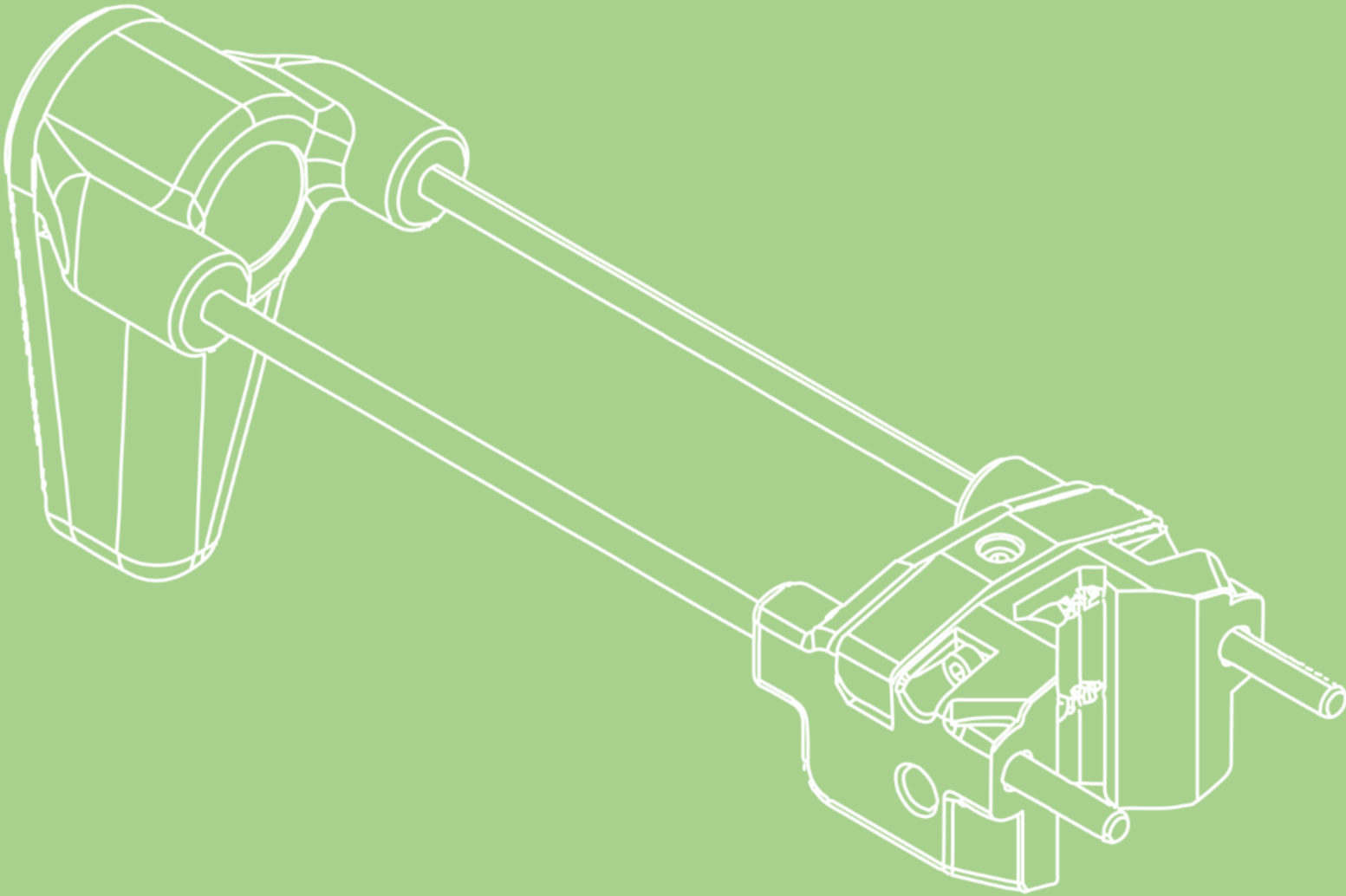

MP5 A3 Sliding Stock



Build Guide and User's Manual

MP5 A3 Sliding Stock

Is brought to you by the minds of

DAIKON
DEFENSE

REMINDER



We are not responsible for your actions or stupidity.

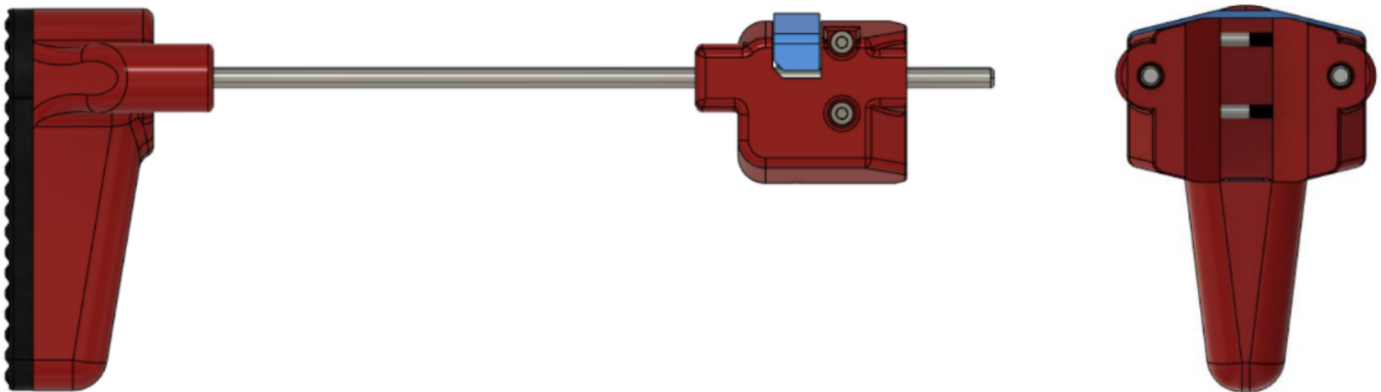


You, and only you, are responsible for what you stabilize with this device.

AWCY?

\\ \\ \\ TABLE OF CONTENTS

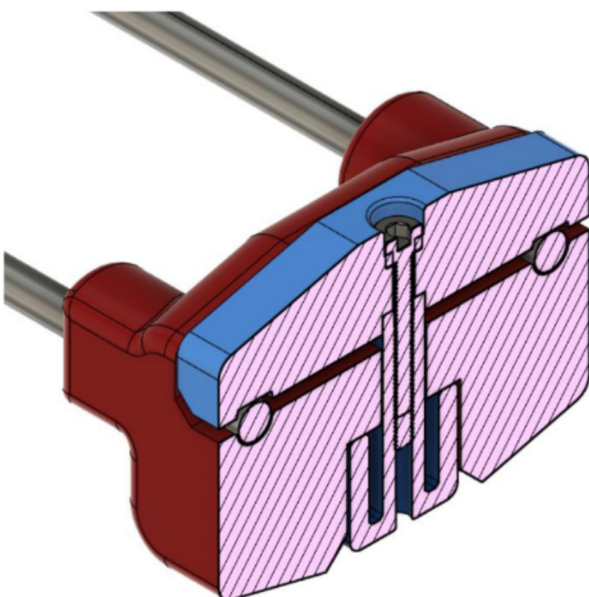
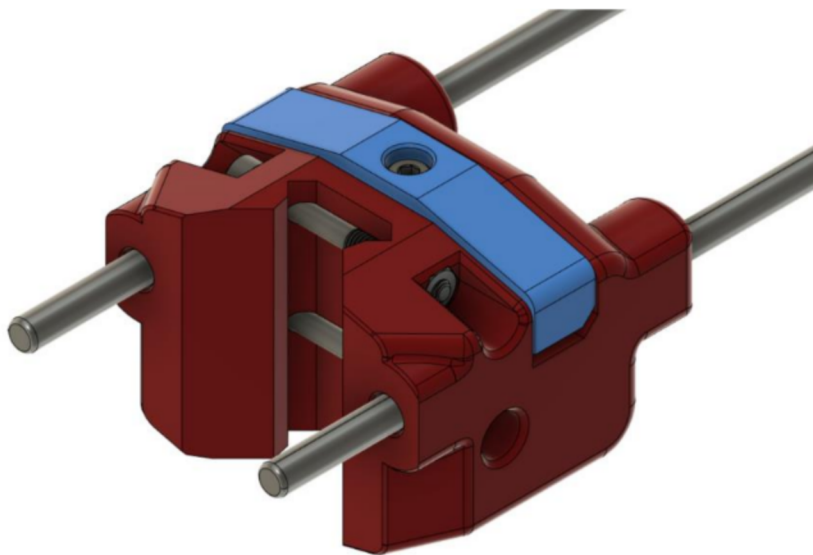
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/// INTRODUCTION

This sliding stock was originally designed by Mussy and posted to Thingiverse and Cults3D as a printed MP5 A3 rail style stock. While functional, there were a few key design features that needed improvement. This updated design is an attempt to resolve those issues and develop a more robust stock.

While keeping the original aesthetic, this version has an improved single piece locking mechanism, more robust attachment method, and larger guide rods holes for a smoother sliding motion. Additionally, users have the option of using 6mm or 1/4" guide rods depending on local material availability.



The main action of the stock is a spring-loaded mechanism that engages into notches cut into the structural rods, seen in the figure to the left. The direct mechanical connection ensures robust functioning in all environments and with debris accumulation.

Also included are several adapters that can be used to attach this stock to several other AWCY? Projects.

Good Luck!

