The Beretta 950B Mustela Plastico

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Required Tools

- Exacto knife
- Files:
  - 1" flat file and 1/4" round file, or needle files.
- Sand paper in a range of grits
- Mallet
- Drill
  - 2.0mm or #46 drill bit
  - 3.0mm or #31 drill bit
  - 3.5mm or #28 drill bit
  - 4.0mm or 5/32 drill bit
  - 6.0mm or 15/64 drill bit

Parts list

Numbering from original Beretta documentation for the 950 BS Jetfire in .25 ACP. Note that the parts for the Minx (in .22 Short) are identical, save for the magazines, barrel, slide, and recoil spring.

1. Slide

2. Barrel

4. Barrel mounting pin or M3x16mm screw

5. Firing Pin

6. Firing Pin Spring

7. Firing Pin Retaining Pin

8. Frame

9. Ejector

10. Barrel Lever

11. Ejector Pin (Rivet)

12. Hammer

13. Hammer/Safety Stop Pin

14A. Hammer Strut with Spring Retainer

17. Sear

18. Sear Spring

19. Sear Pin

20. Magazine Release Button

21. Magazine Catch Spring

22. Magazine Catch

23. Recoil Spring

24. Recoil Spring Pin

25. Trigger Guard

26. Trigger

27. Trigger Pin

28. Trigger Bar Spring

29. Trigger Bar Spring Plunger

30. Trigger Bar

31. Trigger Bar Pin

32. Left Grip (Can be printed with included files)

33. Right Grip (Can be printed with included files)

34. Grip Screws (2)

45. Barrel Lever Stop Screw

46. Safety

47. Safety Spring

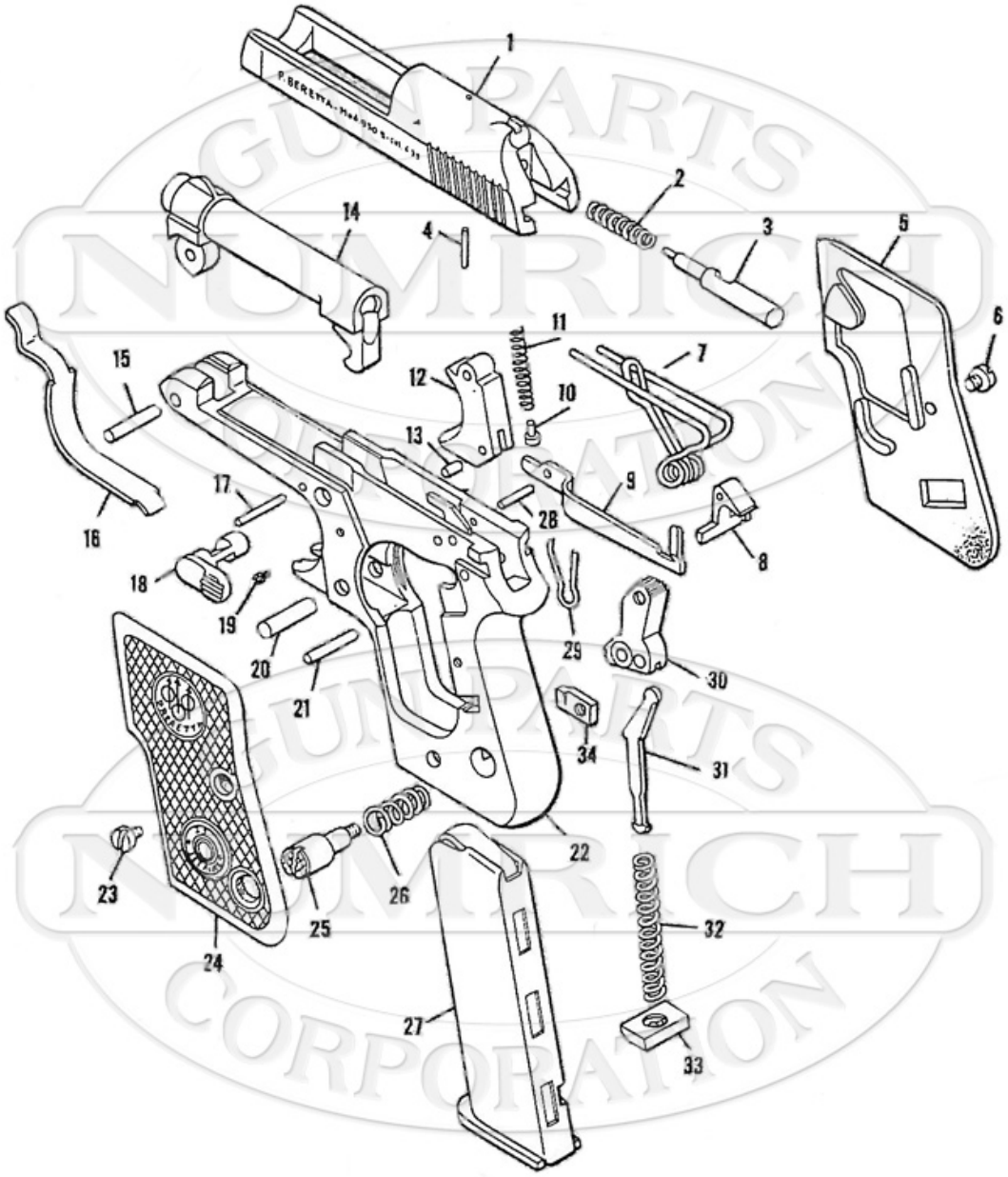
48. Safety Spring Plunger

Part Images

Note that pictures (and some parts themselves) can be referenced below, but the numbers do not correspond correctly to the original Beretta documentation:

- Jetfire (.25 ACP)
- Minx (.22 Short)

NOTE: Though this document works for both the .25 ACP and .22 Short versions, the currently released frame WILL ONLY WORK FOR .22 SHORT. A .25 ACP frame is forthcoming; it is currently still in beta testing.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Print Settings

Frame positioning: Upright recommended

Line width: Less than or equal to 0.4 mm

Filament: PLA+

Walls: 4

Infill: 99%

Infill Pattern: Lines

Supports: Tree supports recommended

Layer Height: 0.12 mm or less

Trigger Guard Installation Tool:

Print settings: 99% infill, can be printed slab side down.

Grips:

YOU MUST USE *PrusaSlicer* **TO SLICE THESE** - Cura will fail to provide adequate detail in our testing!

