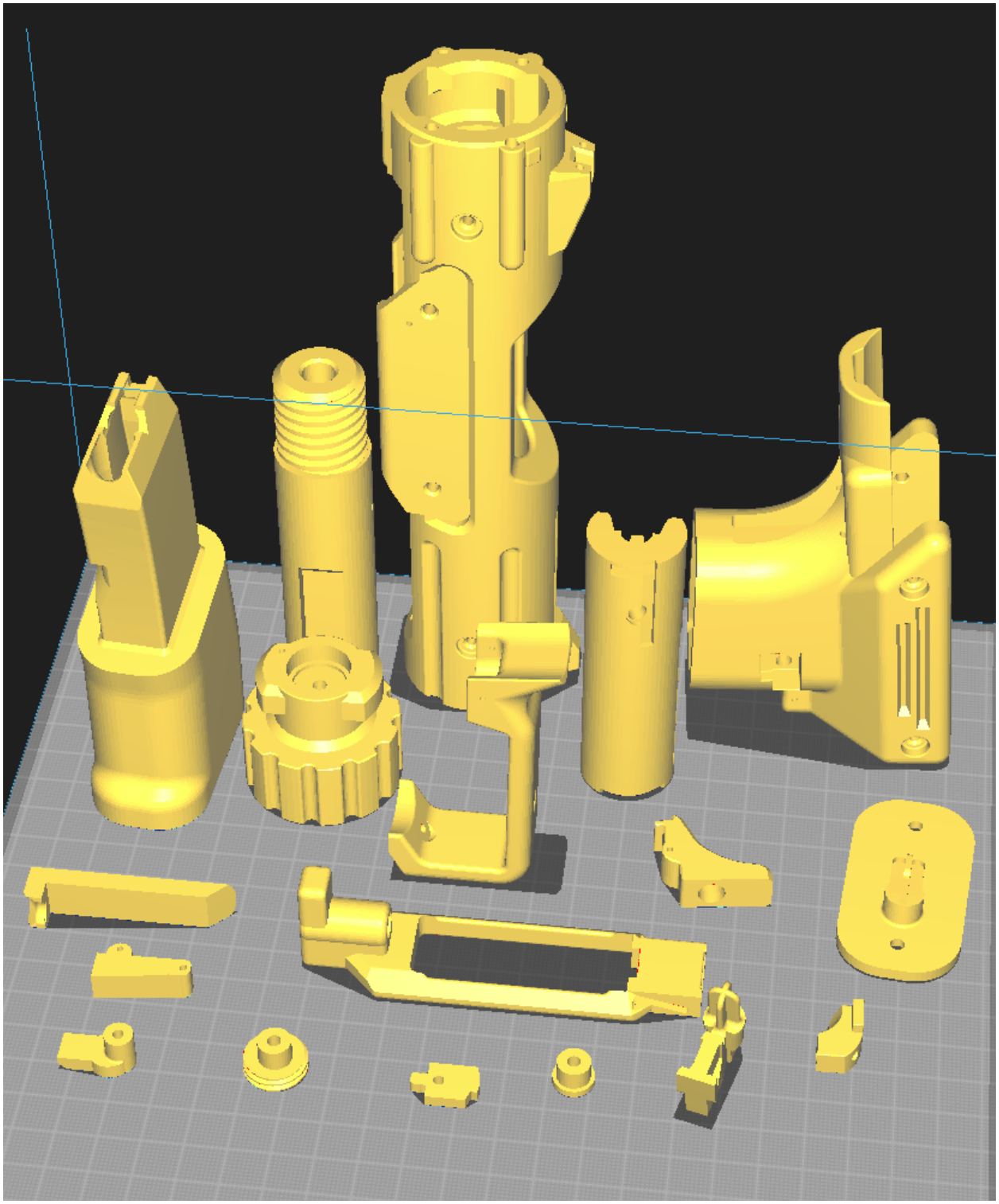
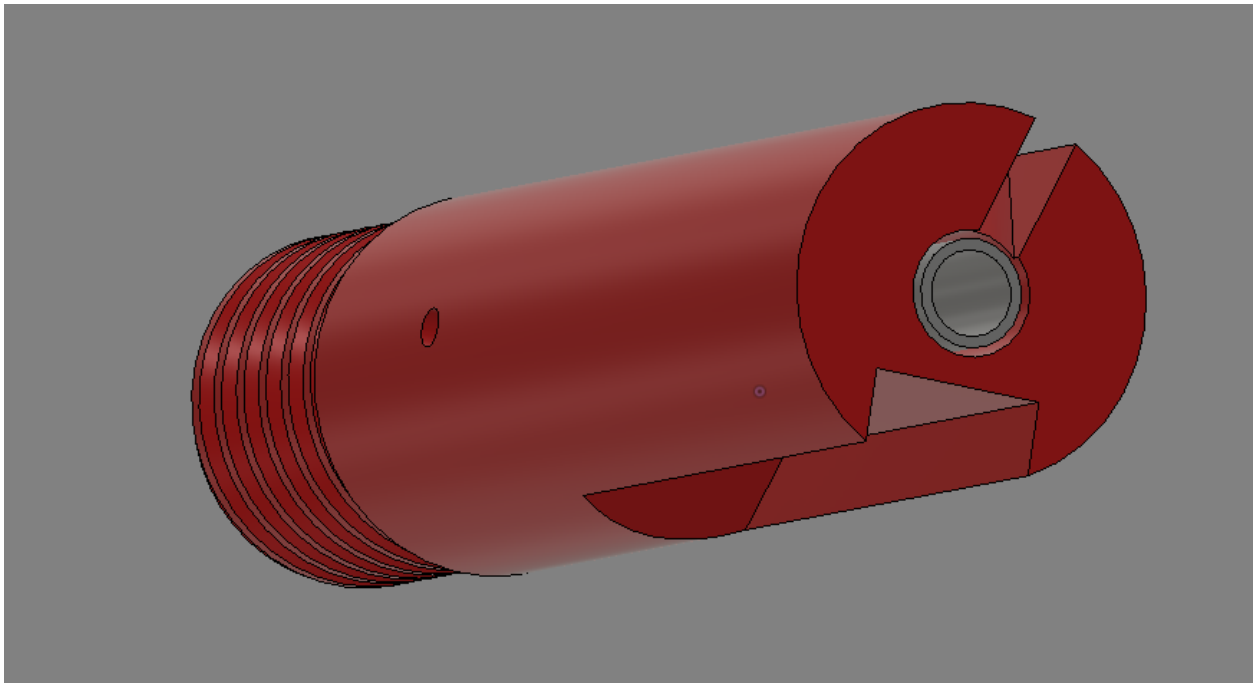
rough draft

