

Rifle HK 416A5 (Airsoft)



**Disassembly and assembly of the
HAO's 416A5 kit for PTW system**



Rifle HK 416A5 Conversion Kit

For

Professional Training Weapons

 **DANGER**

Risk of death from gunshot wounds!

Accidental discharge of weapon may occur when loaded weapon is handled.

- >Carry out a safety check before working on the weapon.
- >Do not perform maintenance work until you have read and understood this manual and the operator's manual for the weapon described here completely.
- >Follow the safety instructions when handling the weapon.





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 **WARNING**

All HAO kits are all precisely machined for SYSTEMA P.T.W specification.

We do not recommend our user to use aftermarket parts on HAO's kit.
Some of aftermarket's cylinder may not fit in HAO's upper due to its locating pin is too wide and too long.

 **BEST COMPATIBLE WITH**



SYSTEMA
PROFESSIONAL TRAINING WEAPON

Part I

Assembly of Upper Receiver



Assembly of Upper Receiver

Assembly of Upper Receiver:
Upper receiver assembly includes the barrel, Which controls accuracy. Besides your normal collection of tool, make sure specialized tools such as a vice (or preferably the upper receiver clamp) are available

1. Install Dust Cover:
First, set E-Clip over groove on Dust Cover Shaft.

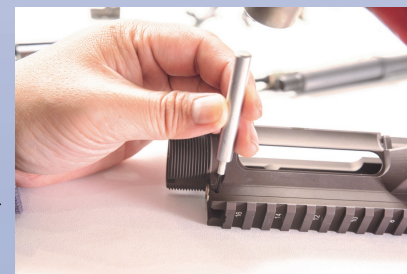
Note

The dust cover's operation is different from the real steel. With the PTW, the dust cover remains closed during firing, and the dust cover spring should be installed so that it will held the dust cover in the "closed" position at all times. Please refer to photo.

Insert the dust cover and dust cover spring over upper receiver, then insert the dust cover shaft from front end (barrel side) through the upper .Note the position of dust cover spring.

2. Install Forward Assist Knob
The forward assist knob has no specific function in the P.T.W System Forward Assist Knob Set Pin is to simply prevent the Knob from springing out. For assembly, insert Forward Assist Knob Spring into upper receiver, then insert Forward Assist Knob as shown (note the location of groove). Once the groove is aligned inside the receiver, insert set pin from below the receiver. The pin is easier to install from below with the receiver upside-down because the receiver sits more securely this way.

3. Install gas tube fake pin
Use a plastic hammer to embed the spring pin.



Assembly of Upper Receiver

4. Install Gasblock Adjuster

- Insert the spin from the tube port side
- Put the O-ring in the front.
- Cap with the adjuster and hammer the spring pin in.
- Insert the reed to secure the adjuster

*Make sure the knob on the reed is side up.



5. Install the Gasblock

Secure the Gasblock is in correct position, and hammer the spring pin and tighten up with screw.





Assembly of Upper Receiver

6. Install Barrel

Insert barrel gently in the upper barrel socket, make sure the indexing knob is right face up to fit the upper.



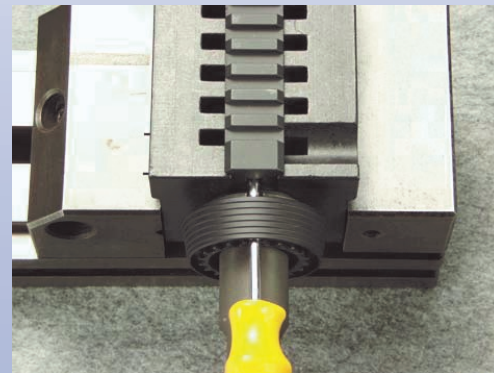
7. Install Barrel nut

From the front of the outer barrel, screw in Barrel Nut Assembly clock wise and make sure the barrel nut is tighten enough.