Supports: Touching Build Plate Only

Infill: 30% or higher

Layer Height: 0.12mm or smaller

Perimeters: 3

Solid Layers: Top: 3 Bottom: 6

Extra Perimeters If Needed: Checked

Ensure Vertical Shell Thickness: Checked

Avoid Crossing Perimeters: Checked

Print Thin Walls: Checked

Clean Up

1. After printing, pop the frame off of your build plate. Remove all support material: if you used normal tree supports with 1 wall, most of the supports should be easy remove.
    - Note that support material may connect through tight holes, such as the magwell support tree into the mag catch hole.
2. Clean up any remaining support material (or other print imperfections) with your exacto knife, files and sand paper. Take special care to clean out the internals of the frame.
    - WARNING: be careful during this step, as some of the internal surfaces of the frame are relatively delicate - the front of the hammer strut channel (below where the hammer spring (#33) sits), and the channel for the trigger guard (directly under the trigger).
    - The interior of the magwell should be sanded until the magazine slides through it smoothly, without binding.
    - The walls around the hammer and trigger should also be sanded so that the hammer and trigger can move smoothly in them.
3. Once the frame is cleaned up, you will want to bore out the holes for each pin:
    - The trigger, sear, and ejector detent pins should take a 2.0mm or #46 drill bit
    - The hammer and barrel pins take a 3.0mm or #31 drill bit (Note that drilling the barrel pin hole may not needed if using an M3 screw)
    - The recoil spring pin takes a 4.0mm or 5/32 drill bit
    - The barrel hinge takes a 6.0mm or 15/64 drill bit
    - The safety pin (only present on the safety version of the frame) takes a 3.5mm or #28 drill bit
4. Finally, do a last-pass over the frame to sand any remaining imperfections.

Assembly

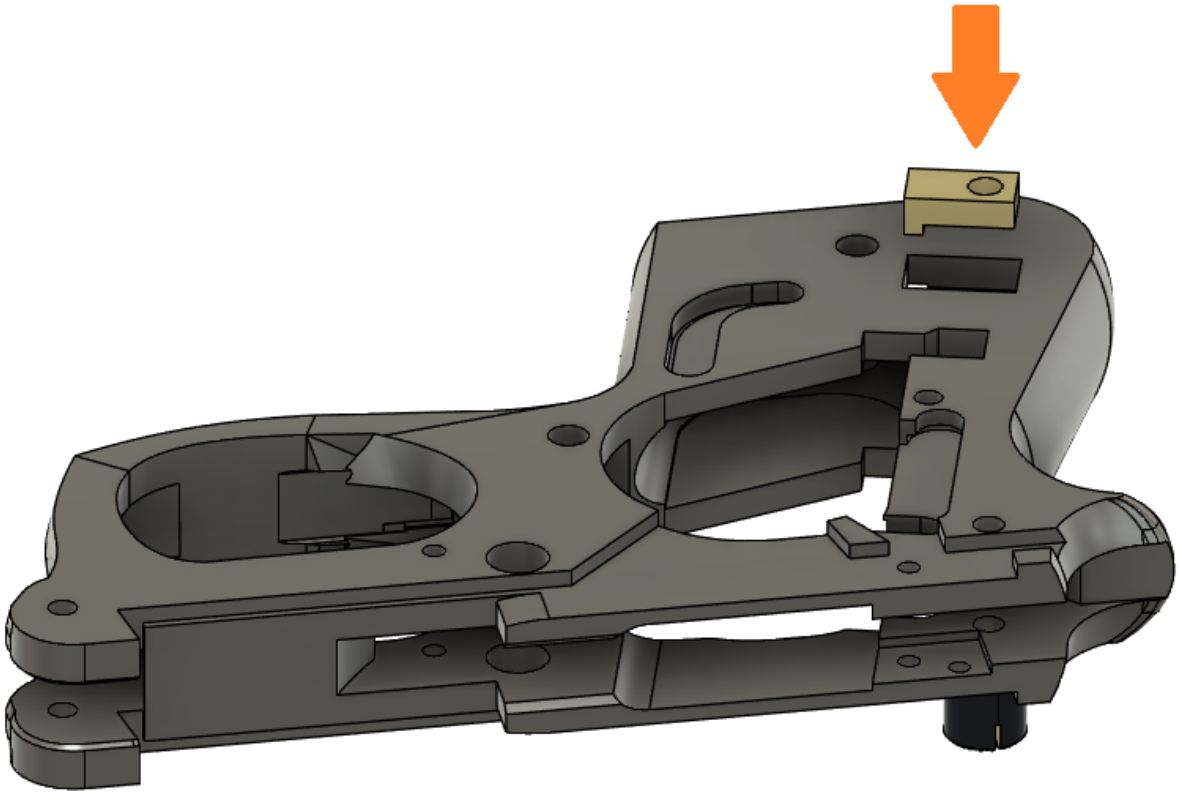
Videos:

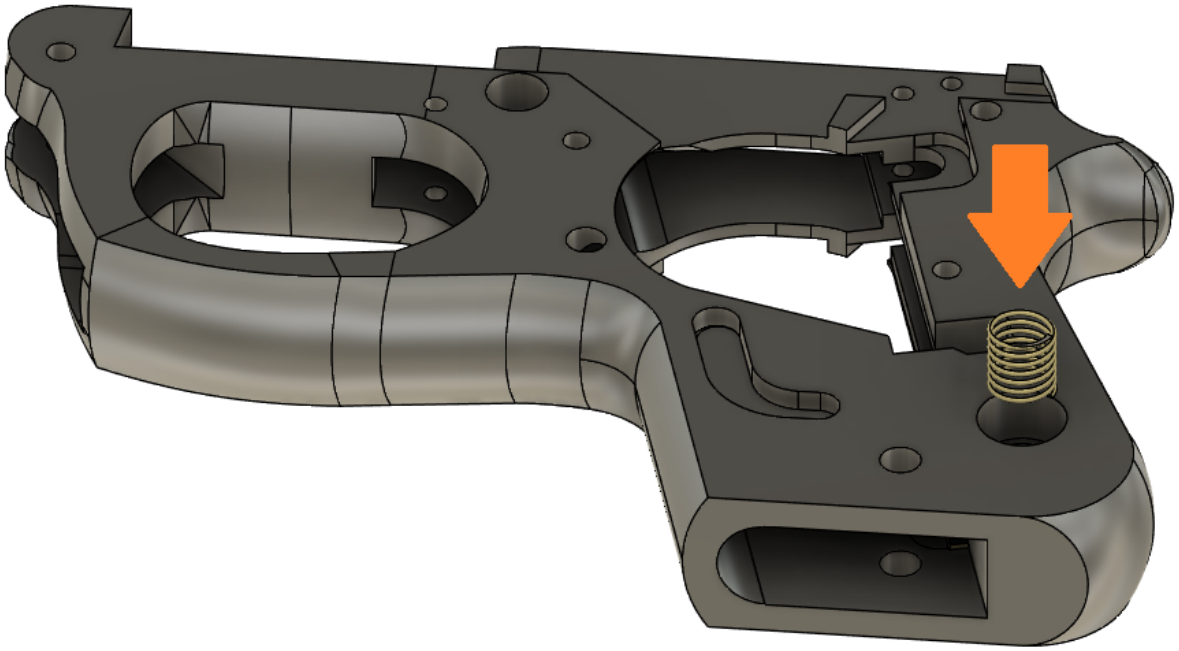
Here are some helpful videos to watch:

- Assembly Video 1 - this one is very in depth, but is in Mandarin.
- Video 2

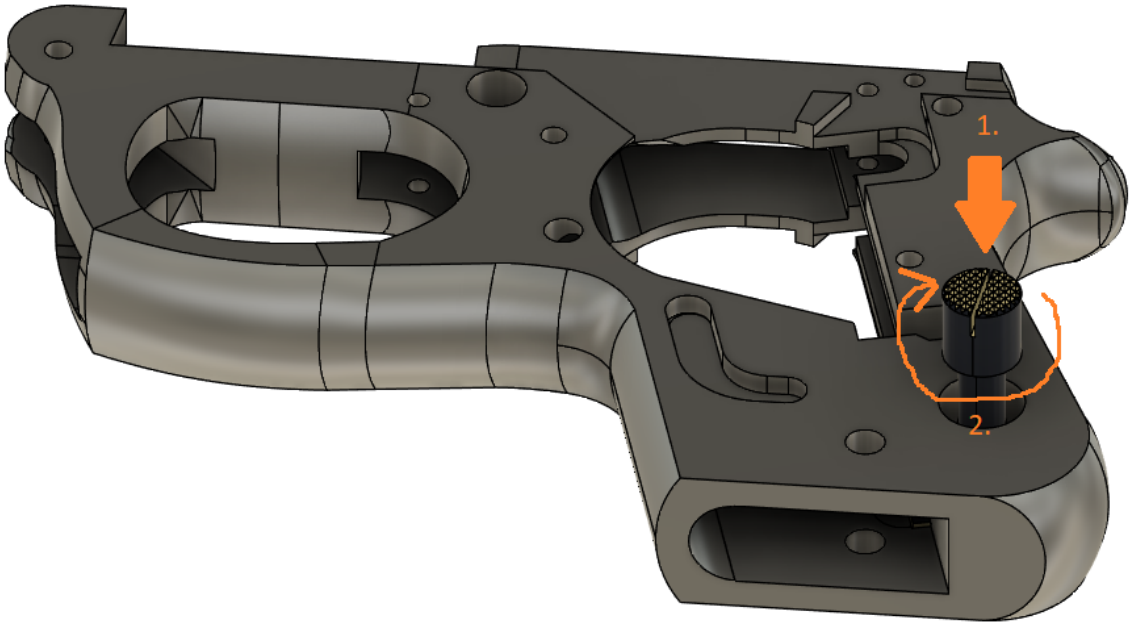
Instructions:

1. Starting from the right side of the frame, find the square hole for the magazine catch (#22), and place it in the slot opposite the large circular hole at the bottom and back of the grip (#8), holding it in place with your finger. Next, insert the mag catch spring (#21) into the front opening of the circular hole.





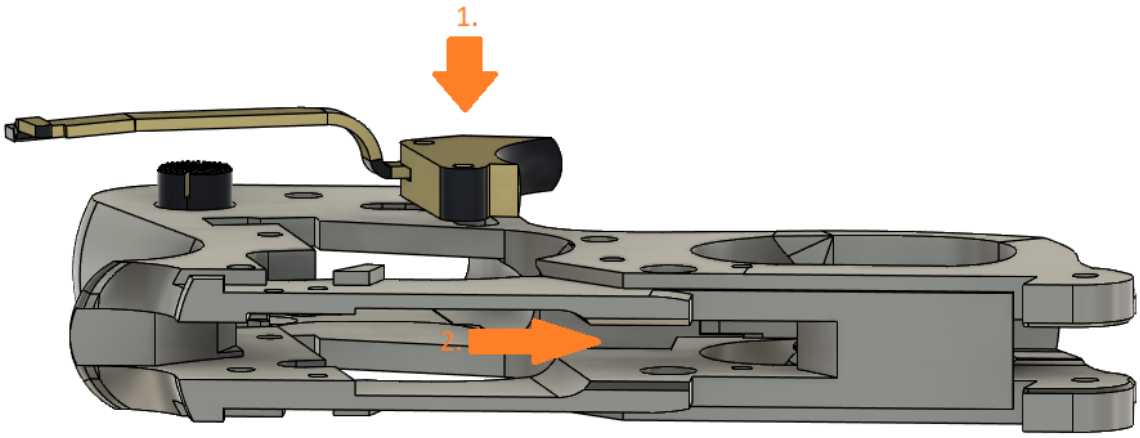
2. Next, insert the magazine release button (#20) into the same hole over the spring. Push down the button, then screw it in until the screw section is flush with the mag catch on the other side of the frame. Once inserted, depressing the mag release button should meet with spring tension, and the button should pop back out when your finger is lifted.



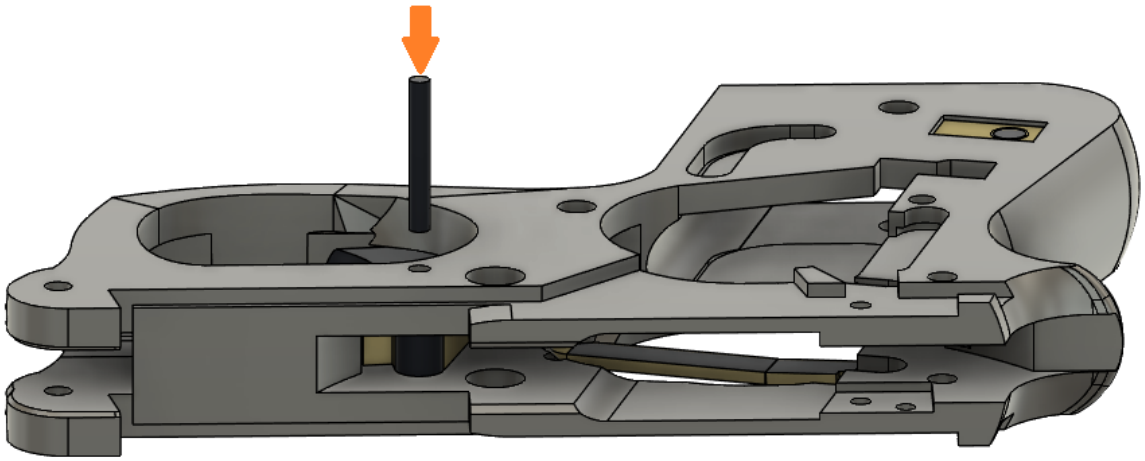
3. Check that steps 1 and 2 were completed successfully by inserting the magazine into the frame. The magazine should lock into place, and pressing the magazine release button should release it. If the magazine is difficult to insert or fails to fall free when the release button is depressed, you may need to sand off any remaining rough patches or support material in the magazine well.