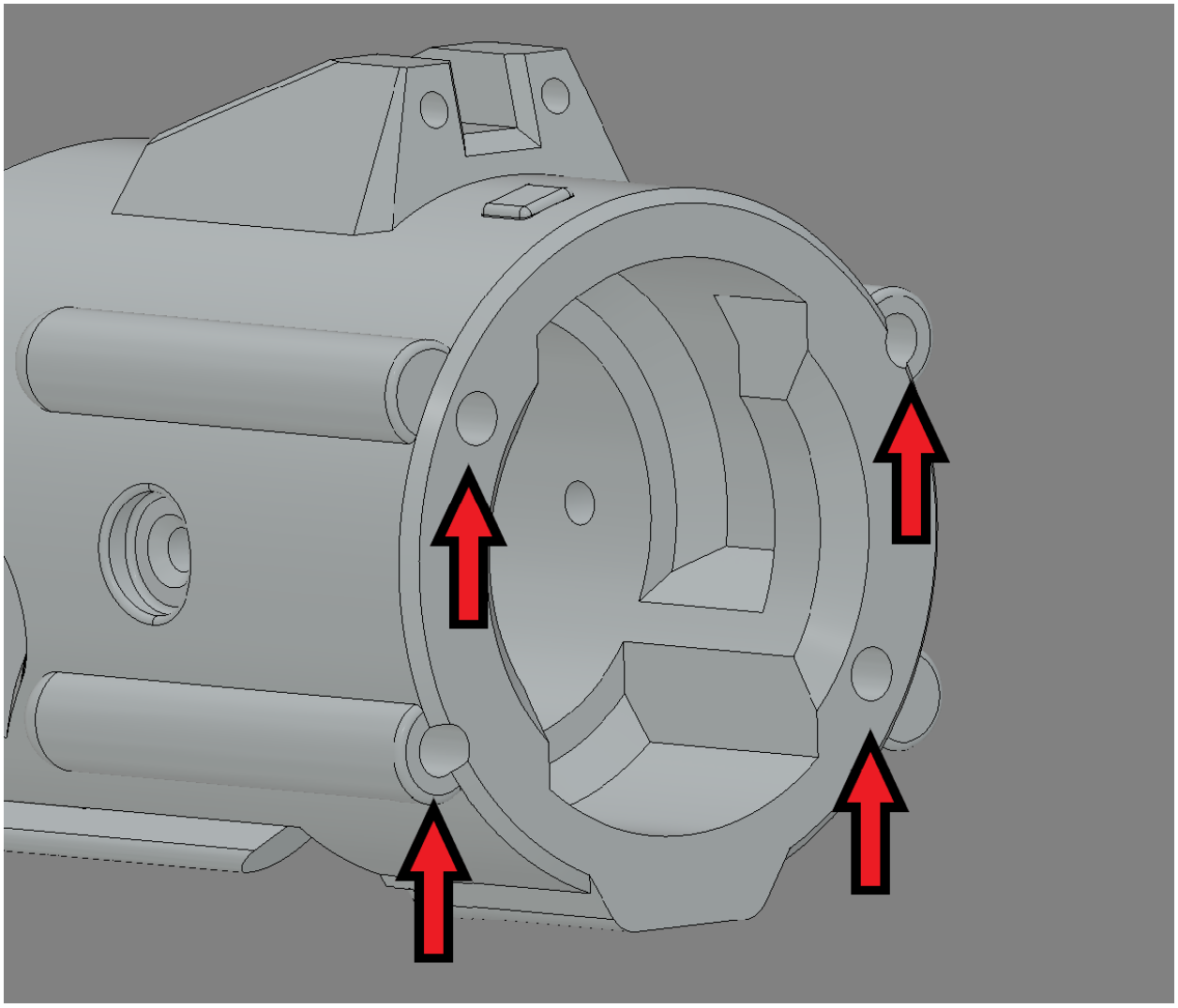
print all items



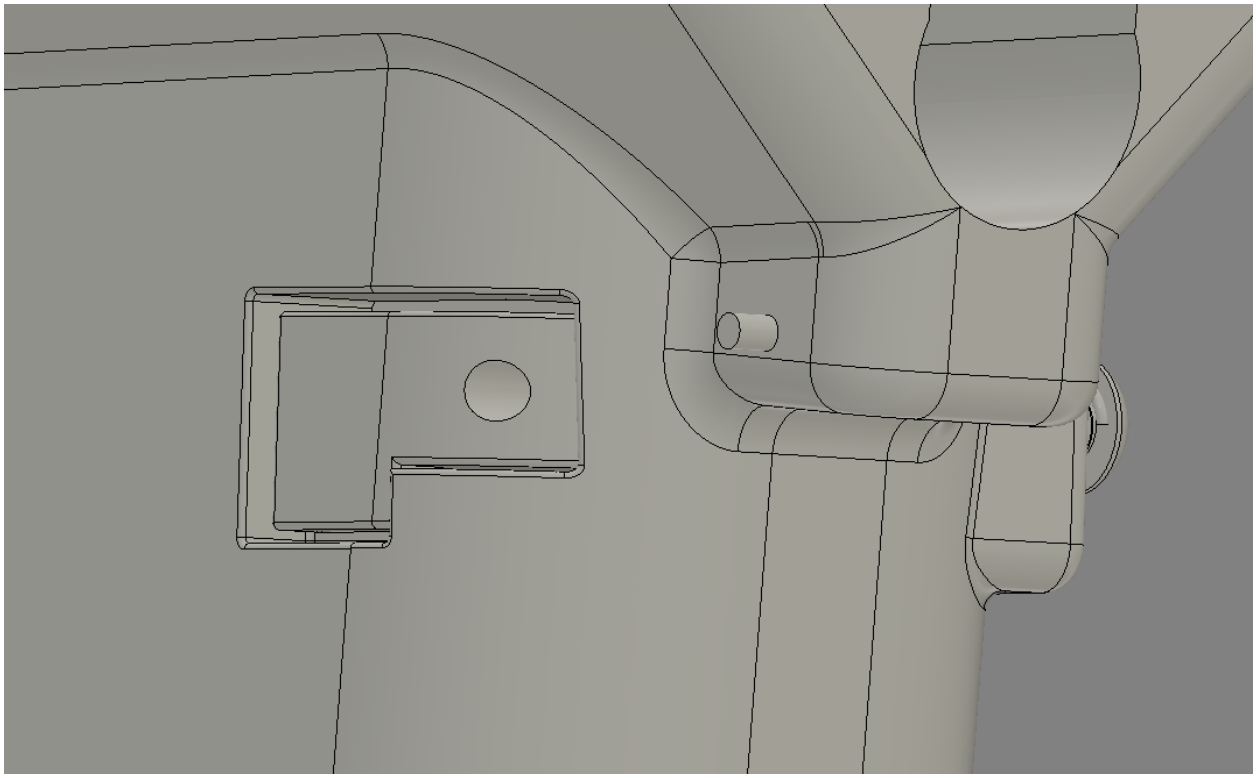
jb weld liner into barrel, let cure for 24 hours

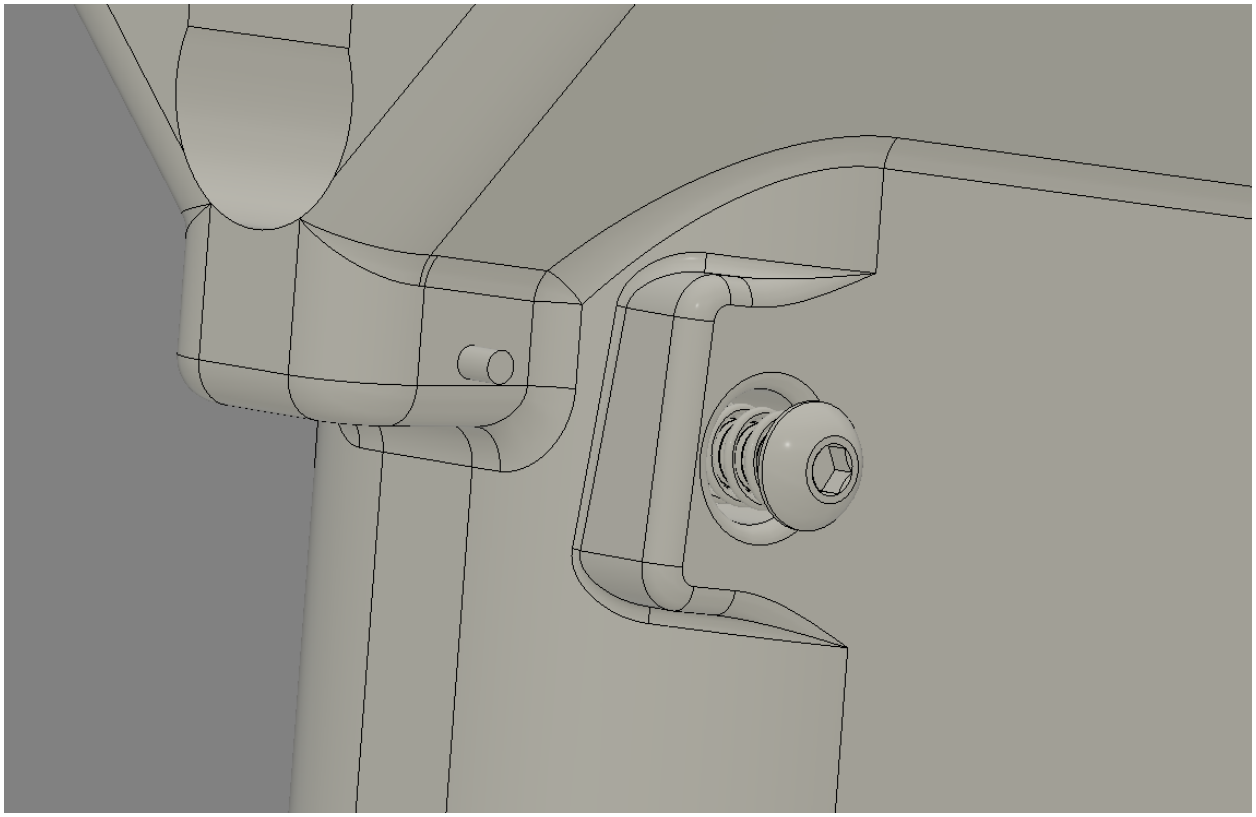


Jb weld 4 m3x30 with caps cut off into the rear of the upper let cure for 24 hours