PRINTS AND PARTS

Print parts according to the given parameters in the table below. Part designators are referenced in assembly diagrams later in the manual to aid in construction

Part No.	File Name	Material	Infill	Walls	Assembly
A	Lock Body.stl	PLA+	50%	4-5	Structure
B	Tail.stl	PLA+	40%	3-4	Structure
C	Key.stl	PLA+	75%	4-5	Lock Mechanism
D	Button.stl	PLA+	75%	4-5	Lock Mechanism
E	Buttstock Pad.stl	TPU	40%	3-4	Structure
F	EVO Scorpion Sliding Stock Adapter.stl	PLA+	60%	3-4	Structure
G	Modular Endcap for TnG.stl	PLA+	60%	3-4	Structure
H	Rod End Stabilizing Jig.stl	PLA+	30%	2-3	Tool
I	Stabilizing Spacer	PLA+	30%	2-3	Tool
J	Marking Guide	PLA+	30%	2-3	Tool
K	Brace A.stl	PLA+	50%	4-5	Structure
L	Brace B.stl	PLA+	40%	3-4	Structure

Required hardware listed below, along with McMaster-Carr numbers. Carbon fiber tubes come in many lengths and finishes but cannot be found on McMaster at a reasonable cost. I recommend looking at Amazon or AliExpress for CF tubs. Hardware kits available at: www.DaikonDefense.com

No.	Part	Material	Type	Use	QTY	McMaster
CARBON FIBER OPTION						
1	6mm x 4mm x 200mm	Carbon Fiber Tube	Stock	Rail Rod	2	[-]
2	M4 x 200mm	Stainless Steel Rod	Stock	Rail Rod Reinforcement	2	1274T43
METRIC STAINLESS STEEL OPTION						
3	M6 x 200mm	Stainless Steel Rod	Stock	Rail Rod	2	1274T45
SAE STAINLESS STEEL OPTION						
4	1/4" x 200mm	Stainless Steel Rod	Stock	Rail Rod	2	89535K85
HARDWARE						
5	M4 x 25mm	[-]	Fastener	Button Attachment	1	91292A122
6	M4 x 40mm	[-]	Fastener	Rail Attachment	2	91292A132
7	#4 x .5" Sheet Metal Screws	[-]	Fastener	TPU Pad Attachment	2	92470A110
8	M4 Nuts	[-]	Fastener	Rail Attachment	2	91828A231
9	Compression Spring	[-]	Spring	Button Spring	1	9657K309
10	1/4"-20 x 1.24 Flathead Screw	[-]	Fastener	Brace Axle	1	91771A544
11	1/4"-20 Lock Nut	[-]	Fastener	Brace Axle	1	91831A029

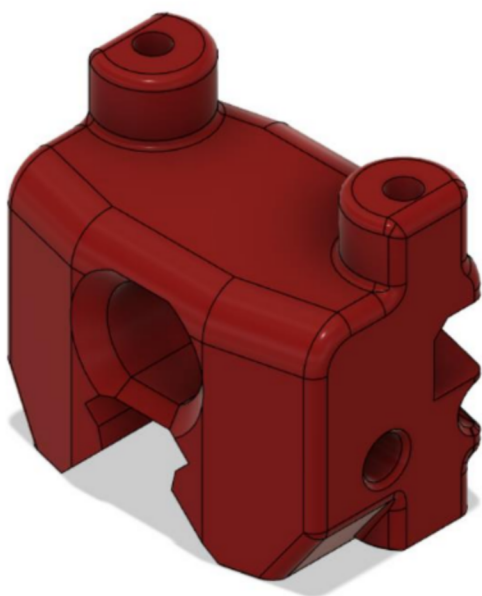
Some tools are also required:

- Allen Key Set
- Mini Screwdriver
- Sandpaper
- Rubber Mallet
- Metal File
- Xacto Knife
- Gorilla Glue or Epoxy

/// PRINT ORIENTATION

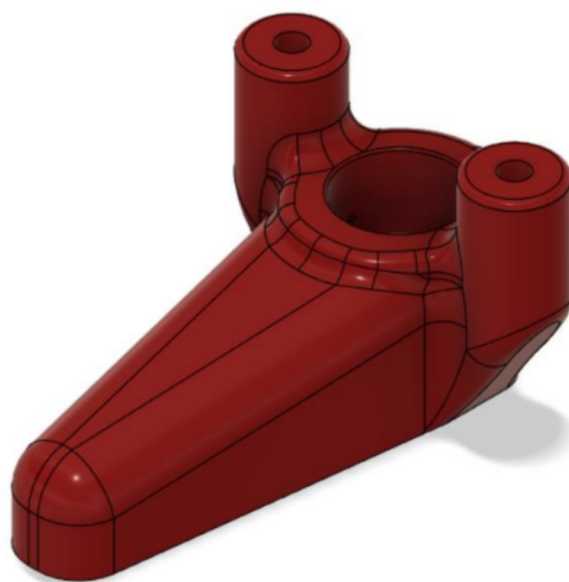
All parts should fit on an average size printer. Although this won't be experiencing the same loads as an upper receiver, it is still important to print strong parts. I recommend 3-4 shells on each part and an infill % between 40% and 70%. This is up to you – find a good balance between strength and weight.

See my detailed suggestions below, these are also listed in the previous table:



Part: Lock Body
Material: PLA/PLA+
Layer Height: 0.2-0.3mm
Shells: 4-5
Infill: 50%
Support: YES

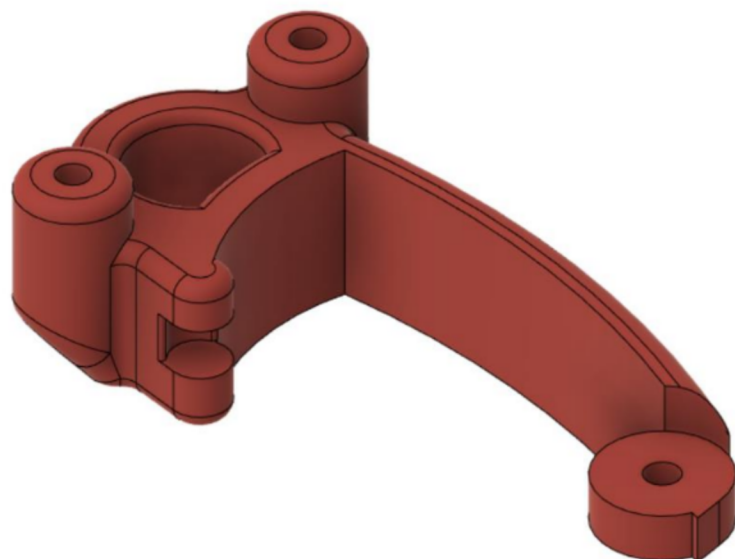
Part: Tail
Material: PLA/PLA+
Layer Height: 0.2-0.3mm
Shells: 3-4
Infill: 40%
Support: NO



/// PRINT ORIENTATION

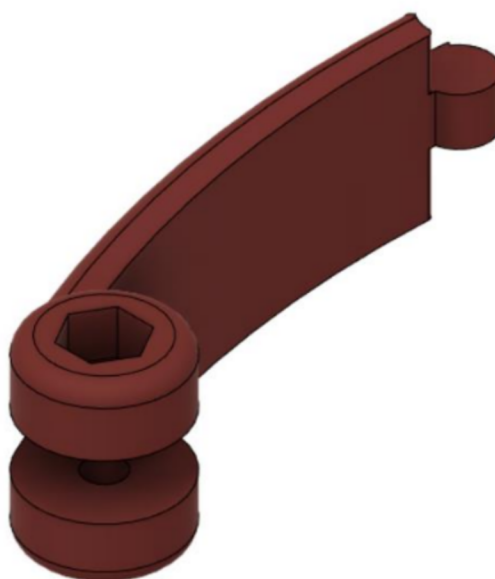
All parts should fit on an average size printer. Although this won't be experiencing the same loads as an upper receiver, it is still important to print strong parts. I recommend 3-4 shells on each part and an infill % between 40% and 70%. This is up to you – find a good balance between strength and weight.

See my detailed suggestions below, these are also listed in the previous table:

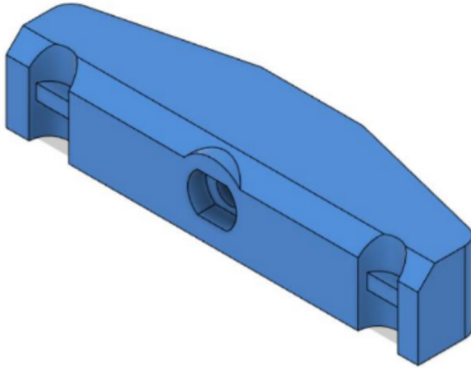


Part: Brace A
Material: PLA/PLA+
Layer Height: 0.2-0.3mm
Shells: 4-5
Infill: 50%
Support: YES

Part: Brace B
Material: PLA/PLA+
Layer Height: 0.2-0.3mm
Shells: 3-4
Infill: 50%
Support: YES



\\ PRINT ORIENTATION



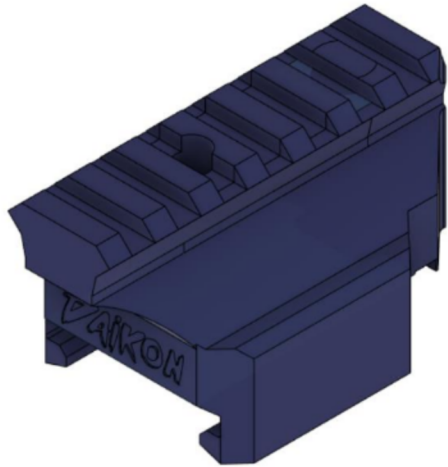
Part: Key
Material: PLA/PLA+
Layer Height: 0.2-0.3mm
Shells: 4-5
Infill: 75%
Support: NO

Part: Button
Material: PLA/PLA+
Layer Height: 0.2-0.3mm
Shells: 4-5
Infill: 75%
Support: NO



Part: Buttstock Pad
Material: TPU/PLA/PLA+
Layer Height: 0.2-0.3mm
Shells: 3-4
Infill: 40%
Support: NO

\\ PRINT ORIENTATION



Part: EVO Scorpion Sliding Stock Adapter

Material: PLA/PLA+

Layer Height: 0.2-0.3mm

Shells: 3-4

Infill: 60%

Support: YES

Part: Modular Endcap for TnG

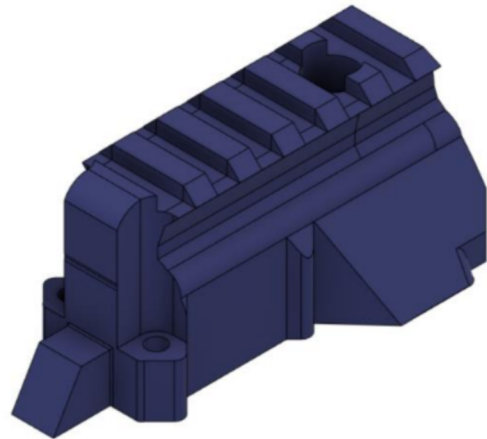
Material: PLA/PLA+

Layer Height: 0.2-0.3mm

Shells: 3-4

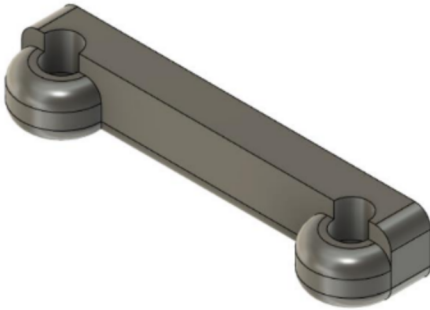
Infill: 60%

Support: NO



\\ PRINT ORIENTATION

I have also provided some tools that you may choose to print to help improve the construction quality of your stock.



