



DAYTONA
AIRSOFT

Daytona Airsoft Systems Installation Manual: VFC MP5 (Zinc Receiver/NON 3-rnd Burst)



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Basic Information

Introduction

When properly installed, your Daytona Airsoft Systems (DGA) recoil kit provides you the ability to experience heavy recoil with no cooldown, and without expensive, heavy gas magazines to keep serviced, or batteries to keep charged.

Please note that the DGA VFC MP5 kit has been designed to fit and function within the VFC Avalon MP5 zinc-receiver bodies only (non-burst models). While it may be possible to modify the kit and/or the donor of a similar spec rifle from another brand, this is neither recommended nor supported and will likely require additional fitting and tuning beyond what this manual specifies.

The VFC Avalon MP5s are often sold under license by Elite Force.



For the User

This guide assumes some technical knowledge and ability on the part of the installer. If you are not familiar with how various airsoft systems operate, and if you have never disassembled/built an airsoft gun before, you should consider having your local gun tech do the install for you.

Copyright

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What You Need

In order to install the DGA kit into your donor body, you will need the following tools:

Necessary:

- 3mm hex wrench
- 2.5mm hex wrench
- 2mm hex wrench
- 1.5mm hex wrench
- 5.5mm drill bit
- T10 torx driver or bit
- Phillips screwdriver
- Flathead screwdriver
- Hammer
- Needle nose pliers
- Razor blade or hobby knife
- Vernier calipers or other accurate measuring tool
- Semi-permanent thread lock, such as Loctite 243
- ½ inch step drill bit
- Power drill
- Vise or clamp

Helpful:

- Rubber mallet
- Drill press
- Deburring tools



Disassembling Your Donor Body

A Note Before Starting

If you have already taken apart your donor body, or if you are already familiar with disassembling a VFC MP5 AEG, you can skip to the section of this manual dealing with installing the DGA kit.

How to Disassemble Your Donor

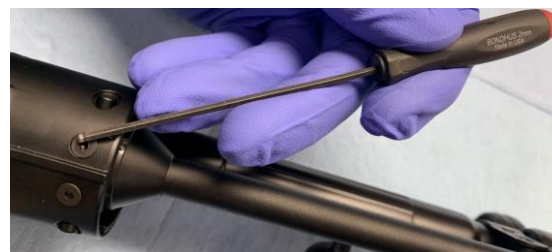
Primary Disassembly

1. Punch out the three body pins retaining the stock, the lower receiver, and the handguard.
2. Pull off the stock and handguard.
3. Slide the lower and upper receiver apart.
 - The upper receiver has two tabs that drop down beside the gearbox. It can be helpful to pull down on the lower receiver while sliding so that these tabs do not catch on anything.



Upper Receiver Disassembly

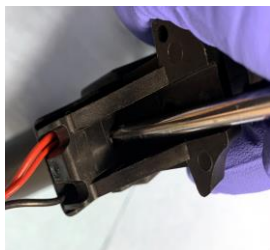
1. Slide the hop up unit and inner barrel back out of the upper receiver.
2. Slide the mock bolt and its spring back out of the upper receiver.
3. Remove the four machine screws that retain the barrel assembly using the 2mm hex wrench.
 - Do not attempt to punch out the pin in front of the screws. This is a fake pin that has been molded in. Attempting to punch it out will damage the receiver.
4. Pull the barrel assembly forward out of the upper receiver.



Lower Receiver Disassembly

1. Remove the pistol grip base plate by unscrewing the two screws using the 2mm hex wrench.
2. Pull the positive and negative spade connectors off the terminals on the motor.
3. Pull the motor out of the pistol grip.
4. Unscrew the two motor grip screws inside the pistol grip using the Phillips head screwdriver.

5. Remove the bolt holding the lower receiver spacer to the back of the gearbox using the Phillips head screwdriver.
6. Unscrew the screw holding the bottom portion of the spacer to the lower receiver using the Phillips head screwdriver.



