THE REGULAR 10/22

By YZY Prints x internetpizza

Remixed from parts by IvanTheTroll & Laff Dynamics

THANK YOU

YZY and internetpizza would like to give a special thank you to:

GayBruce, decimal.dot, RedFudd, JeffDesert3D, battle.doge, and everyone else who contributed to this project to help get it over the hump and into the hands of people who will enjoy it. Your contributions have been invaluable, and it's thanks to big brain beautiful people like you that we can continue to put out files like this.

This package is *free of charge for download on Odysee.com.*

Please contact yeezyprints@protonmail.com if you have paid money for this package.

Friends don't let friends use DEFCAD.

The owner of DEFCAD, Cody Wilson, is a convicted pedophile.

INTRODUCTION:

THE REGULAR 10/22 was designed and packaged by YZY Prints & internetpizza in early 2023. It is a design that utilizes OEM Ruger 10/22 parts, a 3D printed receiver, and a 3D printed buttstock.

THE REGULAR 10/22 was designed out of necessity – there are dozens of tried and true rifle designs that utilize Ruger 10/22 OEM parts, but for the most part they resemble Star Wars set pieces. This package was designed to be a lightweight, sleek and streamlined rifle that is both minimalist and ergonomic while using as few additional parts as possible. With a 15 round mag and a Romeo 5 red dot, the build in the cover photo weighs in under 4 pounds – with an 18" barrel!

THE REGULAR 10/22 was designed using the LX-22 chassis by *Laff Dynamics* as a jumping off point, the 10/22 3D Printable Receiver uploaded to TheGatalog by *IvanTheTroll*, and a custom designed butt stock designed by both *YZY Prints* and *internetpizza*. All of Laff's LX-22 parts ecosystem should be compatible with this buttstock.

As of Spring 2025, the design has been tested well past 2,000 rounds without any signs of imminent failure.

SHOPPING LIST:

1x Ruger 10/22 Rifle Bolt, factory pins + factory buffer pin

1x Ruger 10/22 Barrel Retaining V-Block

2x Ruger 10/22 Barrel Retaining V-Block Screws

1x Ruger 10/22 Charging Handle

(please note: This design has been tested with an extended charging handle, but we cannot guarantee that every aftermarket charging handle will work)

1x Ruger 10/22 Trigger + Magazine Release

(please note: This design has been tested with an extended mag release with varying degrees of compatibility. Extended mag releases tend to cause the magazine to be somewhat tricky to remove, proceed with caution)

1x Ruger 10/22 Barrel

1x Ruger 10/22 Magazine

1x Ruger 10/22 Receiver Takedown Screw

3x M4 x 30mm bolts

3x M4 x 10mm bolts

Optional 2x #10 wood screws for TPU buttpad, ¾" L

TOOLS REQUIRED:

- JB Weld 2 part epoxy

- M4 Hex Wrench
- M4 drill bit
- ¼" Drill bit
- 13/64" Drill bit
- 3/16" Drill Bit
- 5/32" Hex Wrench for V-Block screws
- 1/8" Hex Wrench for Receiver Takedown Screw
- Gunsmithing hammer

PRINT ORIENTATION AND PRINTER SETTINGS:

The parts are correctly orientated in the STL file. This package has only been verified to work in the given orientation and print settings.

The receiver, chassis, and receiver rail should be printed at 99% infill, 8+ walls.

The included Laff Dynamics handguards should be printed according to his specifications, with 5-8 walls and 35-50% infill.

The Skeletonized Grip and Stock will use Infill Modifiers. Print settings for these are highlighted and circled red on Page 10.

Material choice is at your discretion, but it is highly suggested to use PLA+/PLA Pro from a reputable brand like Polymaker.

Regarding the optional buttpad: You can print this out of whatever material you would like, however it is suggested that you use a TPU with a shore hardness of 90 and </=30% infill. A TPU with a shore hardness of 95 will be a stiffer buttpad, this is entirely up to user preference.

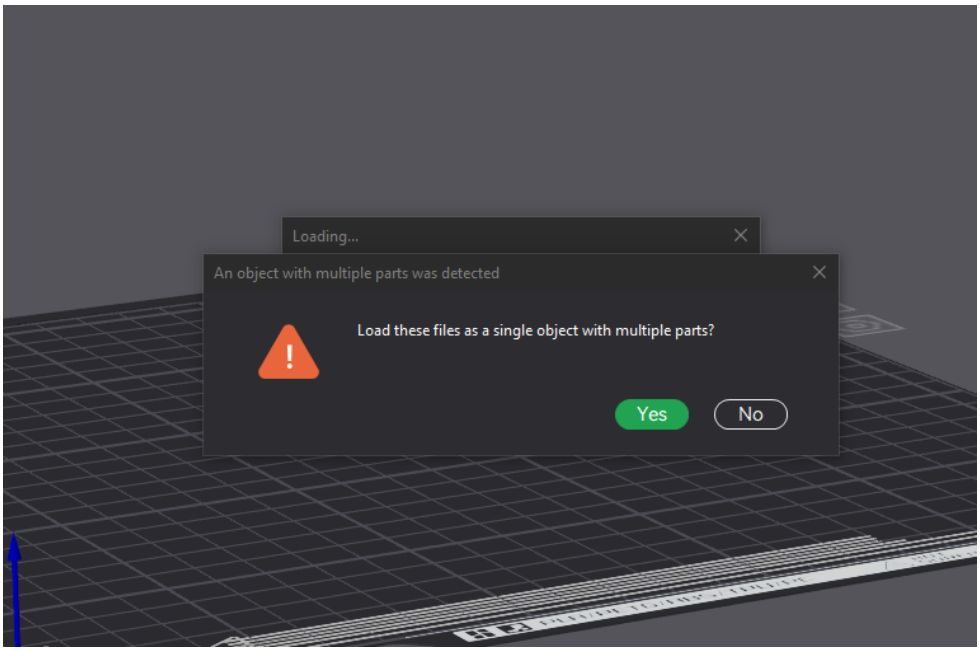
If you wish to support the designer, there is an affiliate link here that directly supports development of packages like this.