Part: Rod End Stabilizing Jig

Material: PLA/PLA+

Layer Height: 0.2-0.3mm

Shells: 2-3

Infill: 30%

Support: NO

Part: Stabilizing Spacer

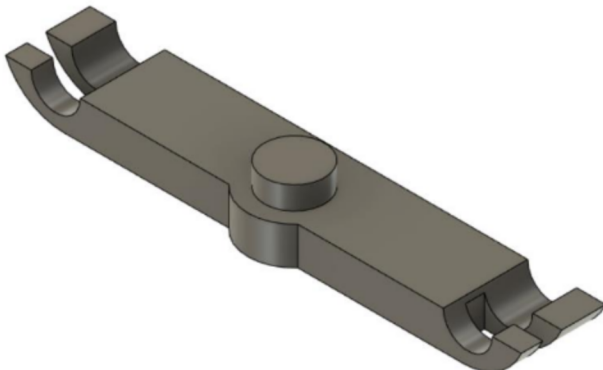
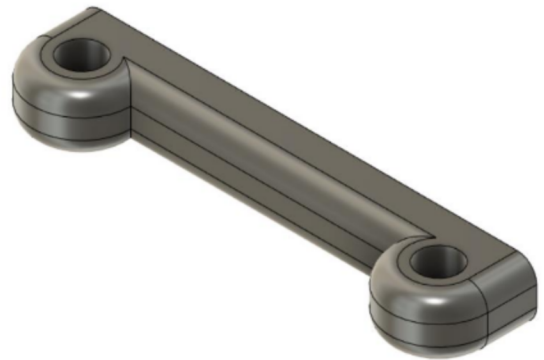
Material: PLA/PLA+

Layer Height: 0.2-0.3mm

Shells: 2-3

Infill: 30%

Support: NO



Part: Marking Guide

Material: PLA/PLA+

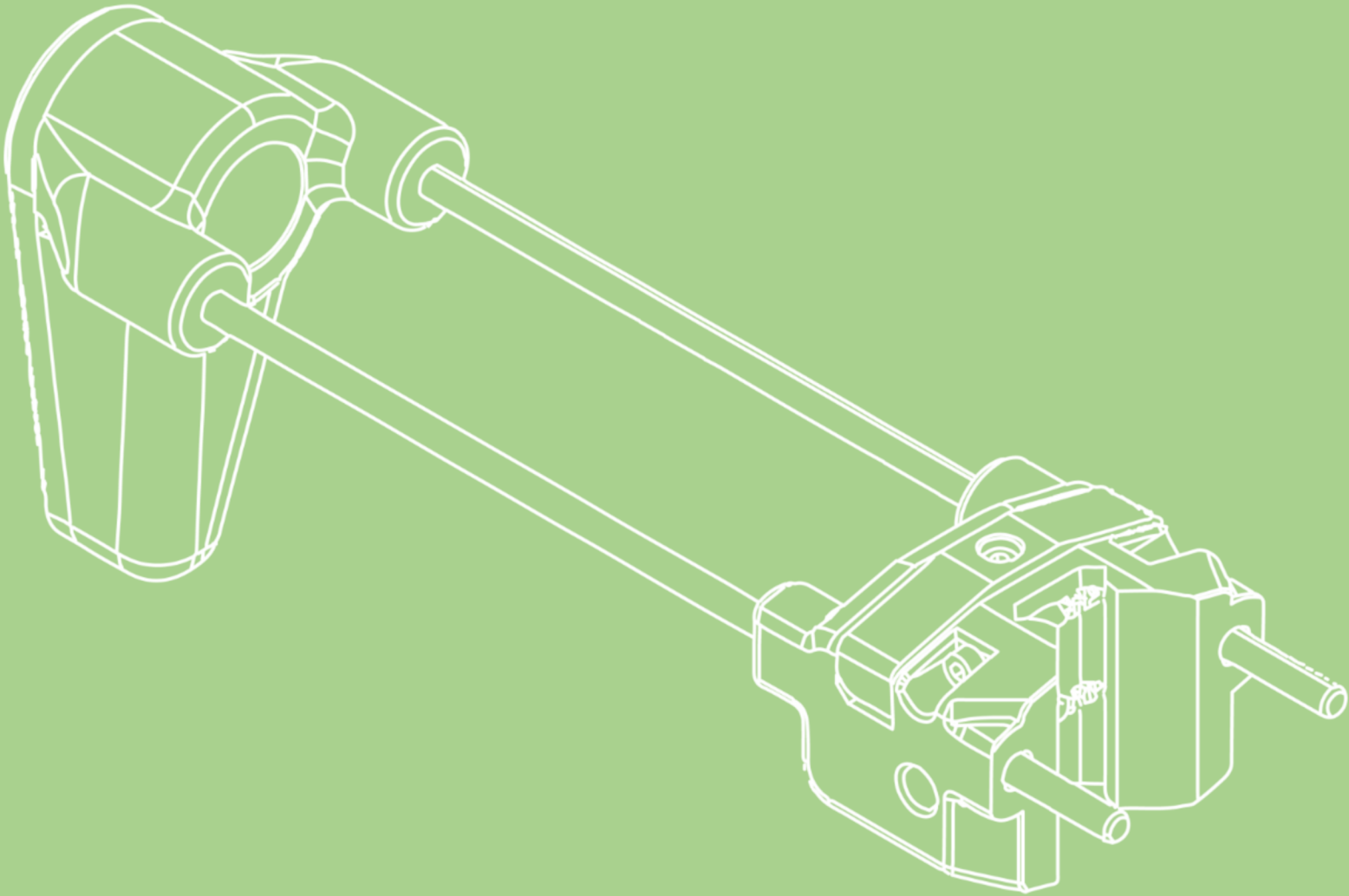
Layer Height: 0.2-0.3mm

Shells: 2-3

Infill: 30%

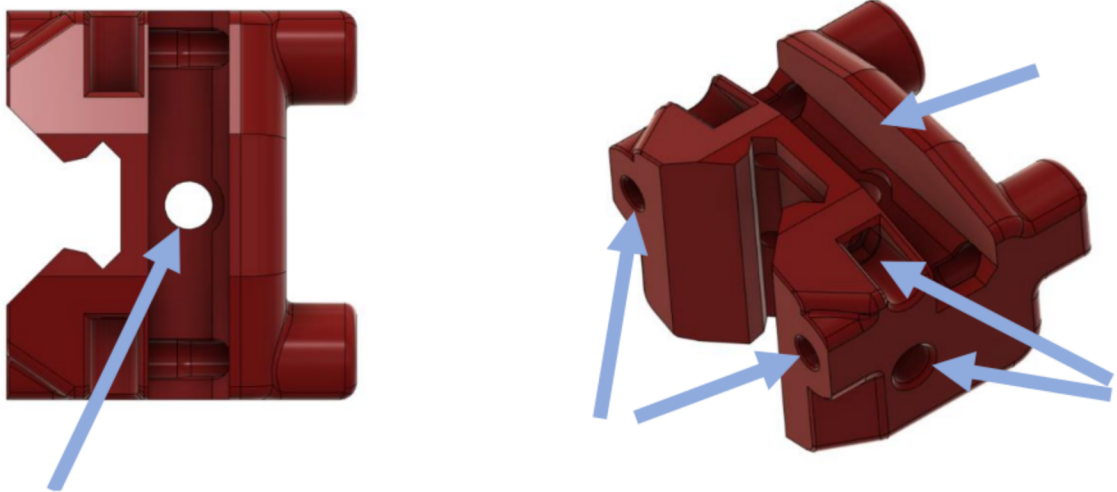
Support: YES

Assembly

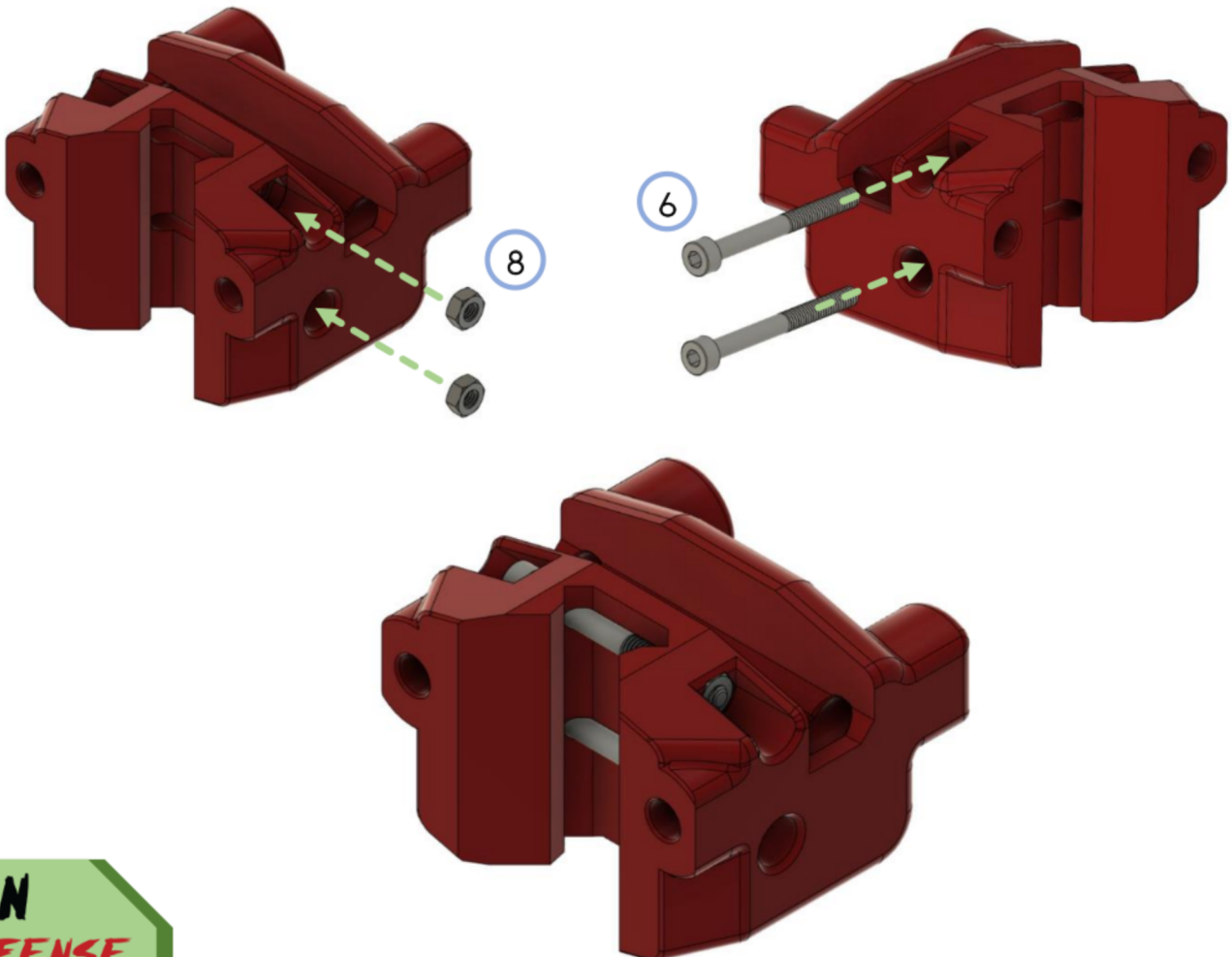


PREPARATION


1. - After printing, remove support material if needed. There are several places that may require additional attention. These areas are marked with blue arrows.



