Daytona Gun Airsoft Installation Manual: WE MSK

Table of Contents

Basic Information 3
Introduction 3
For the User 3
Copyright 3
What You Need 4
Disassembling Your Donor Body 5
A Note Before Starting 5
How to Disassemble Your Donor 5
Primary Disassembly 5
Lower Receiver Disassembly 5
Upper Receiver Disassembly 7
What to Keep and What to Set Aside 9
Installing the Daytona Kit 10
Inside the Box 10
Assembling the Inner Barrel Group 11
Inner Barrel Assembly 11
Hop Up Chamber Assembly 11
Barrel Group Assembly 12
Assembling and Modifying the Air Valve 14
Prepping the Trigger Chassis 15
Prepping the Pistol Grip Storage Cylinder 17
Installing the Trigger Chassis and Selector Levers 19
Installing the Air Valve and Lower Receiver Support Bracket 22
Modifying and Installing the Bolt Catch 23
Modifying and Installing the Stock 25
Installing the Hop Up Adaptor 27
Drilling the Hop Up Adjustment Hole 28
Installing the Recoil Guide Rod Spacer 30
Assembling and Installing the Bolt Carrier 31
Completing the Assembly 33

Basic Information

Introduction

When properly installed, your Daytona Gun Airsoft (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 WE MSK kit has been designed to fit and function within WE MSK bodies only.

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

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
- 5.5mm drill bit
- ½ inch step drill bit
- Phillips screwdriver
- Flathead screwdriver
- Hammer
- Needle nose pliers
- Small pin punch
- Medium pin punch
- Semi-permanent thread lock, such as Loctite 243
- Power drill
- Vise or clamp
- Rotary tool with cutoff wheel
- AEG-spec inner barrel
- Hand file

Helpful:

- Rubber mallet
- Drill press
- Deburring tools
- Center punch
- DGA MSK Hop Up Hole Jig
- Cotton swabs

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 WE MSK, 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 upper pin at the rear of the receiver in front of the stock.
2. Punch out the pin at the front of the receiver above the magazine well.
3. Pull the upper and lower receivers apart.

Lower Receiver Disassembly

1. Punch out the pin at the rear of the lower receiver.
    - This pin is captive. You do not need to punch the pin all the way out; doing so risks losing the small spring that retains it.
2. Pull the stock up and out of the lower receiver.

3. Pull the storage insert out of the pistol grip.
    - If this is stiff, you can use a small flathead screwdriver to push the button in.

4. Punch out the bolt catch pin using the small pin punch.
    - This should be done from the left side of the receiver. The hole on this side is smaller.

5. Pull out the three components of the bolt catch (the lever, the spring, and the button).
6. Remove the screw at the rear of the trigger box using the Phillips-head screwdriver and remove the metal bracket.
7. Tilt the lower receiver backwards so that the two selector springs fall out of the trigger box.
8. Pull the right-side selector lever off the lower receiver.
9. Pull the left-side selector lever off the lower receiver.
    - It may be helpful to rotate the lever while attempting to remove it.
10. Pull the trigger box up out of the lower receiver.
11. Tilt the trigger box backwards so that the two selector detents fall out of it.
    - It may help to lightly tap the trigger box, or push them out with a pin punch, if these pins don't come out right away.

12. Punch out the three pins on the trigger box for the full-auto sear, trigger, and hammer.

13. Remove the full-auto sear, trigger, and hammer from the trigger box.
14. Remove the brass bushing, trigger sear and spring, and trigger springs from the trigger.

Upper Receiver Disassembly

1. Pull the bolt carrier out of the upper receiver.

2. Punch out the handguard pin and pull the handguard forward off the upper receiver.
3. Pull the barrel retention handle down and off of its clip. Push the semicircular grey button in towards the receiver while holding onto the retention handle. Rotate the retention handle counterclockwise until the retention collar is free.

4. Pull the outer barrel forward out of the upper receiver.

5. Pull the inner barrel group out of the assembly.
6. Rotate the recoil spring guide so that the front of the guide lines up with the notches on the bolt carrier and remove the recoil spring guide from the bolt carrier.