7. Pull the spacer up and out of the lower receiver.
8. Pull the gearbox up and out of the lower receiver.
9. Unscrew the machine screw holding one of the selector levers in place using the 2mm hex wrench.
 - This is best done with a bent hex key, since it can be difficult to get a regular wrench into the receiver.
 - Keep some pressure on the selector lever, as there is some spring tension beneath it. If it flies away on its own, you may lose the detent bearing and spring.
10. Remove the selector lever, gear, bearing, and spring from the receiver.
11. Unscrew the machine screw on the other side of the receiver by inserting the 2mm hex wrench through the hole on the opposite side and remove that lever.
12. Pull the joined gears at the bottom up and out of the receiver.



What to Keep and What to Set Aside

With you donor disassembled, you will have many parts. You only need to keep the items on the following list. Everything else can be safely removed.

Keep:

- Upper & lower receivers
- Outer barrel assembly
- Lower receiver spacer (and its lower screw)
- Handguard
- Stock, receiver, and handguard pins
- Both selector levers, as well as their springs, detents, and screws
- Pistol grip base plate and its screws
- Original inner barrel if you are not upgrading to a better one (you will need to disassemble your donor's hop up unit for this)

Installing the Daytona Kit

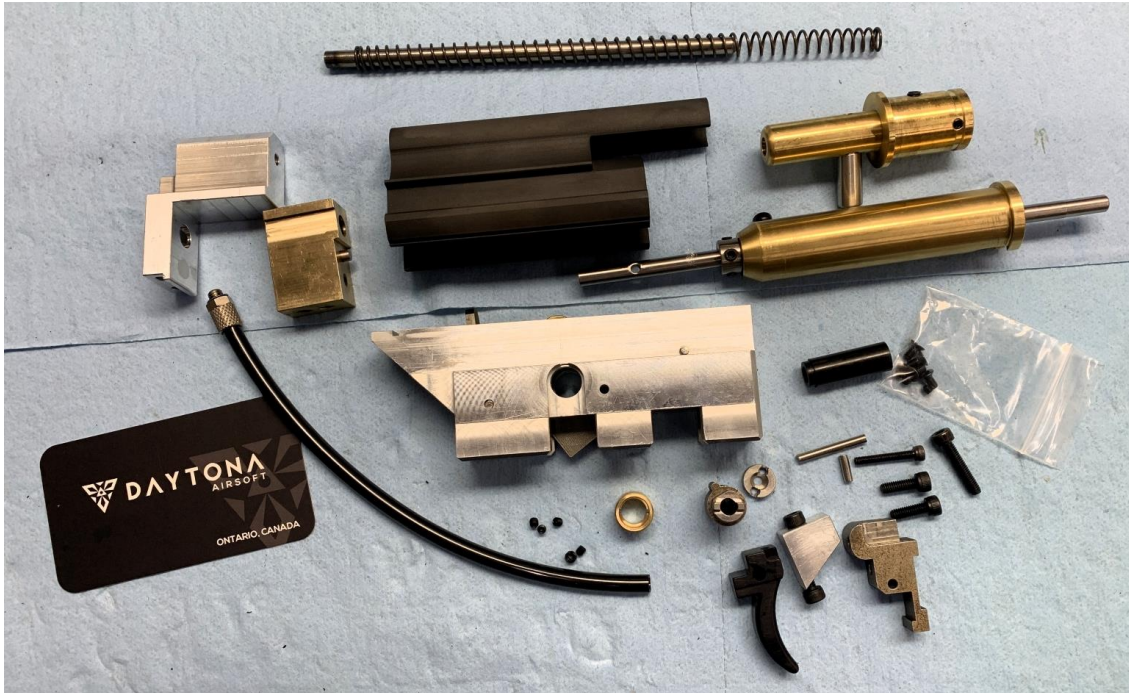
Inside the Box

If you haven't already, open the box containing the kit. Remove the packing materials and lay everything out.

Your kit should contain the following items:

- Recoil spring guide rod
- Recoil spring
- Hop up chamber with feed tube
- Barrel friction ring
- Bolt carrier
- Bolt tank & airshaft assembly
- Daytona Standard hop up rubber
- Air valve
- Air line with fitting
- Recoil spring guide rod block
- Trigger chassis
- Trigger chassis pin
- Internal selector
- Selector detent pin
- MP5 selector lever adaptor
- Trigger
- Trigger adaptor
- Lower receiver trigger adjustment block
- Four (4) hex-head bolts
- Four (4) Torx-head countersunk machine screws
- 4-8 matching set screws (only 4 are necessary, additional ones are spares)

Compare the contents of your package with the above list and the image below. If you believe you are missing any parts, please contact DGA for assistance.