2. - Place the M4 nuts into their receptacles - they should easily press fit in.
- Follow up by fastening in the M4 bolts into the nuts to ensure they are properly seated.
- **These bolts can remain in place until the stock is ready to be mounted to the device of your choosing.**

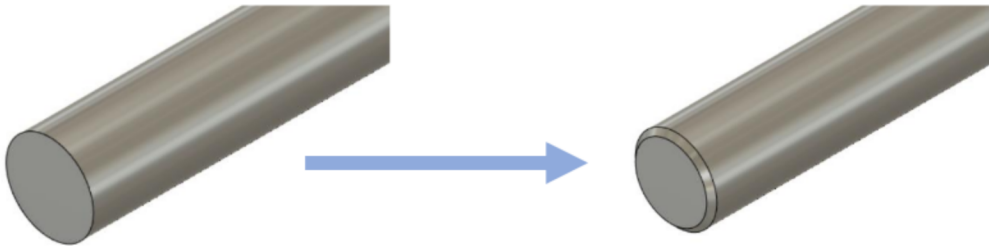


ROD ASSEMBLY

3.  **NOTE:** This step only needs to be followed if you are choosing to use carbon fiber rods. Otherwise skip to step 5.



- The carbon fiber rods are a composite structure, made of an outer carbon tube with an inner core of stainless steel. Start by filing the edges of the M4 stock. And testing to see if it fits into the carbon fiber tube.




- Due to the natural variance in the inner diameter of the carbon fiber tubes, if the stainless-steel reinforcement rod is not easily inserted, use a scotch-brite to sand the entire length of the rod until it fits. Putting it into an electric drill and sanding while on a low speed. Scuffing the surface will also help with epoxy bonding.

4.

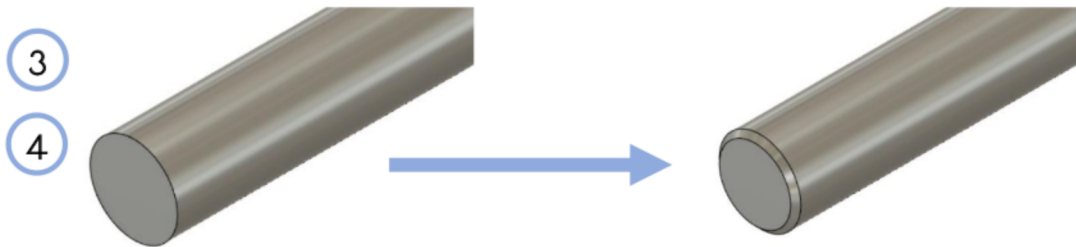


- Brush a layer of slow cure epoxy on the stainless steel and press into the carbon fiber tube so the ends are flush. **Let cure for 24 hours.** If the stainless-steel rod is slightly longer it can be filed down after curing

ROD ASSEMBLY

5.  **NOTE:** This step only needs to be followed if you are choosing to use 6mm or ¼" stainless steel rods. Otherwise, go back to step 3 for carbon fiber rods, or to step 6 to continue construction.

- To reduce sharp edges and allow smooth motion through the body, file down the edges of the steel rods if necessary.

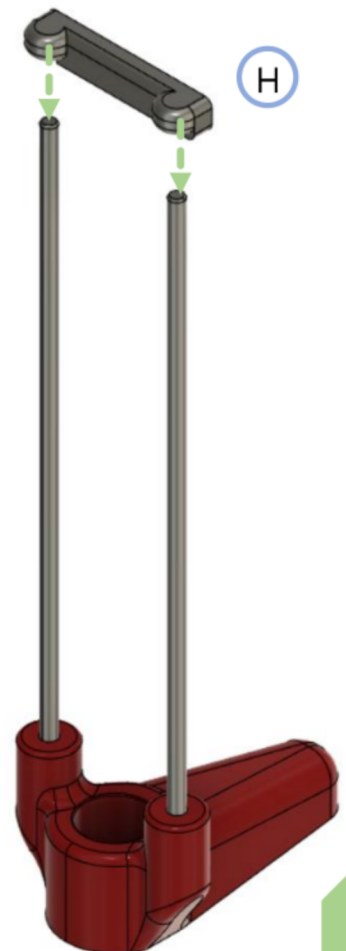
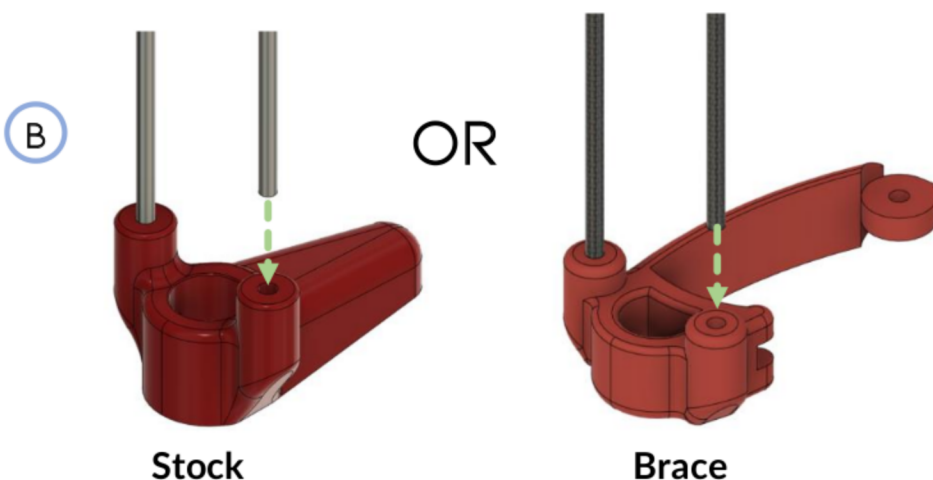


6. This step is the same for both carbon fiber and stainless steel.

- Test fit the rods into the holes in the tail – but, **DO NOT FORCE** – If you do, you might not be able to remove them without destroying the tail- and we don't want that....

- Sand or drill out the holes until there is only a slight resistance of the rods into the tail, without wobble. If they seem overly tight or loose, double check that you printed the right version. The same process is used for both the stock or brace version.

- Drop some slow cure epoxy into the holes in the tail and press in the rods. Place the end stabilizing jig on the rods and set the tail upright. **Let cure for 24 hours.**

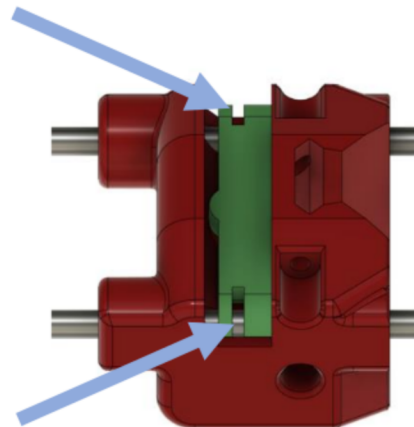
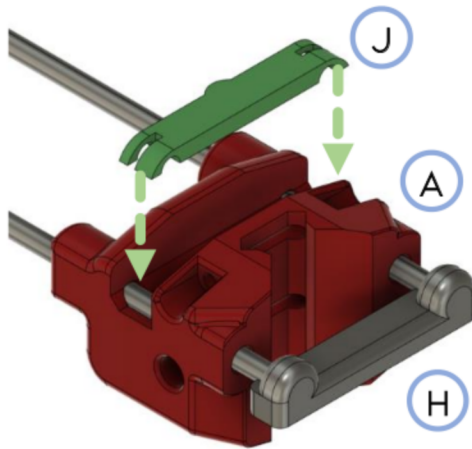


LOCKING SLOTS

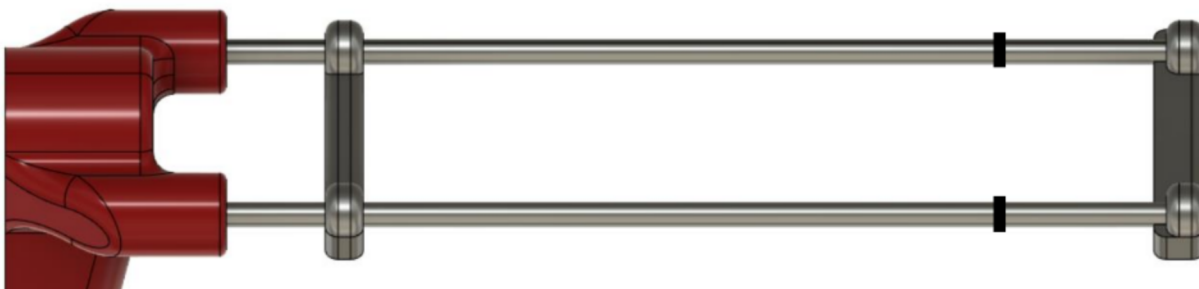
7. - After the rods have fully cured in the tail, remove the end stabilizer and place the alignment spacer jig on the rod, then slide the body, and then the end stabilizer to help steady the assembly. See figure below:



- Place the body in the location you would like the OPEN position to be, as there is a marking jig that rests inside the lock body.



- Use a pencil, or permanent marker (black or silver), to mark the rods through the slit openings of the jig. This allows you to move the body according to where you want the stock's locked open position to be. After making clear marks, remove the body and replace the end cap.



