

# DANISHBULLDOG'S MAC DADDY BUILD GUIDE

DISCLAIMER: These files have been thoroughly tested. However, the quality of your build depends on many variables, including the quality of your prints and the methods of assembly. Any mistakes made during the build process are yours alone. By building this you take full responsibility for your actions, including any damage to self, property, or others. Act responsibly and try and practice safe firearms etiquette. Ensure your printer is properly calibrated and your parts are strong.

Special Thanks to FMDA – the original designer for the Mac Daddy. It was my inspiration for this project and served as the internal geometry for the magazine well and fire control group locations. Collaboration is key to innovation.



# PARTS LIST

## Non-Printed Parts Required:

1. Velocity Firearms VMAC9 Side or Top Charging Upper (WITH OR WITHOUT TACTICAL RAIL)
2. Velocity Firearms VMAC9 Complete Bolt (universal between side/top charging)
3. Velocity Firearms VMAC9 Side or Top Charging Handle

\*\*\*Other Mac variant receivers will not work out of the box, though the .step files are included if you'd like to modify the chassis to fit your receiver. MAF kits will work as they're identical to VMAC kits. \*\*\*

4. AR-15 Fire Control Group and extra parts

- Trigger
- Trigger Spring
- Sear
- Sear Spring
- Hammer
- Hammer Spring (reduced weight spring kit suggested)
- Safety Selector
- Safety Selector Spring & Detent
- Hammer and Trigger Pins

5. Glock Magazine Release spring

-Optional – you can use factory Glock EXTENDED magazine release if you prefer to not use a printed one.

6. 8mmx50mm Quick Release Pin (Front Trunnion Pin)

## Hardware

### Lower Receiver Assembly

1. (2) 1/8" or 3MM plain Steel Rod cut to 20mm lengths (only for two-piece version)
2. (2) #8 Machine Screw or Sheet Metal Screw - coarse threads- 1.5 Inches (only for two-piece version)
3. (2) M3x10mm Socket Head Bolts (Charging Handle Lower Channel Screws)
4. (2) M3x4x5mm Brass Threaded Inserts (Charging Handle Lower Channel Insert)

5. (1) M5x8x7mm Brass Threaded Insert (Grip Screw Insert)

6. (1) M5x25mm Socket Head Bolt (Grip Screw)

#### Shroud Assembly

1. (2) M3x35mm Hex Socket Head Bolt (Mid Upper to Lower Retainer Bolts)

2. (2) M4x10x6mm Brass Threaded Insert (Rear Upper to Lower Retainer Inserts)

3. (2) M3x10x5mm Brass Threaded Insert (Mid Upper to Lower Retainer Inserts)

4. (2) M4x40mm Hex Socket Head Bolt (Rear Upper to Lower Retainer Bolts)

5. (1) M3x20mm Hex Socket Head Bolt (Rear Rail Bolt)

6. (1) M3x10x5mm Brass Threaded Insert (Rear Rail Retainer Insert)

7. (1) M4x30mm Hex Socket Head Bolt (Front Sight Post Bolt & Nut)

#### SHOPPING SOURCES:

You can find fastener and rod kits for the DB9 from Parts Dispensed

PARTS DISPENSED

#### Additional 3mm Steel Rod Uses:

(1) Feed Ramp Pin: 45mm

(2) Front Hand Stop Pin: 30mm

(2) Picatinny Folding Brace Pins: 40mm

(3) Shroud Connecting Pins: 15mm (two-piece shroud only)

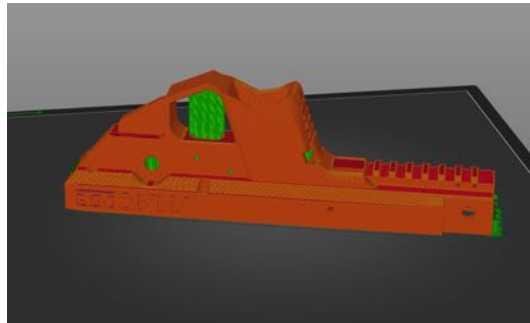
# PRINTING INSTRUCTIONS

All parts have been tested in both PLA+ and ABS. Either material will work well. Printer settings should be specific to your printer and filament, make sure you've properly calibrated your printer before beginning, including finding the best printing temperatures, flow, and bed adhesion.