INFILL MODIFIERS

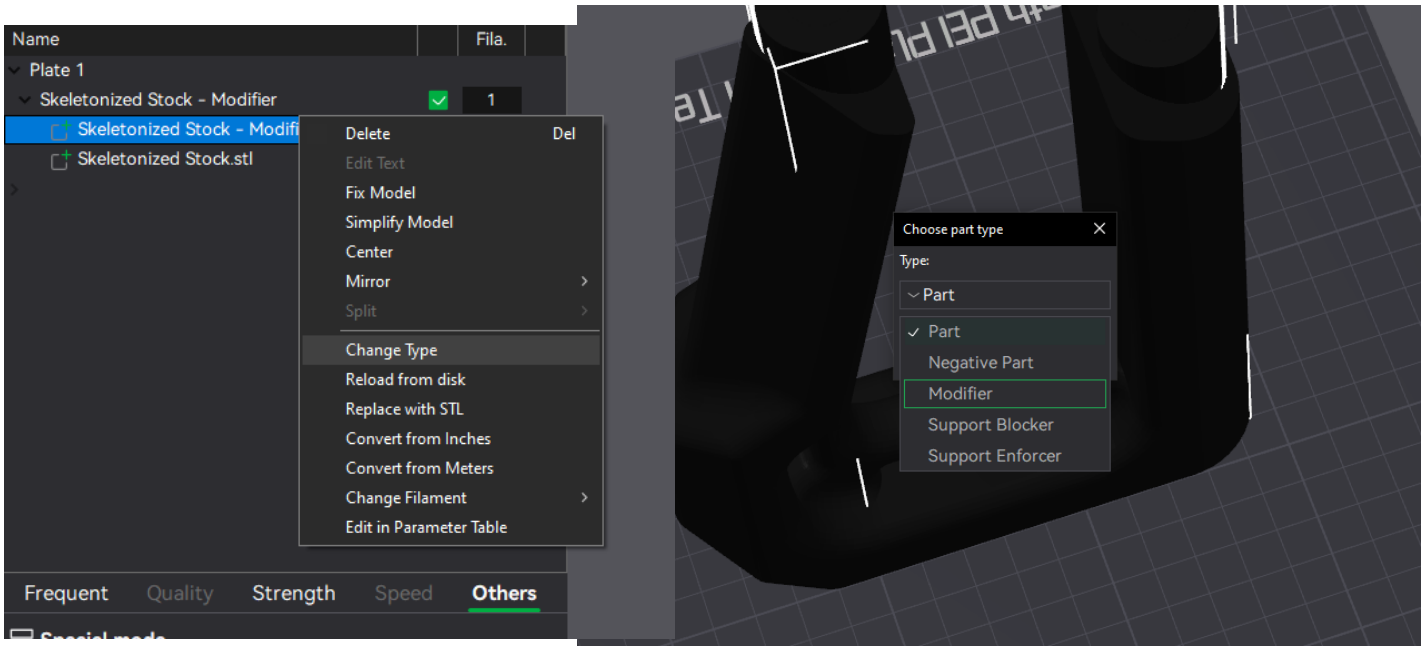
Infill modifiers allow the user to fine tune different parts of the print to be sliced with different settings. Here, infill modifiers allow us to add more material around the connection lugs between the stock and the grip, and more material around the buttstock for extra strength for the attachment wood screws when attaching a TPU buttpad. The modifiers have been included for the Skeletonized Stock.stl file type.

TO USE THE INFILL MODIFIERS:

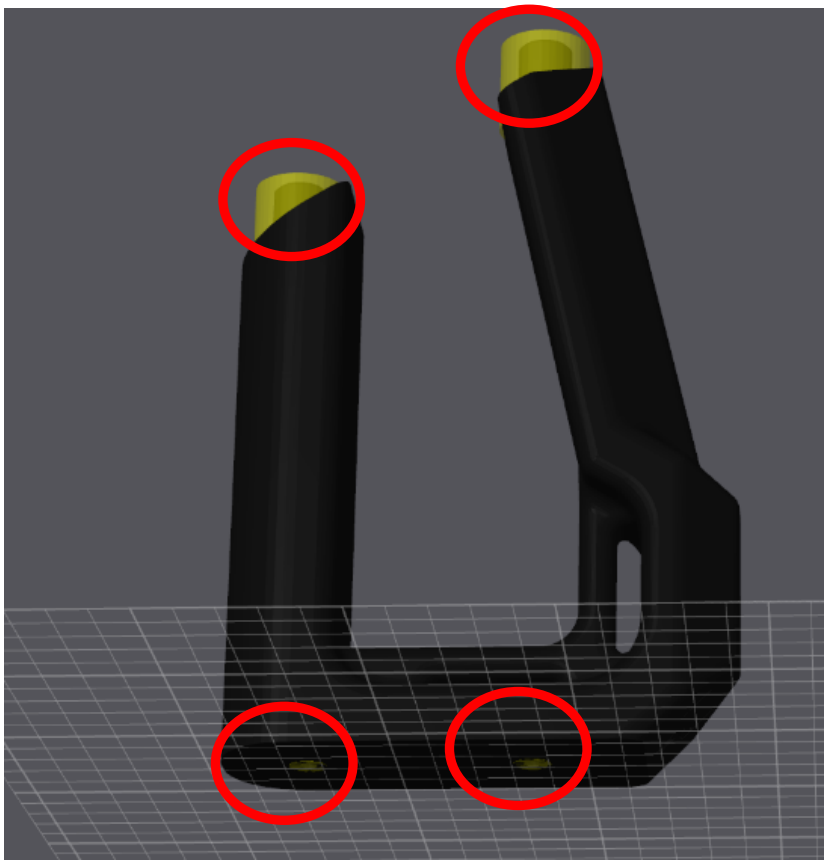
1.) Import both files into your Prusaslicer derivative of choice. Click "Yes" on load these files as a single object.



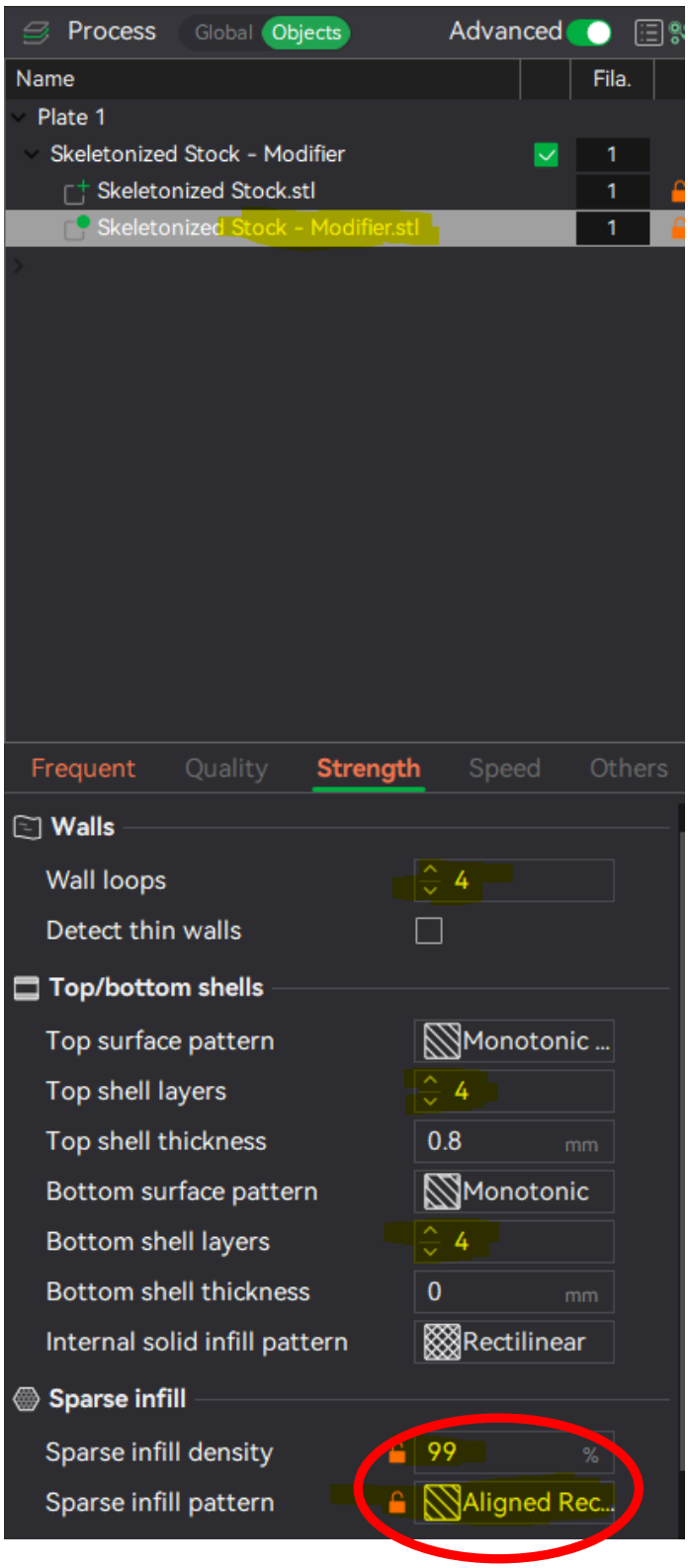
2.) Change the object type to “Modifier”