8. Install Flash hider

Slide the Flash hider ring then tighten the flash hider clock wise (1/2 28RH) /counter clock wise (CCW 14mm).



Tip

To protect the surface finish, the use of a upper receiver clamp is highly recommended.



Assembly of Upper Receiver

9. Install Charging handle

- Assemble the spring system and nuts inside the charging handle.
- Insert the charging handle with the system inside the upper slot.
- Tighten up the front piston assembly.
- Insert the recoil spring into gasblock.
- Insert the Piston head and spin.



Notice

Please follow the order instruction to make sure the recoil system is functional



Assembly of Upper Receiver

10. Install Hand-Guard

Insert Hand-Guard while pressing slide through the barrel nut. Be careful not to get your hand caught as gap of Hand-Guard and Upper receiver.



Part II

Assembly of Lower Receiver

Assembly of Lower Receiver:

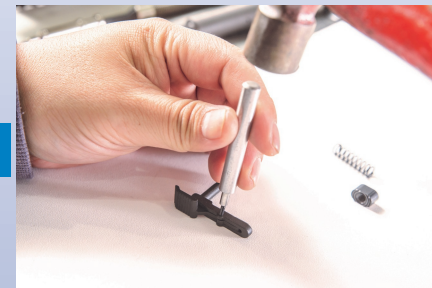
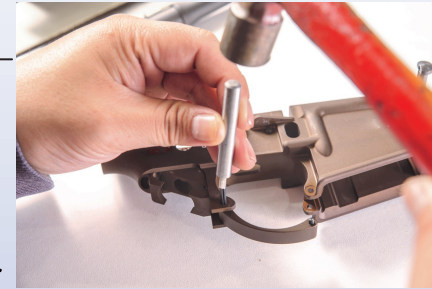
11. Install Trigger Guard Assembly
 Insert the retaining knob first, then spring and the screw them tight like the photo.

Locate the correct position and hammer it with spring pin the rear hole.

Slide and Secure the trigger guard with a “Click sound”



12. Install Ambi Magazine Latch
 First, assemble the left lever, gently use the hammer to pin them together. Second, insert catch from left side of lower receiver. Third, place Magazine-Catch Spring over magazine-catch shaft from the right side. Then, screw Magazine-Catch Button into the receiver until the magazine-catch sticks out from the left. Rotate the magazine catch clockwise several turns (as shown), then rest it into its original hole.



Notice

Ambi-Magazine Latch may need some lubrication to meet the best performance.



13. Glue Dummy Pins

There are total 6 pins need to be glued: Trigger Dummy Pin and Hammer Dummy Pin, and Full-Auto Sheer Dummy-Pin, We recommend using Loctite 403, but any adhesive that does not leave any residual/ coloration will be fine. To glue the pins, dip a toothpick into the adhesive and use the toothpick to apply a very small amount of glue into the middle of each groove. Then place each dummy pin into their corresponding groove, and apply pressure until adhesive sets.



14. Assemble Pivot-Pins

Insert Pivot-Pin Spring and then Pivot-Pin Stopper-Pin into the corresponding hole from the front of the receiver. While holding both parts inside the hole, insert Pivot-Pin through the lower receiver as shown.