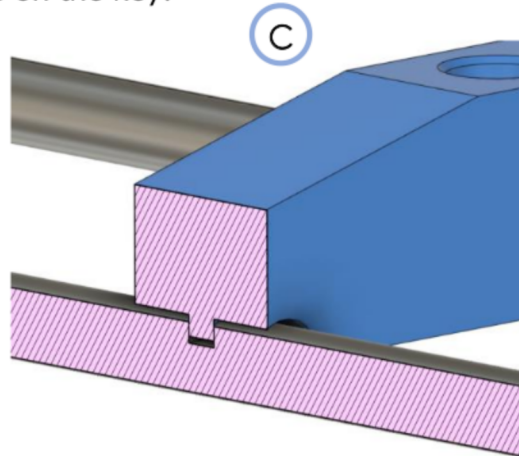
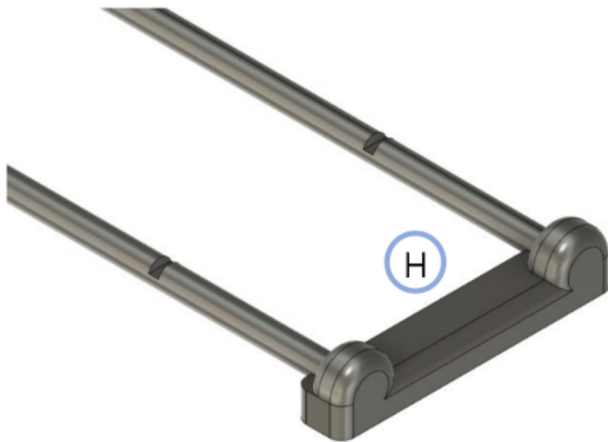
LOCKING SLOTS

8. File notches into the rods.



NOTE: This step is the same for both carbon fiber and stainless steel. **However, carbon fiber dust can be extremely hazardous to both your lungs and electronic devices, so keep the area you are filing wet to contain the dust.**

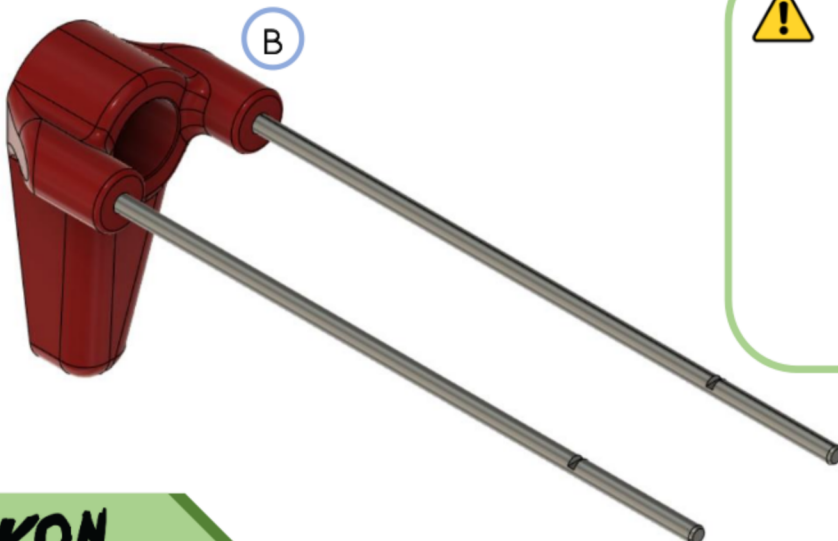
- It is essential the slots are formed in the same spot on each rod, which is why the marking jig was used in the previous step.
- The two stabilizing jigs both have a flat surface on the bottom which allows you to hold the stock to a flat worksurface while you work. My preferred method is to use a narrow metal file and slowly file out the notch, so it matches square feature on the key.



- To confirm, use the key to test that there is good contact with the two parts.

DO NOT FILE A SLANT INTO THE NOTCH, KEEP THE EDGES AS STRAIGHT AS POSSIBLE.

If you add a slant, the hold will be significantly reduced.



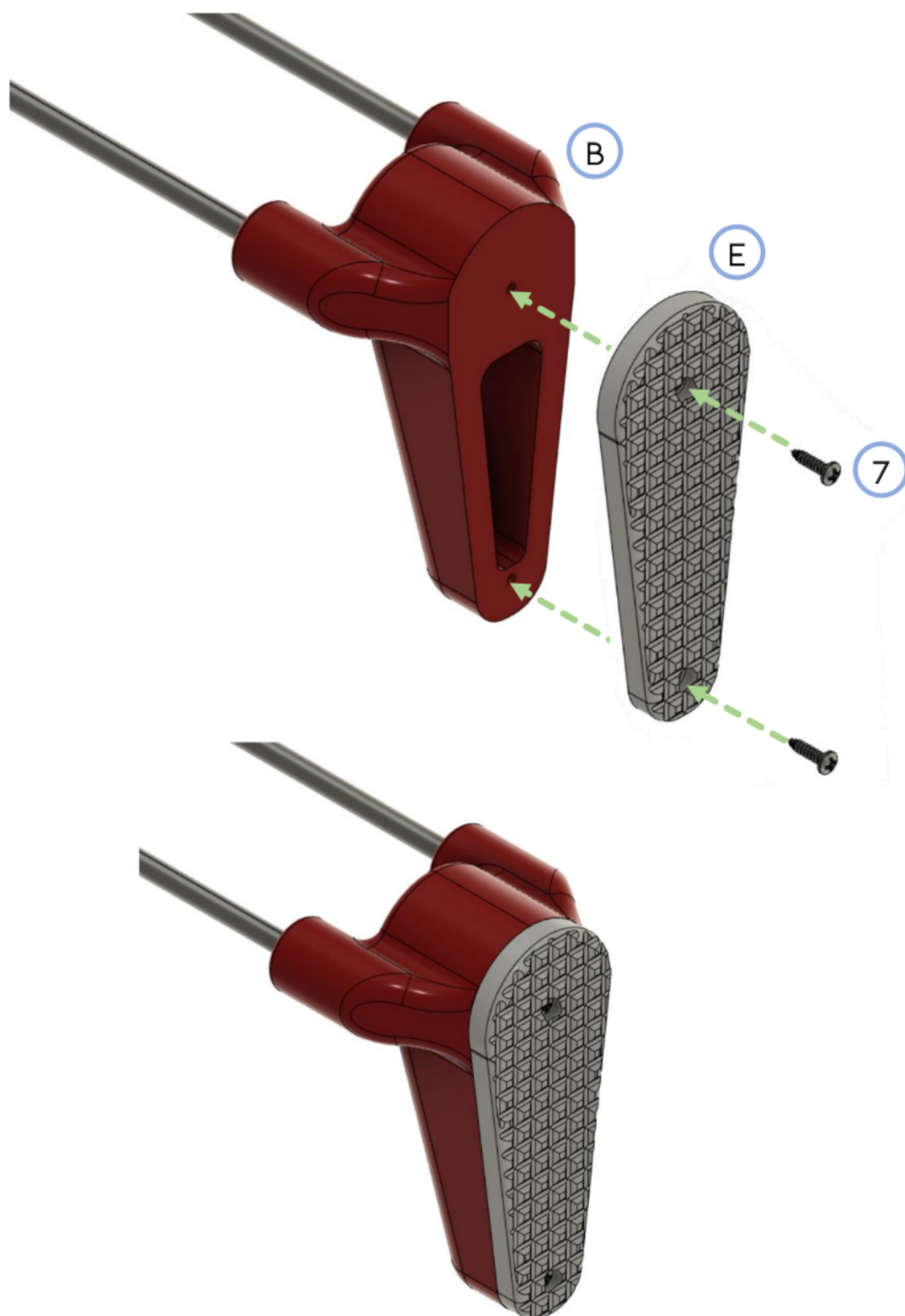
If you want to use the sliding stock for the Thump n Grind, file the slots as shown here. If you want to attach the stock to the EVO Scorpion the notches must but cut on the bottom side of the rods following the same procedure. (See step 15 & 17)



FINISHING THE TAIL

9A. -Now the TPU pad can be added to the back of the tail

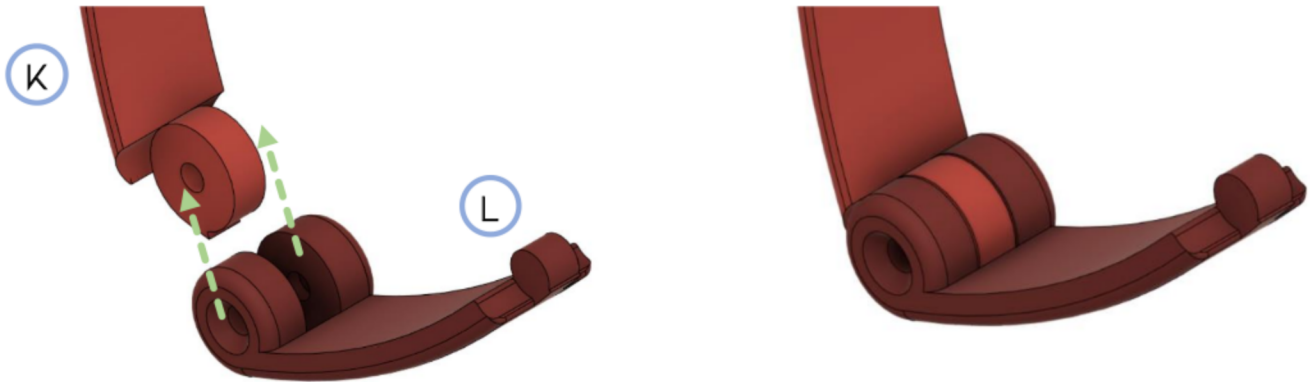
- Using the small machine screws, attach the pad to the tail. You may need to open up the pilot holes slightly, but not too much because the screws need plastic to bite into. These screws should be self tapping, so do not over tighten.



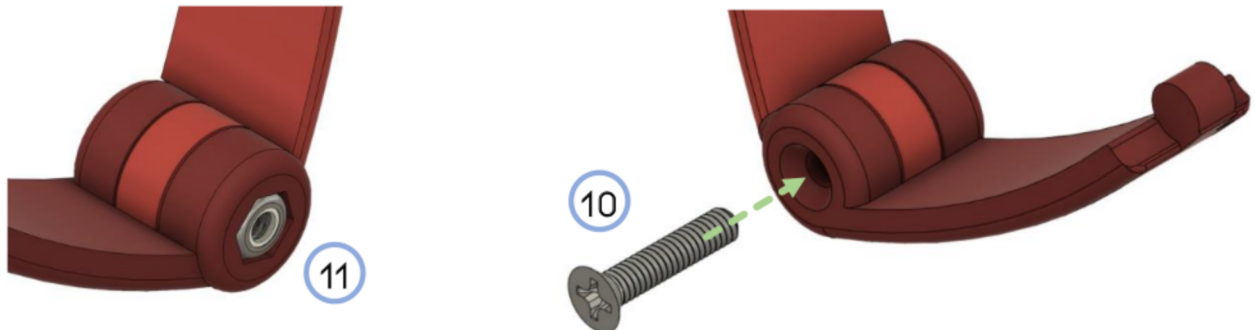
FINISHING THE TAIL

9B. -Now the brace can be assembled

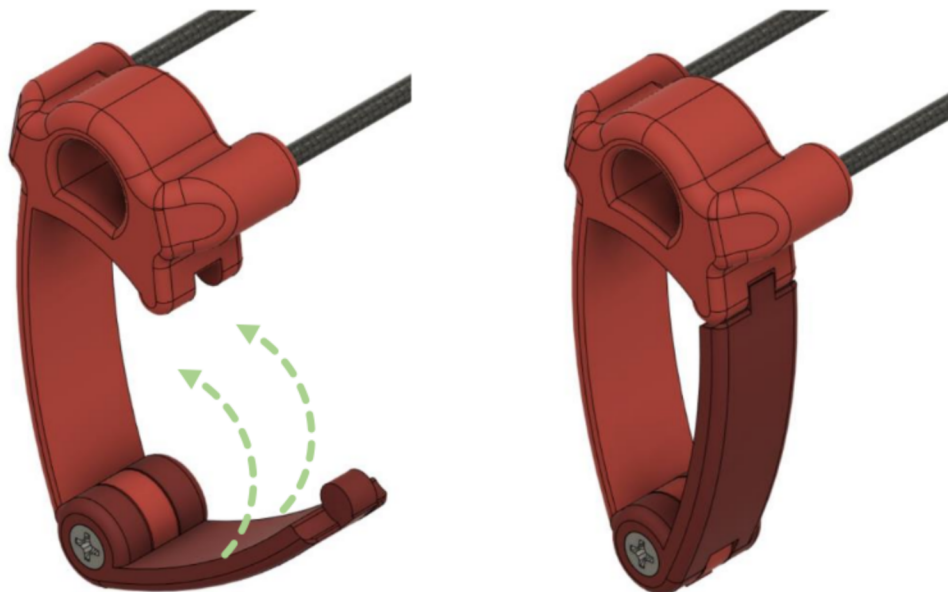
- Using a flathead screw and nylon lock washer, place the arm of the brace into the hinge and secure. Small amounts of sanding may be needed on the hinge and/or the locking clip. There should be a moderate amount of tension so that the arm holds its position.