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:

- All primary body parts (upper & lower receiver, outer barrel, handguard, pistol grip storage, stock)
- All body pins
- Trigger, brass trigger bushing, trigger pin
- Bolt catch assembly
- Recoil guide rod
- Left and right selector levers
- Selector springs and detents

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
- Complete hop up chamber and adaptor with feed tube
- Barrel ring and c-clip
- Complete bolt carrier assembly
- Daytona Standard hop up rubber
- Air valve
- Air line with fitting
- Lower receiver support bracket
- Complete trigger chassis
- DGA trigger sear

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 **cannot** use the original barrel from your donor gun's body, as it is for WE gas-powered rifles only and is not compatible with the DGA hop up rubber. DGA recommends upgrading to a high-quality aftermarket stainless steel inner barrel. Remember, the DGA hop up rubber, barrel 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 ring down so that the opening on the bucking end slides over the lip of the hop up bucking, and that the cuts on the barrel line up with the c-clip slot on the barrel ring.
    - 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.

3. Install the c-clip into the slot on the barrel ring. You can tap it down with a mallet if necessary.

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

The DGA MSK inner barrel group is a friction fit assembly.

1. Test fit the inner barrel group in the MSK outer barrel.
    - You are checking to see how much material you will need to remove on the serrated section of the DGA hop up chamber to be able to press it into the MSK outer barrel

2. Spin the serrated portion of the hop up chamber on the hand file to remove a small amount of material.

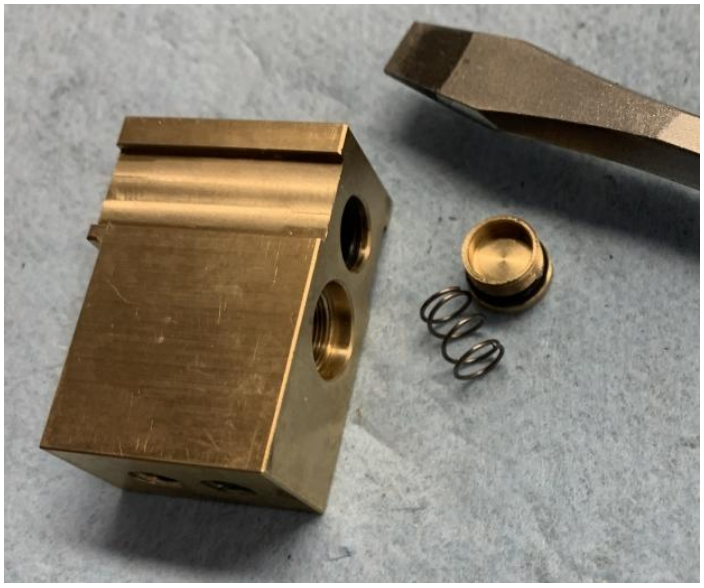
3. Test fit the barrel group again.
4. Continue using the file to reduce the circumference of the DGA hop up chamber until you can push the inner barrel group into the MSK outer barrel.
    - Only remove enough material to be able to insert the DGA inner barrel group so that it has a firm fit. You can tap the barrel group into place with a rubber mallet. If you remove enough material that the inner barrel group can spin freely in the MSK barrel, you have removed too much material.

5. Apply some hop up and reseat the DGA inner barrel group so that it is lined up properly with the MSK outer barrel.

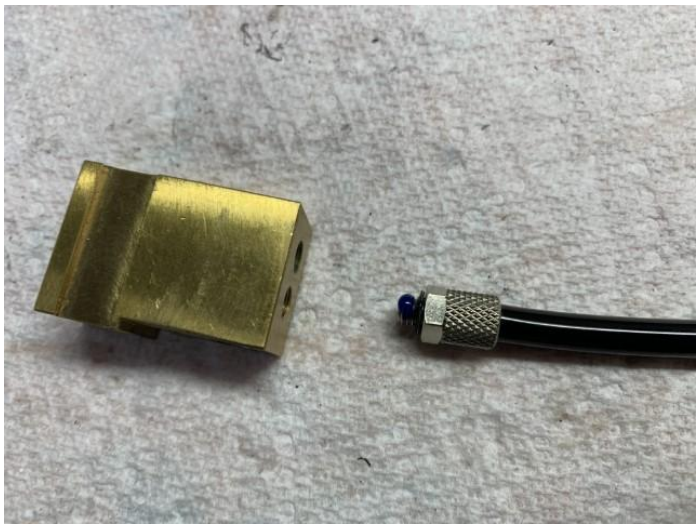
Assembling and Modifying the Air Valve

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.



5. Put a small amount of thread lock onto the threads of the airline fitting.
6. Screw the airline fitting into the bottom of the air valve.



The airline fitting should be FINGER TIGHT only. Overtightening may break the fitting. DGA Is not responsible for fittings broken through overtightening!

Prepping the Trigger Chassis

1. Remove the two selector brackets from the rear of the trigger chassis using the 2mm hex wrench.
2. Install the DGA trigger sear into the MSK trigger.
3. Install the MSK brass trigger bushing into the trigger and sear.