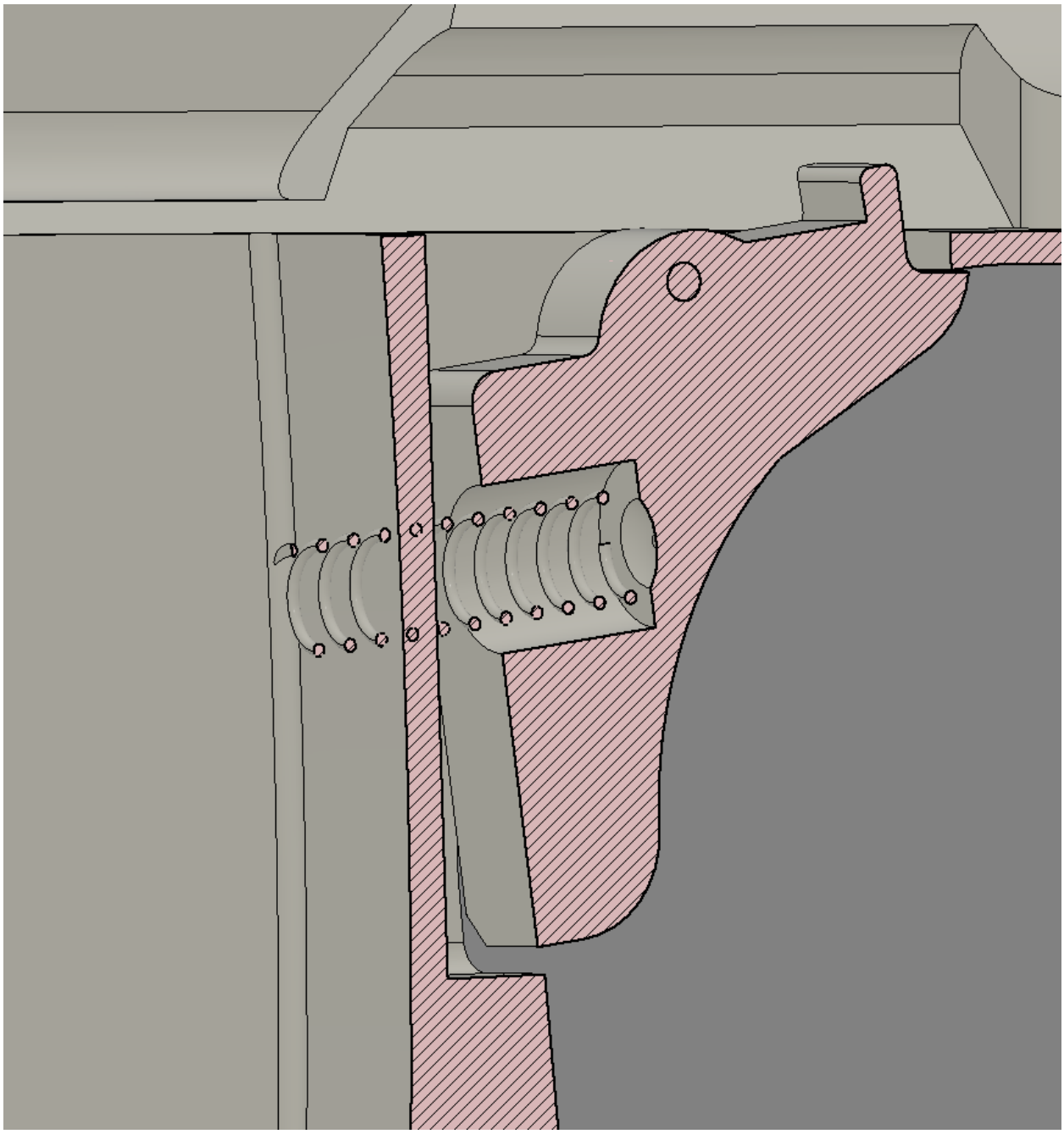


start with lower, insert magazine catch, secure with m3x30 with a spring under the screw

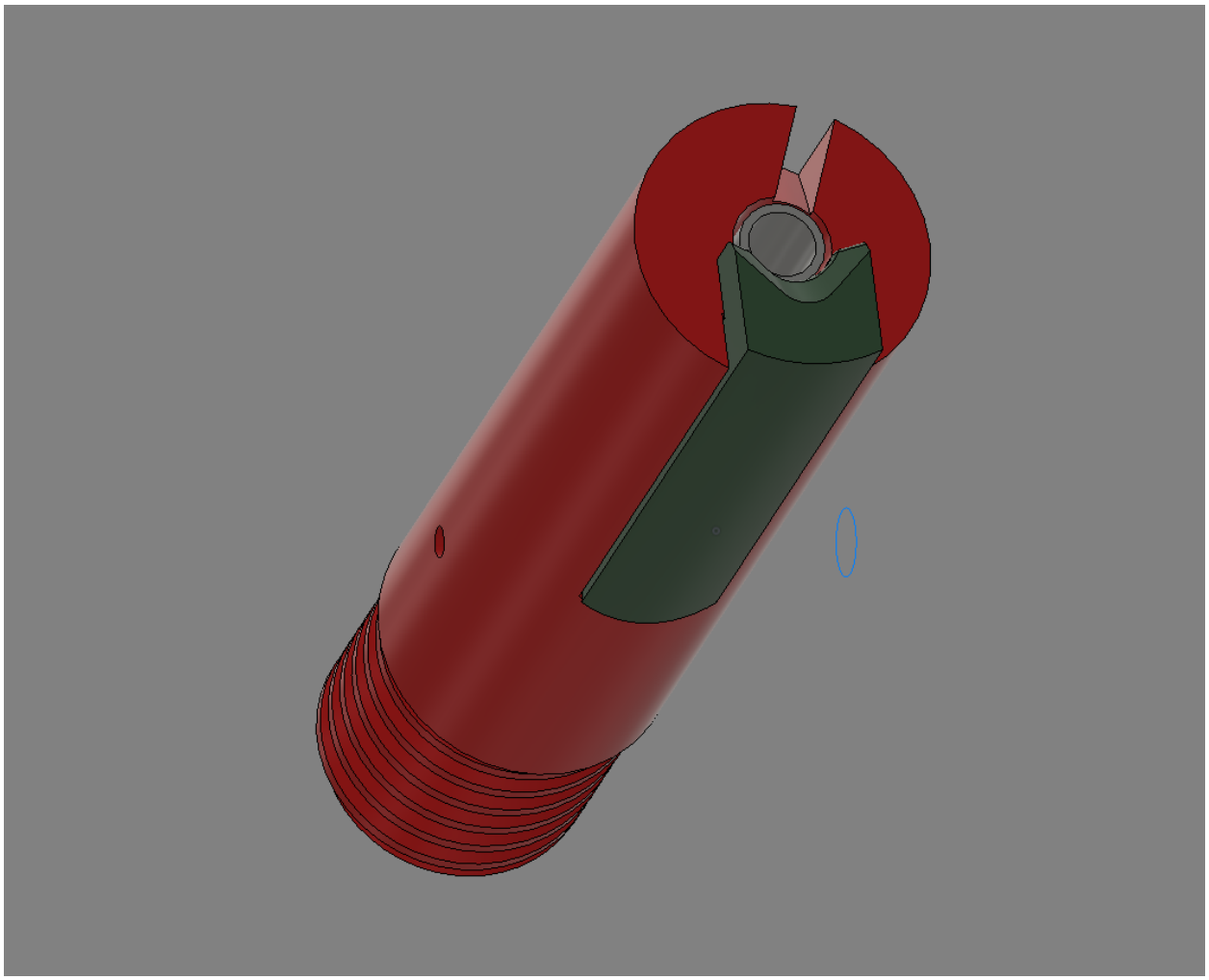




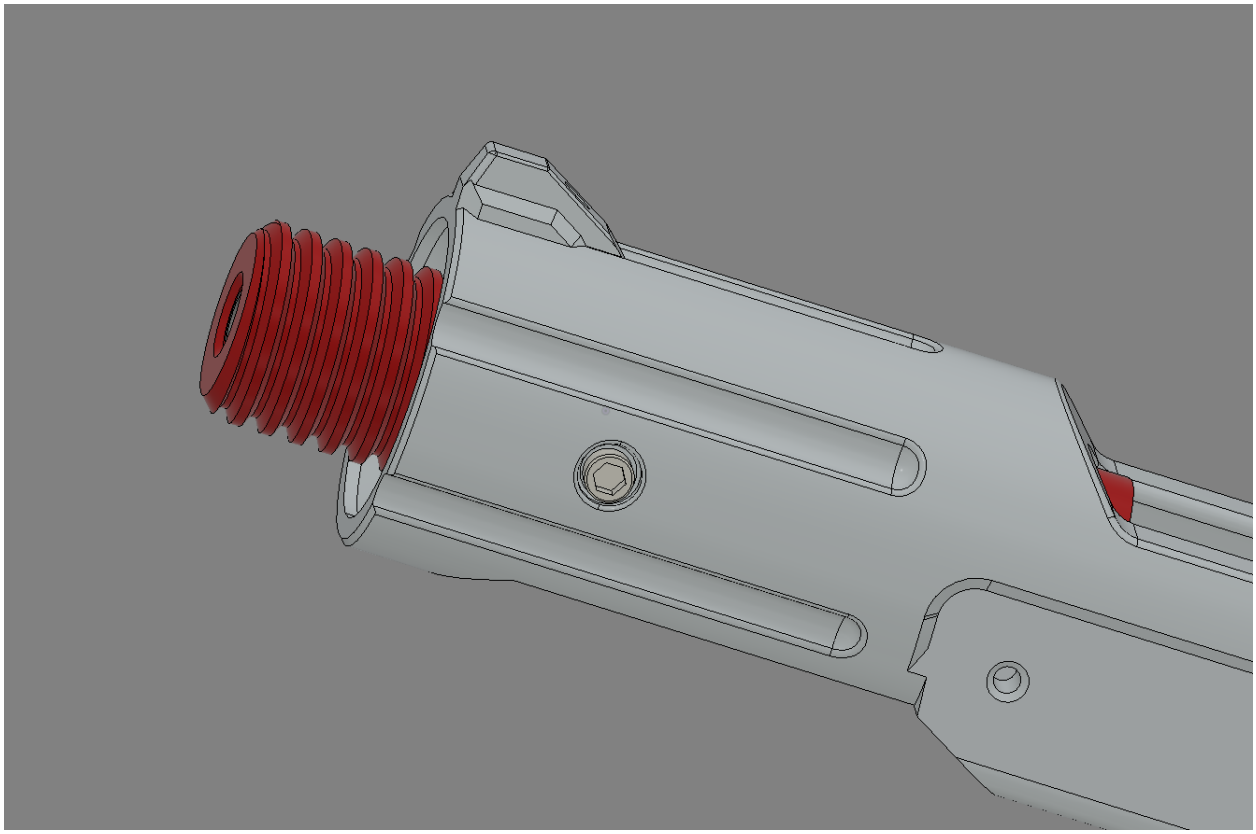
grip safety, put spring under it and secure with pin into the lower



