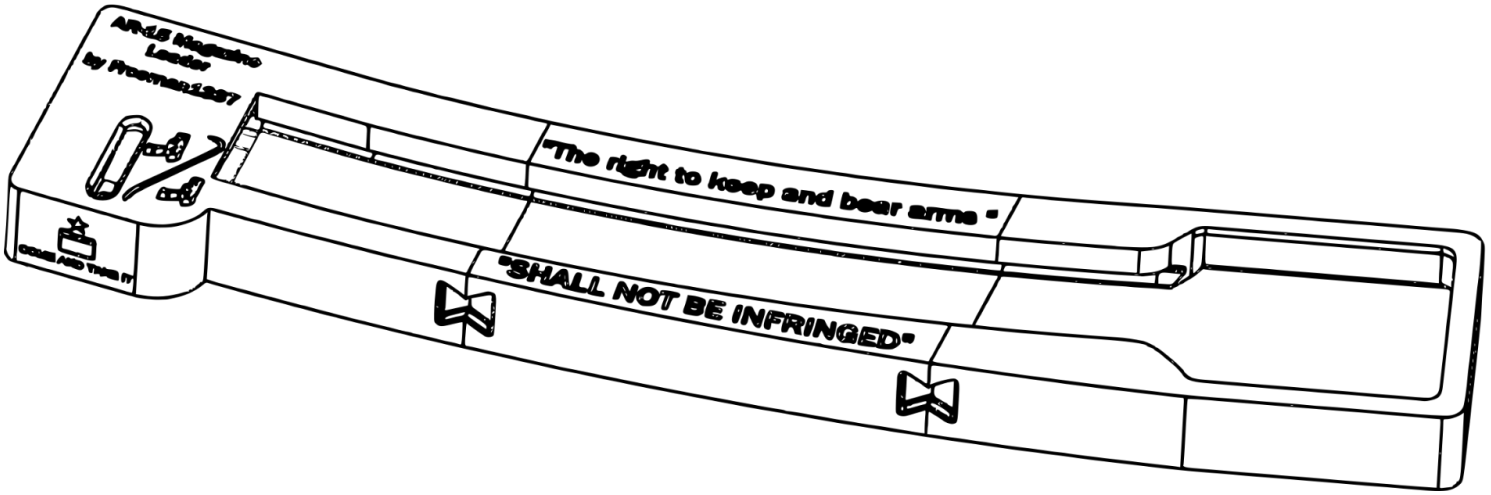
AR15 Magazine Speed-loader

by Freeman1337

(an AR15 magazine loader with a 30+ round capacity, using a milspec ar15 magazine catch)



Released: 9/10/2021
Version: 1.0

Acknowledgments

In the past I struggled to find a decent (printable) AR15 magazine speed loader that would hold up with use. It was impossible to find an AR308 magazine speed-loader, which is why I created that model first. After sharing that old design I made for myself with the community, people seemed to want an AR15 version that could load 223/556. This project was created based solely on request from the GunCAD community, who overwhelmingly wanted to be able to make this at home.

Print, shoot, repeat, and enjoy!!

Description

This is an AR15 magazine loader (sometimes called a speed loader). Once assembled, this device will accept an ar15 magazine, be retained (using a supplied ar15 milspec mag catch), then 30+ rounds can be coolated into the loading tray above the magazine. Once all desired rounds are added to the tray, the included pusher tool can be used to load all rounds in the tray into the inserted magazine. The usage of this tool will greatly increase the loading of standard capacity ar15 magazines.

Instructions

Materials Required:

- PLA+ filament of your choosing. Testing done using esun PLA+ and Overture PLAPro

- x1 AR15 milspec magazine catch

Tools:

The only tools required for this release are related to post-print cleanup. Sandpaper, a sharp knife, etc could be helpful here, depending on how calibrated your printer is and what types of supports you choose to use. Use tools that allow you to remove small amounts of material in specific locations. Cleanup of the magazine catch area, and smooth operation of it, are vital to a functional speed loader.

Print Settings:

Layer Height

Body	0.3mm

Shell

Wall Line Count	10
Outer Wall Wipe Dist	0.4
Top/Bottom Thickness	1.32mm
Top Layers	10

Infill

Infill	20%
Pattern	Grid

Material

Print Temp	217 C
Bed Temp	60 C

Speed

Print Speed	50 mm/s
Infill Speed	60 mm/s
Outer Wall Speed	30 mm/s

Inner Wall Speed	60 mm/s
Top/Bottom Speed	40 mm/s

Travel

Enable Retraction	True
Combing Mode	All

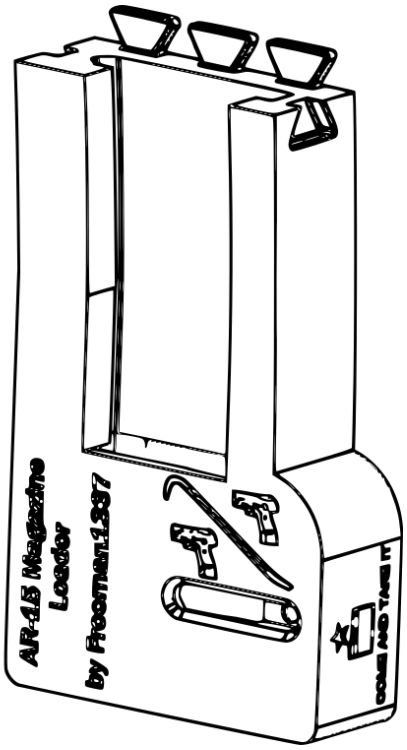
Cooling

Enable Fan Cooling	True
Fan Speed	85%

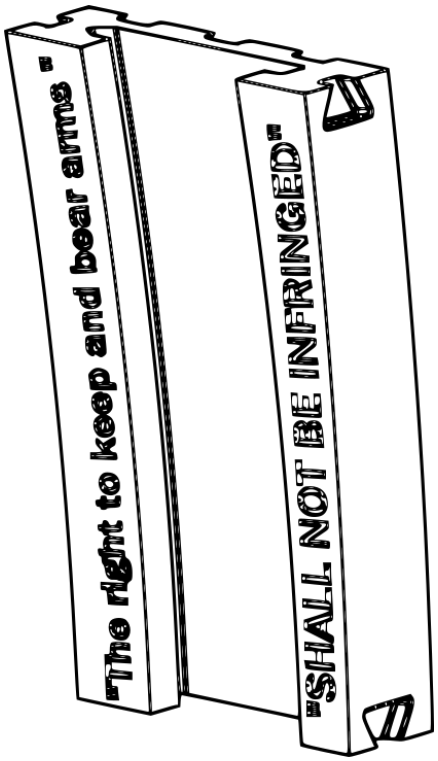
Support

Generate Support	True
Support Structure	Tree
Support Placement	Touching Build Plate
Support Overhang Angle	Autogen (cura)

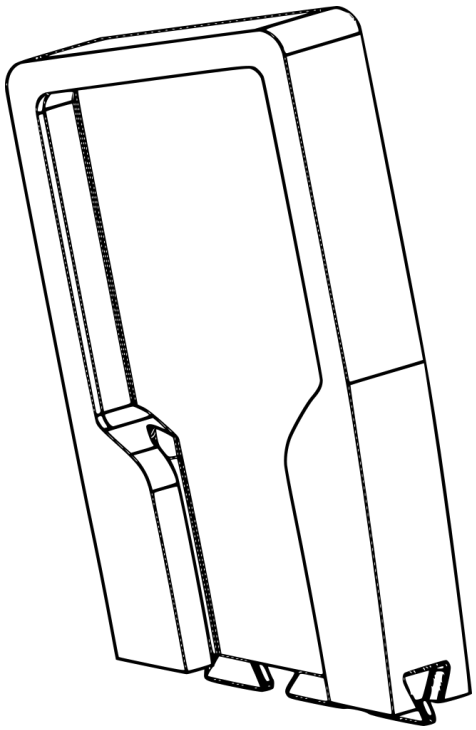
Material List:



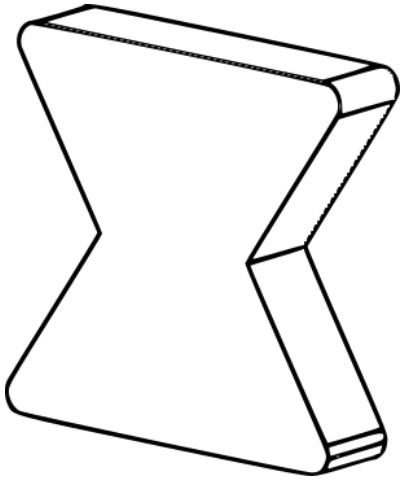
Base (magwell)



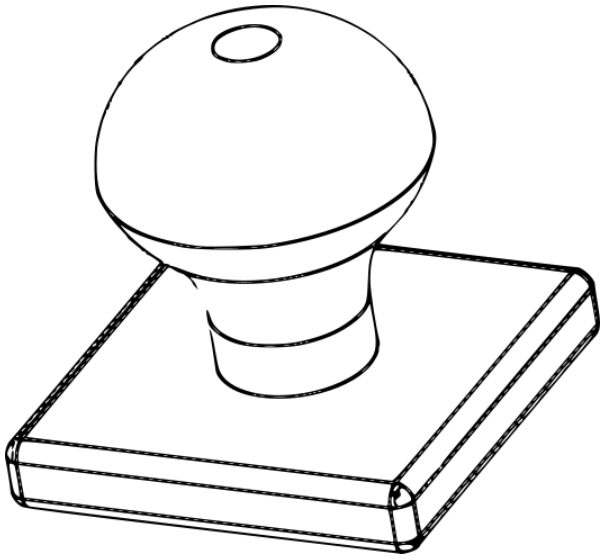
Middle section



Loader Tray



Assembly Key (x4 needed)