4. Drop the trigger down into the trigger chassis.
    - It may be helpful to pull both valve sears up out of the trigger chassis and push them backwards to provide space for you to move the trigger assembly into position.

5. Install the trigger pin to lock the trigger assembly in place inside the trigger chassis.

6. Drop the selector detents down into the holes at the rear of the trigger chassis. Make sure to drop them so that the narrow ends of the detents point towards the front of the trigger chassis.

7. Drop the springs down into the holes behind the detents.
8. Re-install the selector brackets and their screws using the 2mm hex wrench. Don't forget to use some thread lock.
    - Do not tighten the bracket screws down. Only thread them in enough to hold the brackets in place. Tightening them will apply pressure to the springs and make it so that you will not be able to install the selector levers. They will be tightened after installing the selector levers.

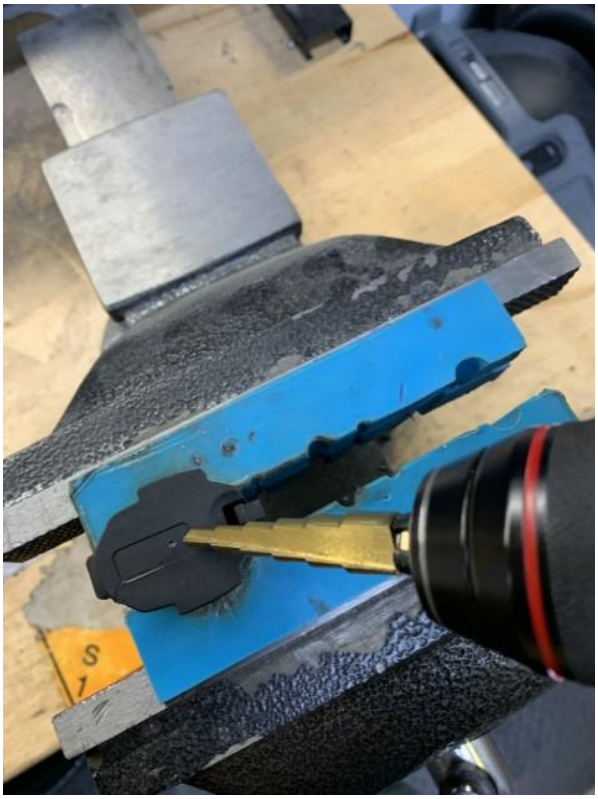
Prepping the Pistol Grip Storage Cylinder

1. Remove the top cap of the cylinder.

2. Clamp the cylinder in a vise with the bottom of the cylinder facing upwards.
3. Mark a spot with a center punch or other tool near the middle of the base.

4. Drill a hole in the marked spot using the ½” step drill. The hole should be wide enough to comfortably allow the air line to pass through.

- You can use a deburring tool to smooth the inner and other edges of the hole.



Installing the Trigger Chassis and Selector Levers

1. Press the trigger chassis down into the lower receiver.
    - Ensure that the selector holes in the trigger chassis and lower receiver line up without any overlap.
    - You can use a rubber mallet to tap the chassis down into position

2. Install the left-side selector lever (the one with the long internal arm). It may help to rotate the lever as you push it into place.
3. Drop the full-auto lever down onto the internal portion of the selector. Push down on the lever and rotate the selector lever from the full-auto to semi-auto positions repeatedly to make a mark on the lever.

4. Cut a notch into the selector lever where you made the mark in the previous step. You can use a rotary tool with a cutoff wheel, a hand file, or a different tool.
5. Remove the bottom lug from the bottom of the internal selector portion. This allows you to fully depress the valve while in full-auto.

6. Reinstall the selector lever into the lower receiver and test to make sure that the auto lever drops enough to clear the valve knocker when you place the gun in semi-auto.
    - You can install the air valve into its slot in the trigger chassis to help with this step. Pulling the valve knocker towards the front of the rifle with your finger can also help.

- If there is not enough clearance, remove the selector lever and file or grind away more material so that the full-auto lever can sit lower.

7. Install the left-side selector lever when you have properly clearanced the internal selector.
8. Tighten the two selector lever bracket screws using the 2mm hex wrench.
    - You can adjust the amount of force required to move the selector by tightening or loosening these two screws.
    - Removing the air valve if you previously installed it can provide a little more room around the brackets.

Installing the Air Valve and Lower Receiver Support Bracket

1. Drop the air valve down into its slot in the rear of the trigger chassis.

2. Slide the support bracket down over top of the air valve, making sure that the bracket goes into the slots in the lower receiver.