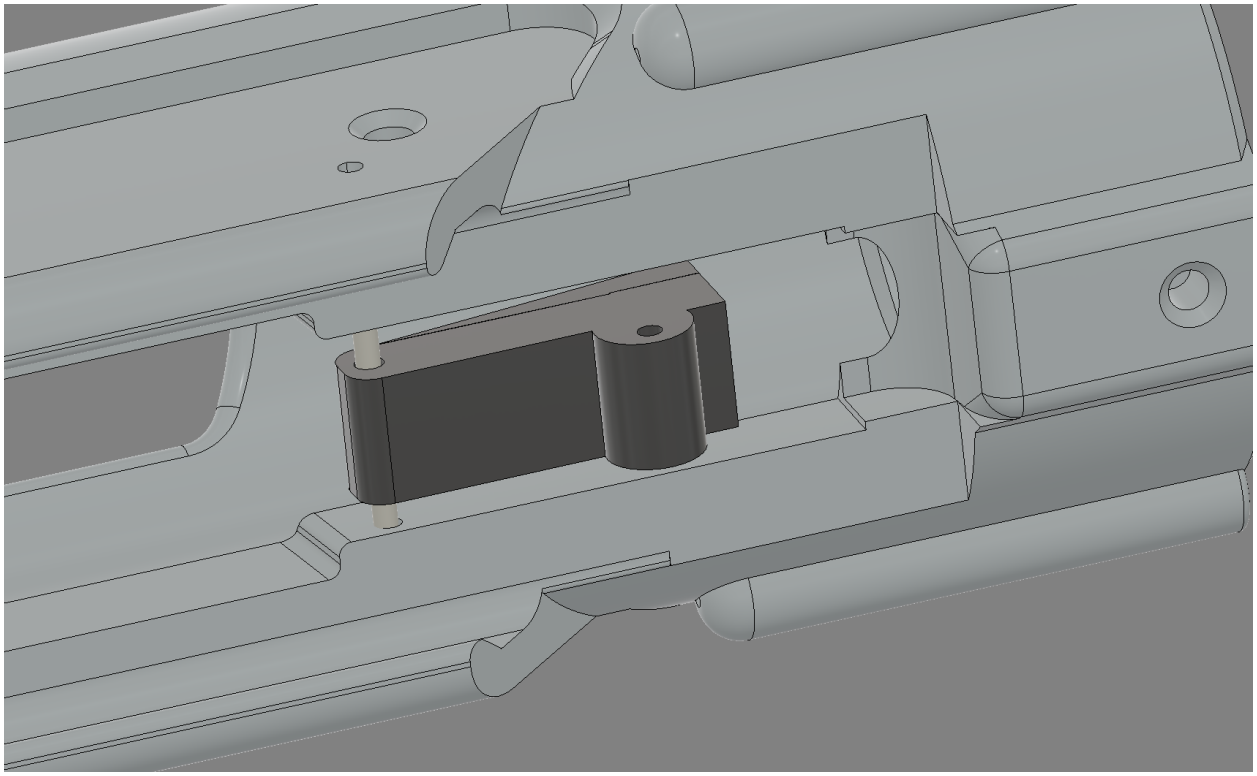
upper, place ramp under barrel, no need to glue or epoxy, it's a press fit. tap it in with a rubber/plastic mallet if you have to.



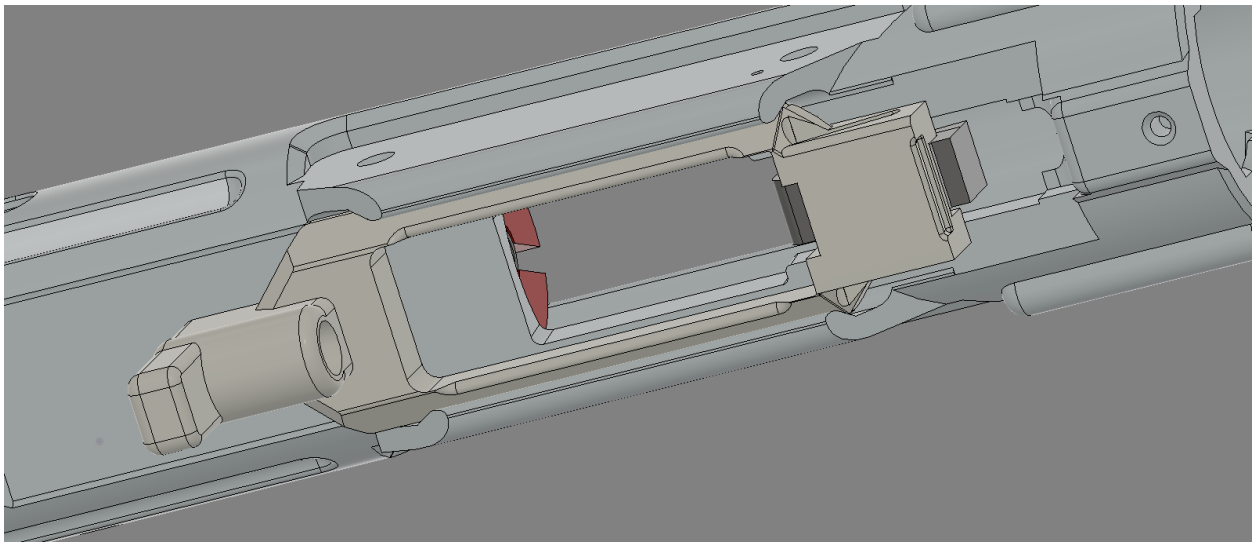
put the barrel in upper and align the holes on the side with the receiver. secure with m3x12 or similar screw

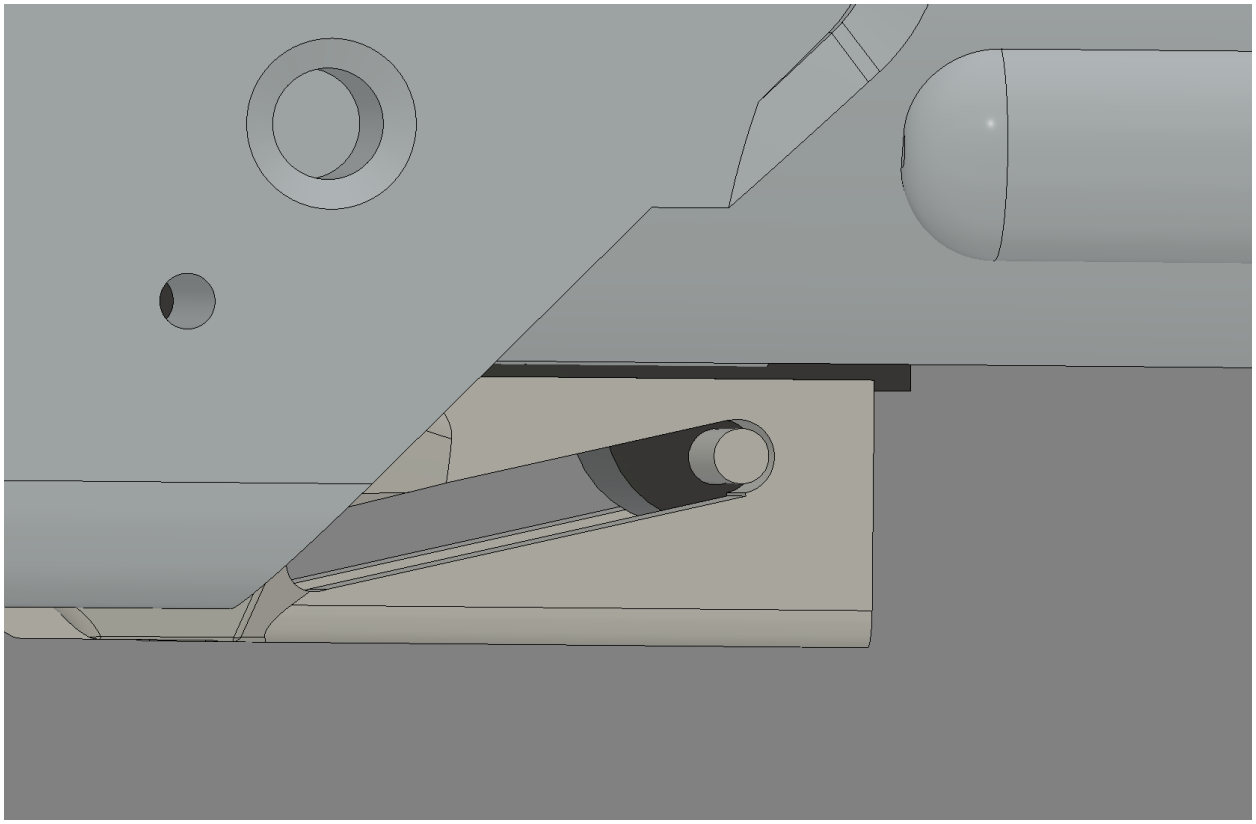


place sear, flat side up with wider end to the rear, put pin through the narrow end of sear and upper.