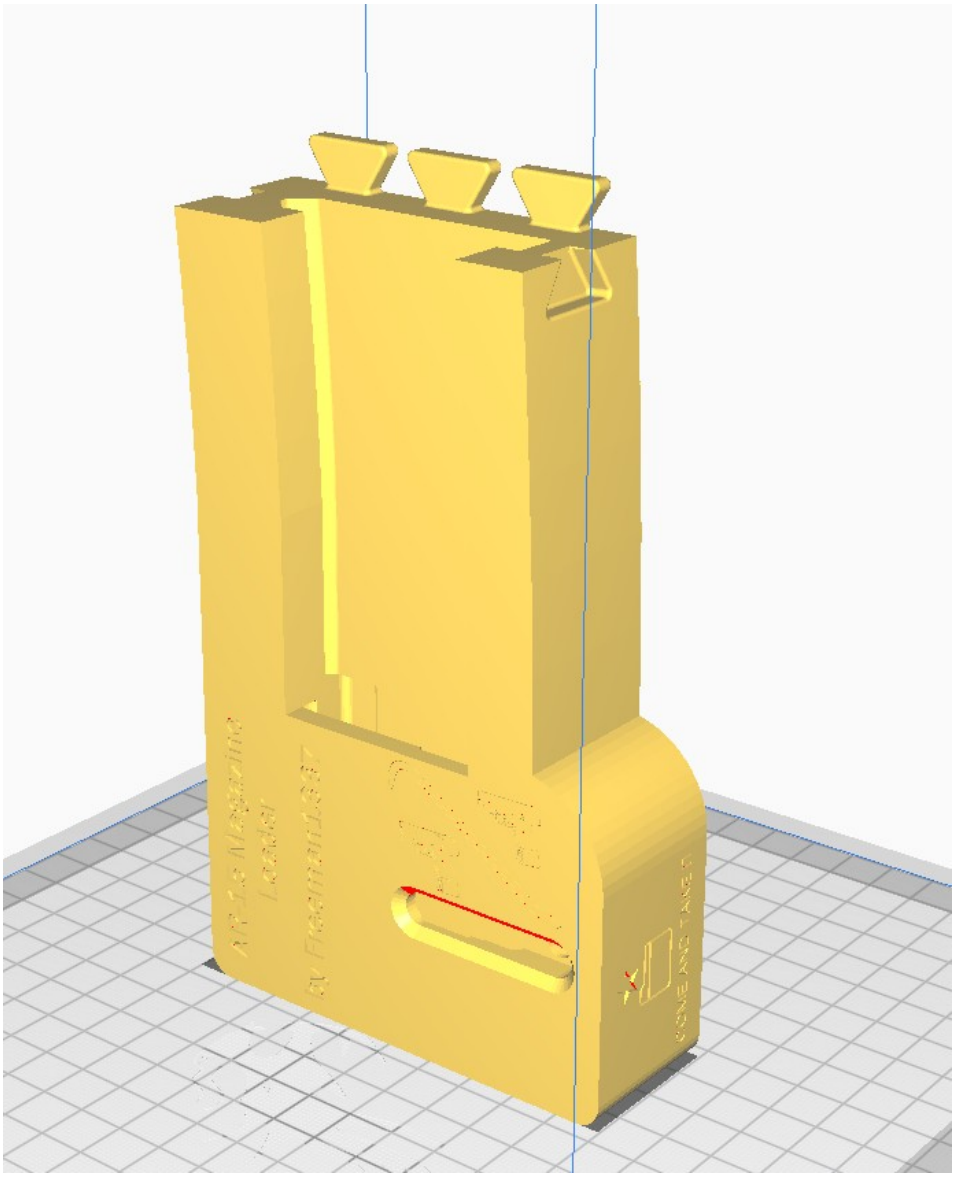
Pusher Tool

Print Orientation

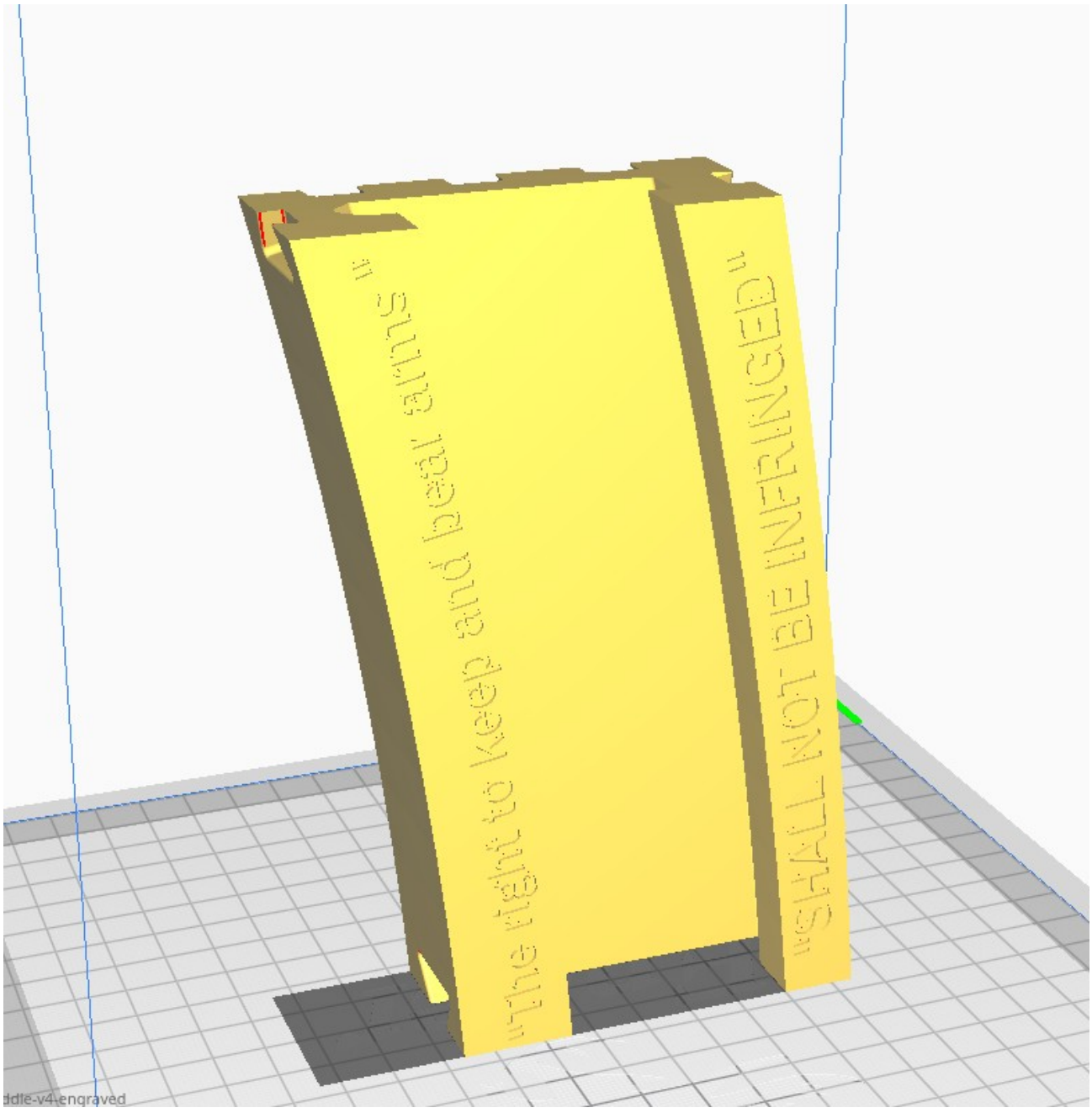
Base (magwell)

Note: all STLs are properly oriented in this package. These images provided as reference, in the even your slicer ignores the orientation I've set using Cura