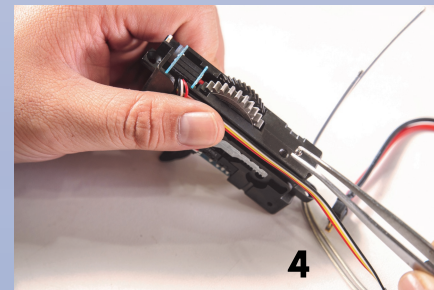
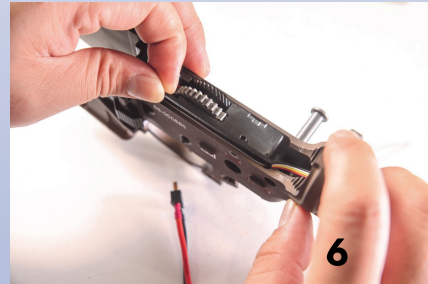
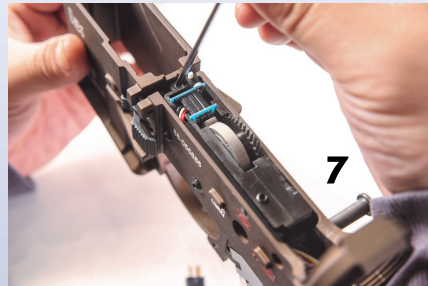
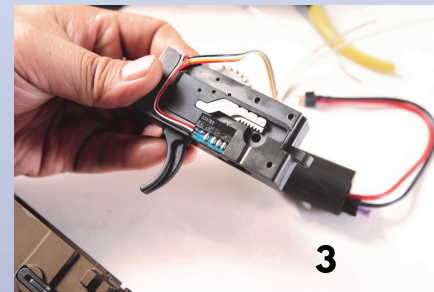
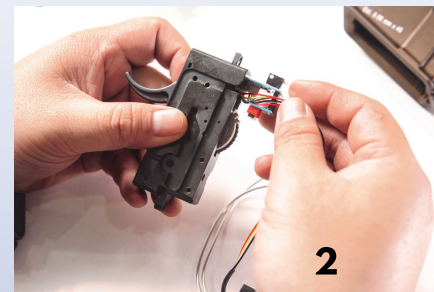
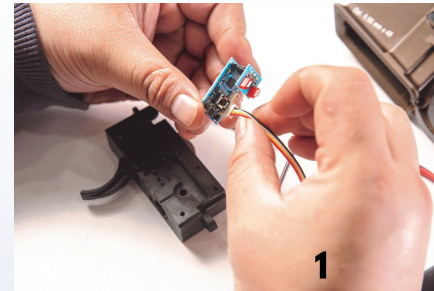


15. Install ECU & Gearbox (Option)

Insert the control wire on the chip first, carefully put inside the gear box slot. Smooth the wire on the socket on the gearbox. Put the bearing, spring, and tighten up the hex screw. Once the gearbox is fully seated into the lower receiver, screw the assembly via two mount holes on the front

Notice

Do not screw too hard on the two mounts, too much torque may jeopardize your gear box.



16. Install Motor (Option)

The trick to install motor correctly is to always remember this: Positive terminal at the front. If you look at the bottom of the motor, you should see a red mark over one of its terminal. That is the positive terminal. After the motor is installed, the red terminal should be facing front (muzzle-end) of the gun.

To install motor, insert motor perpendicular to the lower receiver, and rotate it 90 degrees (as shown) to lock it in place. Remember the positive (red) terminal should be facing front; pay attention to it when you insert/rotate the motor.



Once the motor is in-place, insert the Motor Fixing Pins. If the pin do not fit in smoothly and tapping/hammering is required, make sure the motor is properly and evenly supported first. A piece of board under the motor to distribute the pressure would work. This is important because the motor is a structural part of the PTW, and it must



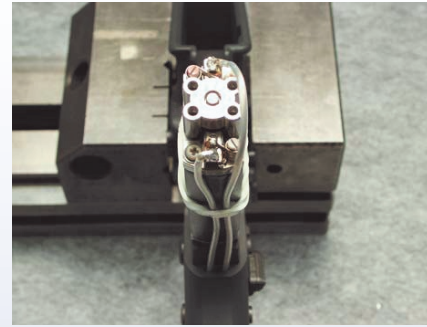
Notice

Make sure you insert the motor pins before you install the grip on!!



17. Solder Motor Wires (Option)

Use a rubber band or electrical tape to temporarily secure the motor wire in place. Then solder the wire as shown. Note the longer wire is positive which should be connected to the brush case next to the brush spring post painted red, and the shorter wire is the negative which is to be connected to the other brush case.



