

MIDDLETON MADE 3D

Mac n Cheese v1.5 - README



You are responsible for your own safety and checking laws governing your area prior to manufacturing.

Links:

- Defcad: <https://defcad.com/users/MiddletonMade3D/>
- Odyssey: <https://odysee.com/@MiddletonMade:1>
- Paypal: <https://www.paypal.com/paypalme/middletonmade3d>
- Buy Me a Coffee: <https://www.buymeacoffee.com/MiddletonMade>
- IG: <https://www.instagram.com/middletonmade/>
- FB: <https://www.facebook.com/MiddletonMade>
- YT: <https://www.youtube.com/c/middletonmade3>

Change Log - Since v1

- Compatibility with Anti Roll pins added
 - Magazine seat height adjusted for more reliable feeding
 - Tail Cap that accepts metal picatinny rails added to files
 - Receiver - Front version that now accepts Lage uppers
 - Wall thickness enhanced near safety for those that wish to drill the detent hole
 - A few minor aesthetic changes/changes
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Printing

For print orientation, please see the separate file named *"SuggestedPrintOrientation"*

Filament Type - PLA+

For any parts that receive stress, do **not** use metallic, silk, glow in the dark, fluorescent, or any other special type of filament. Stick with regular, single color PLA+.

I've also had an excess of worn/broken parts with GST PLA+. While I don't have a wide range of experience with a variety of brands for testing, eSun has been reliably strong and consistent for me.

Printing Instructions

Print Receiver-Front, Feedramp, and the Tail Cap at .12mm. This isn't as important for the main body.

I typically use between 10-16 walls, 60-90% infill, tree supports, and a skirt. Your printer and material may require different settings to get a strong and clean print.

Before moving on, ensure the print has all remnants of support material, bed adhesion, and elephant foot cleaned up.

Assembly

To start, you'll need:

Printed Parts:

- Receiver
- Receiver - Front
- Feed Ramp
- Your Choice of Tail Cap
- (Optional) Folding Brace & Button
- (Optional) Takedown Pin

Pre-manufactured Parts:

- Various M4 Nuts
- Various M4 Screws
- M11 Upper Assembly
- AR15 Fire Control Group (auto & forced reset will **not** function)
- AR15 Magazine Catch & Spring
- AR15 Pistol Grip
- (Optional) Takedown Pin
- (Brace Only) 1/8 Pin
- (Brace Only) AR15 Magazine Catch Spring
- (Metal Pic Rail [\[Link\]](#))

Tools

- 5/32 Drill bit (trigger pins)
- 3/8 Drill bit (safety)
- Power Drill
- Razor Blade (cleaning the print)
- Sandpaper

Step-by-Step

1. Use the drill bits to drill each of the trigger pocket holes, safety, and pinholes out. The goal is to clean the hole from any irregularity printing caused, **not** to open them up. Drill each hole from its own side, not all the way through from one hole to another.
2. The feed ramp will need a sanding/polish prior to installation. Sand the circular face to break up any layer lines that might be there. Do **not** change the geometry or sizing more than a light sanding.
3. Slide the front receiver onto the main body and secure them together with a nut inside the feed ramp and an M4 screw through the front receiver, through the main body. Do not fully tighten yet.

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4. Insert a nut in the top of the main body dovetail and a screw through the front receiver. Once inserted, tighten the #3 screw/nut and then #4. Do **not** overtighten.
 5. Install your AR15 magazine catch and spring. The button should sit one or two revolutions below the surface of the button, but do what makes the magazine fit most secure. TIP: if your magazine catch has a sharp bottom edge and is scuffing your magazines, use a file on the BOTTOM edge to add a small chamfer and break the 90 degree, sharp edge. This will not only prevent excess magazine wear, but aid in magazine insertion.
 6. Install your AR15 fire control group. It's easiest to install in the order trigger, safety, hammer.
 7. Slide the rear cap of your choice into the rear of the receiver and secure it with the appropriate M4 screws (the length varies depending on your tail cap choice).
 8. Install your AR15 pistol grip. The safety doesn't require a detent pin and spring if drilled out properly, but if you wish to use one, there is the appropriate shelf to provide you enough material to drill it yourself. Since the threads are cutting directly into the print, make sure not to start screwing it in at an angle and make sure to back off and screw in again if it feels like the threads are starting to bind.
 9. To attach the upper receiver, remove any magazine you may have and set the trigger to fire, put the safety on, and slide the tail end of the upper into the tail cap, then insert the pin into the upper receiver while applying rearward pressure.
 10. Function test while dry/no ammo/with snap caps. Ensure your trigger resets after dry firing. Ensure your magazine seats and doesn't drop free. Ensure your grip is tight and doesn't wobble.
 11. Congrats. You just made Mac n Cheese.