The flat head screw should sit flush on the brace, and the nut will fit into the pocket. Ensure that the screw makes contact into the nylon retention ring



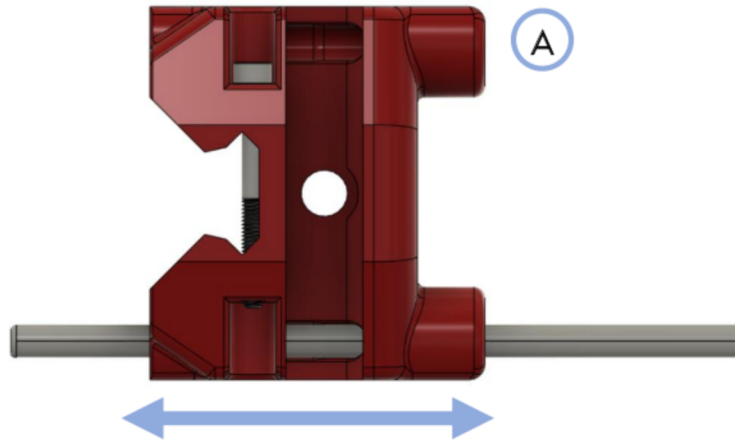
Once the screw is tightened, fold up brace and lock arm into the latch by pressing it in. You may need to sand it slightly depending on your preferred retention force.



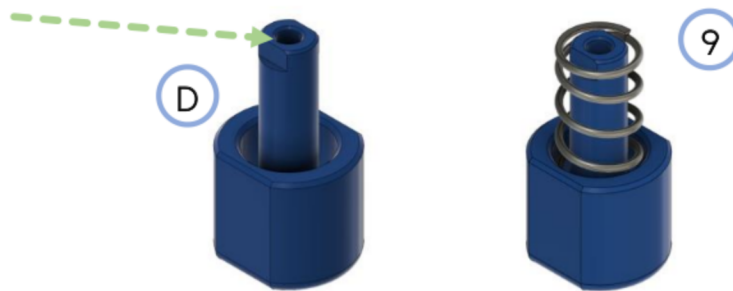
/// BODY ASSEMBLY

10. - Slide one of the rods through the holes in the main body before the lock is installed to ensure movement is smooth. If there is any resistance lightly sand the inside of the holes until there is a smooth motion of the rod along the entire stroke.

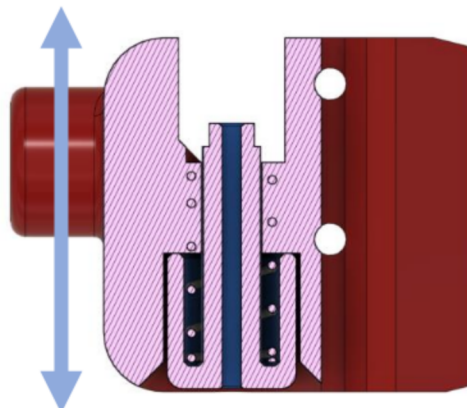
- There should be no need for lubrication. Follow the same procedure for both holes.



11. - It is optional but highly recommended to tap the hole of button shaft with an M4 thread, as it makes assembly of the locking mechanism significantly easier.



12. - You can test the locking mechanism in the body by placing the spring inside the button, placing the button into the hole and compressing the spring until the top of the shaft protrudes through the top of the body. There should be little to no resistance. If there is, remove the button and lightly sand the button shaft and the inside of the hole.

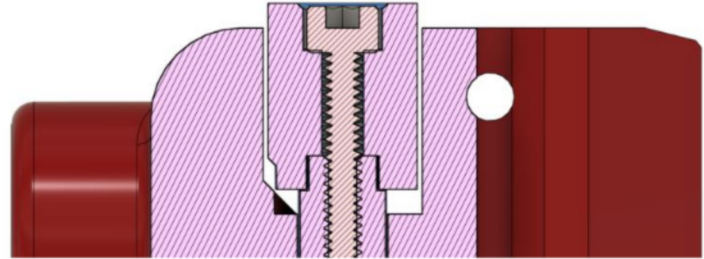
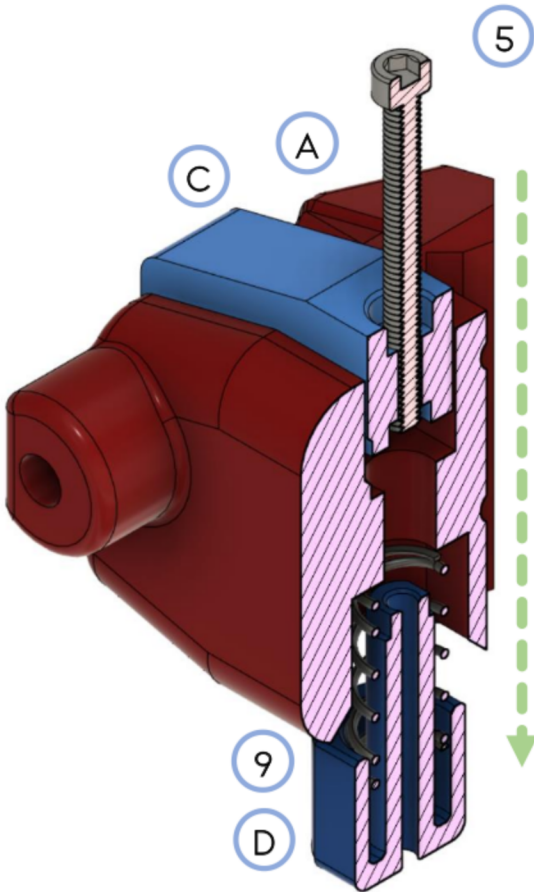


In actuality, the spring will collapse and provide the necessary downward force to the button and key

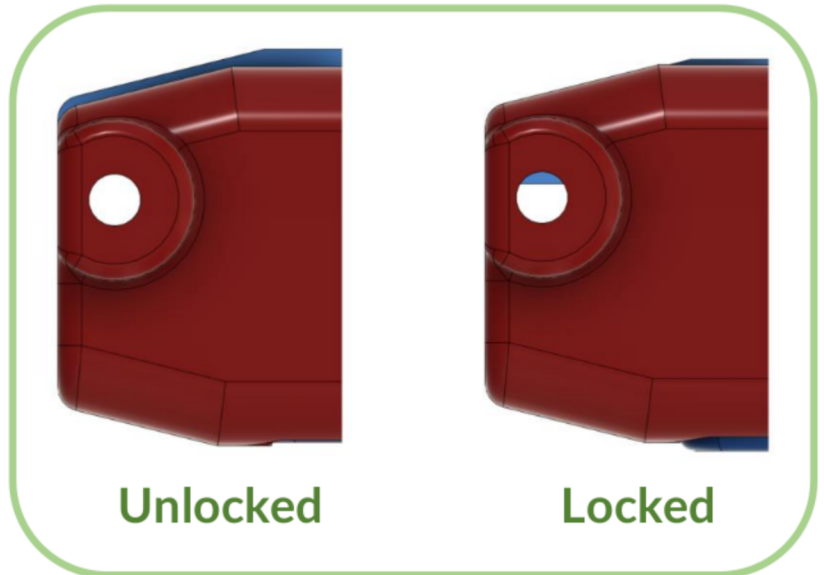
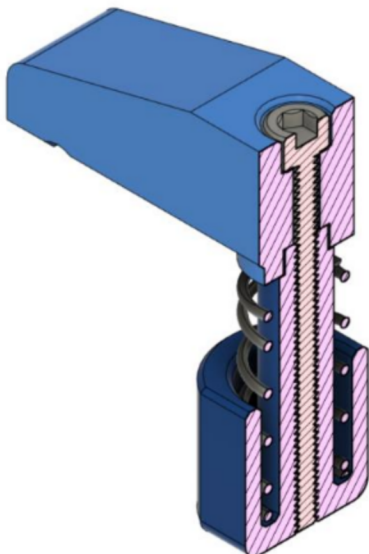
BODY ASSEMBLY

13. - At this time, you may notice 2 things about the key: 

1. The key can only be placed into the body one way
2. There is an interlocking feature to the button which stops rotation when being fastened together



- Place the key onto the button while compressing the spring into the lock body.
The parts will click together
- Now screw the parts together with the M4 x 25mm bolt until the two parts are solid. You should be able to compress the button and lift the key as a single unit.
- To confirm this - while looking through the rod holes in the body you should be able to see the locking mechanism lifting away to reveal a full circle. When you let go, you will see about 1/3 of the hole blocked by the key. The key will also sit flush with the body. If this is not the case disassembly and find what is blocking the full motion of the mechanism.