18. Install Grip and Grip End

Gently slide the Grip over the motor ensuring the motor wires do not get squeezed or pinched between the grip and the motor.

Once the grip is fully inserted, through the opening at the bottom make sure the positive motor wire is routed towards the side of the motor's bottom mount point. There is a small notch on either side of the grip end for the wire to rest. If the wire do not rest in said groove, it will be damage.



Next, place Grip End over the bottom opening of the grip with the correct orientation and fasten the grip end to the motor by using the 4 Group End Screw. Finally install Rotor Adjust Screw in the center opening of the grip end, but do not tighten. The newer motor that comes with the kit does not require adjustment anymore, and the rotor adjust screw is just there to cover the hole. Fasten the screw until the top of the screw is flush with the top of the hole.



Notice

Make sure the wires are well settled !

19. Install Selector Lever

First ensure the selector rack gear is at the forward (SAFE) position. Use a small pin punch or tooth pick to make sure it is pushed forward fully.

Then slightly grease the Selector Lever shaft, and then insert it into the opening, while orienting it to the "SAFE" position (Selector lever pointing the front/nuzzle end of the gun). Once fully inserted, rotate it from SAFE to AUTO to ensure full range of movement.

Finally, insert Selector Click Ball and then Selector Click Ball Spring through the small, threaded opening at the top of the gearbox. Then fasten Selector Click Ball Screw over the hole. Slowly tighten the screw until resistant is felt. The selector lever's resistant is adjustable by how tight you fasten the selector click ball screw.



Notice

For Ambi-selector users, please make sure the right selector is on the correct position before insert the secure plate in.



Assembly of Lower Receiver

20. Assemble the buffer tube assembly

Simply drive the castle nut clock wise into the end of thread. Then End plate , make sure the bump side is face inside.

Carefully put the FET inside the tube make sure the wires are well settled.

Finally, screw stock tube into lower receiver. Pay attention to the positioning; the front end of the stock tube should not protrude from the lower receiver. If the stock tube is too far forward, the receivers won't close. Typically the front of the stock tube should still be about 2mm recessed. Once the stock tube is in position, use a stock tube wrench to loosely tighten the stock tube nut. Do not fully tighten the nut yet because you may need to loosen it and re-adjust the stock tube front/aft in the next step.



Notice

Be careful when driving the tube forward, the tube may accidentally cut the wires!

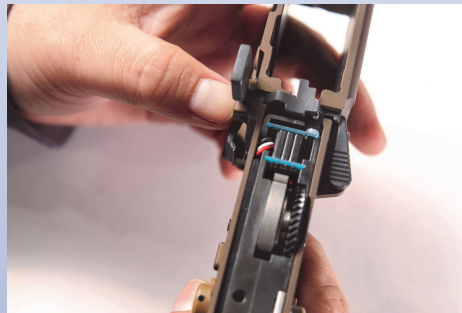
21. Install Ambi Bolt Stop

There are three points which you need to be glued. Two on the lever, one on the lower.

Insert the bolt stop spring into the corresponding hole in the lower receiver. Then position the Bolt Stop over the bolt stop spring, aligning the hole with the retention pin holes on the lower receiver. Finally insert Set Pin for Bolt Stop through the corresponding hole from the rear (butt stock side) of the receiver, with the knurled end facing the rear. Use a pin punch to secure the pin in place.

Notice

Please use the superglue to glue the magnets.





Assembly of Lower Receiver

22. Complete the gun

Push hard on the stock (Option) and pull out the latch in order to fit in the buffer tube. Insert your Hop-up assembly (Option) and Cylinder (Option) into your upper.

Then you have your lovely HK416A5 PTW.