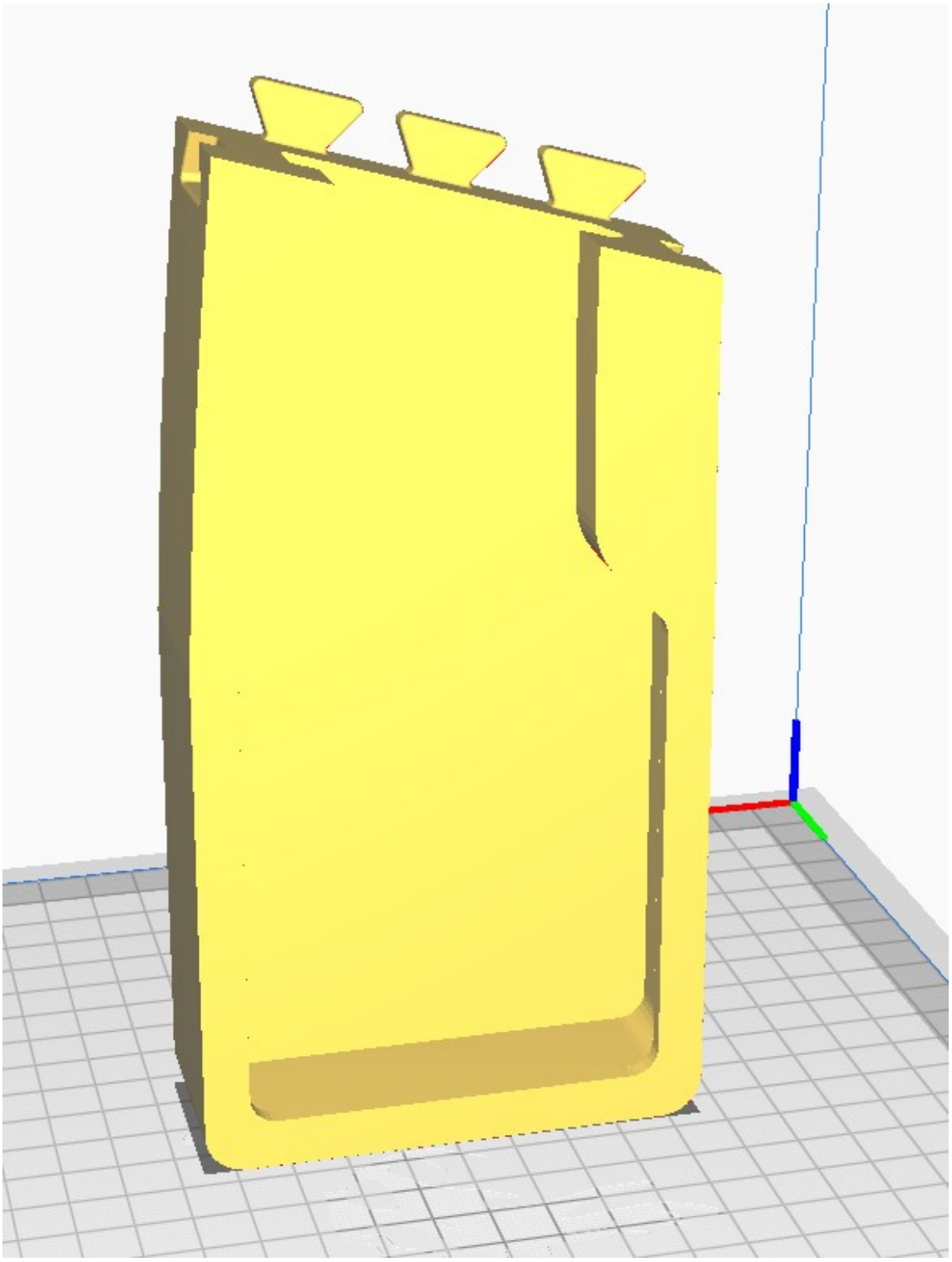
Print in this orientation:



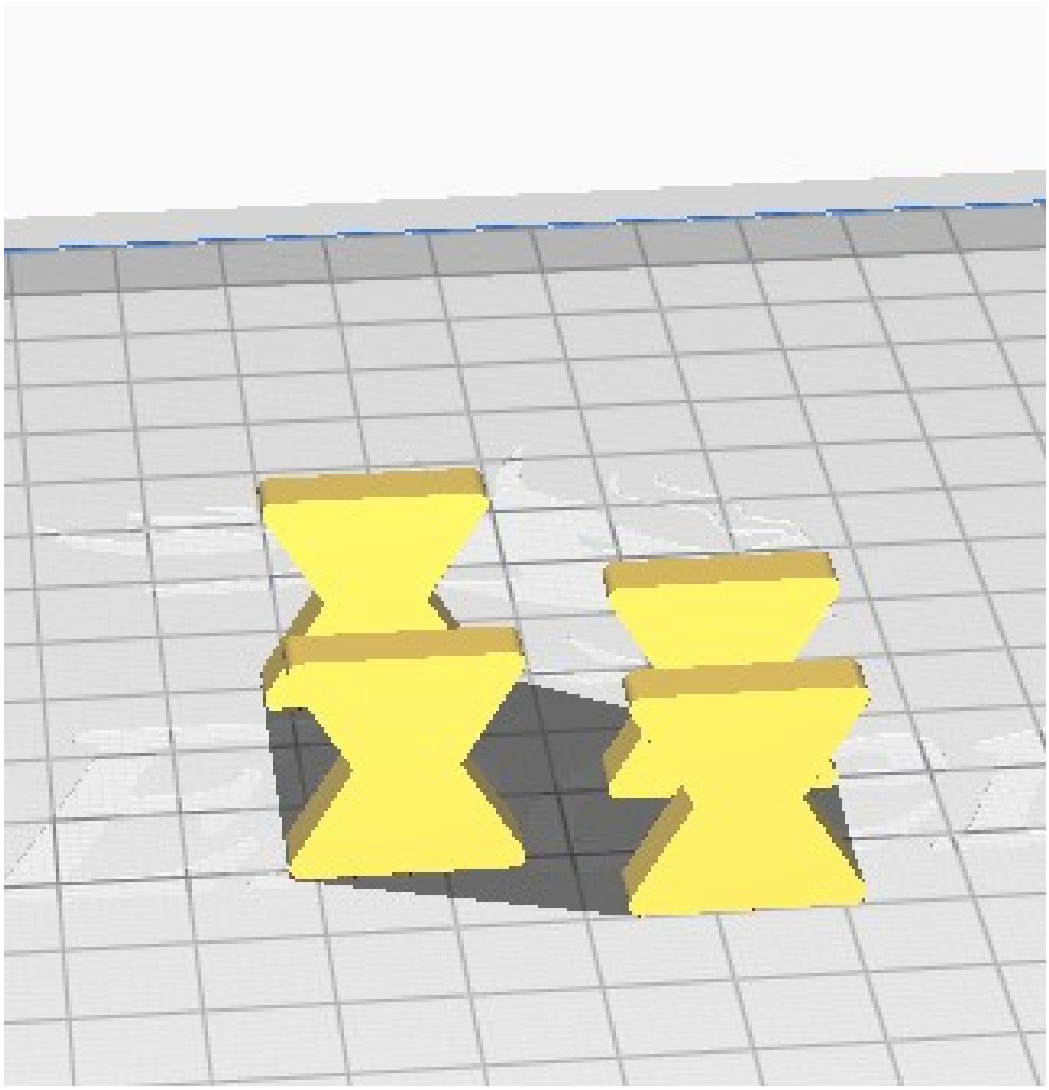
Middle Section



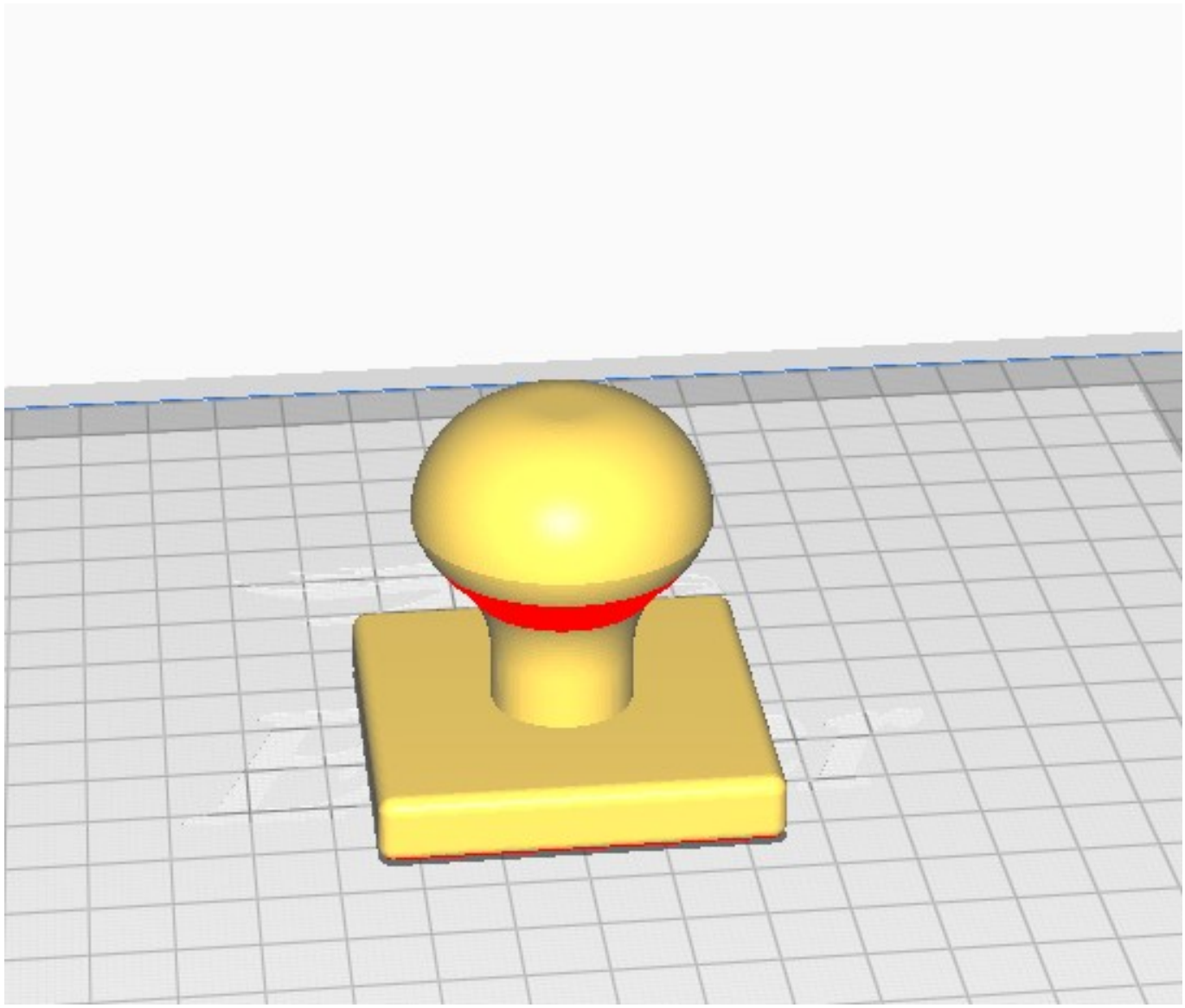
Loader Tray



Assembly Key



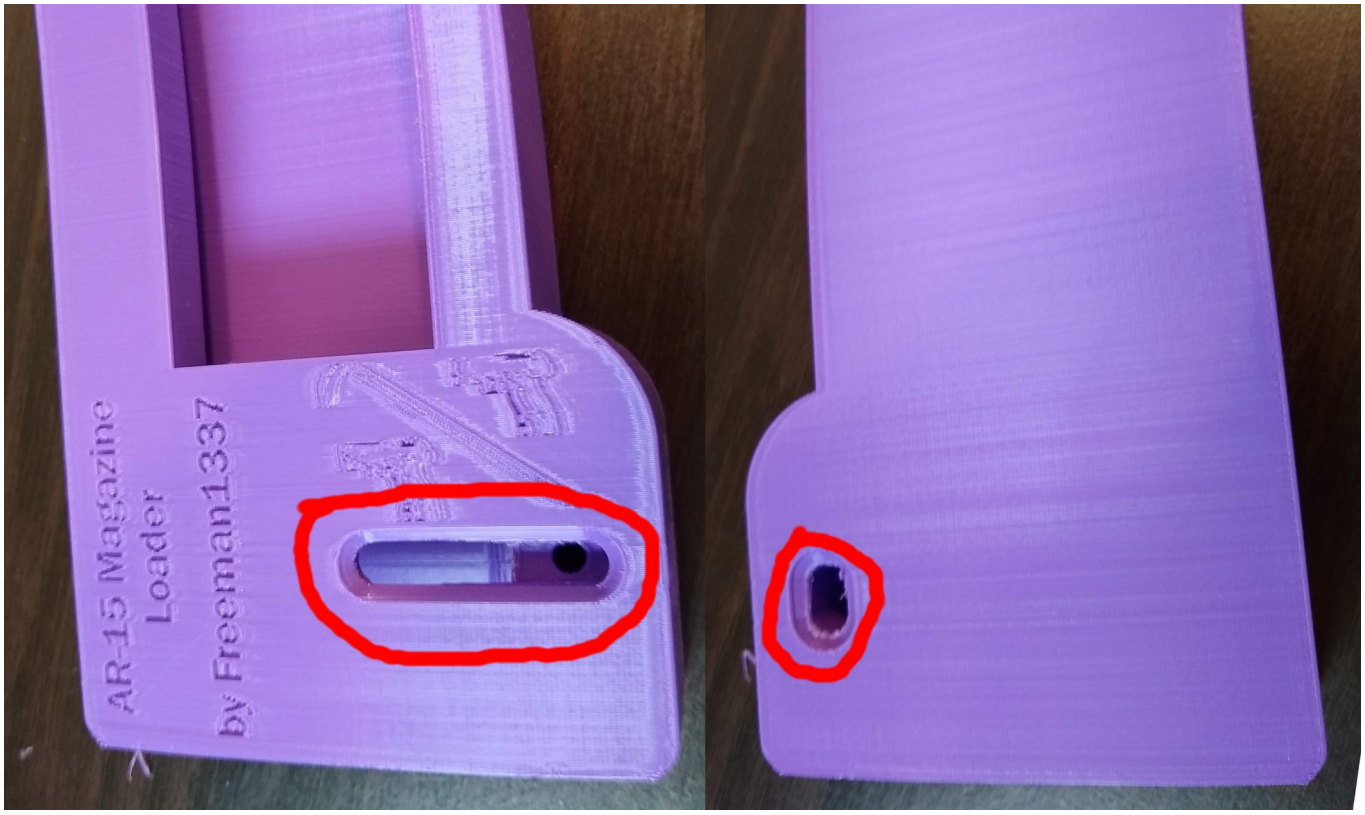
Pusher Tool



Assembly

01). Cleanup any leftover support material from each model

02). Install the magazine catch into the base section. If it sticks/does not move freely, remove and clean up the slot/hole as needed. On well tuned printers, this shouldn't be necessary. On printers which are not perfectly calibrated, some amount of cleanup/fitting is to be expected.