## Lower Receiver:

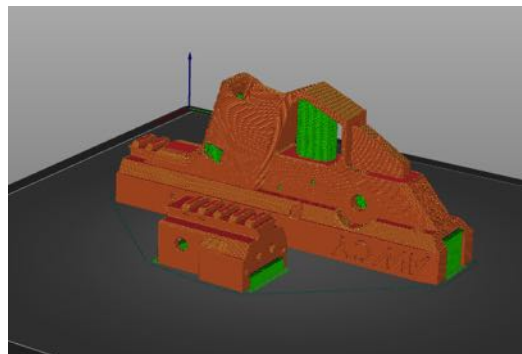
### A. "Complete Lower Receiver"

- i. This version can be printed on an ender 3 if set diagonally at a 45-degree angle. However, it is suggested that for Ender 3 and smaller printers, you use the two-piece receiver.
- ii. Print upside-down, flat on build plate. Supports should be touching build plate.
- iii. 8+ Walls and 100% infill is required.



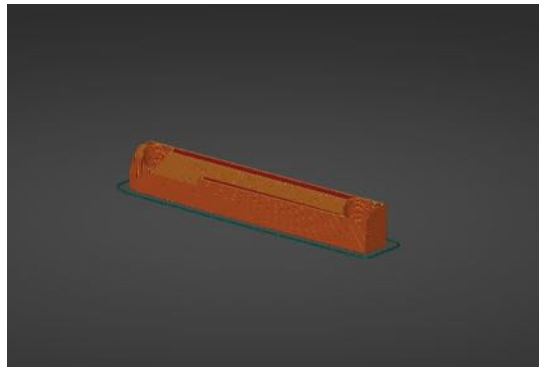
### B. "Two-Piece Lower Receiver"

- i. This version prints easily on an Ender 3 or smaller printer. The front portion is removed and printed separately. Both pieces can be printed in the same orientation.
- ii. Print upside-down, flat on build plate. Supports should be touching build plate.
- iii. 8+ walls and 100% infill is required.



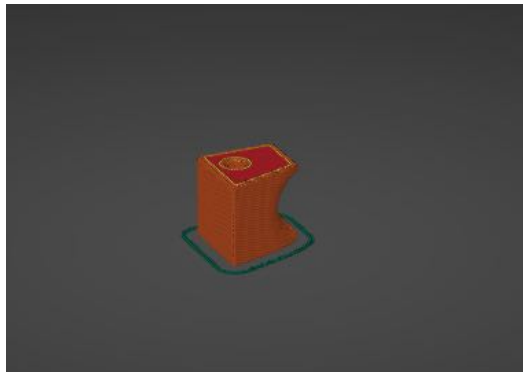
C. "Charging Handle Lower Channel"

- i. This piece is only required for side charging upper receivers. It can be printed flat on build plate. No supports are required.
- ii. 100% infill is required.



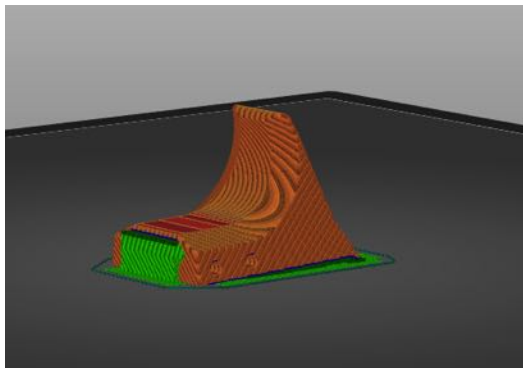
D. "DB9 Feed Ramp"

- i. This piece should be printed on its side so the layer lines are parallel to the travel of the bullet.
- ii. 100% infill is required.



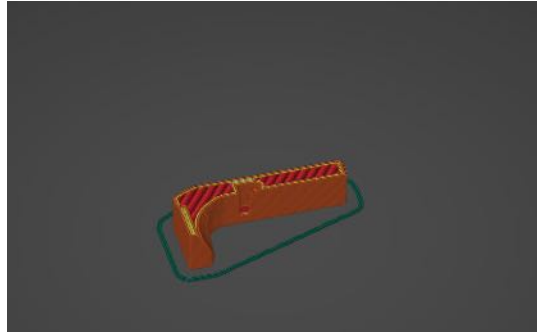
E. "DB9 Hand Stop"

- i. This piece is optional, but does protect the hands from moving in front of the shroud during firing.
- ii. It should be printed upside down with supports touching build plate.
- iii. 100% infill is required.