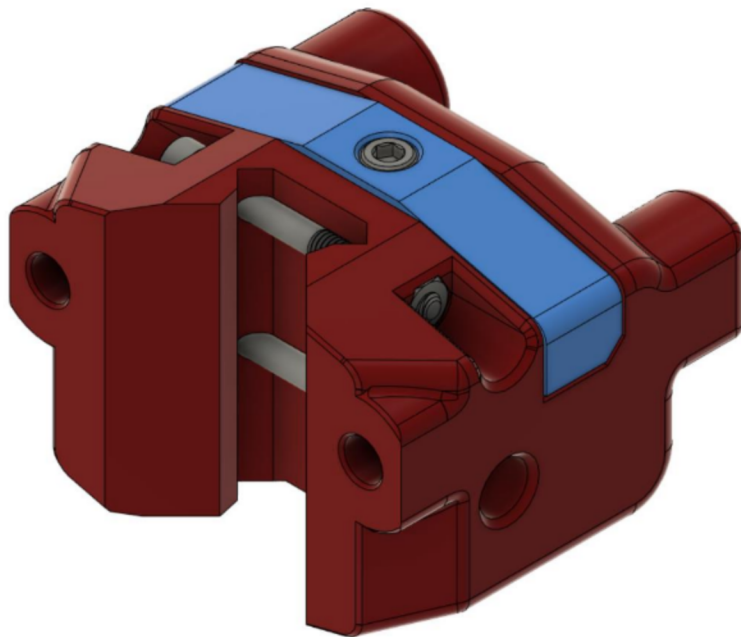
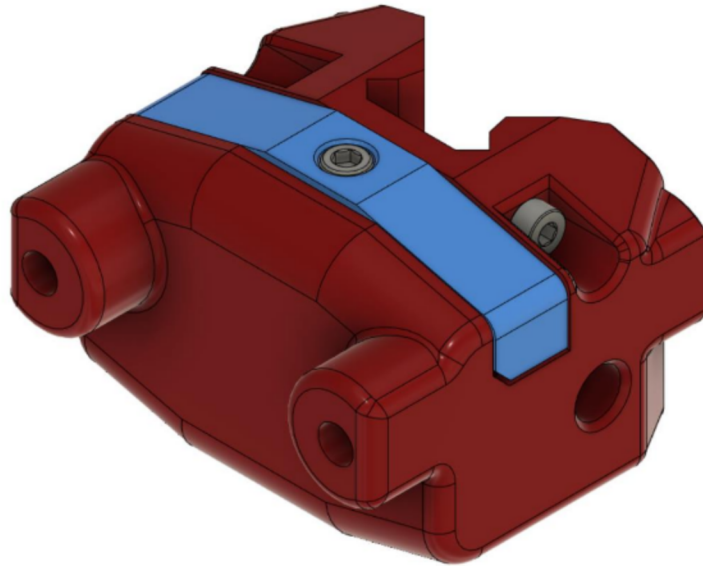


Unlocked

Locked

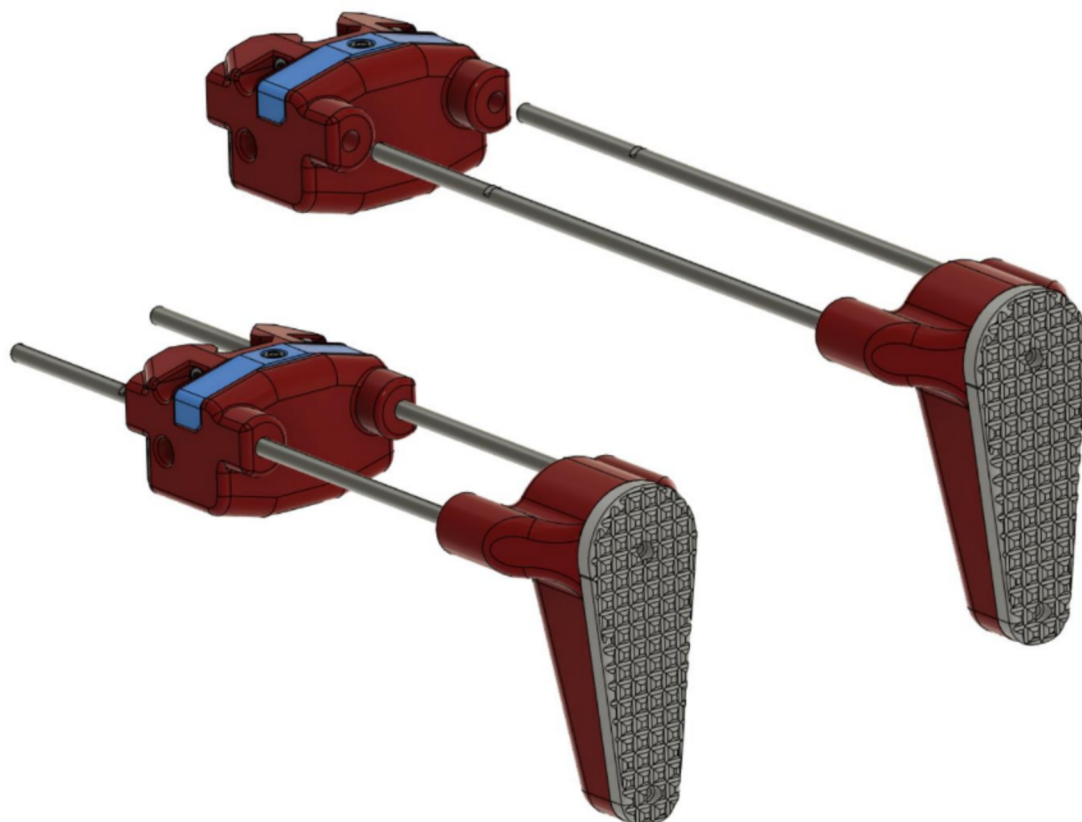
/// BODY ASSEMBLY

14. Congratulations! The body assembly is now complete. Set aside and proceed to the next step



/// BODY ASSEMBLY

15. Now the sliding tail can be inserted into the locking body. While pushing the button from the bottom insert the tail into the holes, making sure that the picatinny rail attachment faces away.

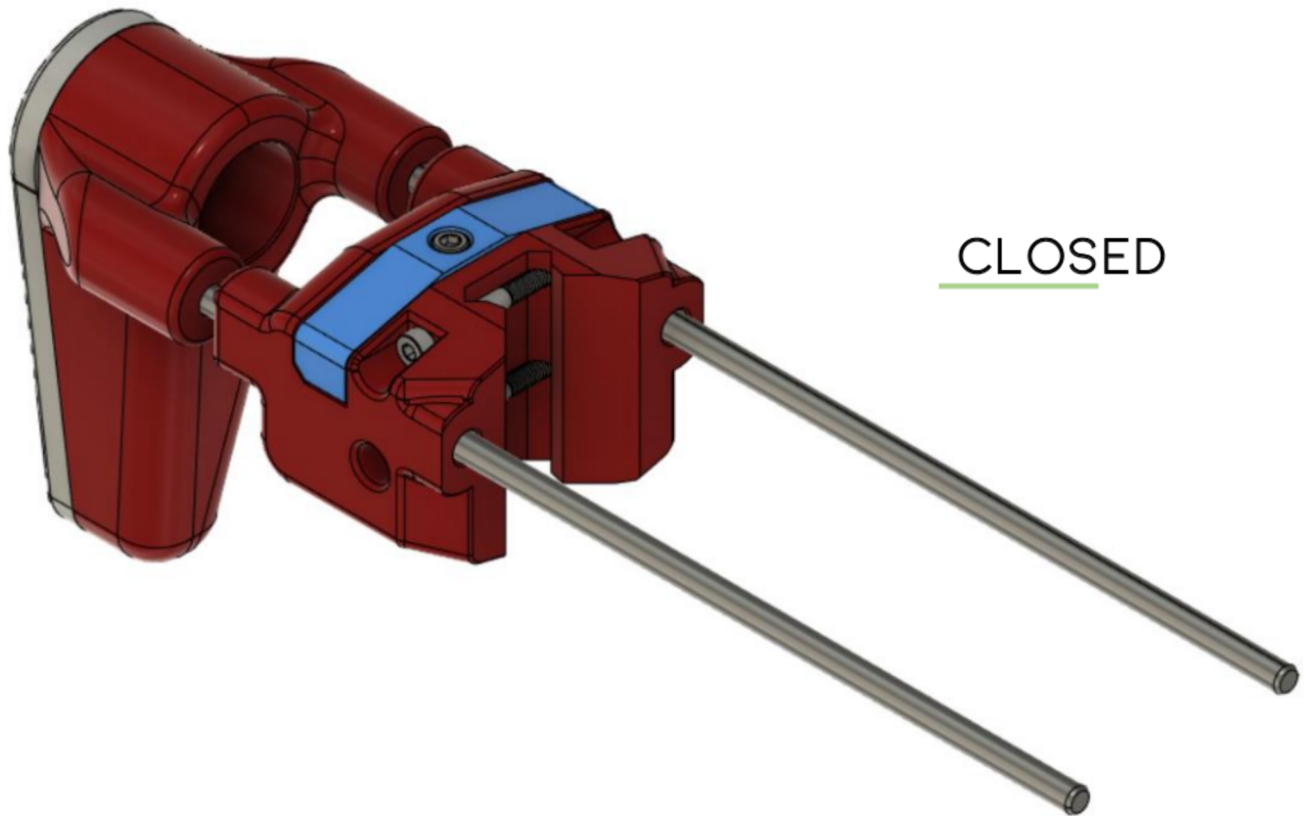


Note: To be compatible with the EVO Scorpion the body must be assembled so the button is on the top

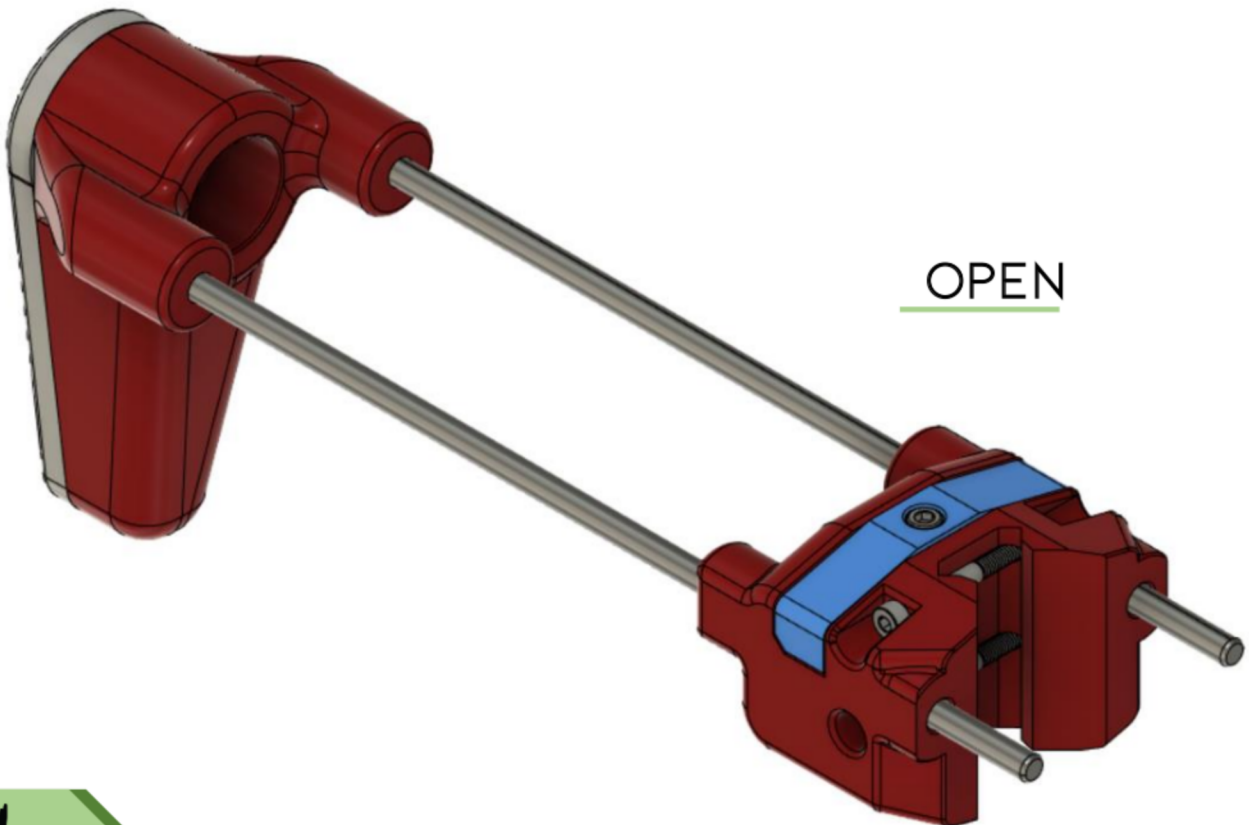


Congratulations! The sliding stock is now complete. It can now be attached to the device of your choosing