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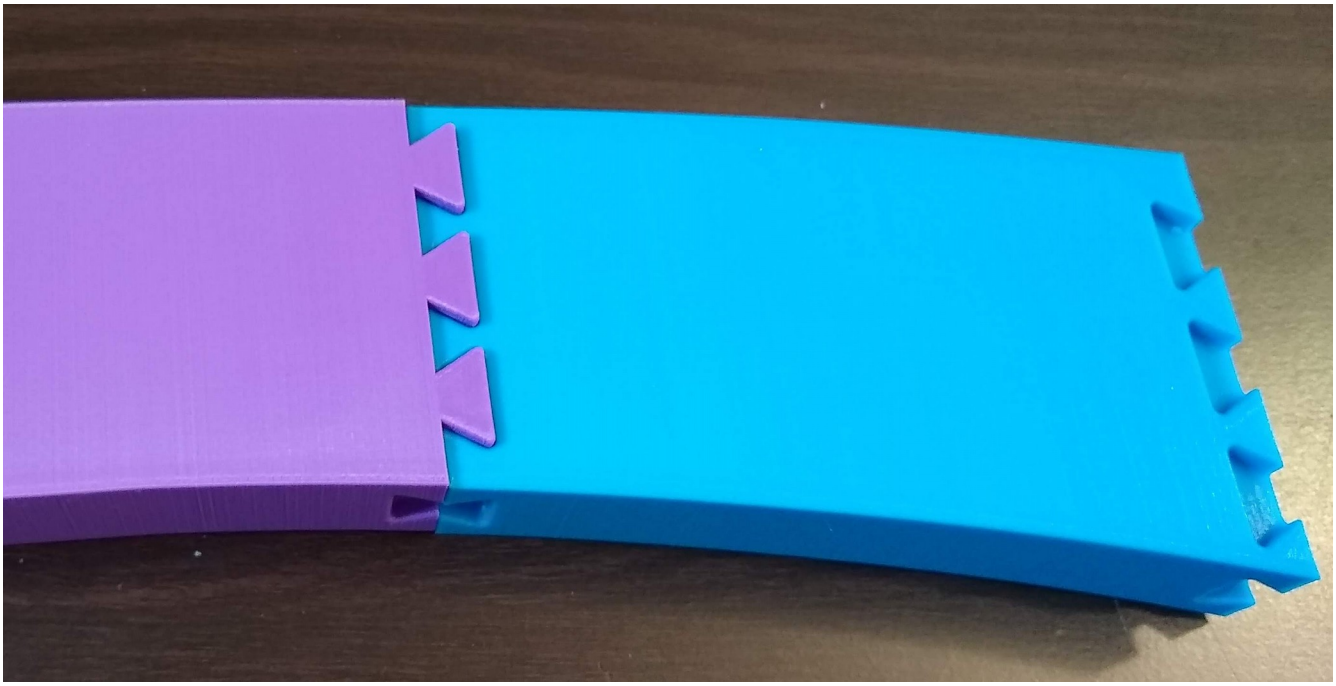
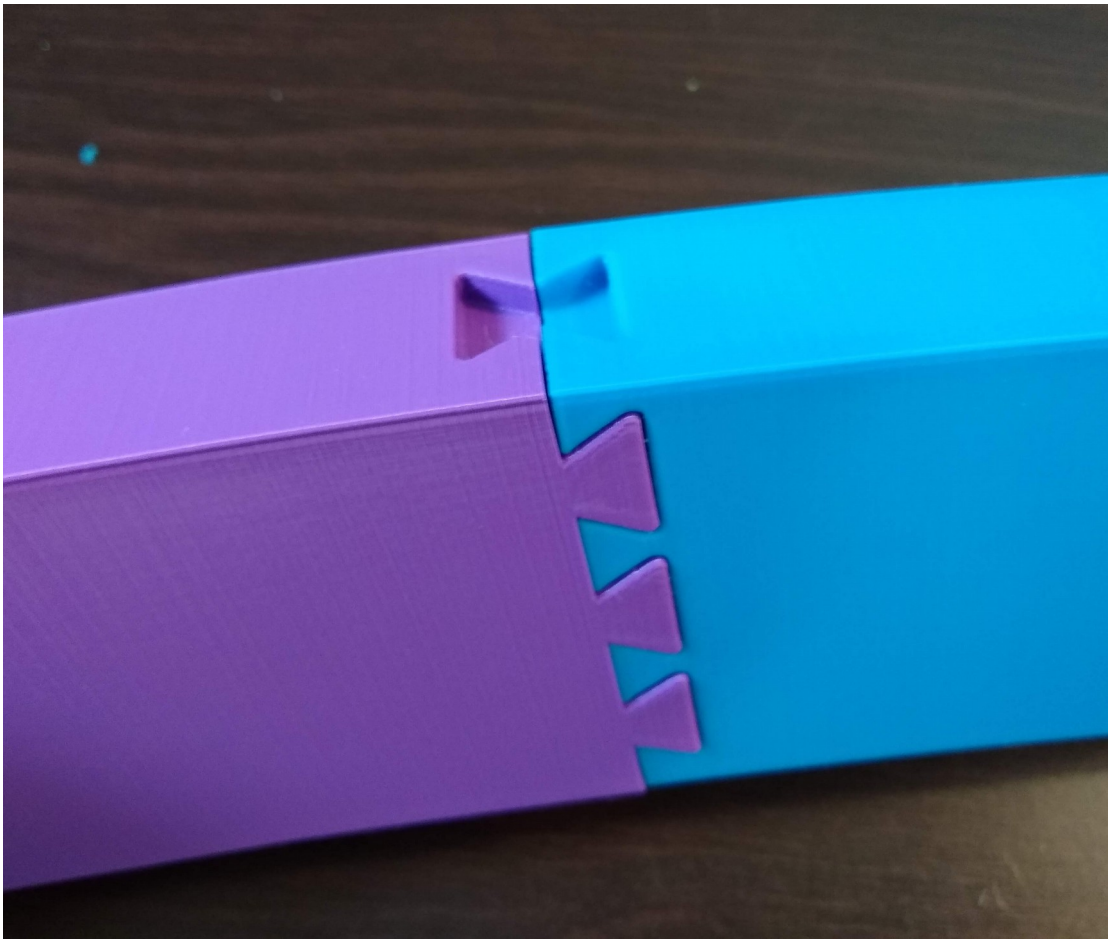
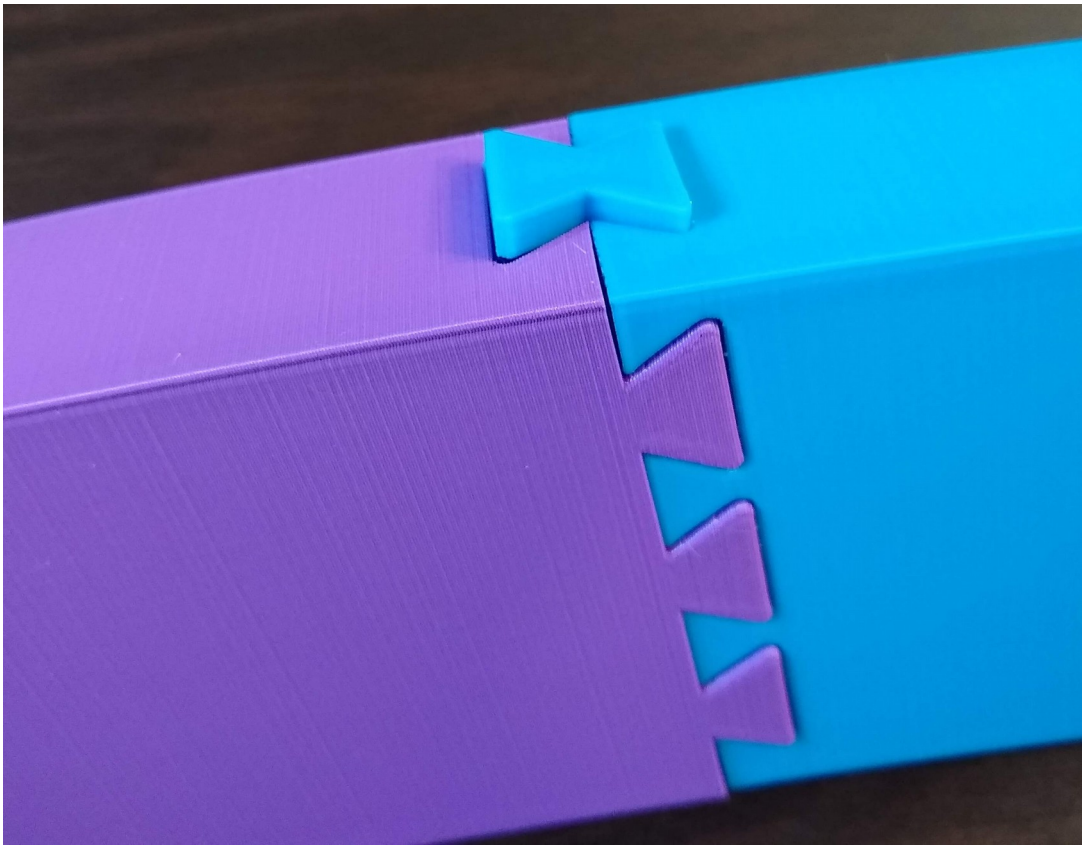
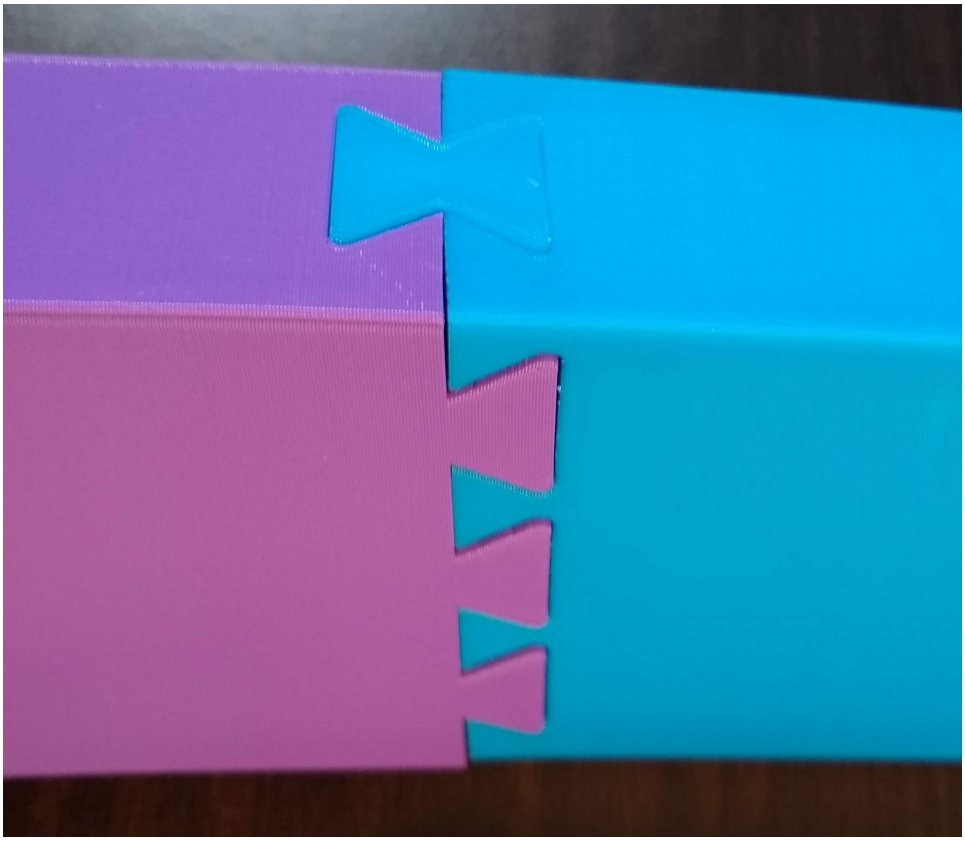
03). Insert the Base into the middle section

