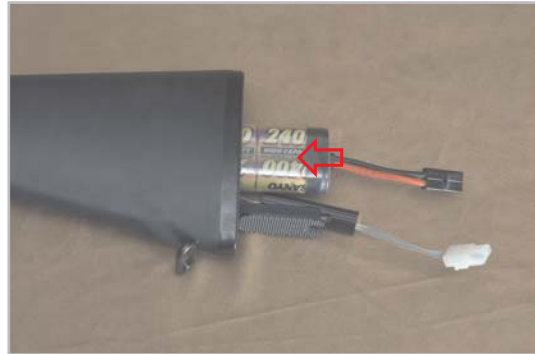
Prior to use, a battery must be installed to power the Systema Professional Training Weapon. To install the battery, first open the battery compartment door at the end of the stock by pushing down the compartment door locking lever, then pivot the door open.



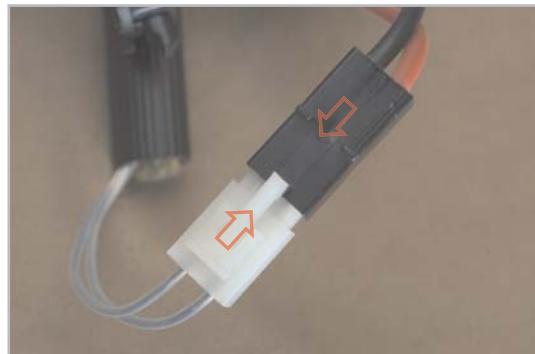
Locate the battery connector, and extract the wire until the black, tubular fuse holder is completely outside of the battery compartment. Be careful not to damage the wires. If you need to replace the fuse, use a needle nose plier to pull it out of its holder. Only replace with identically rated fuse units.

## Battery Installations (Continued)

Install the battery pack with the connector of the battery facing the REAR of the gun. Make sure the connection wire is located at the underside of the stock (i.e. closer to the bottom of the weapon). The battery pack should slide completely into the stock without any resistant. If you felt like something is in the way, check to make sure no electrical wires were caught between the battery pack and the compartment walls.



Now connect the battery by lining up the two connectors and push them together. The plugs are polarized so they will only fit together in one direction. Also make sure the lock is fully engaged.



Insert the fuse holder into the available opening under the battery. Be careful not to force the fuse holder into the compartment, as you may damage the wires.

Place the battery connector and the remaining wires into the battery compartment. Close the compartment door and ensure it locks in place. Now your Systema Training Weapon is ready for use.



## Loading the Magazines

To load BB bullets into the magazine, first place the provided loading tool over the magazine's feeding/loading port, and hold it firmly as shown. It is important to only use high quality BBs to ensure accuracy and reliability. There are inferior quality BBs in the market that may not be perfectly round or does not conform to the 6mm standard. Those BBs could cause jamming and should be avoided.



Locate the top opening of the tube, and feed BBs into the tube. Although the magazine will hold 80 or 120 rounds (please consult with your Systema dealer for your unit's exact capacity), for realism in training you may want to load only 30 BBs in each magazine.



While keeping a firm grip on the magazine and loading tool, insert the provided acrylic rod into the feeding tube with your other hand. Use the acrylic rod to push the BBs through the loading tube into the magazine. You should not need to apply excessive

force. Repeat the loading process if you need to load more BBs than the loading tube will hold. When a resistant builds up while pushing the loading rod down, your magazine is full.

## Firing

First insert a loaded magazine into the magazine well as you would with a real M4/M16. You can ensure the magazine catch is fully engaged by briefly pulling the magazine down after its inserted.



Depress the bolt-catch release pad to simulate releasing the bolt of a real M16. Although you will not feel a bolt slamming forward in the Professional Training Weapon, this action is still required as an electrical sensor located behind the bolt-catch will prevent the

gun from firing after a magazine is emptied. This is designed to simulate a real M16's operation as closely as possible.

Select the firing mode by using the safety / fire selector lever. Its operation and position is the same as a real M16. 2 firing mode is provided: semi-automatic and fully-automatic. Your Professional Training Weapon is now ready to fire. Return the selector lever to "safe" after firing.



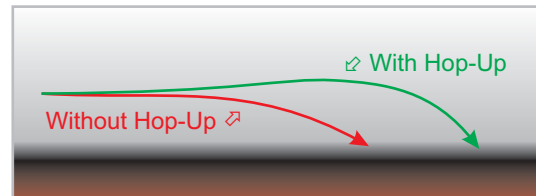
The Professional Training Weapon has a sensor that will cut off electricity to the motor once it has sensed that the magazine is emptied. To reload the weapon, depress the magazine release button and remove the magazine. Repeat the previous steps (insert new magazine and depress the bolt-catch release) to resume firing.



# Chapter 2 — Advanced Features

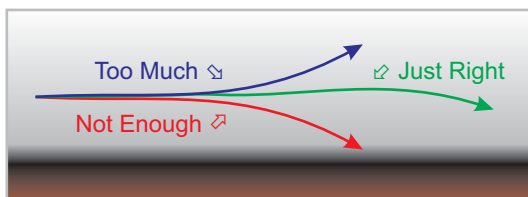
## Hop-Up Adjustments

Hop-up is a special feature that extends the effective range of the Professional Training Weapon by putting a “back-spin” on the BB bullet. The back-spin will create additional aerodynamic lift, effectively makes the BB “float” in the air and increases its effective range.