FINAL ASSEMBLY STOCK

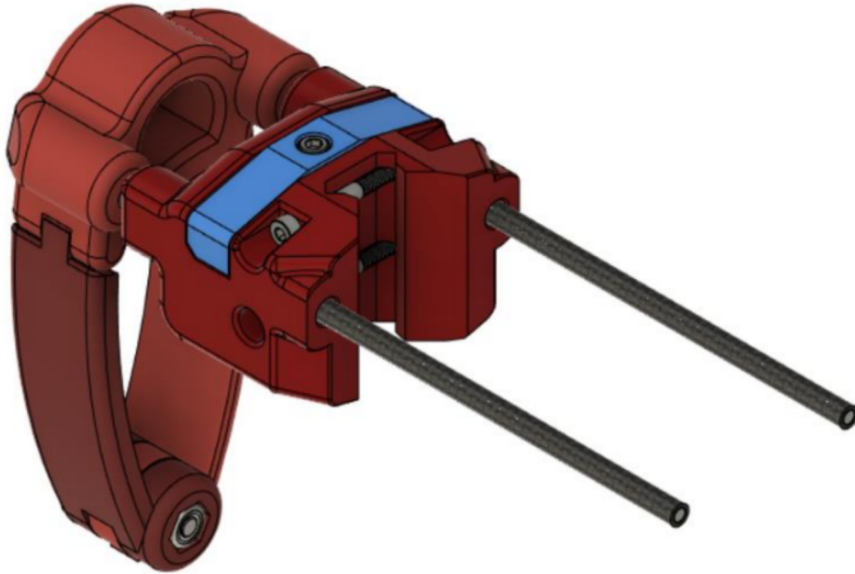


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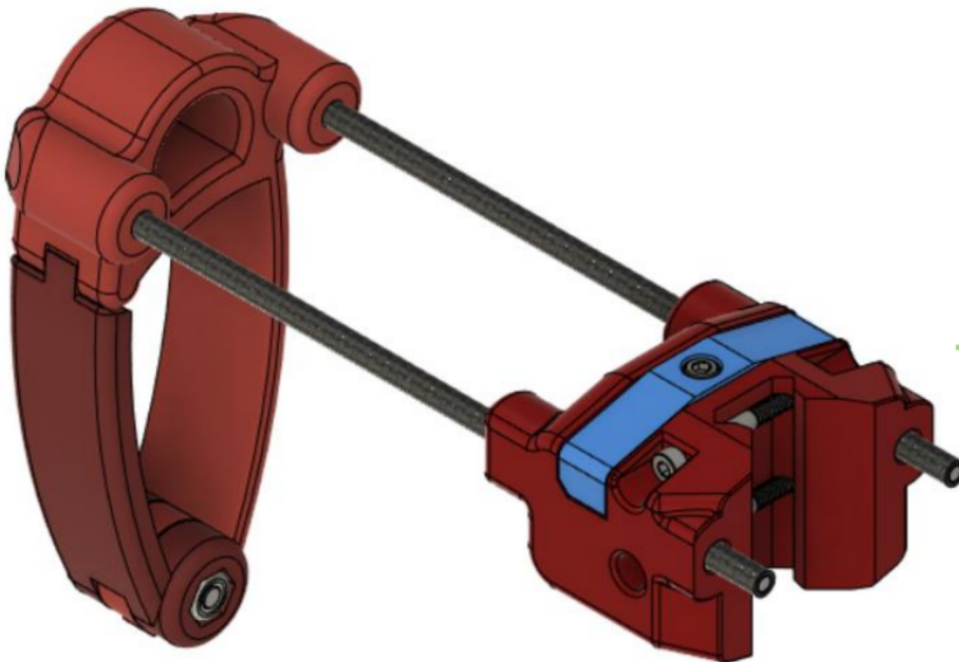


OPEN

FINAL ASSEMBLY BRACE



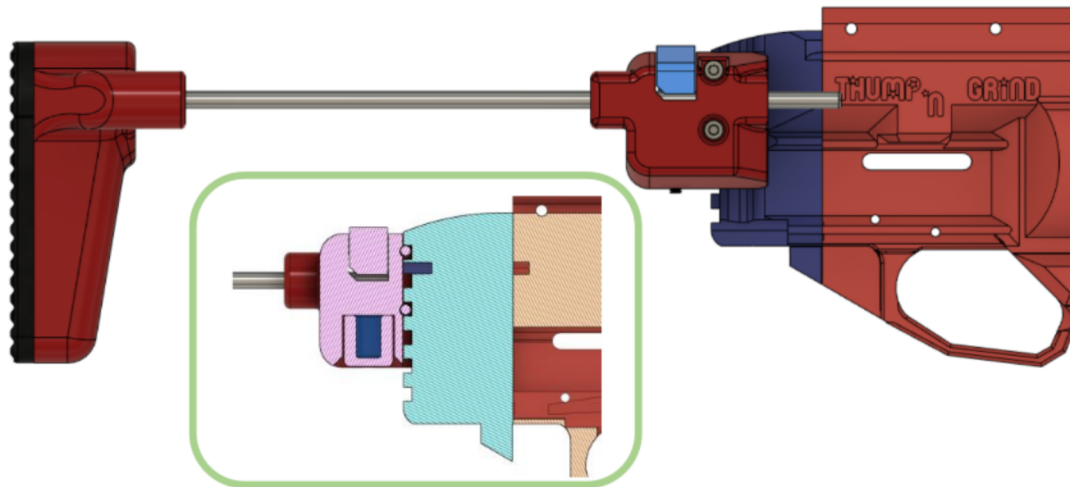
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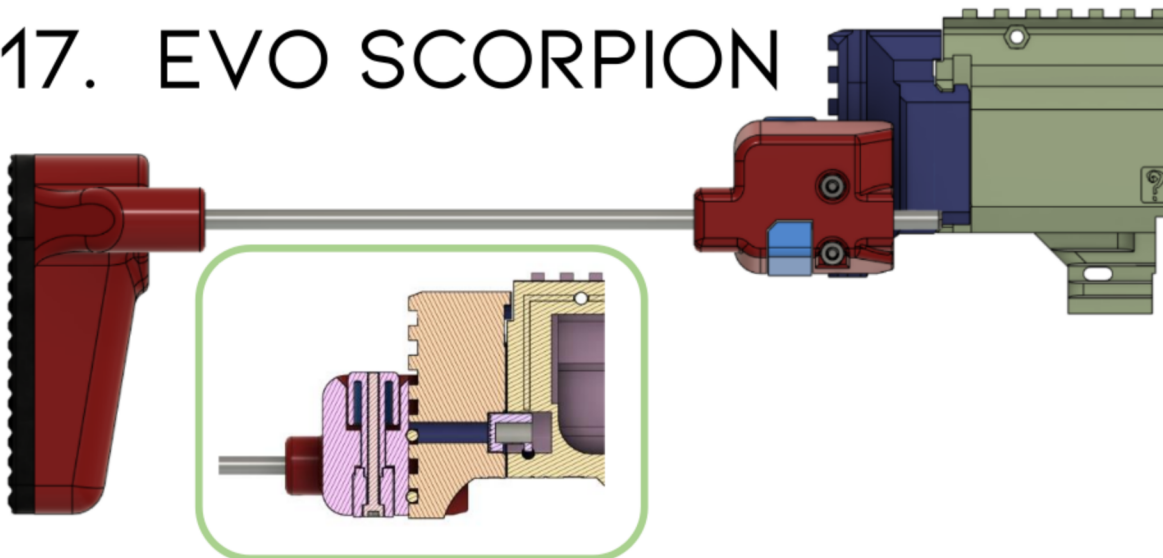
OPEN

/// ATTACHMENT

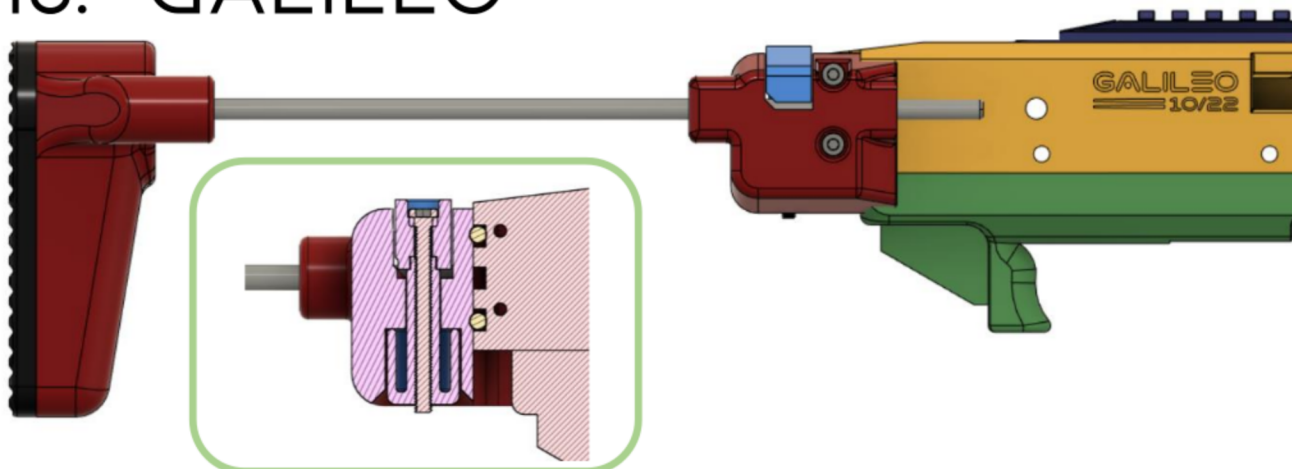
16. THUMP N GRIND



17. EVO SCORPION



18. GALILEO



Special Thanks

Daikon
Mussy
Dogenado
V8vtwin
Mathematics
40ozOE
Fastfreddy20

Hardware kits available for sale at:
www.DaikonDefense.com



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*A well-regulated Militia, being necessary to the security of a free State,
the right of the people to keep and bear Arms shall not be infringed.*