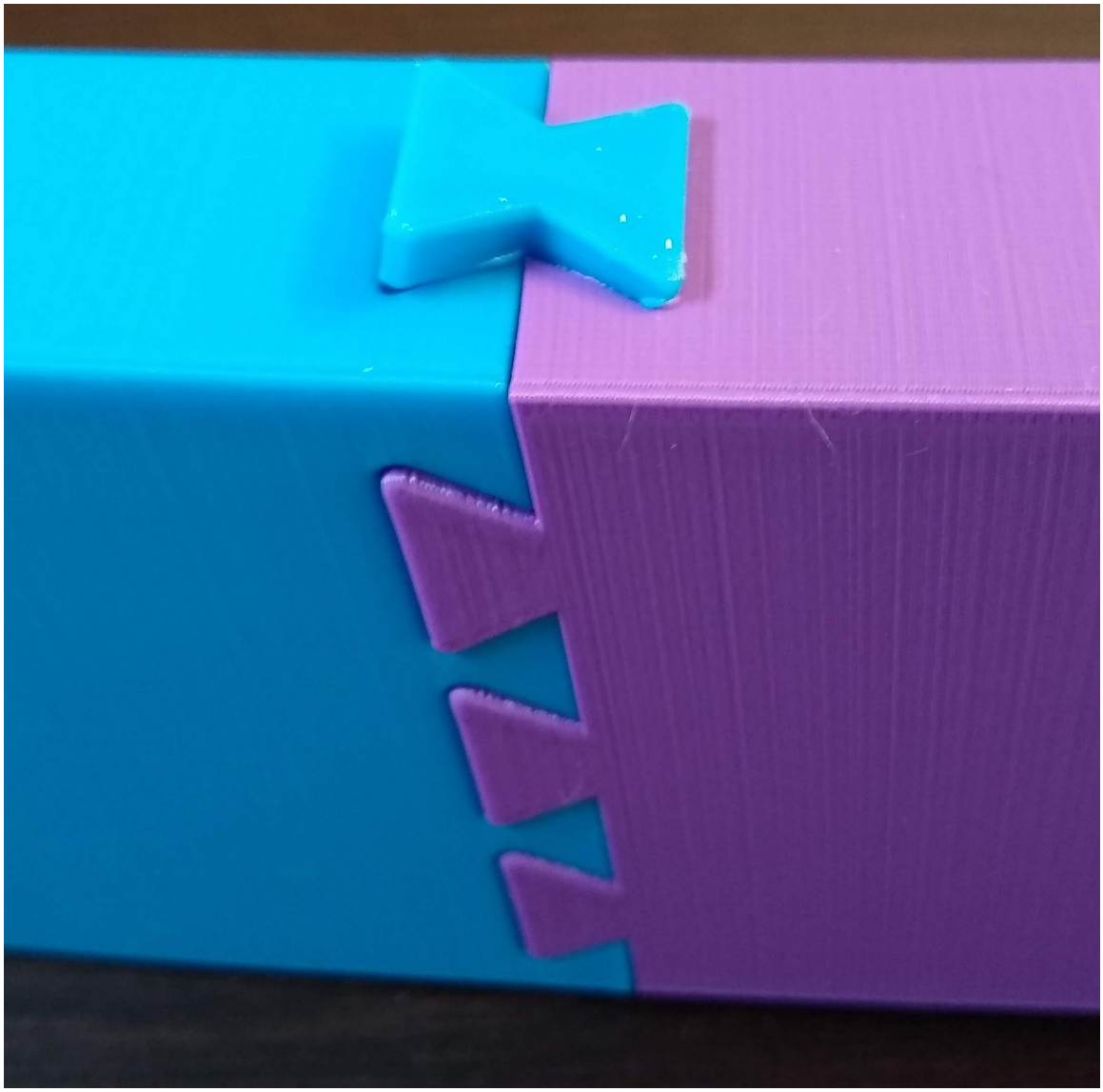




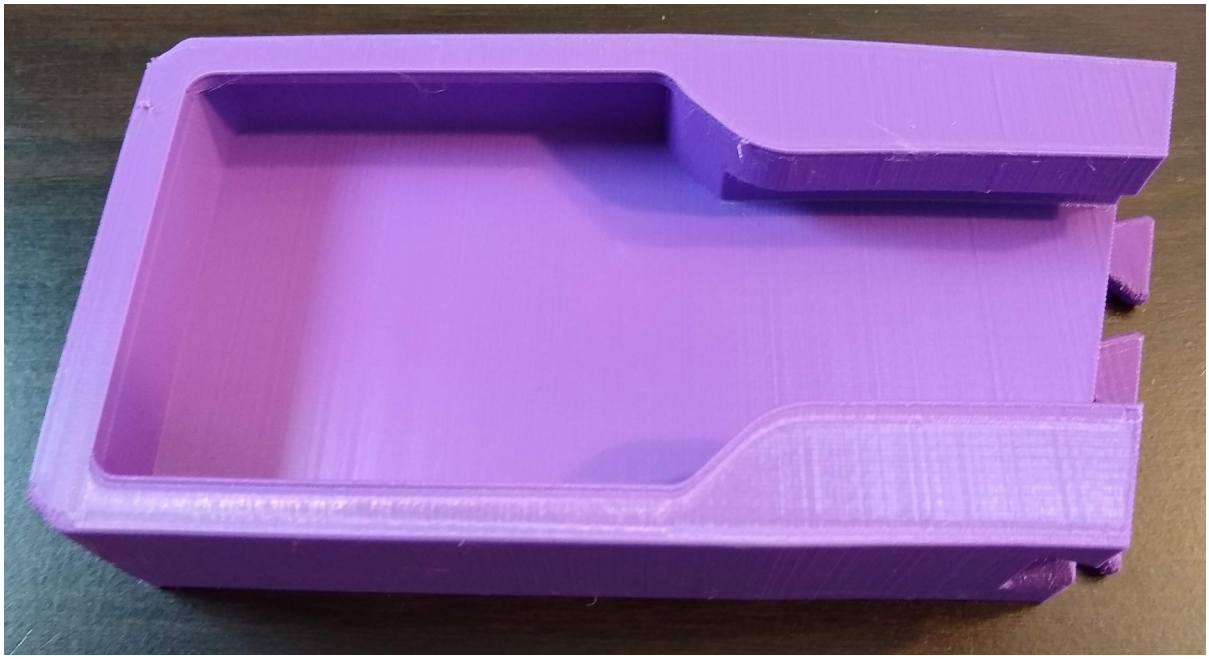
04). Using the included assembly keys, use a hammer and punch to install the key into the side slots. This shouldn't be easy, it's designed to be an interference fit.