3. Reinstall the pistol grip storage cylinder, making sure to thread the air line through the hole in the base.
    - You can use a narrow driver or punch to help thread the line through if you have any difficulty.

Modifying and Installing the Bolt Catch

1. Drop the bolt catch lever back into its slot in front of the trigger chassis.
2. Install the button onto the bottom of the latch in front of the trigger guard.
    - Do not install the spring or pin yet.
3. Push the bolt catch up and make a mark on it where it protrudes above the trigger chassis.

4. Remove the bolt catch lever and button.
5. Cut the bolt catch lever where you marked it using a rotary tool with a cutoff wheel.
    - You can leave a small portion of the wide upper part of the lever to act as a flange so that the lever can't fall out the bottom of the receiver.

6. Reinstall the lever and button and check to make sure that the highest part of the lever does not protrude above the trigger chassis when you press the catch button upwards.
7. Remove the button and then reinstall the bolt catch spring, button, and pin.

Modifying and Installing the Stock

1. Place the stock in a vise or clamp.
2. Remove the plastic cylinder at the front (muzzle-end) of the stock using a rotary tool cutoff wheel or other tool.

3. Remove any portion of that cylinder that sits flush or deeper with the rest of the stock.

4. Pull the lower pin on the lower receiver out (do not remove it from the receiver)
5. Slide the stock down into place and push the pin back in.
    - The lower receiver is now complete.

Installing the Hop Up Adaptor

1. Remove the feed tube from the adaptor if you have not already done so.
2. Remove the set screw from the bottom of the adaptor using the 3mm hex wrench.

3. Push the narrower end of the adaptor into the muzzle-end of the upper receiver. Push it in until the hole for the set screw is completely exposed within the upper receiver.
    - The hole for the feed tube should face downward.
    - The two lugs on the front of the adaptor will slot into the corresponding notches inside the upper receiver.
    - This will likely be a tight fit. You can use a rubber mallet to help tap the adaptor into place.

4. Reinstall the set screw with the 3mm hex wrench to lock the adaptor in place. Remember to use thread lock.

Drilling the Hop Up Adjustment Hole

1. Locate the spot for the hole. This is on the picatinny rail directly above the barrel trunnion screws at the front of the upper receiver.

2. Make a mark on the rail segment using a tool like a center punch, or install the MSK hop up drilling jig if you have one.
    - The hole should be approximately 2/3rd on the rail segment with the remaining 1/3rd on the slot behind it.
    - DGA plans to include these jigs with kits in the future.

3. Clamp the upper receiver.

4. Drill the hop up hole using a 5.5mm drill bit. The hole needs to go all the way through the hop up adaptor as well, since this component from the DGA kit is not pre-drilled for the hole.
    - This is best done on a mill or drill press if possible.
    - You can also use a smaller bit if you would like a smaller adjustment hole. It needs to be wide enough that a 2.5mm hex wrench can be inserted to adjust the hop up.
    - If the hole ends up either too far forwards or backwards, enlarge it with a larger drill bit.

5. Remove the receiver from the clamp and reinstall the barrel assembly.

Installing the Recoil Guide Rod Spacer

1. Insert the spacer in the slot above the barrel trunnion using the needle-nose pliers.
2. Push it into place using a pin punch or the recoil guide rod itself.

3. Mark the spot where it obstructs the hop up adjustment hole with a center punch or other tool.
4. Remove the spacer and then use the same diameter drill bit from the hop up hole creation to make a similar hole in the spacer.

5. Reinstall the spacer and make sure that the hole in it lines up with the hop up adjustment hole in the upper receiver.

Assembling and Installing the Bolt Carrier

1. Punch the small pin out of the recoil guide rod, remove the stop, and remove the original recoil spring.

2. Install the DGA recoil spring.
3. Reinstall the stop and pin.
4. Insert the recoil guide rod into the bolt carrier from the rear, rotating the guide rod to fit through the slot in the front of the carrier.

5. Install the feed tube in the hop up adaptor. Use a small amount of thread lock on its threads.

6. Slide the bolt carrier into the upper receiver. Use some lubricant on the contact points between the carrier and receiver.

Completing the Assembly

1. Reinstall the handguard and its pin.
2. Push the takedown pin out (but do not remove it)
3. Slide the upper receiver onto the lower.
    - Ensure that the airshaft slides into the hole in the air valve.
4. Ensure that the pin hole in the upper lines up with the hole in the lower receiver support bracket.
5. Reinstall the rear body pin and push the front pivot pin back into place.

Congratulations, you have completed all major installation steps for the DGA WE MSK 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.