For typical in-door, force-on-force training, the engagement distance will be so short that the effect of hop-up will not be noticeable. As a result, for premises-entry type of training, the adjustment of hop-up is typically unnecessary. However, in larger area of operations such as urban warfare training/scenarios, proper adjustments of hop-up is a critical component in maximizing the effectiveness of the Professional Training Weapon.

To adjust the hop-up, remove the magazine and locate the hop-up adjustment set-screw. Turning the screw clockwise will reduce the effect of hop-up, while turning the screw counter-clockwise will increase the effect of hop-up.



After the adjustments has been made, install the magazine and test-fire the weapon in a shooting range. Notice the trajectory and re-adjust if necessary. Please also note that every

brand/type/weight of BBs will require a slightly different hop-up adjustments; for example heavier BBs typically require more back-spin to “stay afloat”, and the smoothness of the BB’s service also requires slightly different settings. As a result, it is advisable to standardize on a particular type/model of BB so that you do not need to re-calibrate the hop-up every time a new round is introduced into service.



## Take-down and Maintenance

To disassemble the Professional Training Weapon, first punch-out the rear receiver pin until the stopper pin (similar to the real M16) engages. The stopper pin prevents the rear receiver pin from falling out of the receiver, so do not attempt to completely remove the rear receiver pin from the lower receiver.



With your palm rested firmly on top of the stock, push the charging handle with your thumb to pivot the upper receiver. There is a spring-loaded ball bearing that holds the upper receiver securely in place, so a considerable force may be required to open the upper receiver.



To remove the cylinder unit, pull the charging handle back firmly while ensuring the charging handle latch, located on the left side of the charging handle, is also released. The cylinder unit will slide out towards the back as you pull the charging handle.

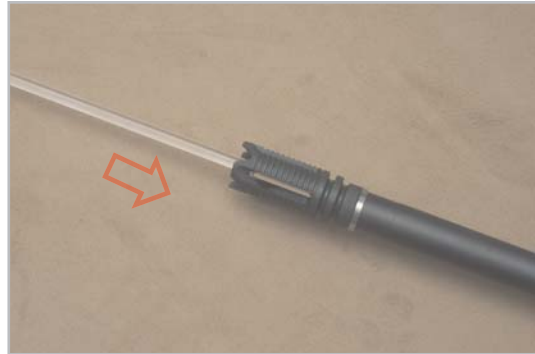
Note that due to very tight manufacturing tolerance, the cylinder unit may be initially difficult to extract. In time it will “break-in” and gradually becomes easier to remove.



After removing the cylinder unit, the charging handle can also be removed by sliding it all the way back then moving it downwards. Replacement and upgrade cylinder units will be available from your Systema dealer shortly.

## Take-down and Maintenance (Continued)

To remove the inner barrel, use a plastic rod (such as the provided acrylic loading rod) and insert it from the muzzle-end. Run the acrylic rod along the inside wall of the outer-barrel until it make contact with the tip of the inner barrel, then push the inner barrel out.

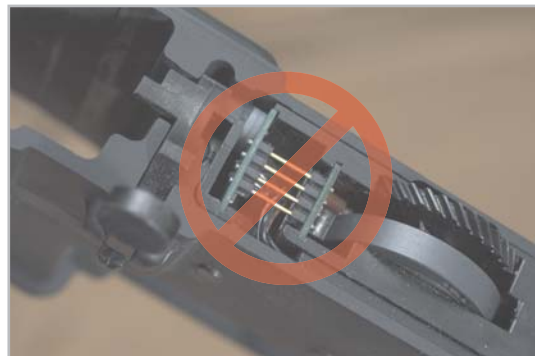


Remove the inner barrel by sliding it through the upper receiver, towards the rear of the gun.



Occasionally lubricate the rubber seal and hop-up unit from the loading port of the inner barrel. Use only pure (100%) silicon oil, as many other lubricants (such as mineral oil, automotive lubricants, or WD-40) can immediately destroy the o-rings and other rubber components found within the inner barrel. Your Systema dealer will be able to supply the correct lubricant for the Professional Training Weapon.

**Caution:** While the receiver is in the opened position, DO NOT touch any of the electrical connectors and/or the circuit board itself, especially when the battery is connected. Damaged electrical components are NOT user-servicable and must be returned to the factory for repair.



## Take-down and Maintenance (Continued)

**Caution:** While the receiver is in the opened position, DO NOT pull the trigger. If a battery is installed and the fire-selector is not set at “Safe”, the gears will “dry-spin” and potentially mis-aligning the sector gear. The upper receiver will not close when the sector gear is in the wrong position, and major hardware damages can occur if the upper receiver is forced to close in this situation. If you accidentally dry-spin the gears, tap the trigger lightly until all of the sector gear’s teeth rotates inside the lower receiver (disappear from view), before you attempt to close the upper receiver.



To re-assemble the Professional Training Weapon, simply reverse the take-down procedure:

1. Install the inner barrel
2. Install the charging handle
3. Install the cylinder unit (note the alignment notch on the unit, and make sure the cylinder is inserted all the way)
4. Ensure the sector gear is aligned correctly
5. Close the upper receiver
6. Move rear receiver pin back to its original position

## Notes

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