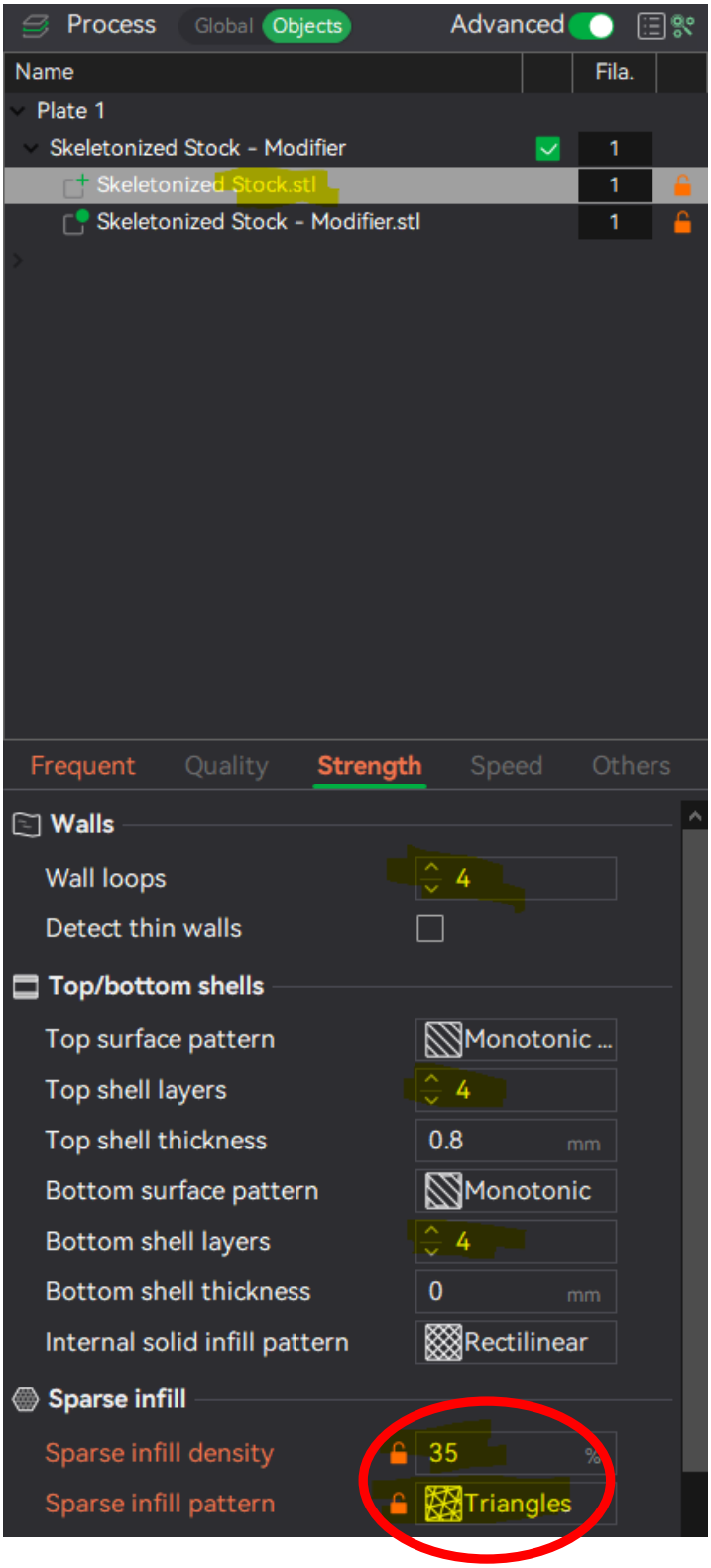


.) Your slicer should now show the modifier object as transparent and the solid object as a solid. You will ee 4 modifiers such as below:

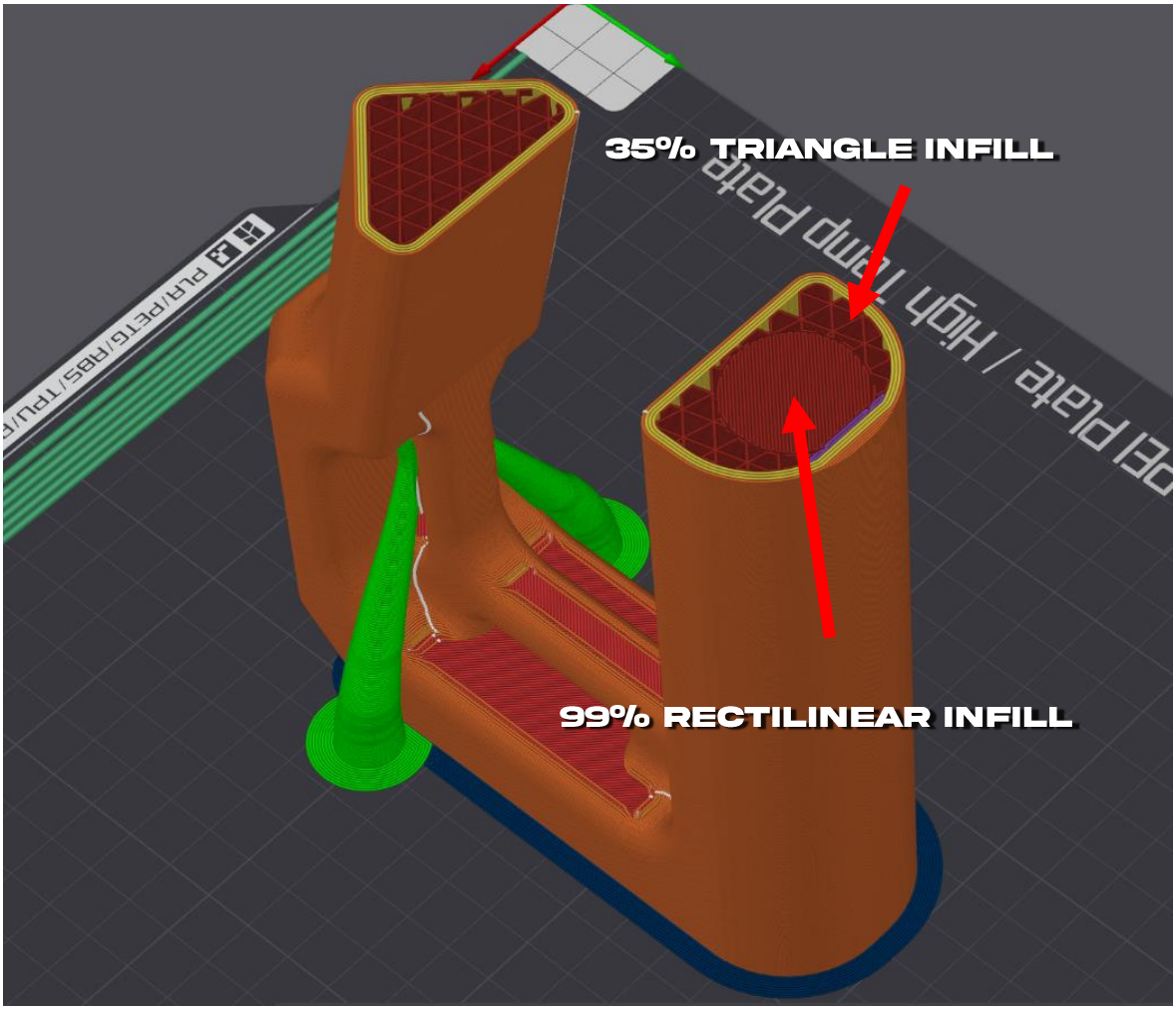


4.) Change the infill settings on the Skeletonized Stock.stl and the Modifier.stl so that the solid object Skeletonized Stock.stl has an infill of ~35% triangles and the modifier has an infill of 99% rectilinear.





5.) Slice the file. If you used the modifiers correctly, you will notice that the lugs are solid infill and the rest of the stock is 35% triangles as pictured below.



RECEIVER COMPATIBILITY

This package has been tested with IvanTheTroll's 10/22 Printable Receiver package. We have added his receiver package to this release for ease of access, however it is unchanged from its original release. At the time of release, DeterrenceDispensed had looser quality guidelines for assembly docs. We have taken the time to document assembly of Ivan's receiver with new photos, but the process remains the same. Factory/OEM Receivers should be compatible with this release. All of Ivan's instructions will be called out with a speech bubble from *The Horizontally Spinning Rat* himself.

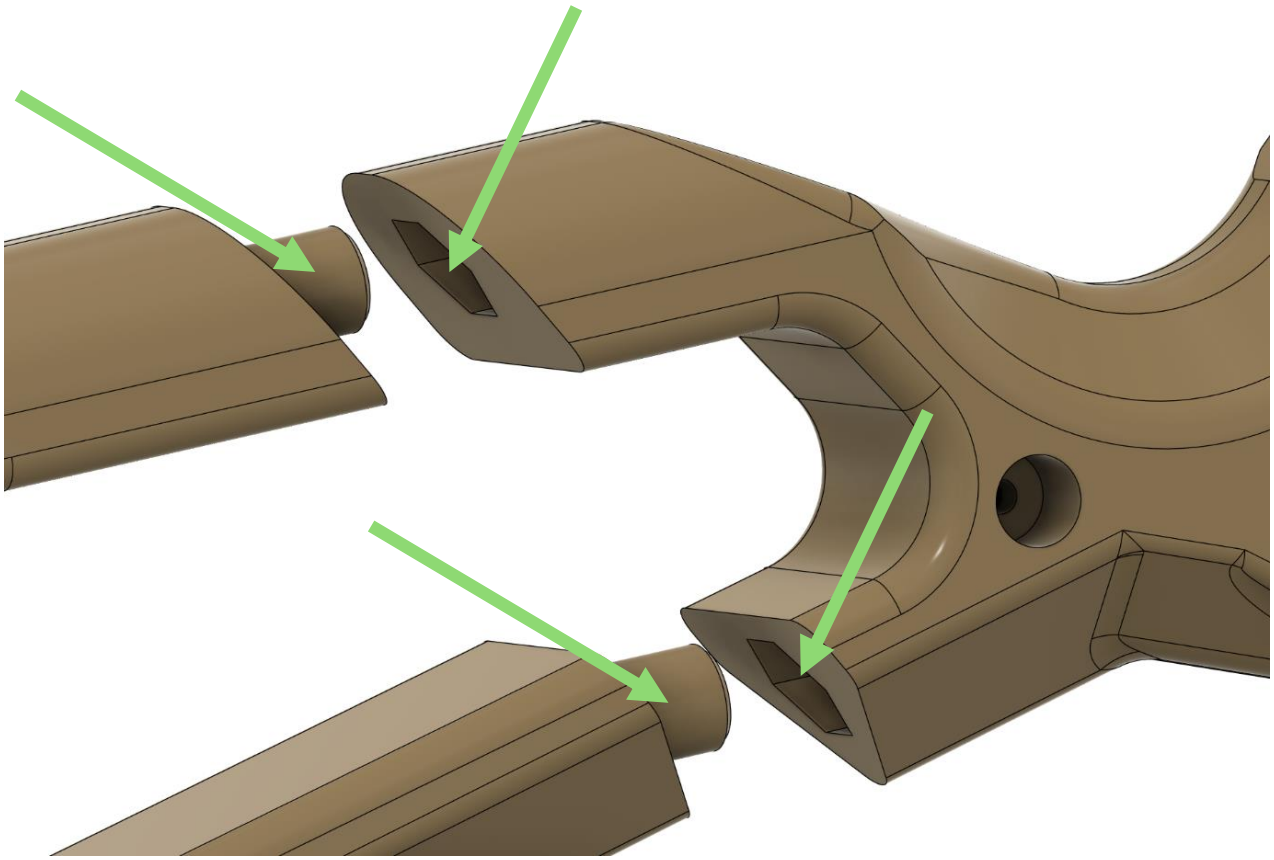
As far as other open source 10/22 receivers that are hosted elsewhere, we cannot test compatibility with all of them, your mileage may vary regarding fitment and compatibility with receivers that have not been documented in this package.

The owner of DEFCAD, Cody Wilson, is a convicted pedophile.

At this point, you are ready to print all of the parts. Once you have all of your parts printed, tools gathered and OEM parts sourced, continue into this document.