Assembling the Inner Barrel Group

Remember that you will need an AEG-spec inner barrel. This is not supplied with the kit. You **can** use the original barrel from your donor gun's body, but DGA recommends upgrading to a high-quality aftermarket stainless steel inner barrel. Remember, the DGA hop up rubber, friction ring, and c-clip are designed for use with AEG inner barrels only.

Inner Barrel Assembly:

1. Slide the Daytona hop up bucking onto the correct end of the inner barrel.
2. Push the barrel friction ring down so that the opening on the bucking end slides over the lip of the hop up bucking.
 - Sometimes you may find it difficult to slide the barrel ring down the barrel, over the bucking, or both. Careful removal of some of the inner material of the barrel ring with a file and/or drill can be done to correct the spacing.



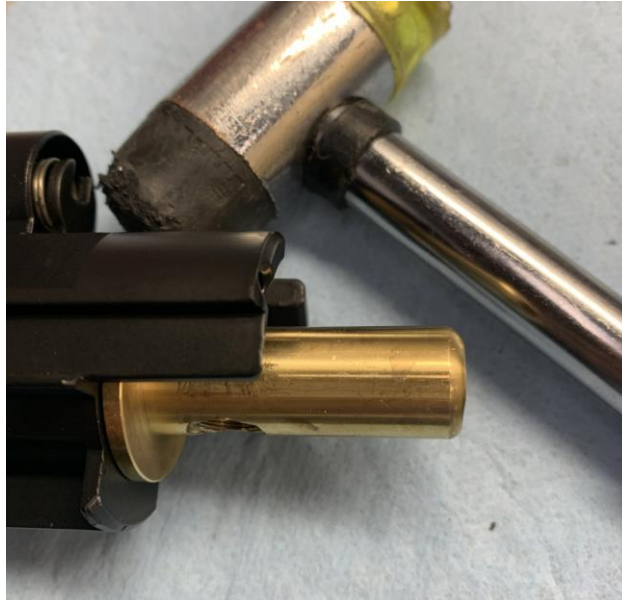
Hop Up Chamber Assembly

1. Remove all set screws from the hop up chamber using the 2mm and 2.5mm hex wrenches.
2. Place a drop or two of thread lock onto the threads for the hop up adjustment screw.
3. Screw the hop up adjustment screw back into place using the 2.5mm hex wrench. Look into the inside of the chamber and keep turning the screw until you see it protrude into the chamber.
4. Absorb the excess thread lock on the bottom of the adjustment screw with a cotton swab.
5. Back the adjustment screw up so that it no longer protrudes into the chamber.
6. Clean any excess thread lock on top of the screw as well as in and on the chamber with cotton swabs or paper towels.
7. Push the inner barrel group into the chamber, leading with the bucking. Make certain that the window of the inner barrel faces upwards.
 - Do not shove or force the inner barrel group into the chamber. Too much force can deform the bucking, leading to jams, feeding issues, and poor accuracy.
8. Apply some hop up using the 2.5mm hex wrench while looking down the barrel. Apply enough so that you can clearly see the protrusion of the mound into the chamber.
9. Rotate the barrel clockwise or counterclockwise until the mound is dead center within the chamber.
10. Apply thread lock to the two set screw holes on either side of the chamber.
11. Insert and tighten the set screws using the 2mm hex wrench to lock the inner barrel group in place within the hop up chamber.
12. Unscrew the feed tube from the chamber.



Barrel Group Assembly & Installation

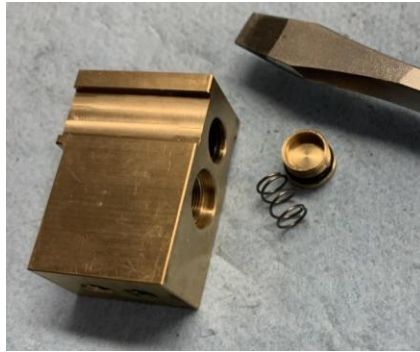
1. Insert the inner barrel group into the outer barrel group muzzle first.
2. Push the inner barrel group so that it sits flush against the outer barrel group.
 - You can use a rubber mallet to tap the inner barrel group in deeper if you encounter resistance.
3. Check inner and outer barrel group alignment, making certain that the hop up adjustment screw is as centered as possible.