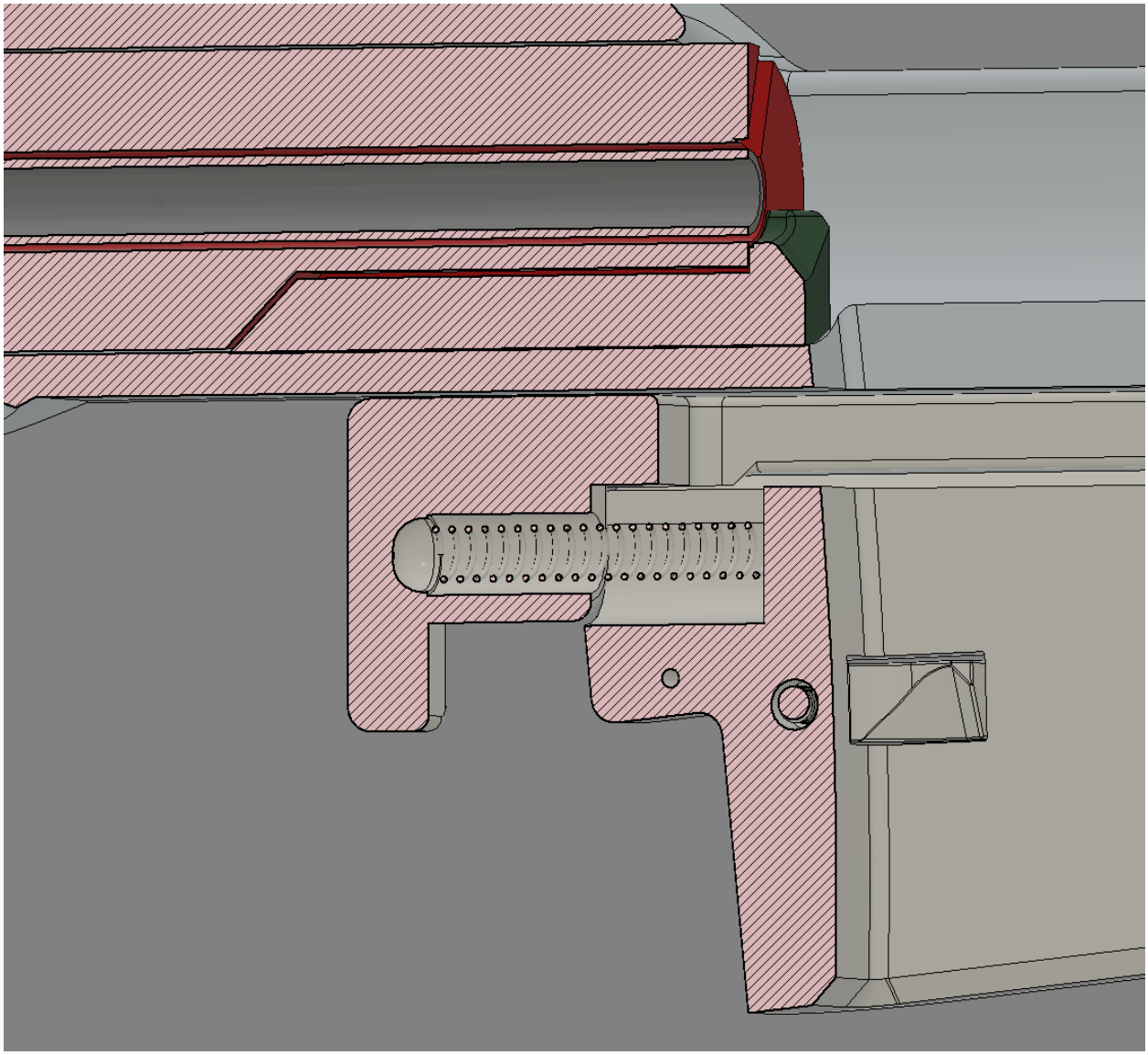


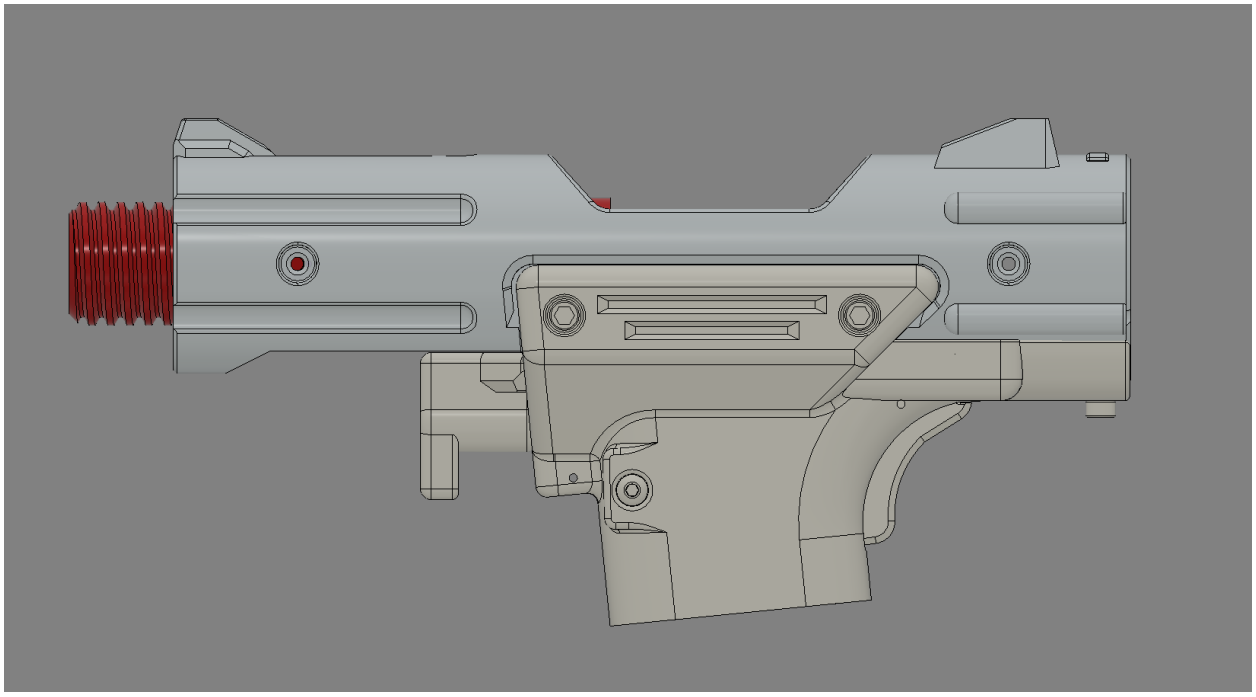
place trigger into the upper. slide or snap it in. place the pin though the rear of the trigger and the loop hanging down from the sear.



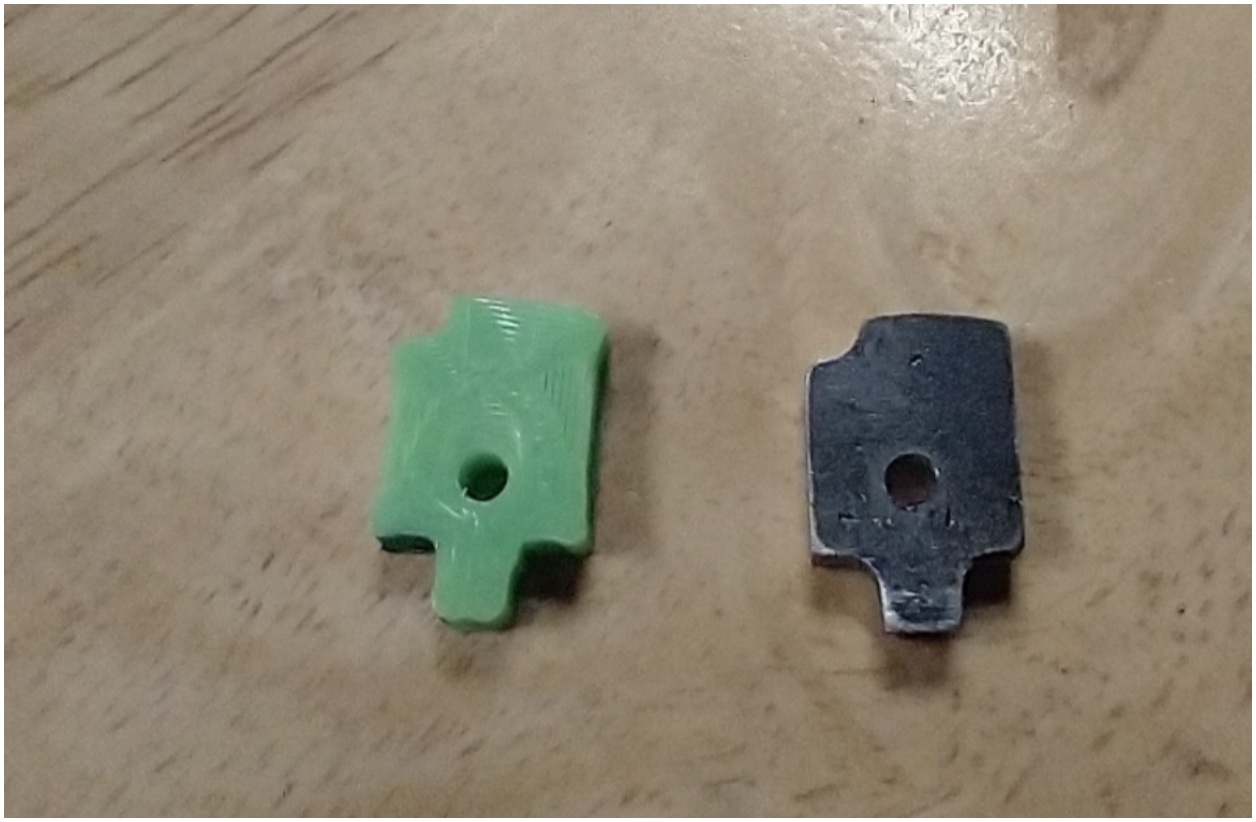


place spring into trigger and align with lower
secure lower to upper with 4 m3x12 or similar plus a n m3x8 in the rear





bolt. cut an 1/8" thick piece of steel and shape to the insert stencil. this is the breech plate. drill out the firing pin hole. counter sink it from the rear to help guide the firing pin into place