CHASSIS ASSEMBLY

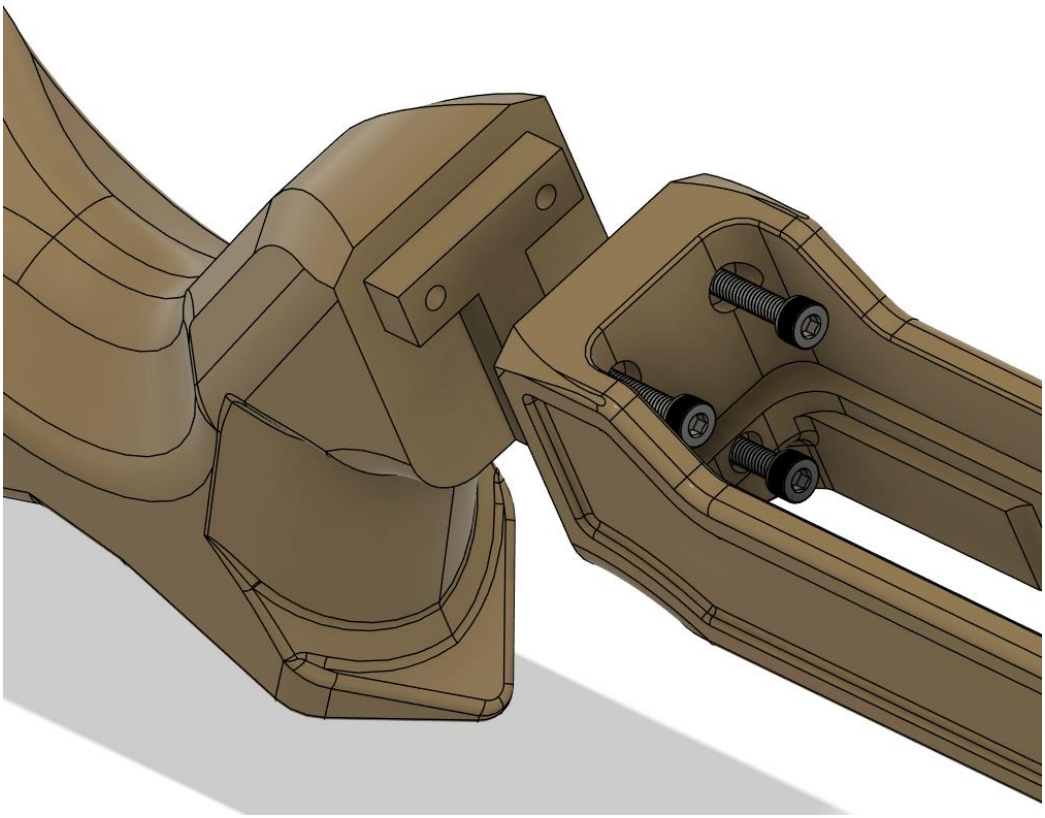
1.) Apply JB Weld on the outside of the stock lugs and on the inside of the hexagonal cutouts. The hexagonal shape allows for excess JB Weld to collect and reinforce the lugs in place



Once the stock is epoxied together, it cannot be undone without breaking the printed parts, so use some caution here and go slowly. The fit between the lugs and the hexagonal cutouts should be almost perfect with next to no play. If your parts do not fit together without resistance you will need to do some hand fitment, or tune your printer.

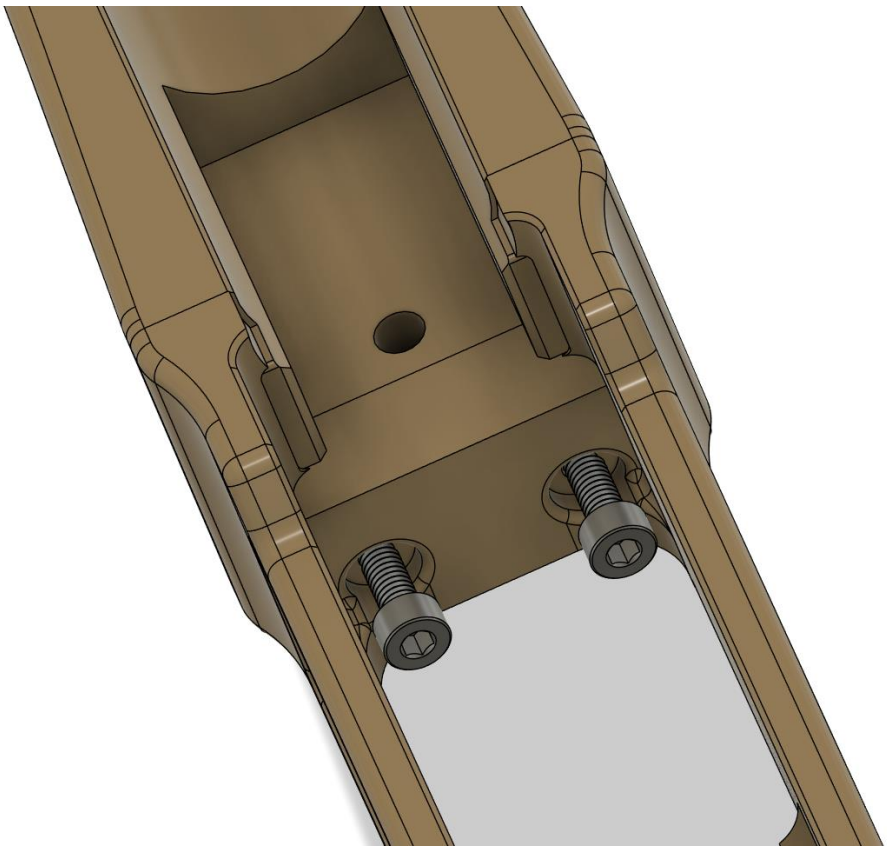
If you printed the TPU buttpad, you can install that now by mounting the pad to the rear of the stock and carefully tapping the wood screws into the printed stock. Do so very slowly – if you crack the stock from going too tight or too quickly, there is no easy way to fix it.

1.) Install the chassis to the grip.
   a. You will tighten 3x M4x30mm socket head bolts into the grip. Add a touch of oil and go slowly – we are tapping bare plastic and it is very easy to overheat and rip out the fresh threads you just created.



2.) Install the handguard to the chassis.

You will tighten 3x M4x10MM bolts from the inside of the chassis into the handguard. If you have access to M4x12MM bolts, those would be preferrable, but 10mm are fine. Use oil on the bolts, tap the threads slowly



RECEIVER ASSEMBLY

Take a battery drill (or cord drill or even a hand drill) with your **13/64in drill bit.** Use this bit to come from the front of the receiver and drill out the two holes. Try and keep the drill bit centered in the hole if you can. Go slow and don't force it, let the bit do the cutting.

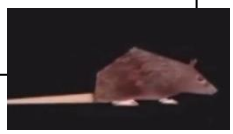
Huge thank you to **@GayBruce** for providing EXCELLENT assembly photos for this documentation effort.