Assembling and Modifying the Air Valve

The air valve comes out of the box with a valve stem return spring installed. This can be left installed for a stiffer trigger pull. DGA recommends removing the return spring to soften the trigger pull.

1. Remove the air line and fitting from the air valve. This needs to be removed in order to test fit the valve in the receiver.
2. Unscrew the cover on the back of the air valve using the flat head screwdriver.
3. Dump the small internal spring out of the valve.
4. Screw the cover back into place. Tighten it down. Do not apply thread lock, as the o-ring provides an adequate seal as well as locking force.



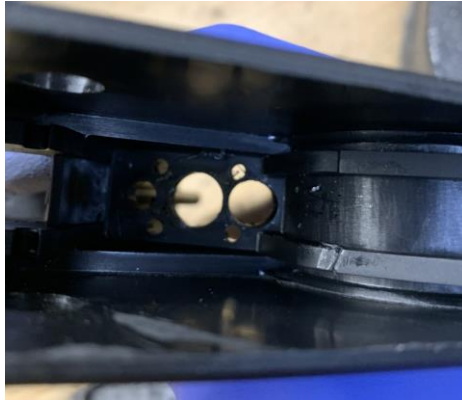
Prepping the Trigger Chassis

1. Screw the trigger and trigger adaptor together using the 2.5mm hex wrench and the thin hex bolt.
 - Remember to use thread lock
2. Insert the completed trigger up into the bottom of the trigger chassis and insert the trigger pin to hold it in place.

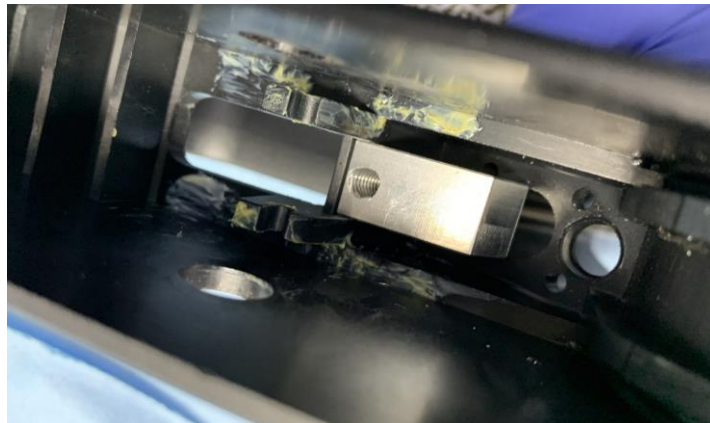


Prepping the Lower Receiver

1. Place the lower receiver in a clamp or vise.
2. Enlarge the rear gearbox screw hole using the half-inch step drill.



3. Remove the bolts from the trigger adjustment block using the 3mm hex wrench.
4. Insert the trigger adjustment block into the trigger hole of the lower receiver.
 - The angled side should face upward, with the flat side resting on the receiver. The hole for the flat slide should line up with the front wire hole in the pistol grip.
5. Install both bolts back into the trigger adjustment block, one from the top and one from within the pistol grip.
 - Thread lock both bolts. Do not screw the upper bolt in all the way.
 - Short bolt in bottom, long bolt on top.



6. Place the air valve into the trigger chassis.
7. Push the trigger chassis down into the lower receiver.
8. Check that the valve knocker can pull far enough back against the semi-auto sear so that it cannot press the valve before the trigger is pulled.

- You can adjust the initial position of the trigger by removing the trigger chassis and either increasing or decreasing the height of the top screw on the adjustment block. Adjust to your preference, so long as the valve cannot be pressed without pulling the trigger.
 - You can also reinstall the air valve spring to help with the step, and then take it back out again after.
9. Remove the trigger chassis from the lower receiver after you have finished the adjustment process.