4. **NOTE: Skip to step 7 if your trigger assembly is already assembled** Next, you will need to create the trigger assembly. You will need the trigger (#26), trigger bar spring (#28), trigger bar spring plunger (#29), trigger bar pin (#31), and trigger bar (#30). First, grab the spring and insert it into the large circular hole in the base of the trigger.
5. Next insert the plunger in the same hole so that the flat part of the plunger covers the mouth of the hole. Depressing the plunger should meet with resistance from the spring.
6. Grab the trigger bar, and insert it into the slot in the trigger so that the hole in the L-shaped section of the trigger bar matches up with the remaining hole in the trigger. Insert the trigger bar pin into this hole so that it is keeping the trigger bar in place. If steps 4 - 6 were successful, you should be able to move the trigger bar downward and the spring will return the bar to the top of its range of motion.

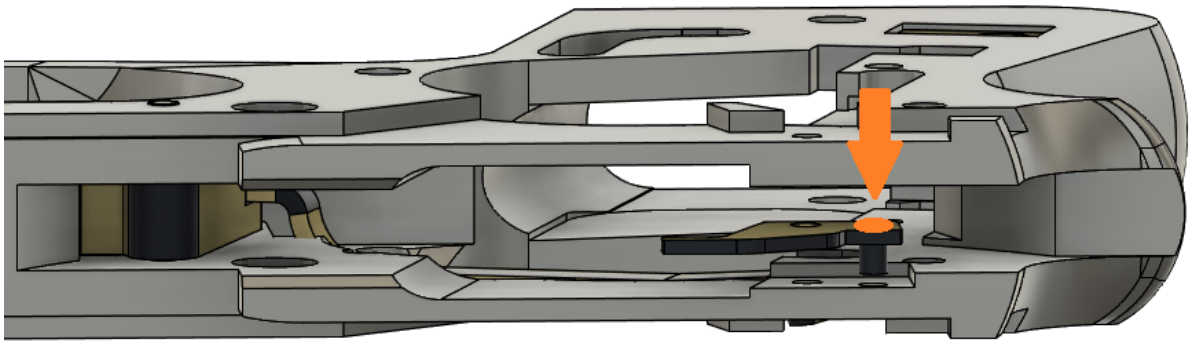
7. Trigger assembly completed, insert the trigger side of the trigger assembly into the trigger channel (through the rear), through the left side of the frame. The top hole in the trigger should line up with the smaller of the hole in the frame, and the trigger bar should be resting on the left side near its backstop under the sear hole. *Note that lining the trigger up to the pin hole may require a stick to push the trigger forward due to spring tension with the bar.*



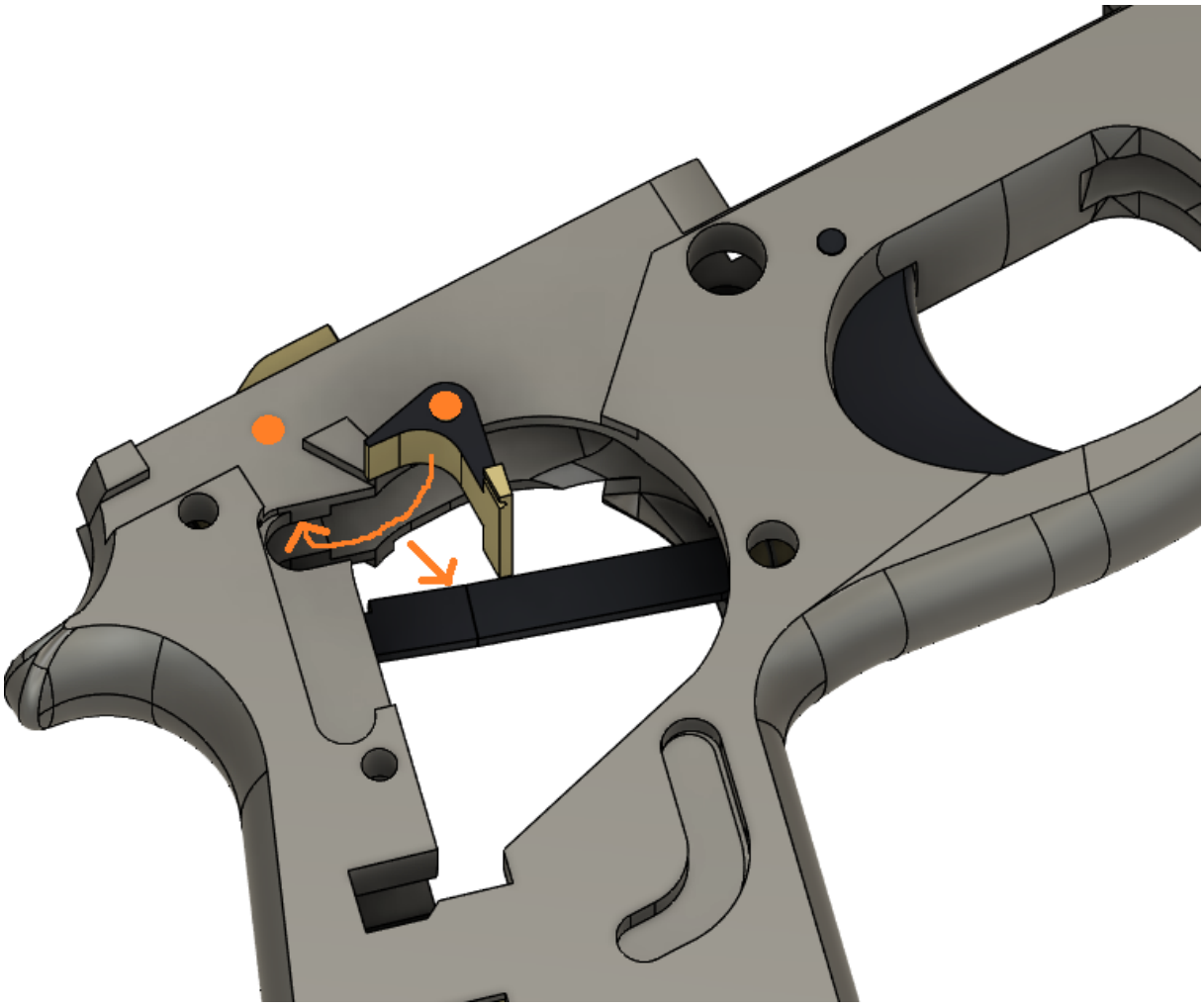
8. Next, grab the trigger pin (#27) and insert it through the holes in the frame and trigger that you just lined up. It may be helpful to use a tool like a punch to hold the trigger in place while putting in the pin. NOTE: The trigger pin is intentionally longer than the frame is wide, and should stick out by about 1mm or so on the left side of the frame. It acts as a stop for the barrel lever.