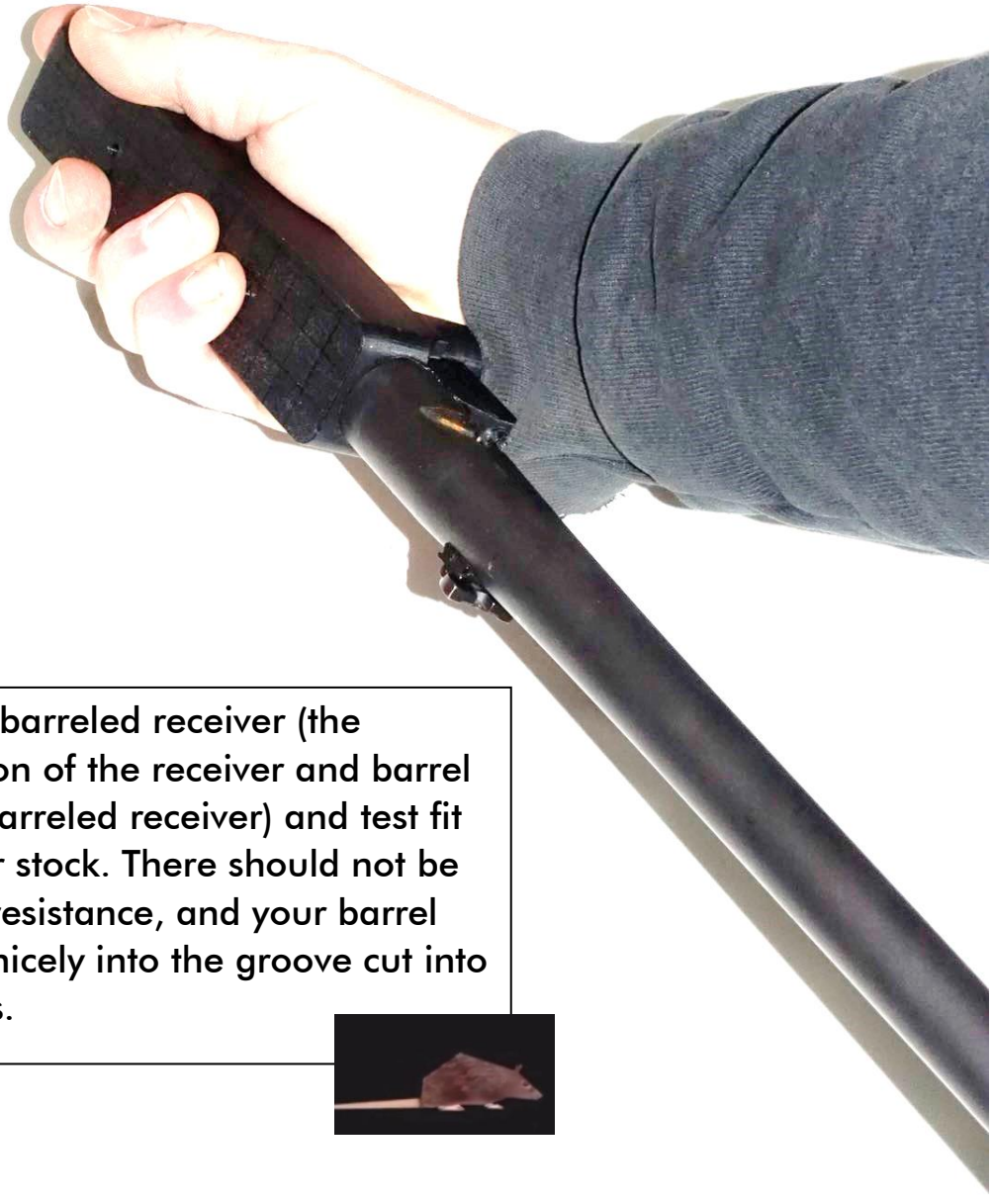
After drilling those two holes, drill the hole in the bottom of the tongue with this same drill bit. Drill slow and do your best to keep the drill bit straight.

Take your sandpaper (or rotary tool with a sanding bit) and smooth out the tongue underneath the barrel, as well as the top and bottom of the barrel hole itself. Refer to the image in the 'Renders' folder named 'Sanding Locations' to see where these spots are and how much you should sand them. The sanding done in the image is the minimum amount of sanding required, you can sand a little more than that - you won't hurt it by sanding just a little too much.

Take your barrel and insert it into the receiver. It will be pretty snug, you can use a vise to clamp the barrel so that you can twist the receiver on if you need to (be sure to use soft jaw on the vise or place blocks of wood between the vise and the barrel so that you don't scratch it!)

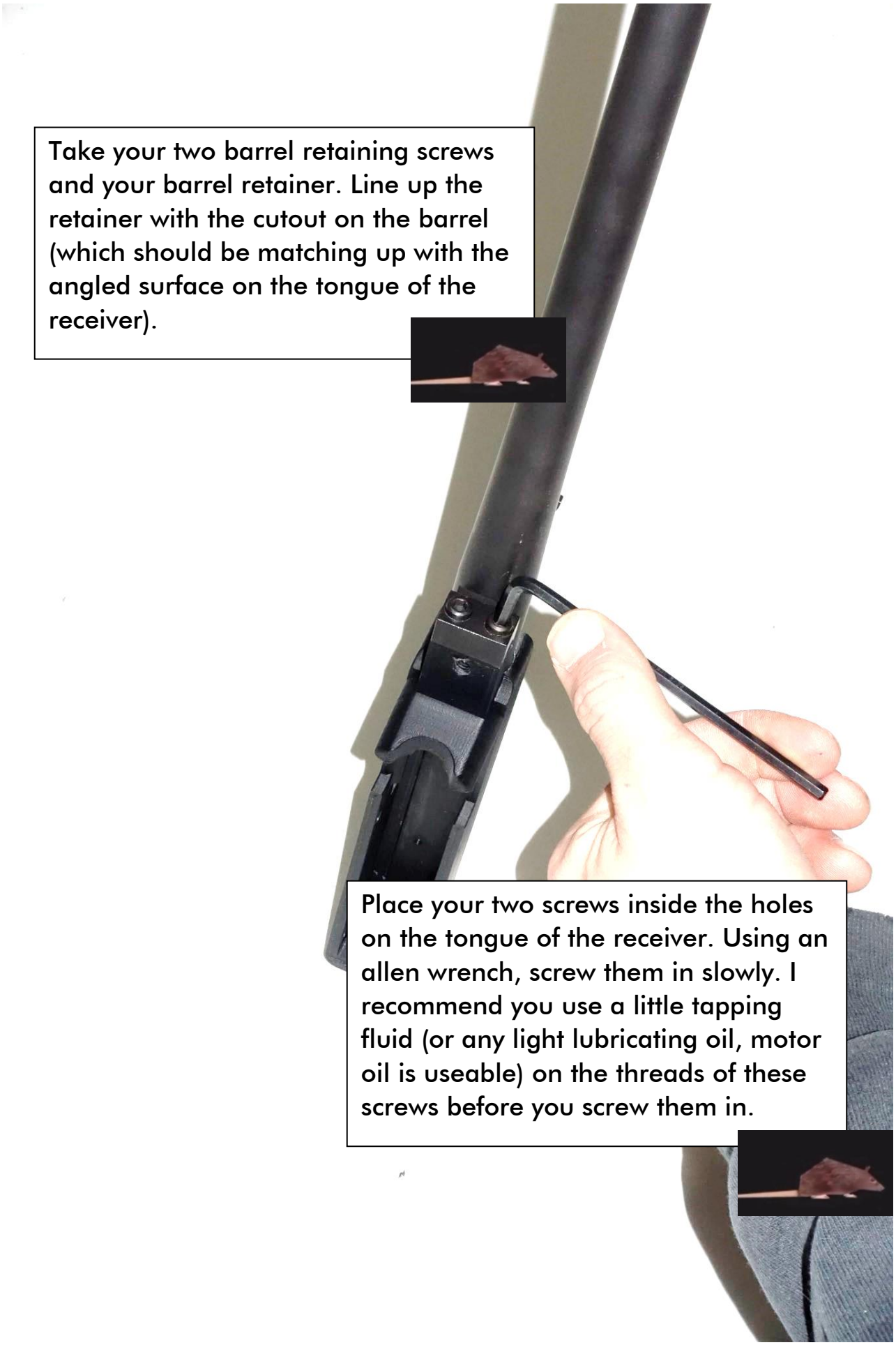
With the barrel installed all the way (it will be sticking into the inside of the receiver just slightly), spin the receiver so that the top of the receiver lines up with the top of the barrel (if your barrel has a front sight post, have the front sight post sticking up straight relative to the flat top of the receiver).