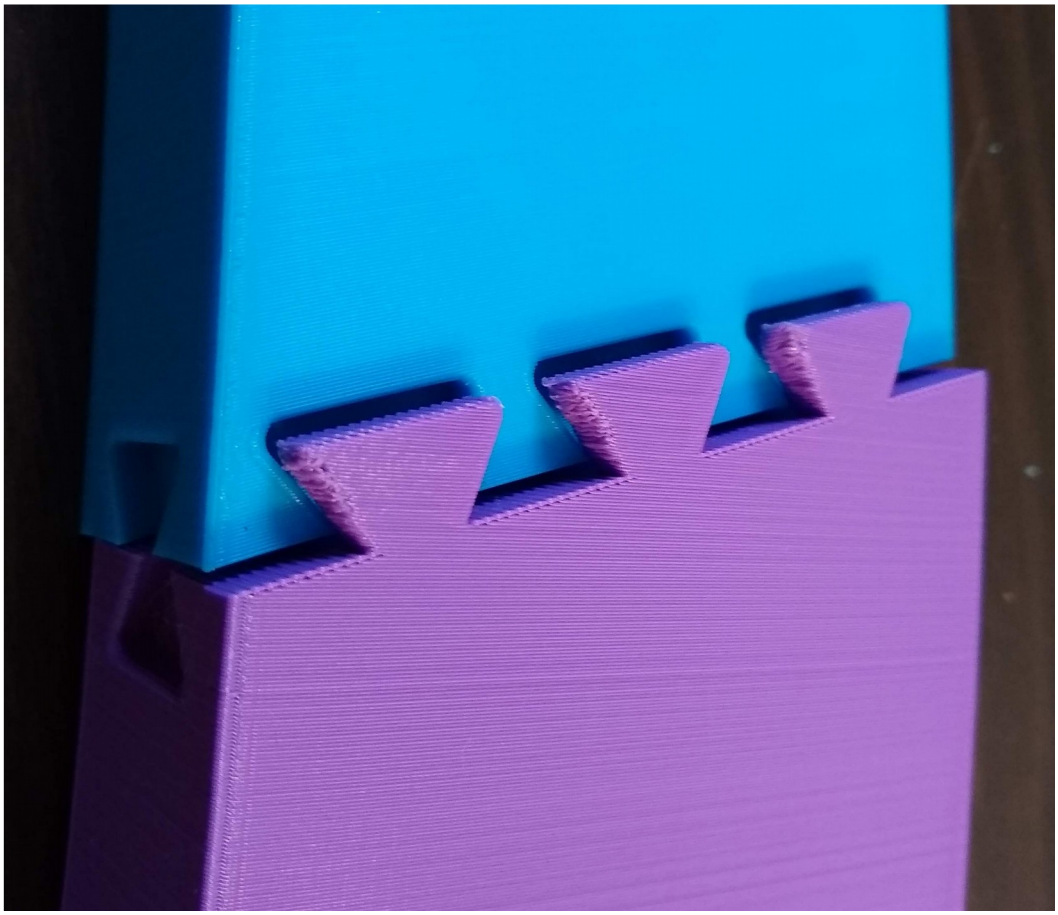


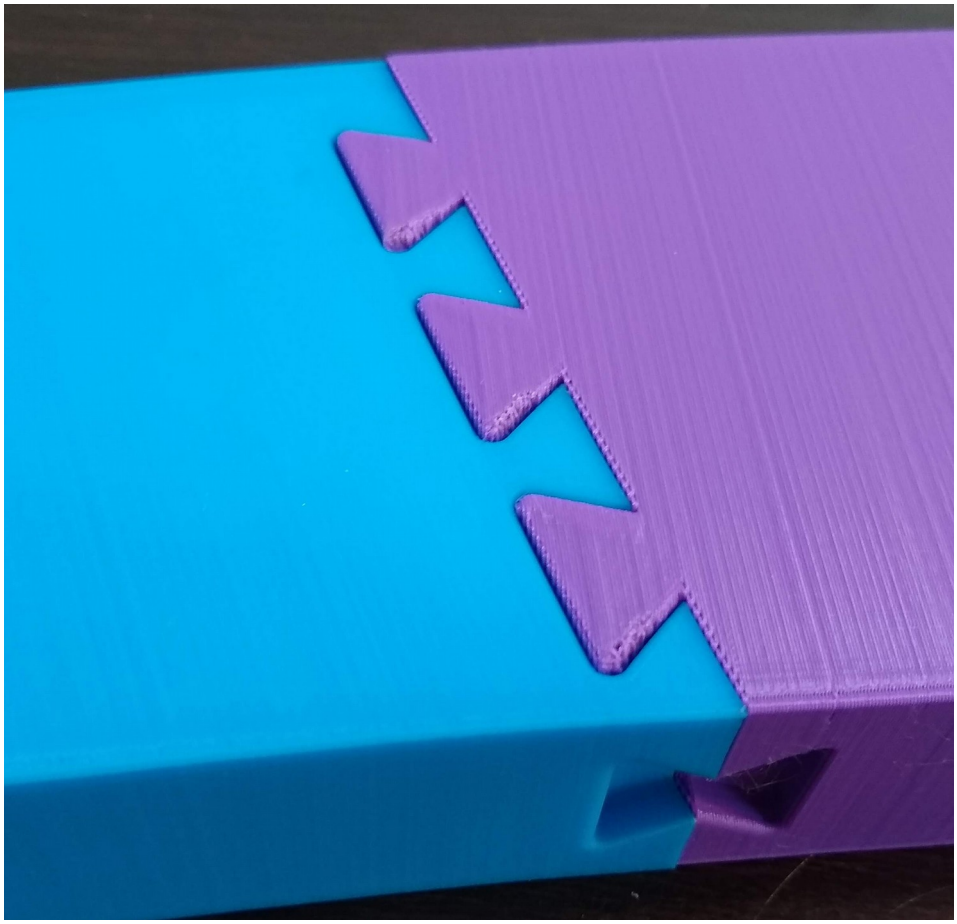




05). Install the Tray section into the combined Base and Middle sections. Use the remaining two assembly keys to permanently attach the Tray to the rest of the loader body. Install using a hammer and punch.

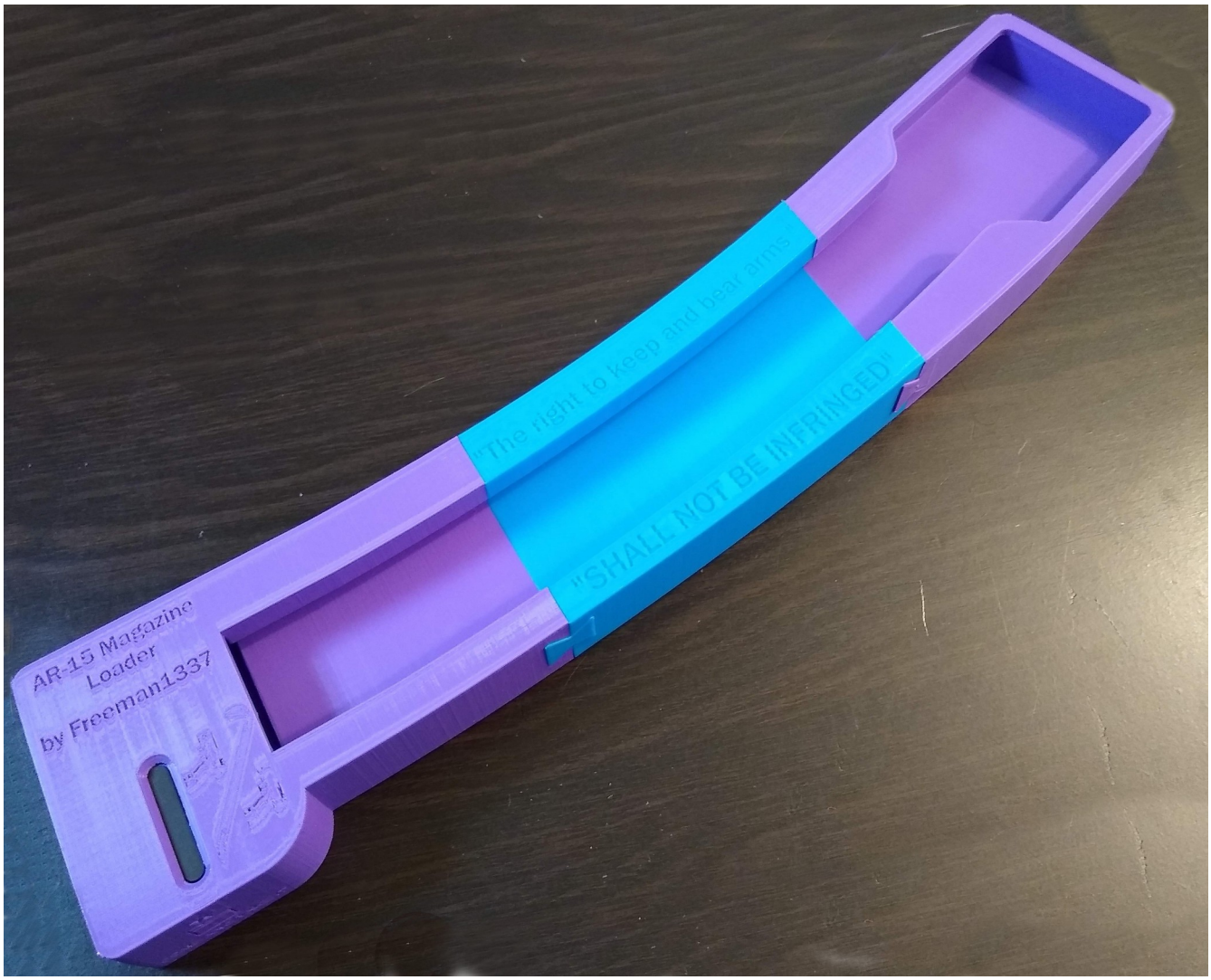






06). Glue can be used/inserted into the voids between the dovetails and assembly keys, though this isn't strictly required. If the loader starts to become loose with time, crazy glue (Cyanoacrylate) may help prolong the life of the loader.