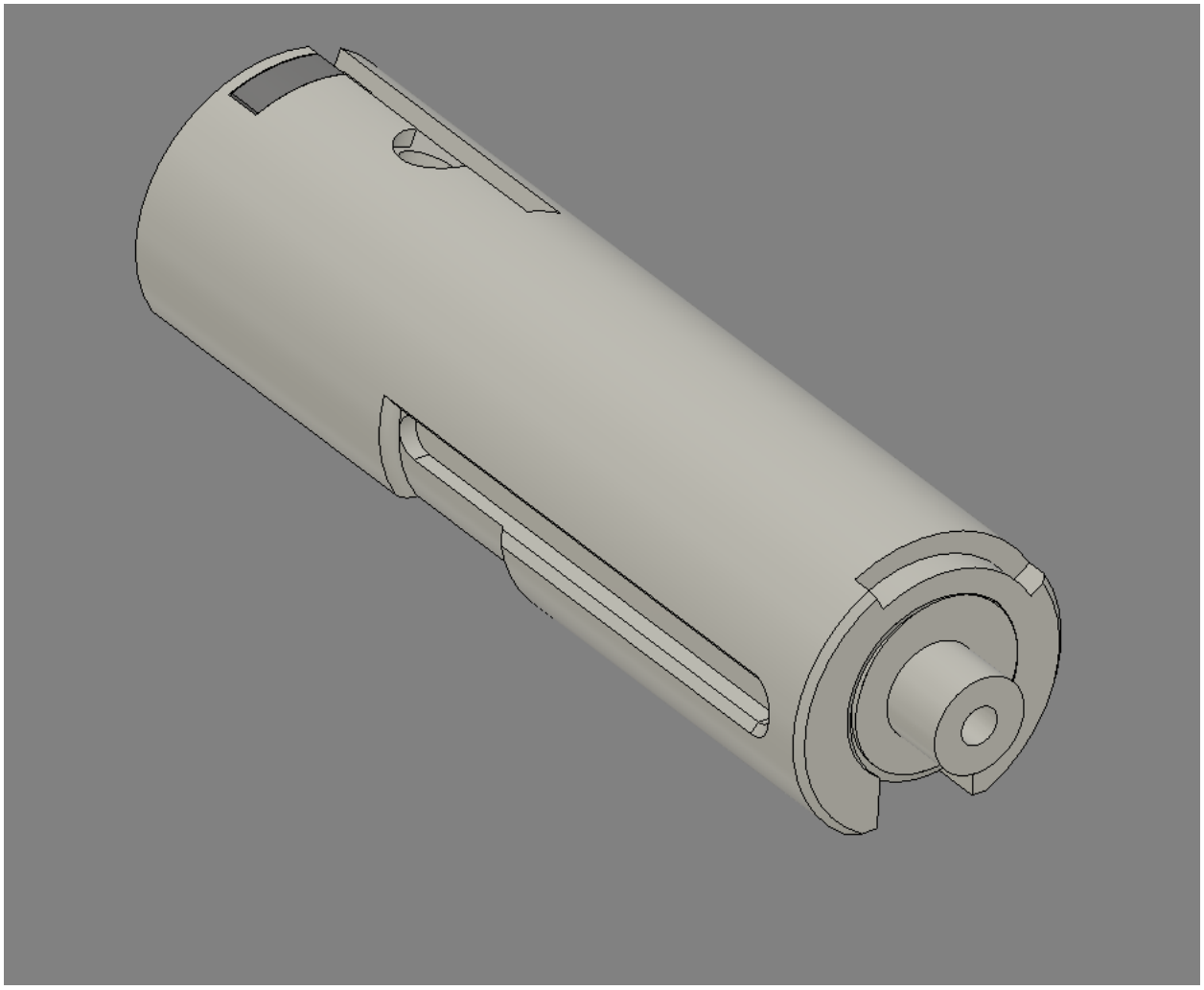
slide the breech plate into the bolt. make sure it aligns with the contour of the bolt and firing pin. If you have overhangs, use a marker to trace the inside of the overhang, then trim. no need to epoxy it in.

firing pin. place a nut on to the m2.5x50 screw, then run it all the way to the screw cap. thread it into the FP carrier. add some locktite and use that first screw to set your firing pin length. you want it to protrude maybe 1mm 1.5 at most. you want it to just detonate the primer and not pierce it.
add locktite and more nuts on the m2.5 firing pin. until the whole thing is over 3 grams. you can use other things besides nuts. lead, metal tube, whatever it takes to get the proper weight. the inside chanel of the bolt is 6mm. it clears the m2.5 nuts.
shape the FP by grinding the sides of the tip until it's about a 1.2-1.4mm wide and vertical

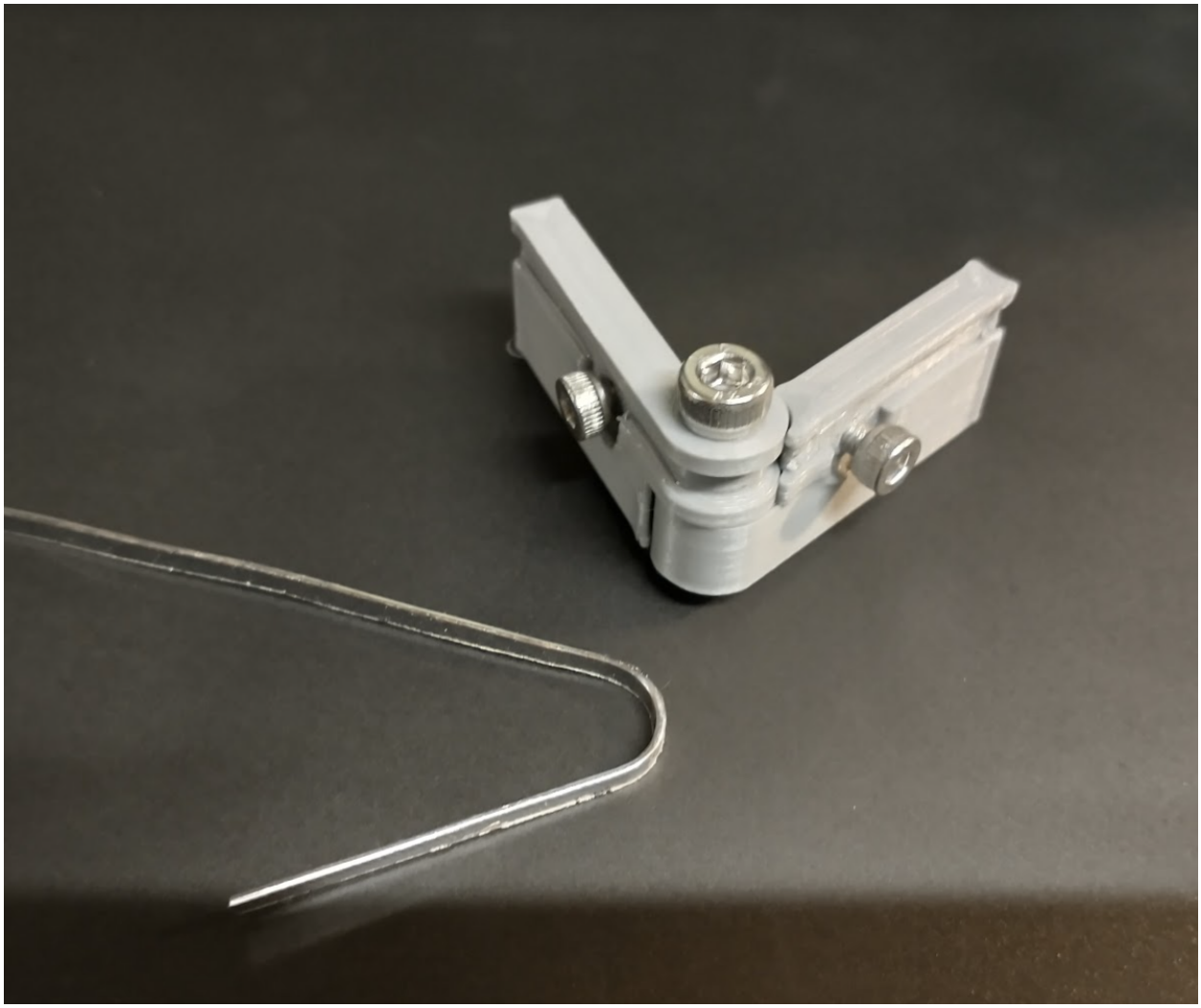
put the FP assembly into the bolt, make sure you have smooth motion for the firing pin and that it protrudes easily and not too far.

put the FP spring in the bolt.

bolt plug. place an m3 heatsert in the back of the bolt plug. then thread in the bolt plug compressing the FP spring.