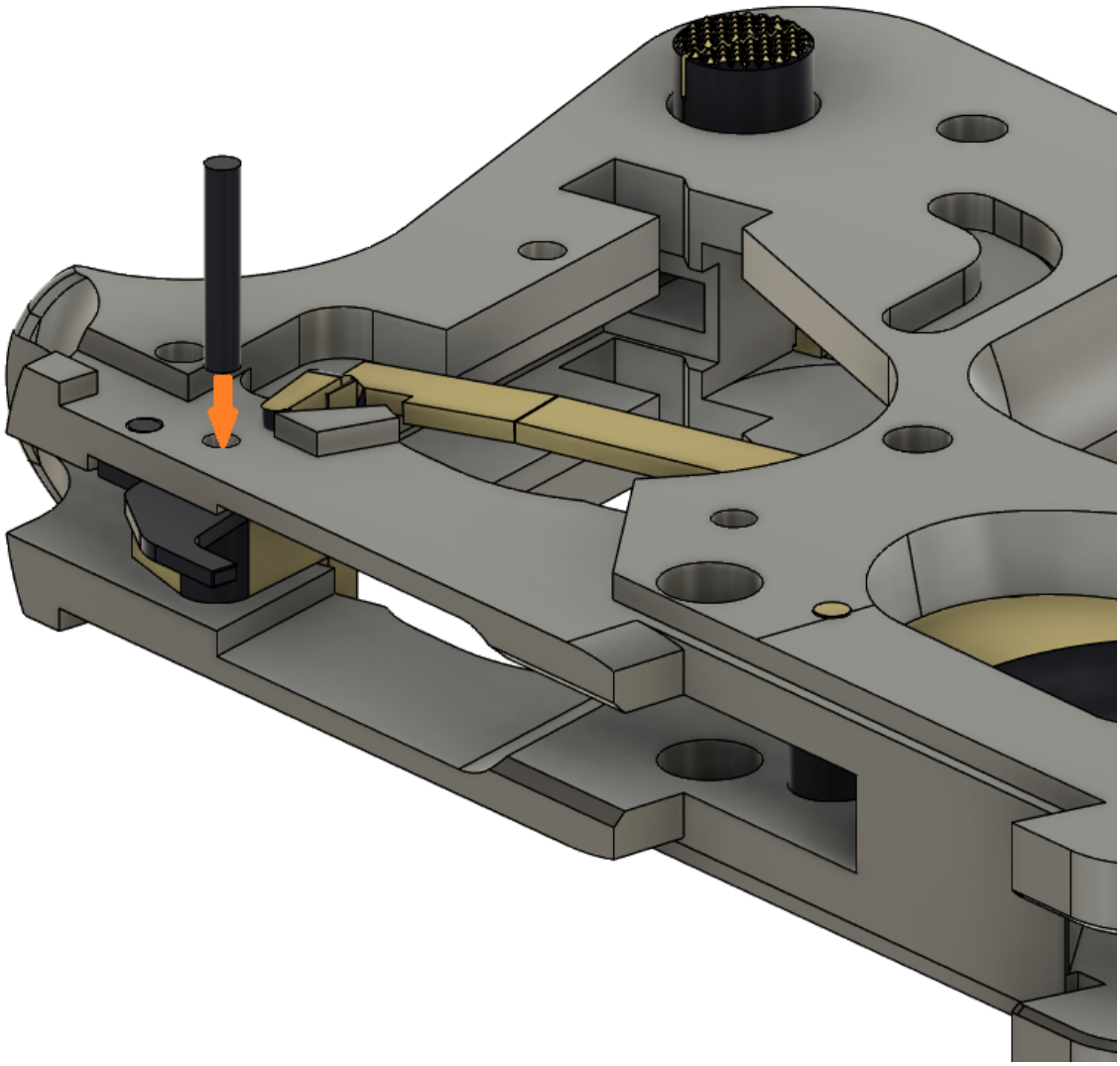


9. Grab the ejector (#9) and place it so the first hole in the base lines up with the sear pin hole and second hole (with rivet inserted) lines up with the hole behind it. Press the ejector rivet into its hole with small pliers. The ejector rivet should be used to keep the ejector in place before inserting the sear.

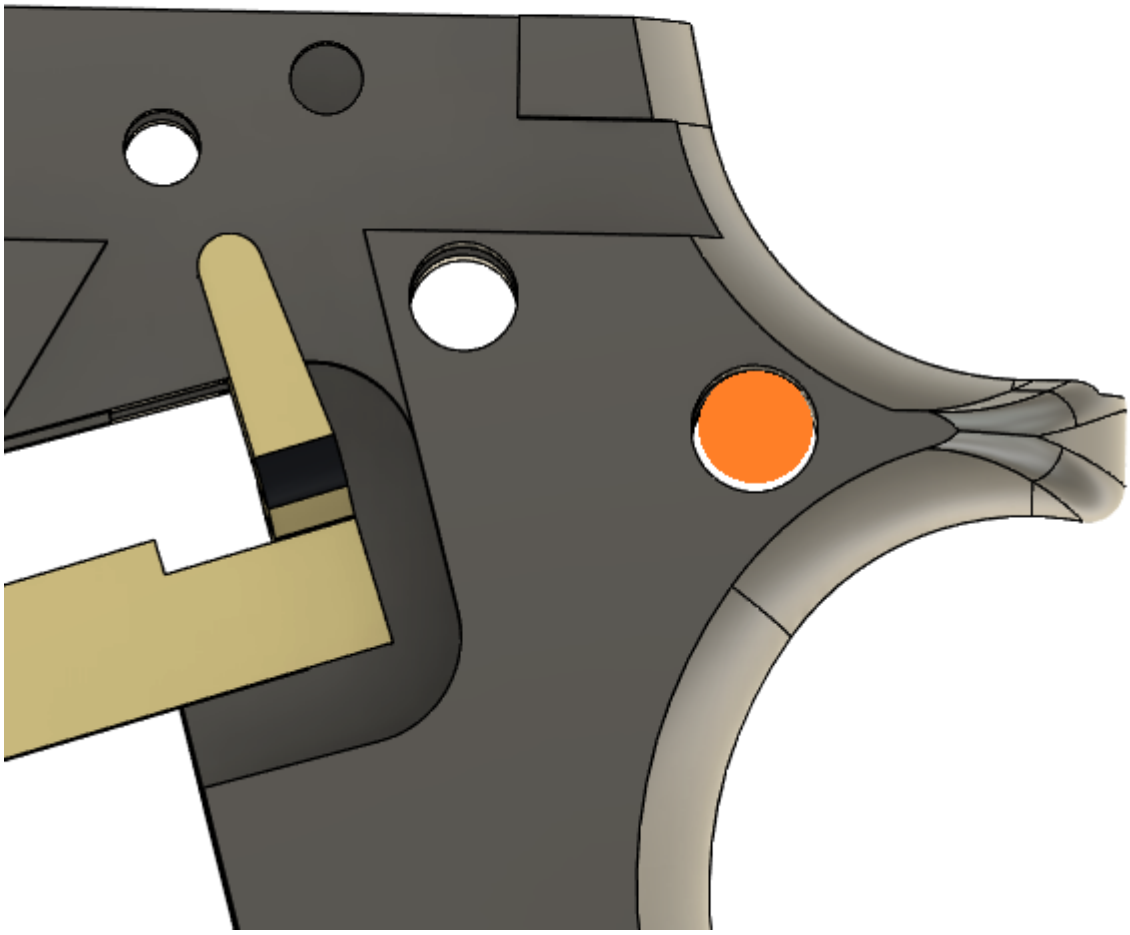


10. Grab the sear (#17) and sear pin (#19). Near the back of the frame, where the trigger bar rests, place the sear over the pin hole in the frame with the T-shaped section facing downwards, and the hook facing rearward. Slide the sear pin in fully so that both the ejector and sear are now in place. The sear should still move freely.