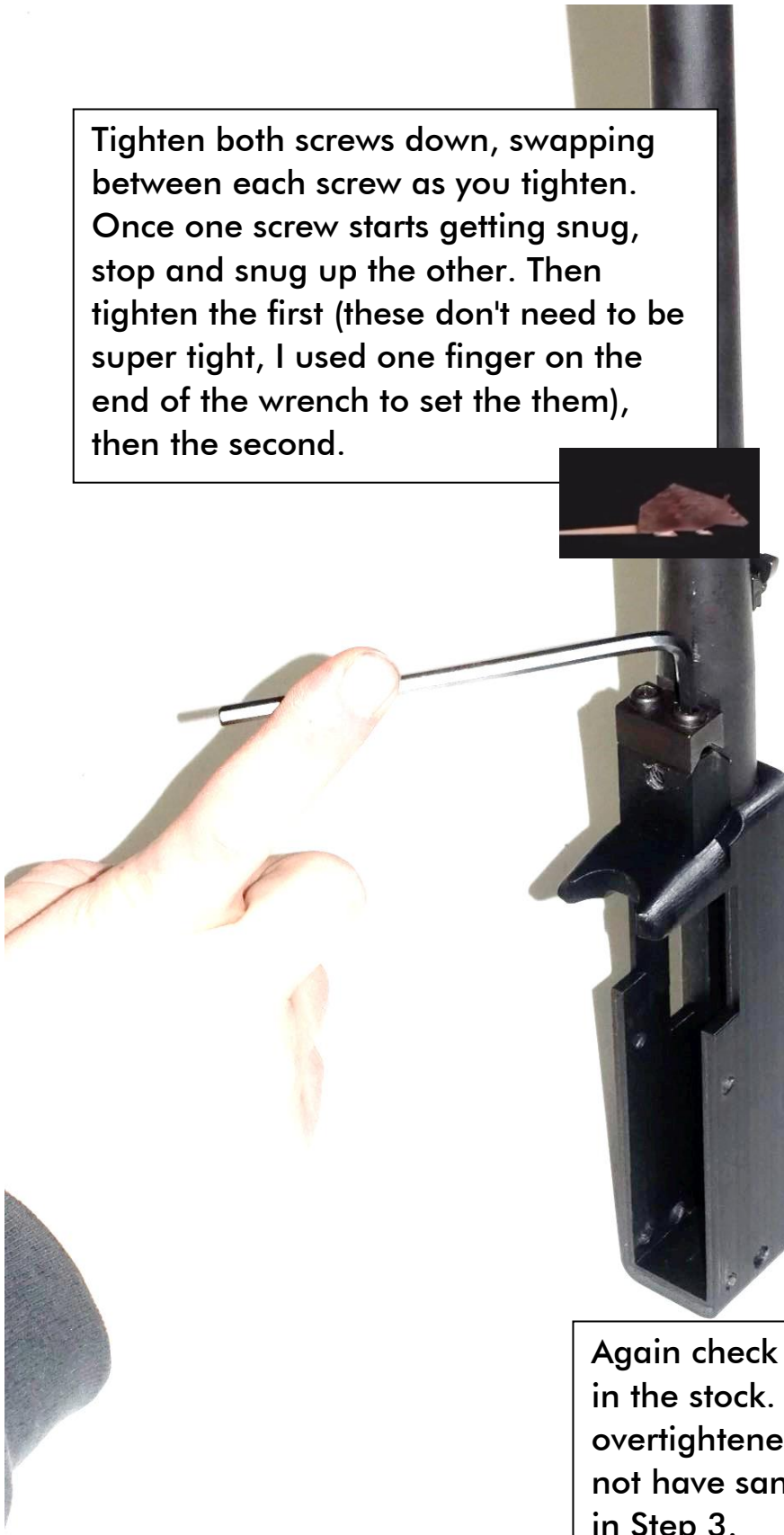
Take your barreled receiver (the combination of the receiver and barrel is called 'barreled receiver) and test fit it into your stock. There should not be excessive resistance, and your barrel should fit nicely into the groove cut into the chassis.

Take your two barrel retaining screws and your barrel retainer. Line up the retainer with the cutout on the barrel (which should be matching up with the angled surface on the tongue of the receiver).

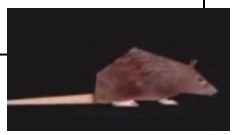


Place your two screws inside the holes on the tongue of the receiver. Using an allen wrench, screw them in slowly. I recommend you use a little tapping fluid (or any light lubricating oil, motor oil is useable) on the threads of these screws before you screw them in.

Tighten both screws down, swapping between each screw as you tighten. Once one screw starts getting snug, stop and snug up the other. Then tighten the first (these don't need to be super tight, I used one finger on the end of the wrench to set the them), then the second.



Again check that your barrel fits nicely in the stock. If it doesn't, you may have overtightened your screws, or you may not have sanded enough material out in Step 3.