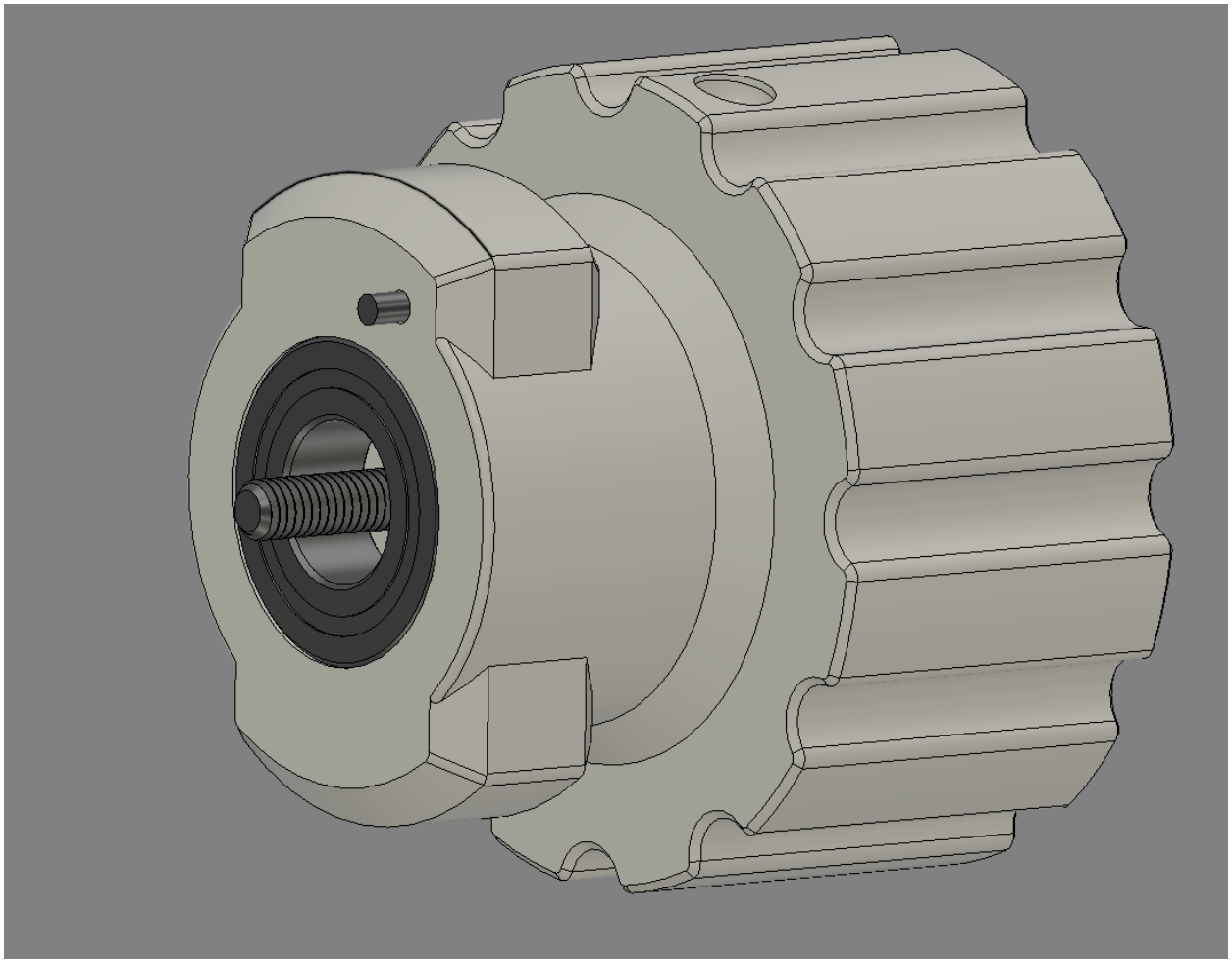


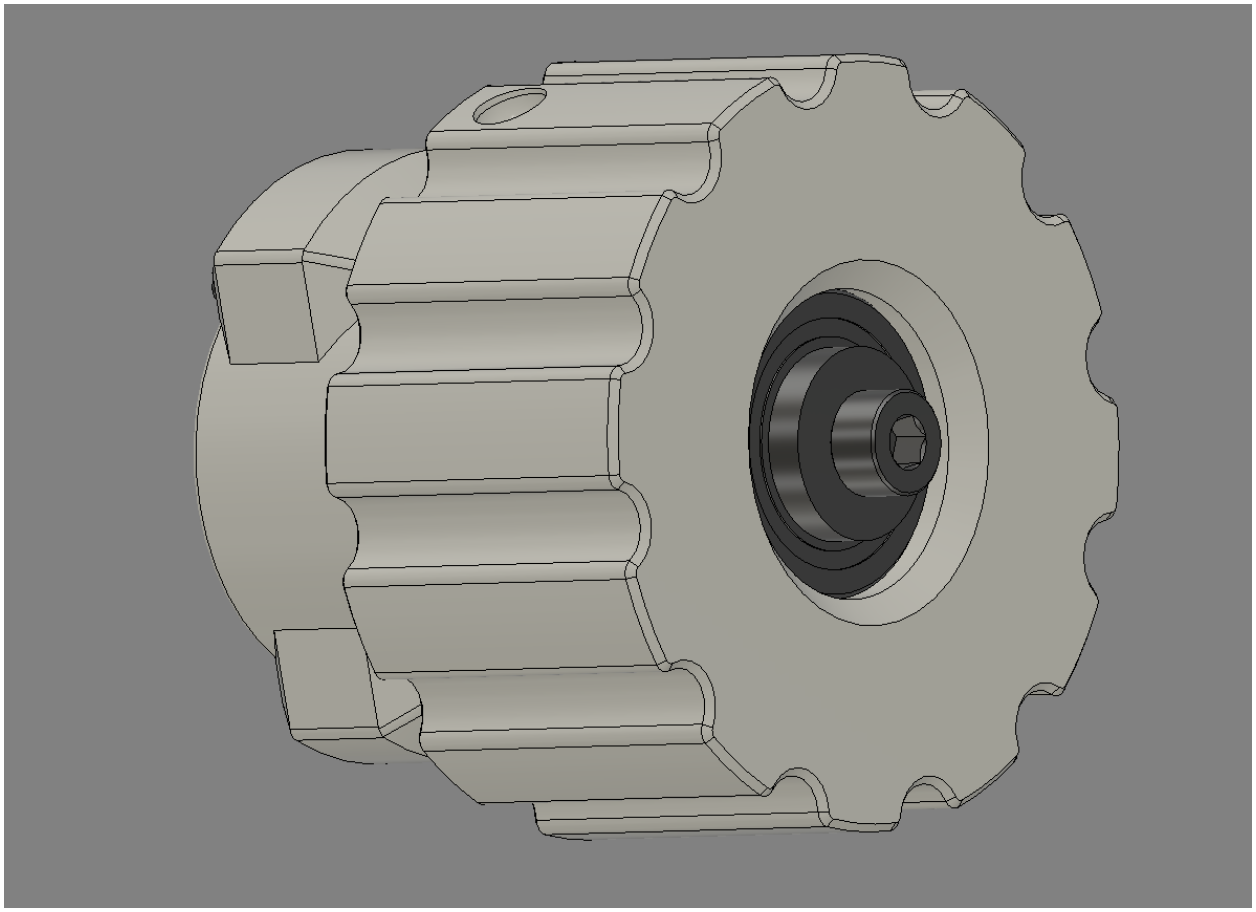
cut extractor piece from spring steel or jumbo bobby pin, grind it down until it's 2.5mm wide
you can shape it by hand, or use the included extractor bending jig. it'll get you close.
gring the hook end vertical where it grabs the case.



place the m3 heatsert into the bolt for the extractor. use an m3x4 to retain the extractor. Another option is to epoxy the extractor in once you have it bent, just fill that hole with epoxy and make sure you get the extractor secured as well.

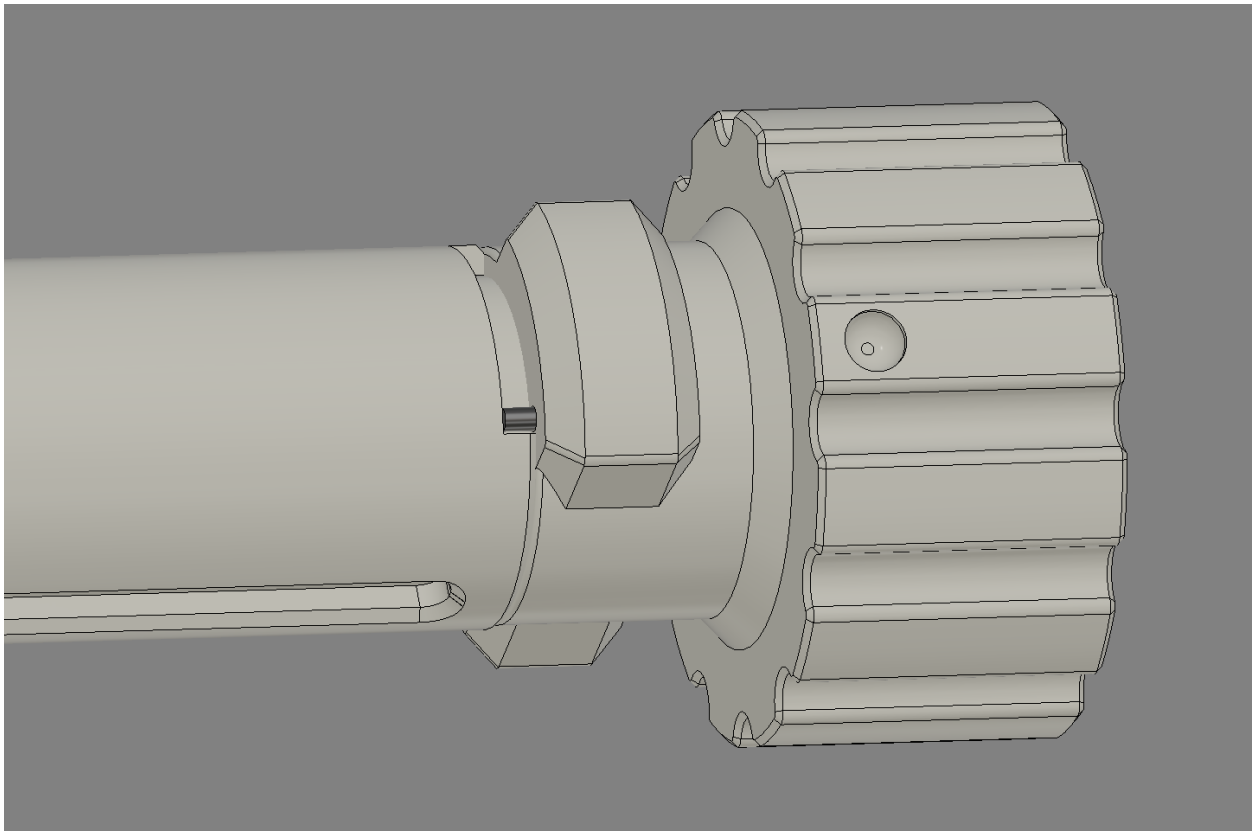
handle. press the bearings into the front and rear of the handle. press the printed cap into the rear bearing, put m3x45 through the cap, and then handle