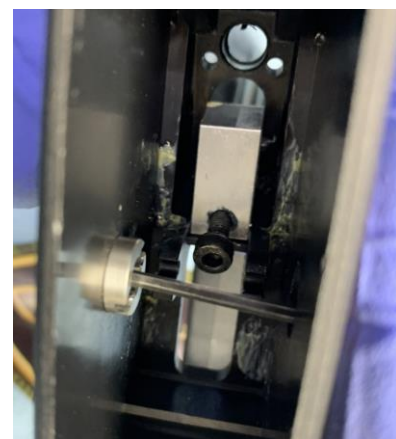
How to Install the Lower Receiver Components

Installing the Selector Lever

1. Gather the DG MP5 selector lever adaptor, the right-side selector lever, and the selector lever's detent bearing, spring, and screw.
2. Place the detent bearing onto any of the detent holes for the right-side selector lever.
3. Install the detent spring back into the selector lever (if it has not come out of the lever, you do not have to do this step).
4. Push the lever down onto the opening, ensuring that the detent bearing lines up with the spring on the bottom of the lever.



5. Push the DG MP5 selector lever adaptor down onto the bottom portion of the selector lever from within the lower receiver.
6. Install the selector lever screw from within the lower receiver using the 2mm hex wrench. Remember to use thread lock.
 - You will need to keep constant pressure on the selector lever from the outside to ensure that the detent bearing and spring stay in place.



Modifying the Lower Receiver Spacer

1. Clamp the lower receiver spacer.
2. Enlarge the hole in the spacer so that the airshaft can move through it without resistance using the ½ inch step bit.



Installing the Air Valve and Trigger Chassis

1. Put a small amount of thread lock onto the threads of the airline fitting.
2. Screw the airline fitting into the bottom of the air valve. Tighten, but do not overtighten, the fitting using needle nose pliers or a small wrench.
3. Install the air valve into its slot on the trigger chassis.
4. Push the trigger chassis down into the lower receiver, making sure to thread the air line through the enlarged hole in the pistol grip.



Installing the Selector Assembly

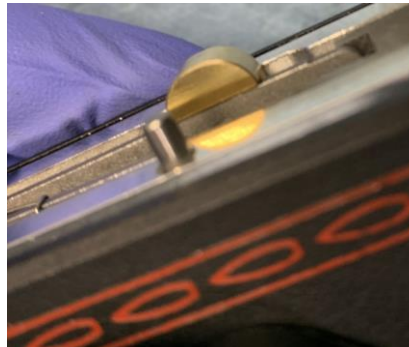
1. Gather the left-side selector lever, its detent bearing, spring, and screw, as well as the DG internal selector.
2. Remove the slotted collar from the DG selector.
3. Push the selector lever down onto the end of the selector lever with the channel.
 - Ensure that both your selector levers line up. You can look through the left-side selector hole in the lower receiver to see the orientation of the holes where the lugs of the selector lever sit.



4. Insert the selector lever screw into the DG selector lever and tighten it with the 2mm hex wrench. Do not forget thread lock.
5. Place the slotted collar into the trigger chassis.
 - You will want to hole it in place with some pliers or a wrench, or else it will fall down deeper into the receiver.
 - Pay attention to the flat surface of the slotted collar, as it lines up with the flat surface on the DG selector lever.



6. Place the detent bearing onto one of the detent divots on the receiver. Ensure that the detent spring is in place on the selector lever.
7. Push the completed selector assembly into the receiver, ensuring that the lugs of the lever lock into the holes on the selector adaptor. Hold the left-side selector in place so that it cannot pop out.
8. Drop the selector detent pin down into the detent hole on the left side of the trigger chassis. Secure it with one of the included set screws. You can release the left-side selector lever now.



9. Check selector function by dropping both sears down into place. Rotate the selector and make sure that safe works, that the auto-sear drops down when you place the selector in semi, and that it rises back up when you select full auto.
 - If the selector is difficult to move, loosen the set screw holding the detent in place on the trigger chassis.
 - Make sure that the auto sear lines up with the groove on the slotted collar.

Installing the Recoil Assembly

1. Slide the recoil spring guide block down over top of the air valve.
2. Install and tighten the two machine bolts of equal length using the 3mm hex wrench. Do not forget thread lock.
3. Insert the end of the recoil spring rod with the threaded hole into the front of the recoil spring guide block.
4. Install the remaining bolt into the recoil spring guide block by inserting it through the hole in the back of the block and tightening it with the 3mm hex wrench. Do not forget thread lock.