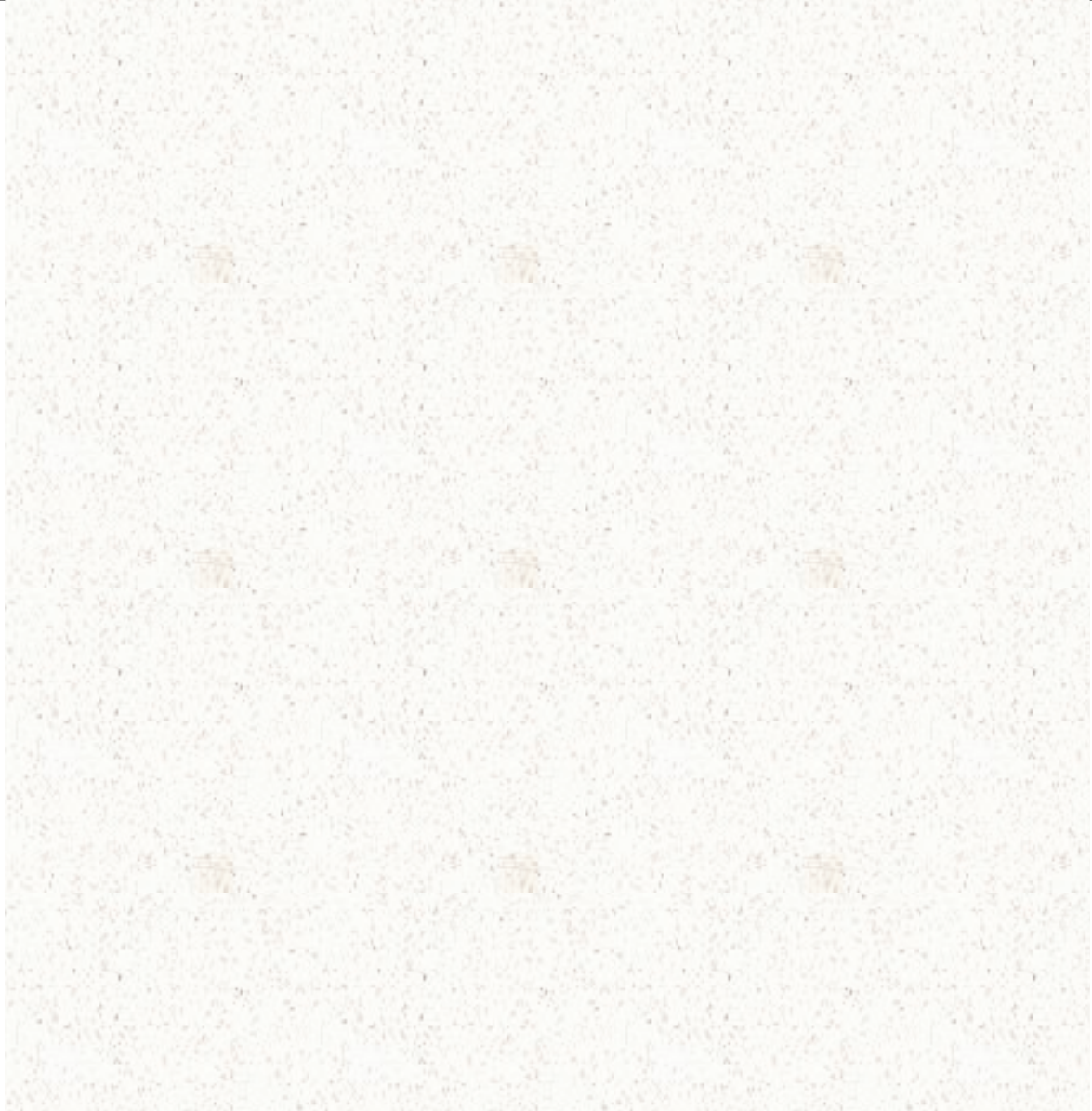




Memo



Memo



No Compromise

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