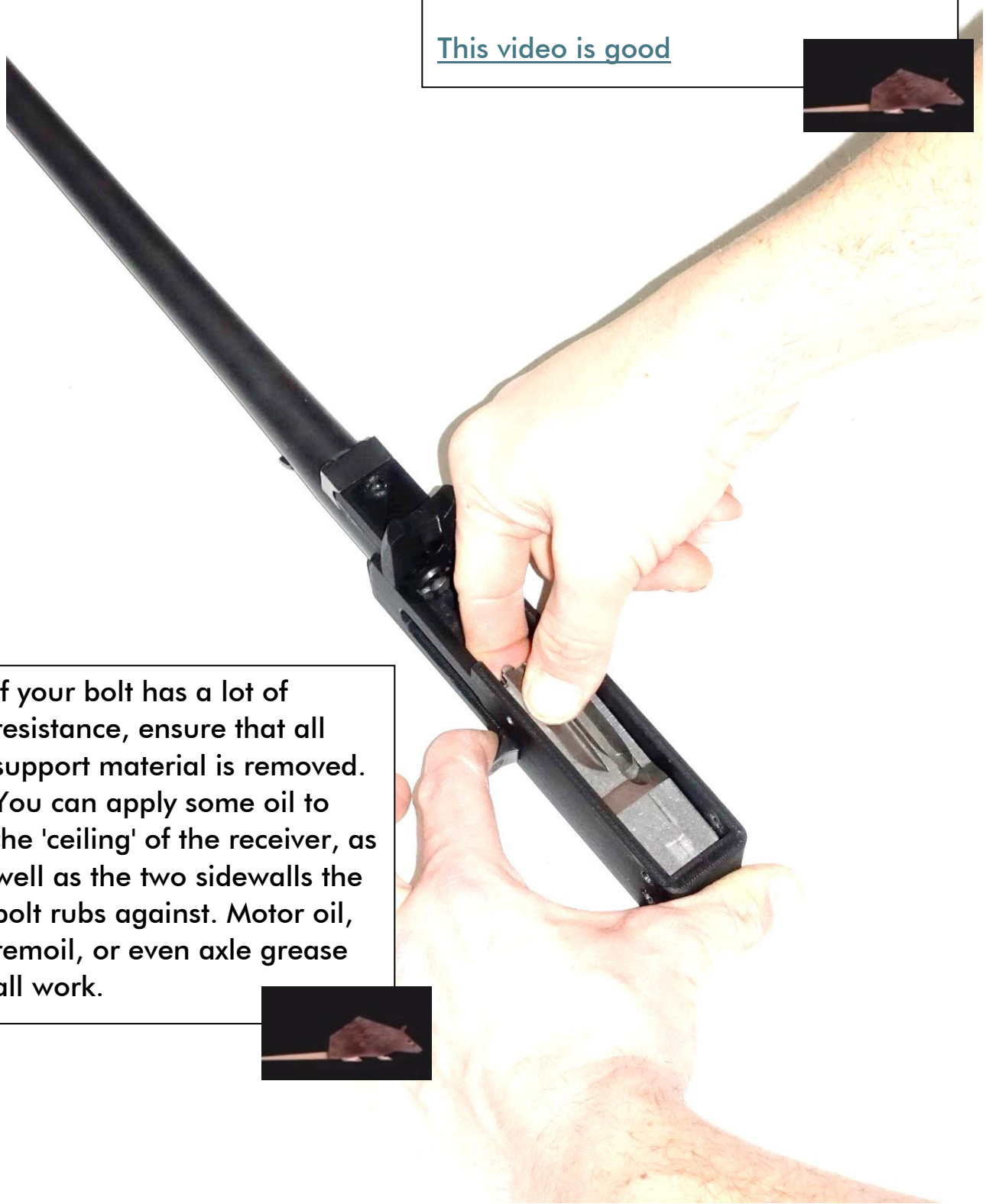


With the barrel installed, take your drill again, this time with the **3/16in drill bit.** Use this bit to drill out the two holes close to the bottom of the receiver. Drill slowly and do your best to drill straight - you don't want to wobble these holes out.

Now take your drill with your **1/4in drill bit.** Drill out the big hole towards the rear of the receiver (the one above and to the rear of the two holes you just did in Step 13). Drill slowly and do your best to drill straight.

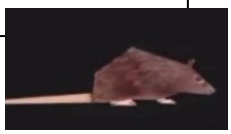
Take your bolt and charging handle and install them. If you've never done this before, it can be a bit tricky. Refer to youtube for help.

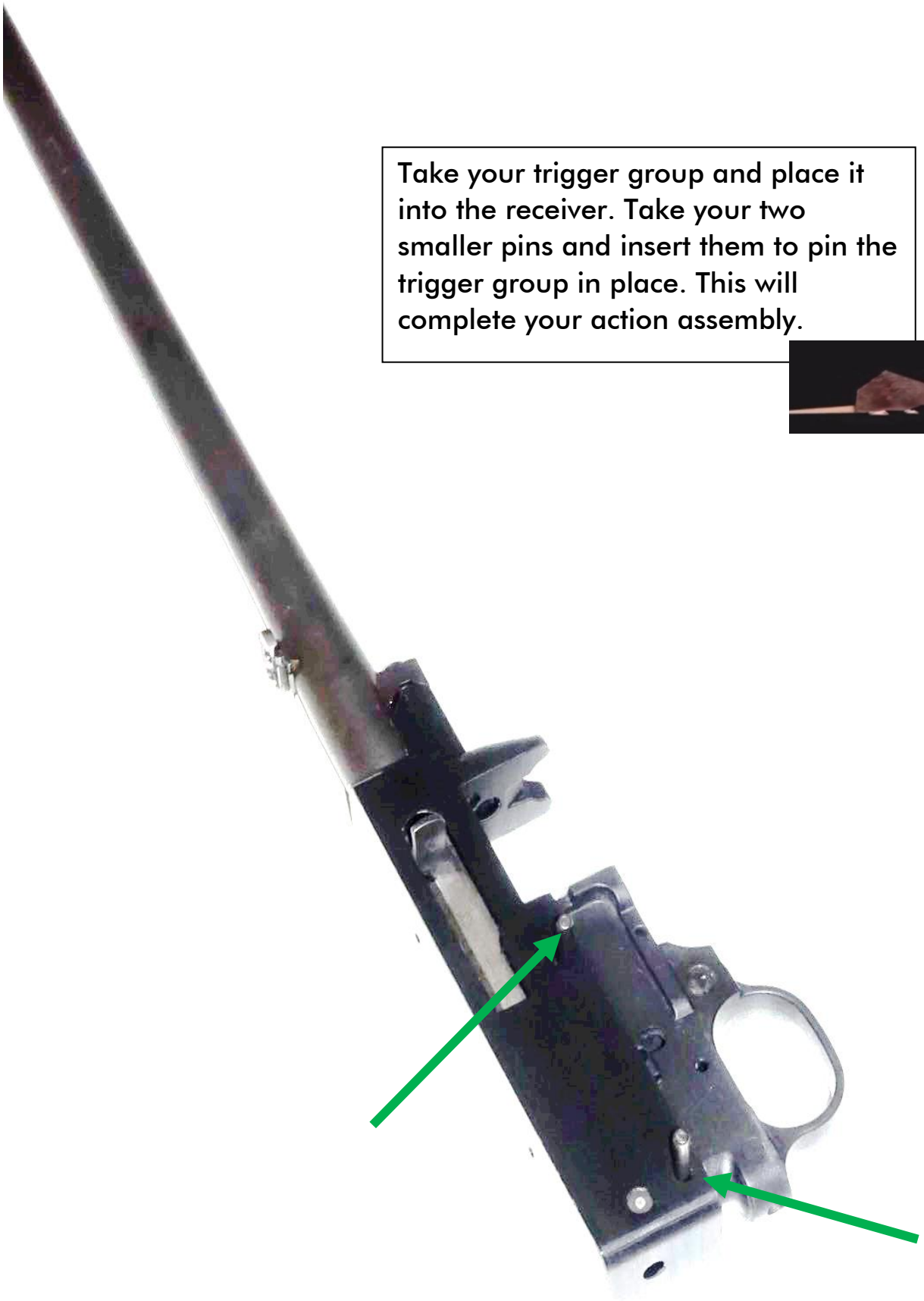
This video is good



If your bolt has a lot of resistance, ensure that all support material is removed. You can apply some oil to the 'ceiling' of the receiver, as well as the two sidewalls the bolt rubs against. Motor oil, remoil, or even axle grease all work.

After your bolt is installed and seems to move freely enough, install the bolt stop pin. This is the larger of the pins that you have, and goes into the hole you drilled with the 1/4in drill bit.





Take your trigger group and place it into the receiver. Take your two smaller pins and insert them to pin the trigger group in place. This will complete your action assembly.

Take your assembled receiver and drop it into your stock once more. It should still fit nicely, though it may be a little tricky to get the trigger housing to stick out the bottom of the stock at first. Once everything is settled, the assembly should sit all the way in the stock without you having to force it or hold it down.

Lastly, drive the Ruger 10/22 Receiver Takedown Pin through the handguard, and into the V-Block/Retaining block, and relish in the fact that you have just created an unserialized ghost gun.

Hand cycle your bolt a lot. Ensure it doesn't want to bind up and that it goes all the way forward. If it does, ensure your barrel band/screw in the bottom of the stock are not too tight. See the 'Troubleshooting/Tips' section of this document for more help on this issue.

Enjoy! Monitor the gun closely for the first 100 rounds or so to ensure the bolt is going all the way forward. Keep it nice and lubed up for the first couple hundred rounds, this will help it run more smoothly. As it wears in, it will need less oil.

The Regular 10/22 has been a long, long time coming, and we are elated that you get to enjoy it now.

With love,

YZY X internetpizza

Known Issues:

1.) The mag can be a bit finnicky to remove, user might find that they need to use two hands – 1 to manipulate the release lever, and 1 to wiggle the mag back and forth to get it out of the receiver.
2.) At some point, you might run out of 22LR ammunition, and you will eventually have to go to the store to buy more. There is no known fix for this at this time.

Changelog

v.1.0 – Initial Release Package