F. "DB9 Extended Magazine Catch"

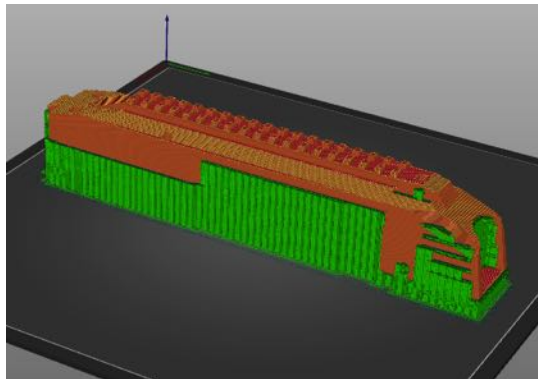
- i. This is a slightly modified version of a factory Glock extended magazine catch.
- ii. This can be substituted for an oem or aftermarket magazine catch as long as it is extended. Standard ones will be too short.
- iii. Print this one with the bottom flat on the build plate.
- iv. 100% infill is required.



Shroud:

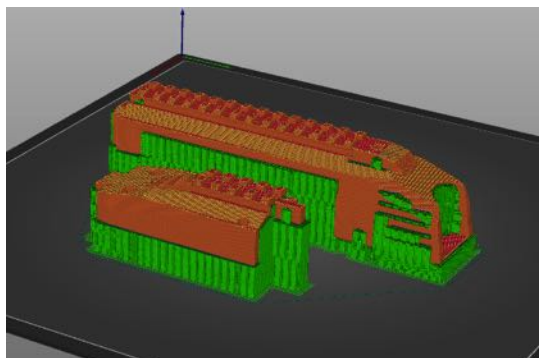
A. "One-Piece Shrouds"

- i. The one-piece shrouds are very large and are not easily printed on an ender 3 or smaller printer. They're designed for printers like the ender 5+.
- ii. Print with the rails up, flat on build plate with supports everywhere.
- iii. 8+ walls and 100% infill is required.



B. "Two-Piece Shrouds"

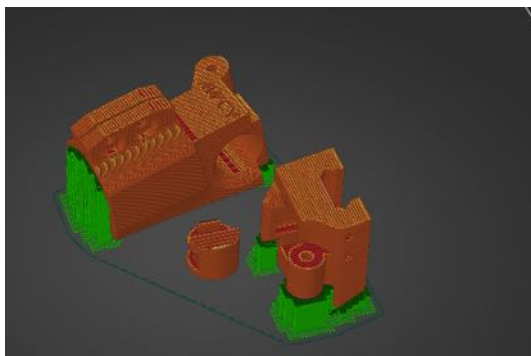
- i. The two-piece shrouds can be printed on an ender 3 or smaller printer
- ii. Print with the rails up, flat on build plate with supports everywhere.
- iii. 8+ walls and 100% infill is required.



## Braces:

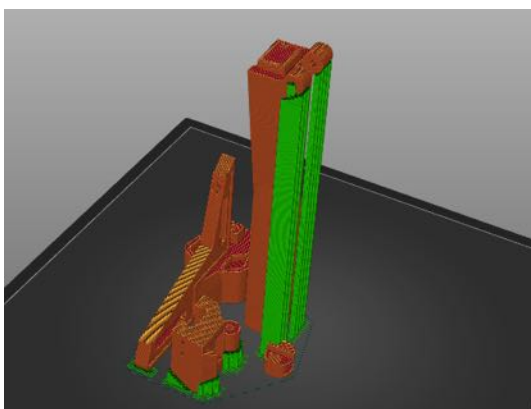
### A. "Folding Buffer Tube Adapter"

- i. The buffer tube adapter can be printed in several orientations. However, I suggest the below orientation.
- ii. Use supports on the build plate.
- iii. 8+ walls and 100% infill is required.



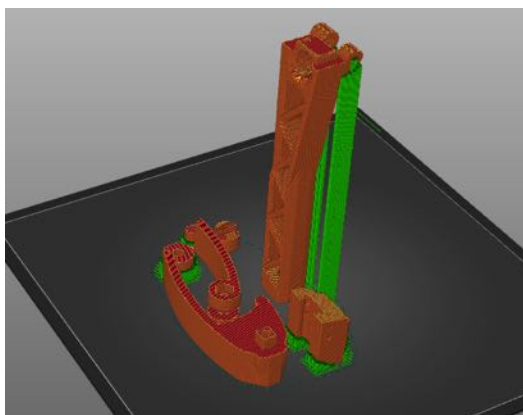
### B. "Folding DBWave Brace"

- i. The DBWave brace is a take on the shockwave. It can be printed in the below orientation.
- ii. Use supports on the build plate.
- iii. 8+ walls and 100% infill is required.