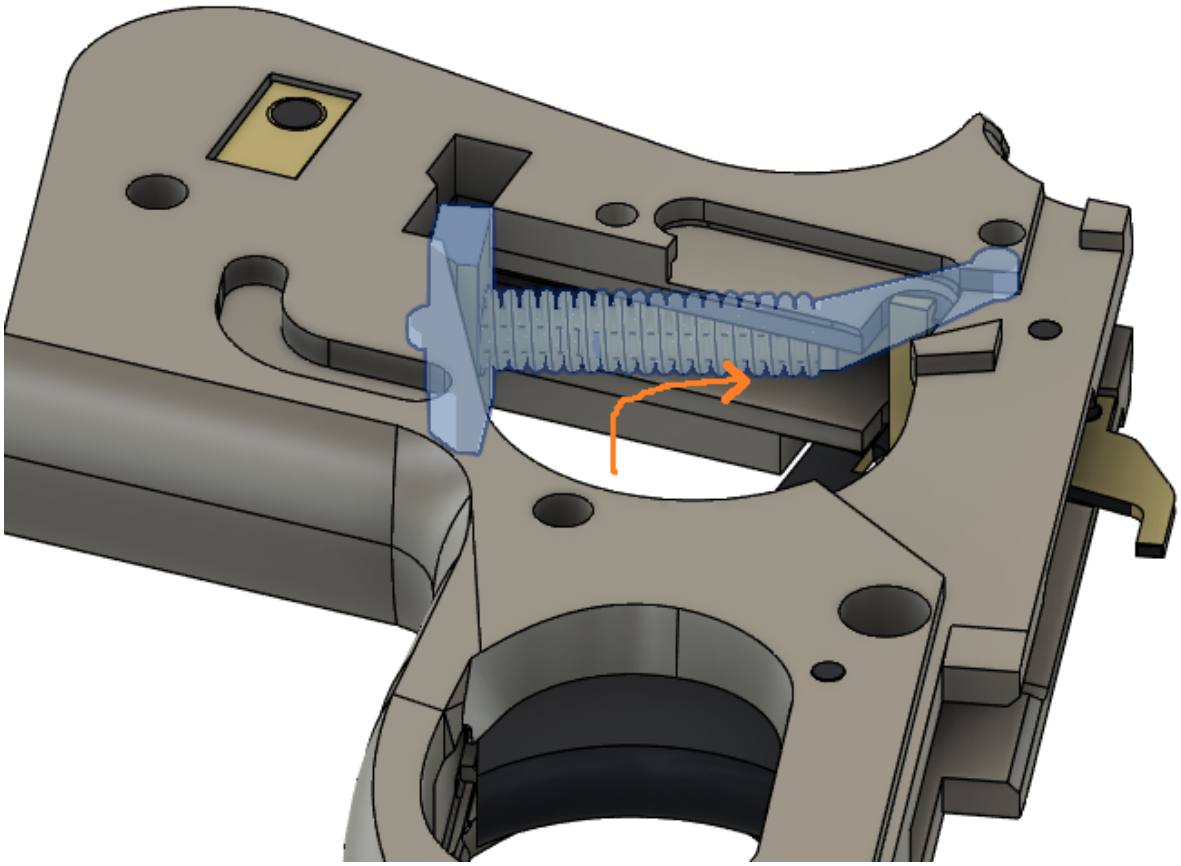




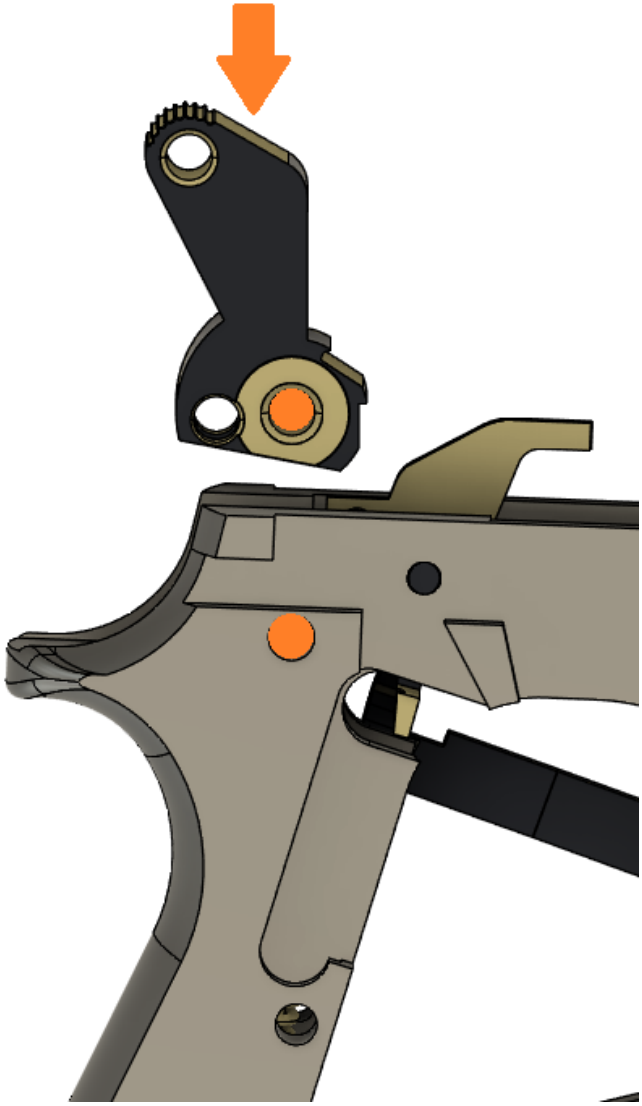
11. If you printed the safety version of the frame, insert the safety (#46) through the hole near the beavertail on the left side of the frame. You will insert the safety detent later. Once inserted, the bottom of the safety should rest behind the trigger bar within the same channel.