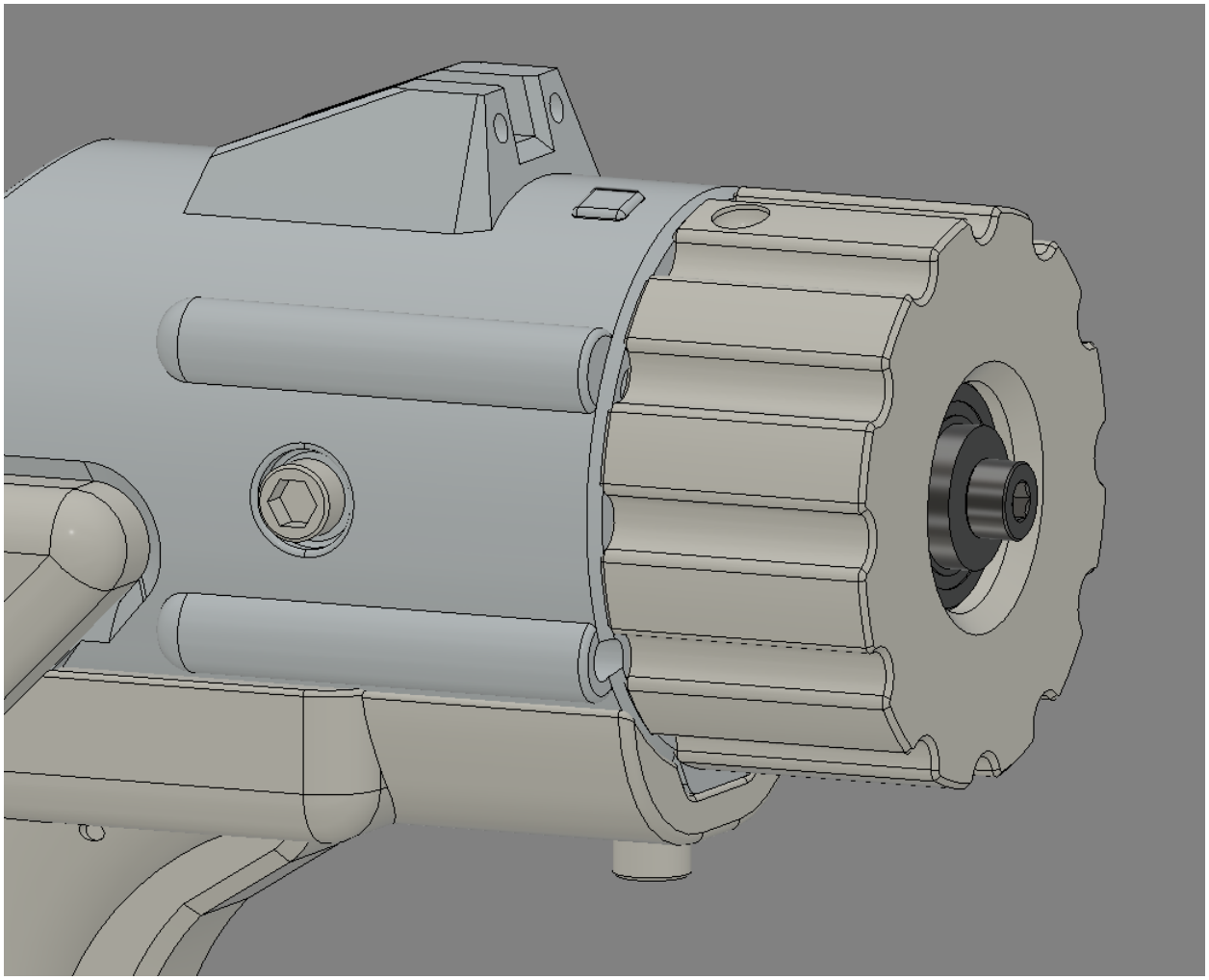
take a small piece of music wire pin, heat it up and place in the hole on the front of the top lug

trim until it fits nicely into the top of the bolt and does not bind. Bolt handle should be flush with the bolt.

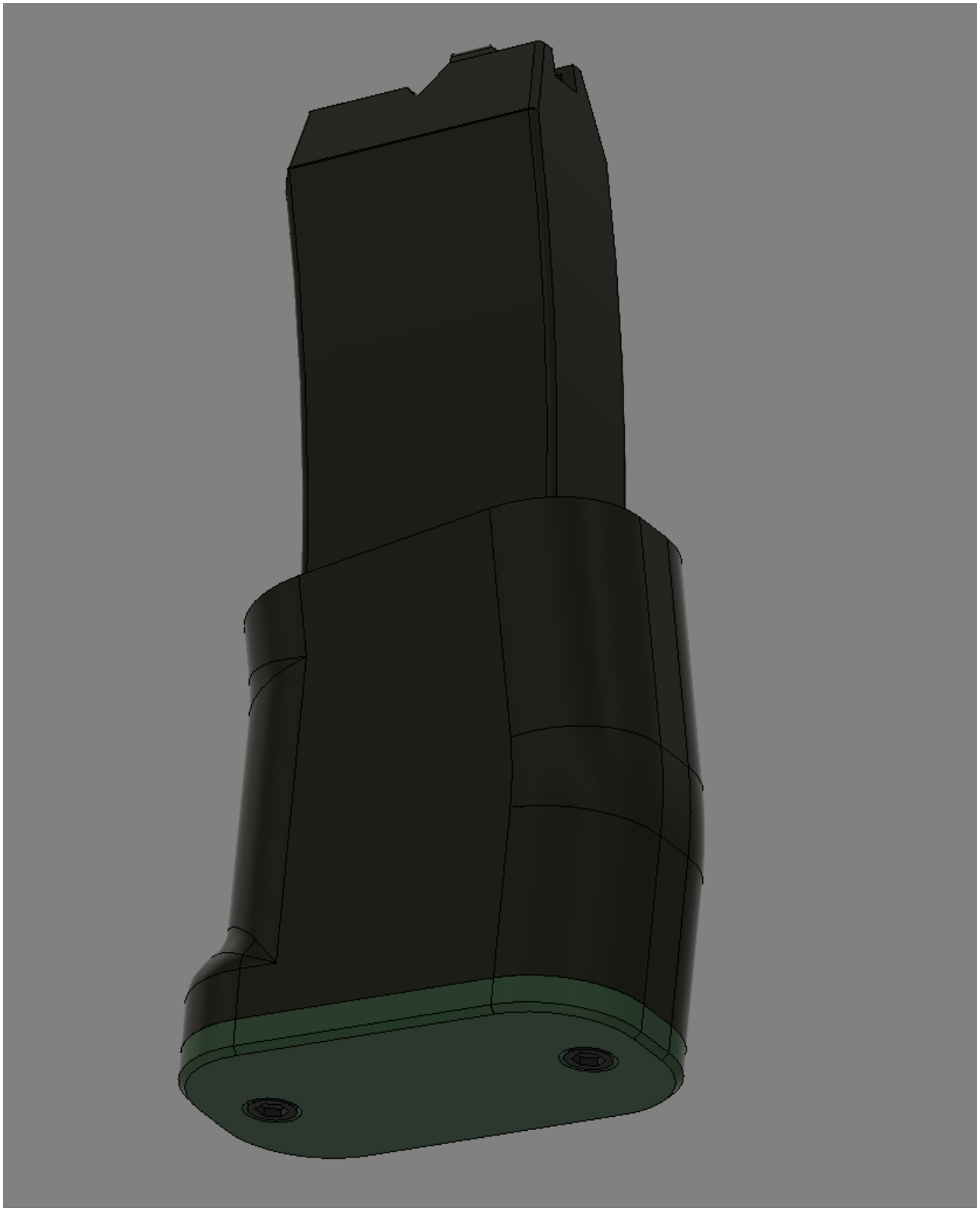


secure the screw through the bolt handle to the bolt plug.

insert the bolt into the upper, pressing the trigger and dropping the sear. This lets the FP carrier go over it. secure the bolt into the upper with the 2 m3x12 that go into the grooves of the bolt.



magazine. insert follower, magazine spring. attach bottom plate with two m3x8 or similar countersunk screws



Attach trigger guard with pin on on the lower and m3x10 to the upper