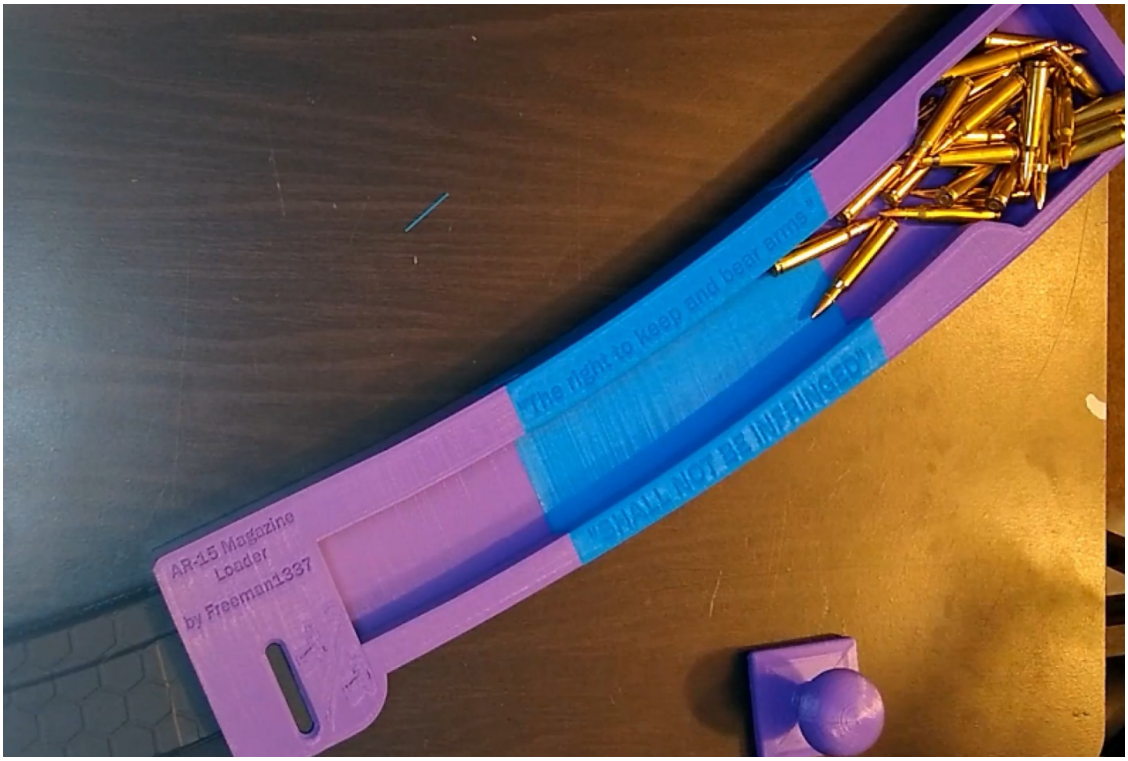
Finished Magazine Loader

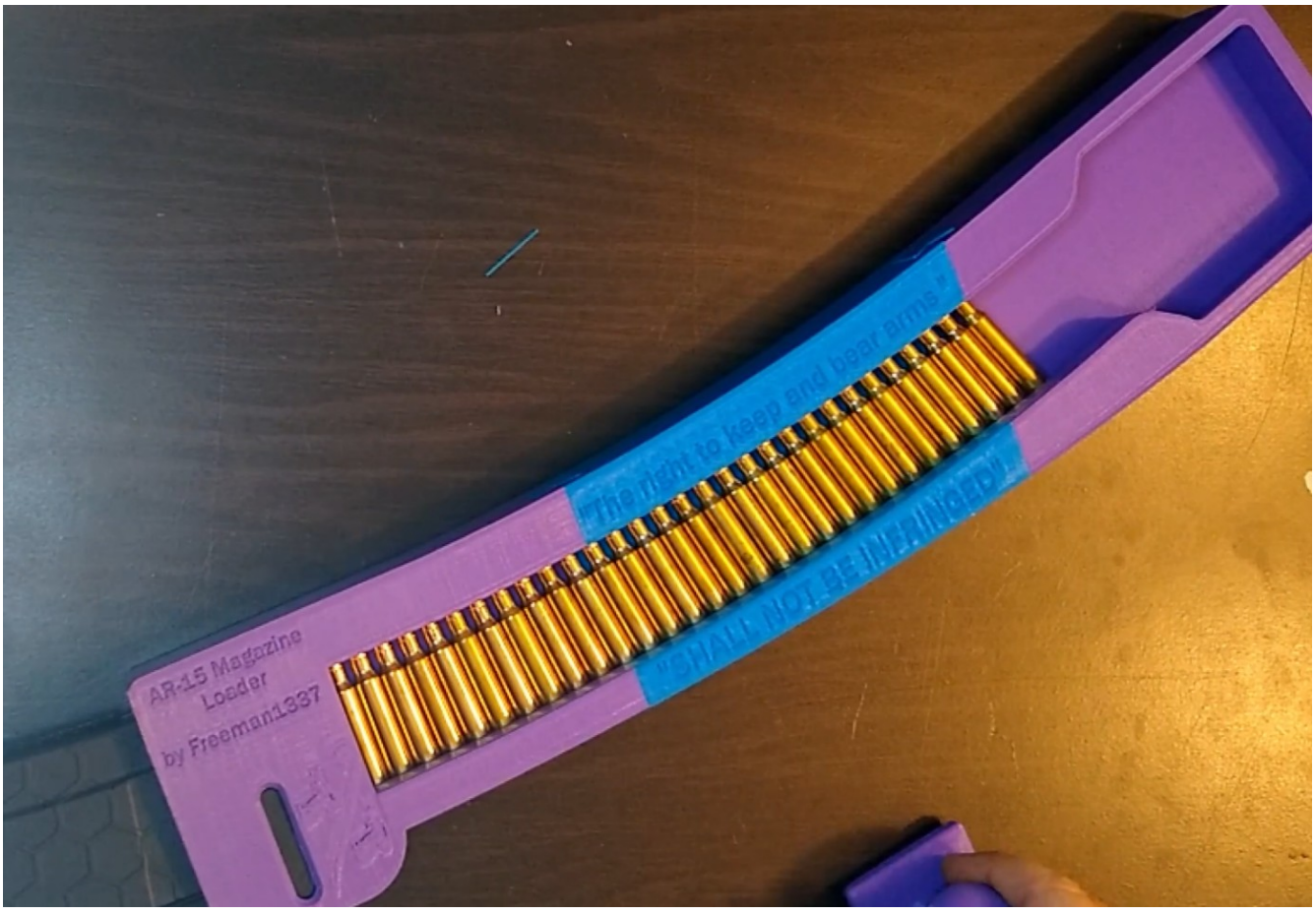


Usage

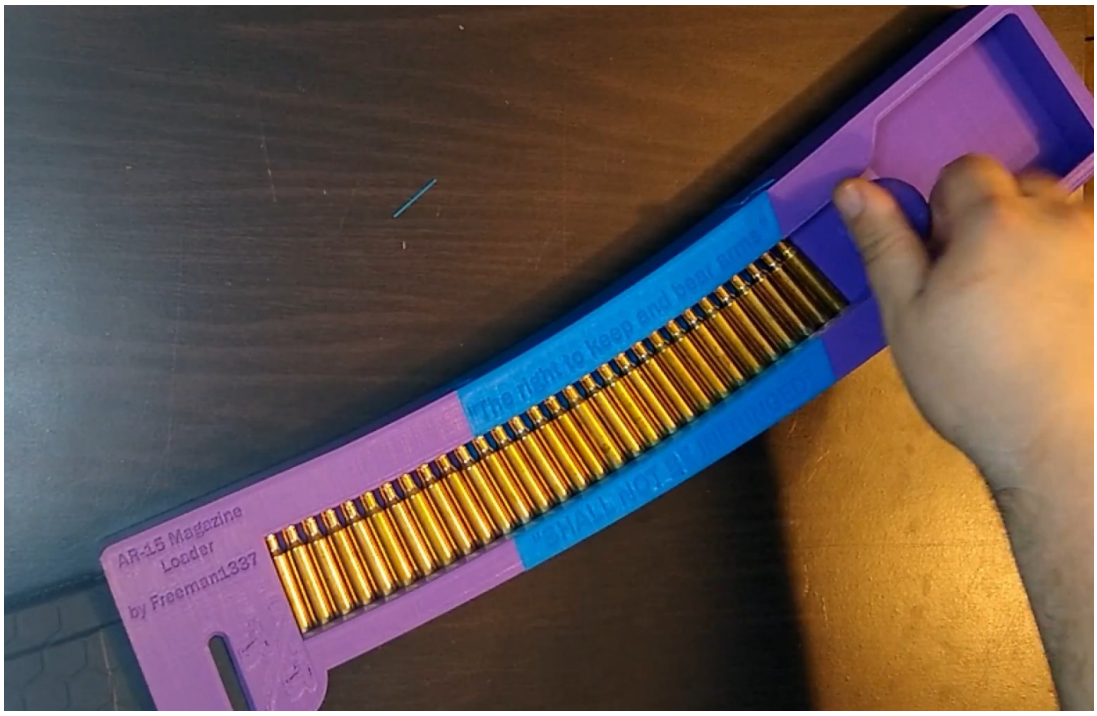
01). Insert a magazine into the body of the loader, ensure it is retained by the mag catch.

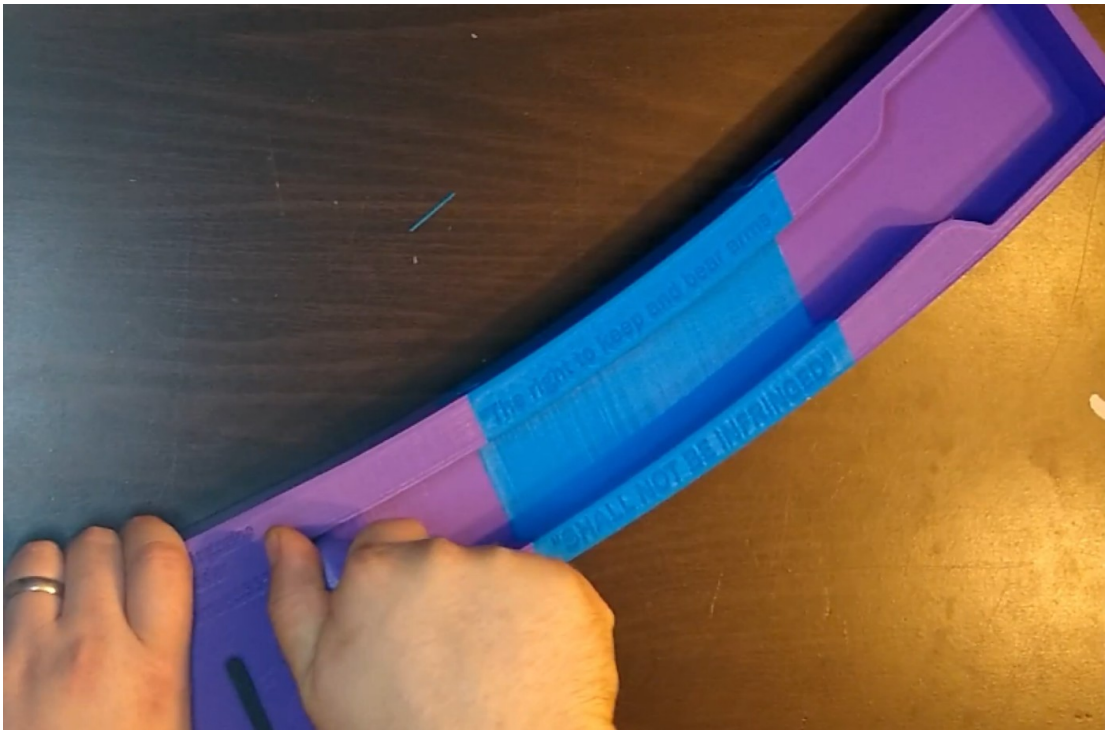
02). Arrange the number of rounds into the loader which you desire to insert into the magazine. Use the collation tray to ensure they're all facing the correct direction.





03). Using the included pusher tool, insert all rounds in the loader body into the magazine. This can require some force, and if loading a full standard capacity magazine, ensure the pusher tool has traveled far enough to push all rounds into the magazine.





05). Remove the newly loaded magazine from the loader body.

06). Repeat as necessary.

Licensing

Closing Thoughts

At current count, we've been "flattening the curve" for the past 539 days. We're in a world that seems more divided then it ever has, and frankly it seems we're as close as ever to conflict. Whether it,s government vs citizen, freedom fighters vs oppressors, or terrorists vs the free world, the need for self defense has never been higher. Whether for recreation or war, the AR15 and it's variants are one of the finest and most effective weapons devised.

I hope whoever is reading this guide is able to build this magazine speed loader, and put it to use. In it's use, may no harm come to you (unless you bring it wanton against others).

Warmly,

Freeman1337