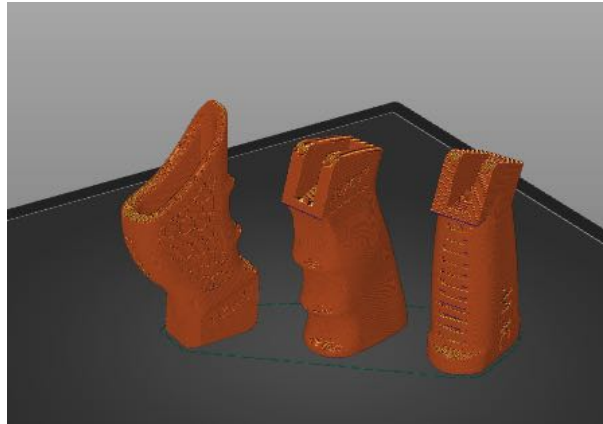
### C. "Folding Tailhook Brace"

- i. The Folding Tailhook Brace is borrowed from the Scorpion release, but modified for the DB9.
- ii. Use supports on build plate.
- iii. 8+ walls and 100% infill are required.



### Grips:

- A. All grips should be printed in the below orientations. You can also use any AR-15 grip, though the DB9 has a unique angular rear section. The grips in the file pack line up better with the frame than another AR grip would.
  - i. You can print grips with partial infill but still stick to higher wall counts.
  - ii. Print with supports on the build plate for a cleaner finish, though not required.



# ASSEMBLY INSTRUCTIONS

## Step 1. Assemble Lower Receiver (**SKIP IF YOU PRINTED COMPLETE LOWER RECEIVER**)

- A. Remove any supports and clean all loose material from the inside of the lower receiver. Make sure the front piece of the lower receiver meets up flush with the main lower receiver.
- B. Use a 1/8" drill bit to ream the pin holes out. Each pin hole should be drilled to a depth of 10mm.
- C. Insert 20mm pins into each pin hole on the main lower receiver then press the two pieces together.
- D. Install the two #8 1.5" Coarse Threaded Screws and tighten firmly. (Don't over tighten or you will compromise the threads)

## Step 2. Install Charging Handle Lower Channel (**SKIP IF YOU ARE USING A TOP CHARGING SHROUD**)

- A. Install Charging Handle Lower Channel
  - a. Install heat-set M3 brass inserts into the lower receiver – ensure the threaded inserts are straight and clear out any melted plastic from the threads. Test your M3x10MM bolts in the inserts.
  - b. Place the Charging Handle Lower Channel onto the lower receiver, insert the two M3x10mm bolts into the holes and tighten securely.

## Step 3. Install FCG, Mag Catch, Feed Ramp and Pistol Grip

- A. Ensure all supports are clear from Fire Control Group pocket. The pin holes are undersized to ensure you can get the tightest fit possible. Ream pin holes for FCG and Safety Selector hole to size. These are under-sized for a reason; you'll want a tight fit here. Melt in grip screw heat-set brass insert
  - a. FCG Pin holes are 9/64" for a snug fit, or 5/32" for an easier fit
  - b. Safety Selector Hole is 3/8"
  - c. Clear safety selector detent hole with 1/8" drill bit
  - d. From inside the fire control group pocket, install heat-set m5 brass insert into the grip screw channel. Ensure the threaded insert is straight and clear out any melted plastic from the threads. Test your M5 bolt by threading it in from the bottom of the receiver.
- B. Install Magazine Catch
  - a. Using needle files, clean out channel for magazine catch and ensure it moves smoothly inside its channel. You want very little/no friction here, so file to fit. You can also smooth the sides of your mag catch with sandpaper/files to get a good fit.
  - b. Insert Glock magazine release spring into channel and press firmly down. It should end up protruding about halfway up the mag catch hole when viewed from the side. If you find it is up too high, you can heat the end of the spring and melt it into the channel further. The further you can get this in the more tension your spring will have. If your spring is too loose in the channel, you can also use some super glue when inserting it into the receiver. Allow the super glue to fully cure before moving onto next step.
  - c. Insert mag catch and press magazine release spring into the channel in the mag catch. Ensure operation is smooth and engagement is solid with an empty magazine.
  - d. If engagement is not solid, troubleshoot fitment issues with mag catch until you have a secure magazine connection.