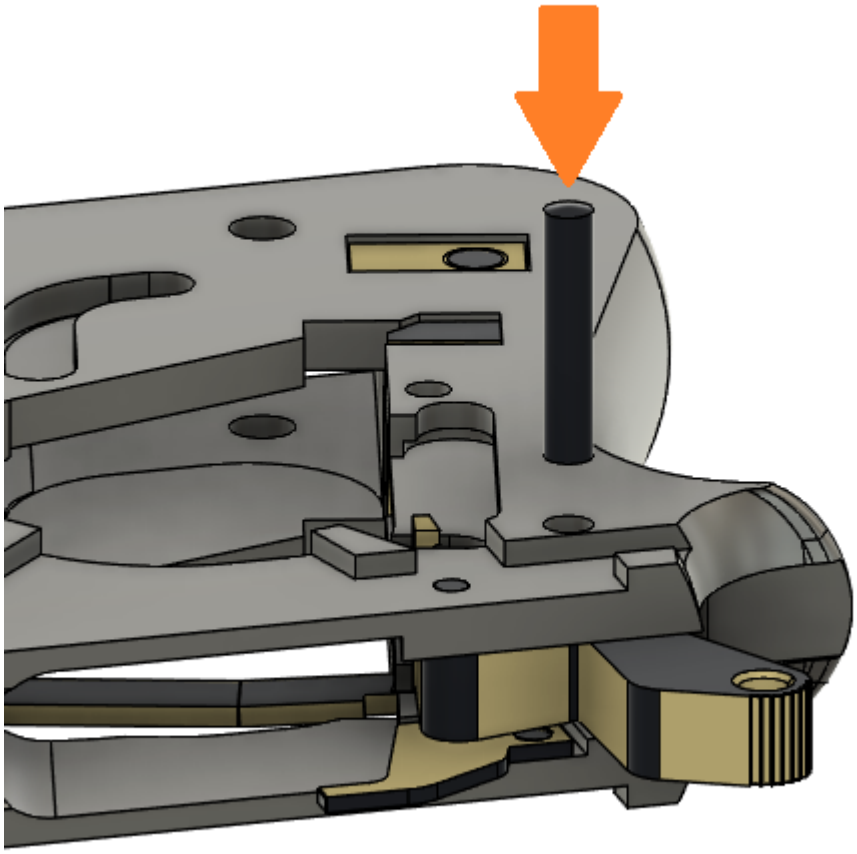


12. **NOTE: This step (12) is very difficult to do without specific equipment, however almost all kits will come with the hammer strut assembly already assembled. If yours is assembled, skip to step 13.** If not, you will assemble the hammer strut with spring retainer assembly (#14A), made up of the hammer strut (#14), hammer strut spring (#15) and hammer strut retainer (#16). Slip the spring over the long-end of the hammer strut. Then place the retainer on the same end of the hammer strut; depress the spring until the retainer and hammer strut connect, and turn the retainer until it locks into place. The assembly should now be one piece, approximately T-shaped.
13. Drop the hammer strut assembly into the frame, T downward. The angled piece should point towards the rear of the frame and the T should fit loosely into the slot in the frame. Don’t press the hammer strut assembly full into this slot yet, as doing so will make it harder to put the hammer in.

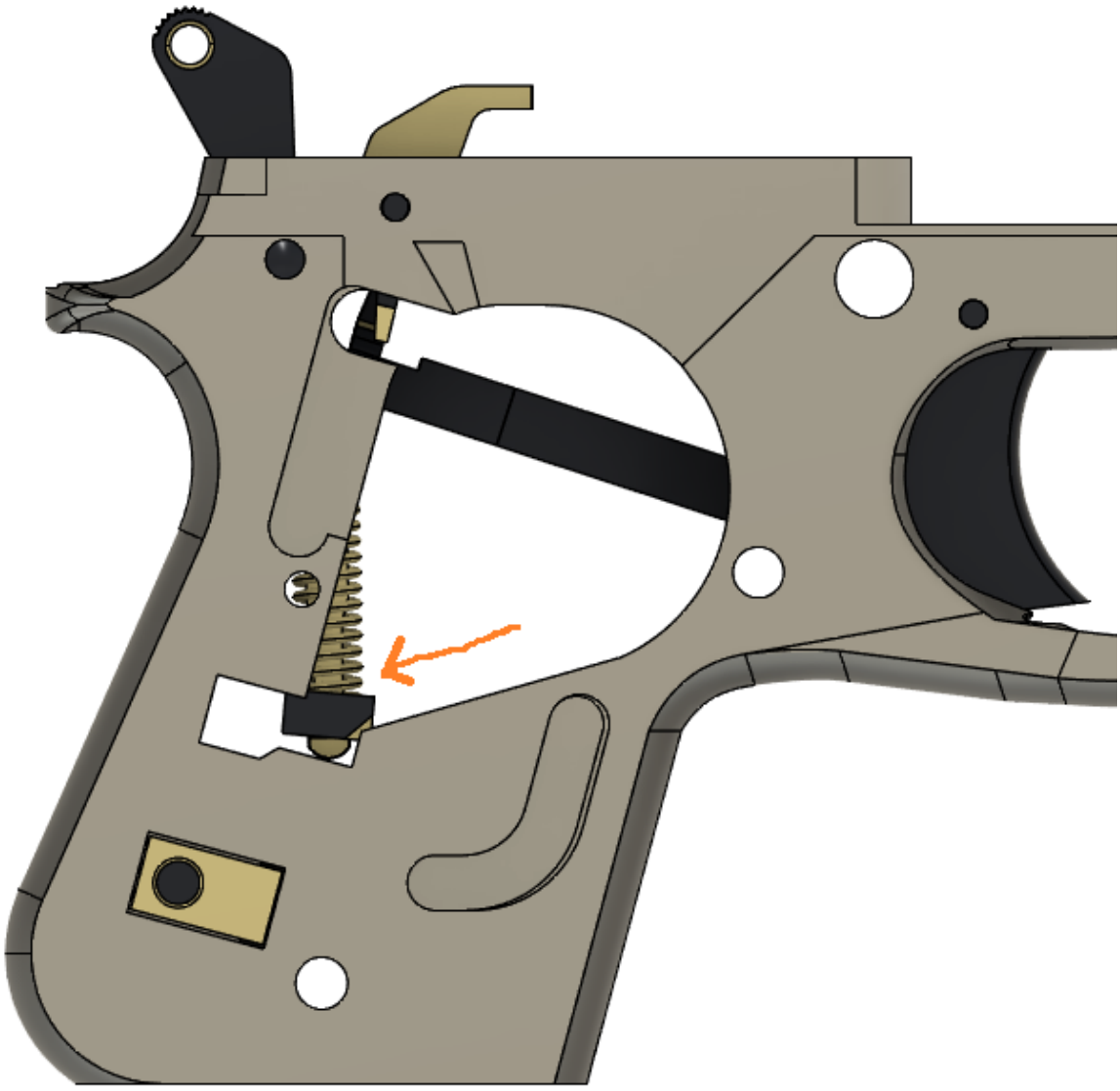


14. Find the hammer (#12) and hammer pin (#13). Line the hole in the base of the hammer up with the rearmost hole in the top of the frame, then insert the hammer pin to keep it in place. Decock the hammer, then fully seat the hammer strut assembly. Now that it is in place, you should be able to cock back the hammer and release it by pulling the trigger now. **NOTE: DO NOT LET THE HAMMER RIDE FORWARD BY ITSELF.** If you can't get the hammer strut assembly to seat correctly, it may be useful to use a punch or small screwdriver to hold it in place.