5. Install the lower receiver spacer back into position at the rear of the lower receiver.
6. Install and tighten the bottom screw of the spacer using the Phillips head screwdriver.



Finishing the Lower Receiver

1. Remove the motor height adjustment screw from the pistol grip base plate using the flat head screwdriver.
2. Slide the base plate up the air line and back into position on the pistol grip.
3. Install and tighten the two machine screws using the 2mm hex wrench.

How to Finish and Install the Upper Receiver and Its Components

Creating the Hop Up Adjustment Hole

1. Measure the distance between the hop up adjustment screw and the portion of the outer barrel assembly the lines up with the front of the upper receiver.
 - This should be somewhere in the area of 19mm
2. Measure that same distance on the top of the upper receiver and make a mark in the center of that position.
3. Place the upper receiver in a vise or clamp.
4. Drill through the marked position using a bit at least 5.5mm in diameter.
5. Clean up the hole with the deburring tool.
 - You can insert the barrel group now to see if you need to enlarge the hole at all.



Installing the Barrel Group

1. Push the barrel group into the front of the upper receiver, ensuring that the barrel group is flush and that the screw holes in it line up with the holes in the upper receiver.
2. Locate four (4) of the small, matched set screws.
3. Insert one (1) set screw into each of the four screw holes and tighten them down all the way to the bottom of the hole using the 1.5mm hex wrench. Remember to use thread lock.
 - These set screws, coupled with the Torx-head machine screws, add significant strength to the front trunnion assembly of your gun and significantly reduce the chance of breakage. While the set screws can be omitted and you will still have a functional gun, DGA does not recommend not installing them.

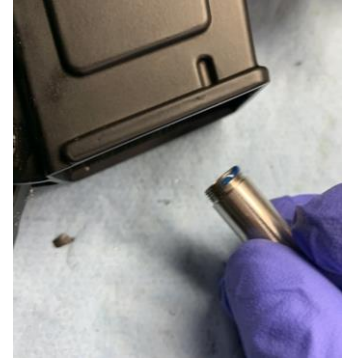


4. Locate the four (4) Torx-head machine screws included with your DG kit.

5. Install and tighten these four screws using the T10 bit. Do not forget thread lock.

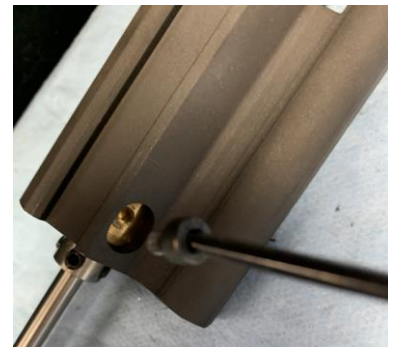


6. Apply a small amount of thread lock to the feed tube.
7. Install the feed tube by passing it up through the magazine well.
 - Using needle nose pliers can help with the step.



Preparing the Bolt Carrier

1. Remove the bolt from the top rear of the bolt tank using the 3mm hex wrench.
2. Slide the rear of the bolt tank through the front of the bolt carrier.
3. Reinstall the bolt into the bolt tank through the slot on the bolt carrier using the 3mm hex wrench. Do not forget thread lock.
 - It is a good idea to check the set screws on the airshaft collar now. Make sure they are tight and have thread lock applied.



Final Assembly

1. Apply some lubricant to the interior rails of the upper receiver.
2. Slide the bolt carrier into the rear of the upper receiver.



3. Slide the recoil spring onto the recoil spring rod.
4. Slide the upper and lower receivers together, ensuring that the recoil spring enters the spring hole on the back of the bolt carrier.
5. Install the receiver pin.
6. Install the stock and the stock pin.
7. Install the handguard and the handguard pin.



Congratulations, you have completed all major installation steps for the DGA VFC MP5 kit.

If you haven't already, you should lubricate the moving parts of the engine. DGA recommends *GetSome* brand lubricant, available from our website.

If you encountered any issues during your install, or your gun is not working correctly, please reach out to DGA Support.

Please check the website for more guides on troubleshooting and maintenance.

We also invite you to join the Daytona Airsoft Systems Group on Facebook to speak directly with other DGA enthusiasts as well as DGA employees.