- i. Some people have used factory Glock magazine catches (17,19,26, etc.). They will fit but may require you to remove a small amount of material from your lower receiver. Ensure you're using the "Extended Mag Catch" and not a standard one.
- C. Install FCG, Safety Selector, Grip, and Feed Ramp
  - a. Refer to online instructions for AR Fire Control Group Installation. **It is strongly advised that you install a reduced power spring for the Hammer spring** – as the Mil Spec hammer spring has been known to break MAC firing pins. [Here is a good video](#)
  - b. Install safety selector, detent, spring and then grip. Tighten grip down firmly (Don't over-tighten)
  - c. Set feed ramp in designated channel and drill through hole with 1/8" drill bit from side of frame through the other side.
  - d. Insert pre-cut steel pin through to secure feed ramp.
  - e. Function test trigger but don't allow hammer to strike frame.
  - f. Function test safety selector

### Step 3. Prep the Upper

- A. Test fit upper receiver in lower receiver
  - a. Make sure your upper receiver fits securely in lower receiver. **If it's too snug, you will find that your bolt does not slide freely**, as it's pinched by the square tube upper being pressed in by the lower. File sides of lower until the Upper receiver fits securely but can be easily removed.
  - b. You'll want to test the bolt operation at this stage. Due to varying printer settings and qualities, you may be left with extra material in your lower that will cause your bolt to either move with a grittiness, or bind with the lower. You want your bolt to move with zero restriction from the lower receiver. You should not feel any grittiness or restriction from metal on plastic. Get it right now or you'll have to disassemble it later. You want smooth operation. If it's binding, go back a step and remove material from the inner sides of the lower until the binding goes away. **THIS IS YOUR WARNING – IF THE BOLT DOES NOT SLIDE FREELY AND SMOOTHLY, YOU CAN GET OUT OF BATTERY IGNITION AND IT'S NOT A FUN TIME.**
- B. Remove Tactical Rail (if equipped)
  - a. Remove two nuts from tactical rail and yeet it into your neighbor's yard
- C. Melt in Threaded Inserts
  - a. Melt in your 4 M4 heat-set threaded inserts. There are two in the back and two in the middle lower receiver. They should be melted in from the bottom to ensure the most secure fitment of the shroud and lower.
  - b. If you are worried about this step, you should practice melting in heat-set inserts. If you want to avoid melting your frame, be aware of the soldering iron at all times to avoid unwanted melted pieces.
  - c. Melt in the M3 heat-set threaded insert into the back of the lower where your 1913 rail will be secured.

### Step 4. Two Become One

- A. Connect two shroud pieces together if you printed the two-piece version
  - a. Ensure that everything fits together well. If not, file pieces to ensure a solid fit.
  - b. Gently drill out pin holes for shroud connector pins. Insert pins into recesses and press shroud together. Insert final 15mm cross pin in the top of the shroud to secure things fully.

- B. Ensure the hammer is cocked on your lower, and then seat the metal upper receiver into the lower, ensuring the front trunnion pin lines up with the hole.
- C. Place shroud over your upper receiver. The front sight should slide into the holes designed for it and you should be able to press the side charging upper into the shroud so the charging handle channel lines up with the cutouts in the shroud.
  - a. Due to manufacturing variance, you may need to file the holes for the front sight slightly larger
- D. Check all gaps between lower, upper, and shroud. Everything should be pressed together firmly with little to no gaps between parts.

#### Step 5. Final Bolts

- A. Install the front trunnion pin.
- B. Install the Rear Retainer Bolts
  - a. Install bolts into threaded inserts and tighten alternating between the two sides until the rear is fully seated.
- C. Install Mid Upper to Lower Retaining Bolts
  - a. Install bolts into threaded inserts and tighten alternating between the two sides until the middle is fully seated.
- D. Install the Rear Pic Retainer Bolt & Front Sight Bolt & Nut
  - a. Install Bolt into threaded insert and snug down. Install the front sight bolt & nut and snug down.
- E. Install Front Hand Stop (optional)
  - a. Press hand stop into place and ensure it snugs down to line up with holes in the pic rail.
  - b. If it doesn't, make sure and file to fit securely.
  - c. Drill holes through with 1/8" drill bit and install pre-cut steel pins.
- F. Install rear brace of your choice (optional)
  - a. Follow same procedure as hand stop, only on the rear picatinny rail. Here, the pre-cut steel rod will lock in between the rails pieces. If things are too loose, feel free to use bolts in the rear instead of pins.

#### Step 6. Ensure Function

- A. Charge the weapon to ensure there is no binding of bolt. Apply oil on bolt and cycle around 100 times to ensure everything moves smoothly.

SPECIAL THANKS TO THE "Are We Cool Yet?" COMMUNITY AND THE FOLLOWING BETA TESTERS: agentorange556, ccekfyajkbsneg, detectorist1776, eadams2010, flokiismerlin, floppyflopflaps, majorpayne, Mr\_Snow, new guy, ongo\_gabblogian, pokedaboss, scalce, Tekgnome, widdershinscc

For more of my projects, check out [db-firearms.com](http://db-firearms.com) & follow [AWCY\\_\\_Arms](#) on Twitter.