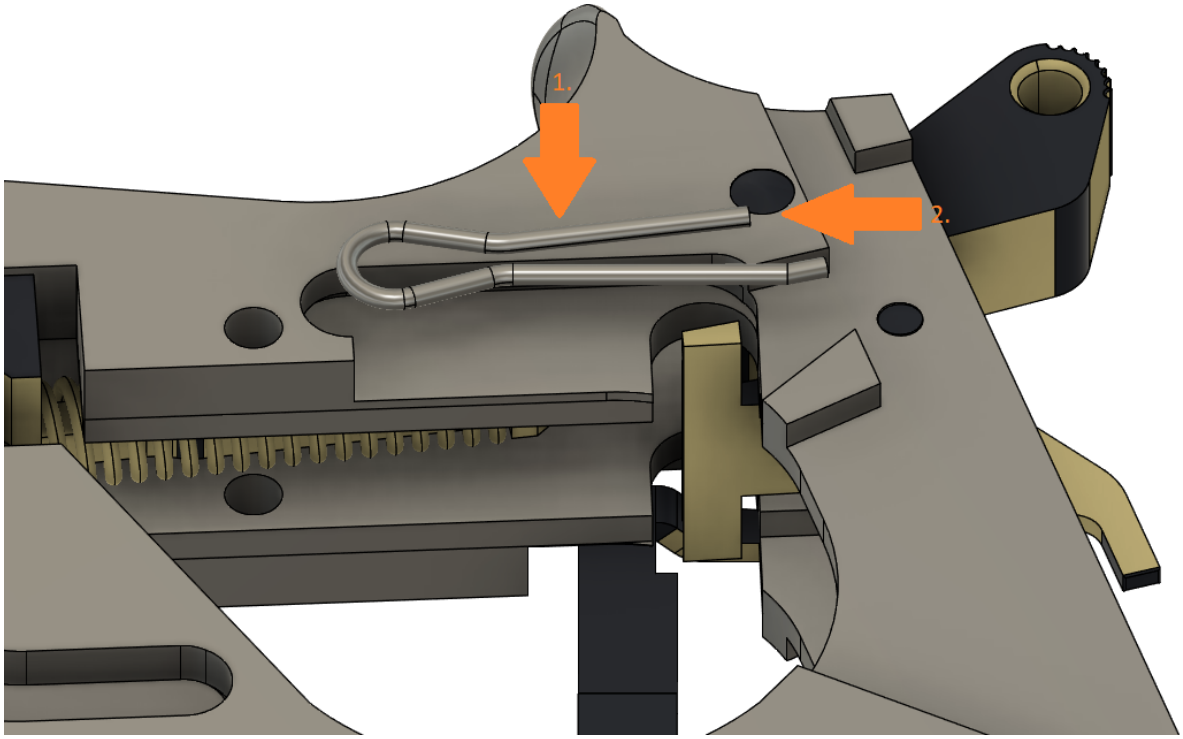


Inserting the hammer pin

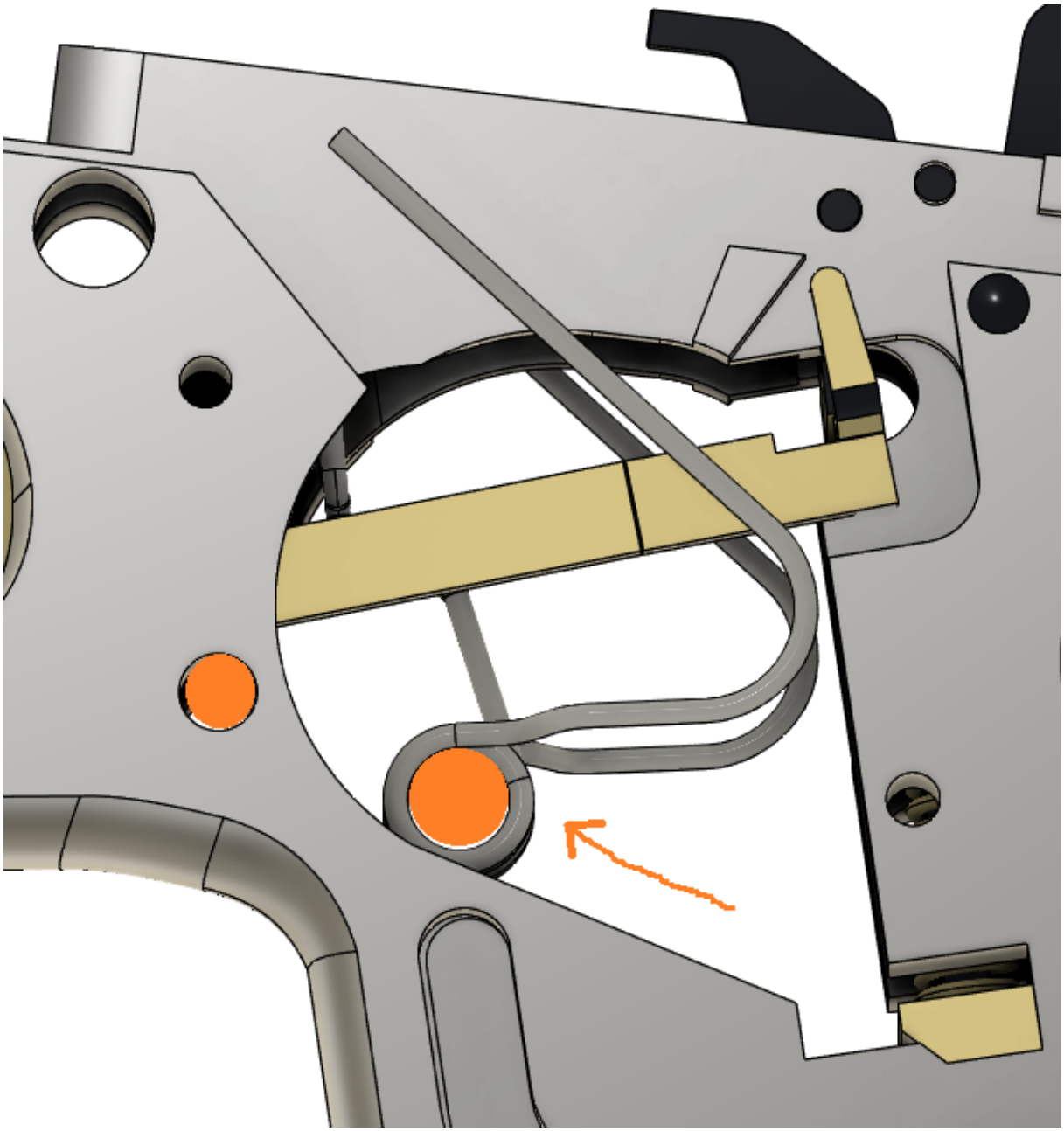


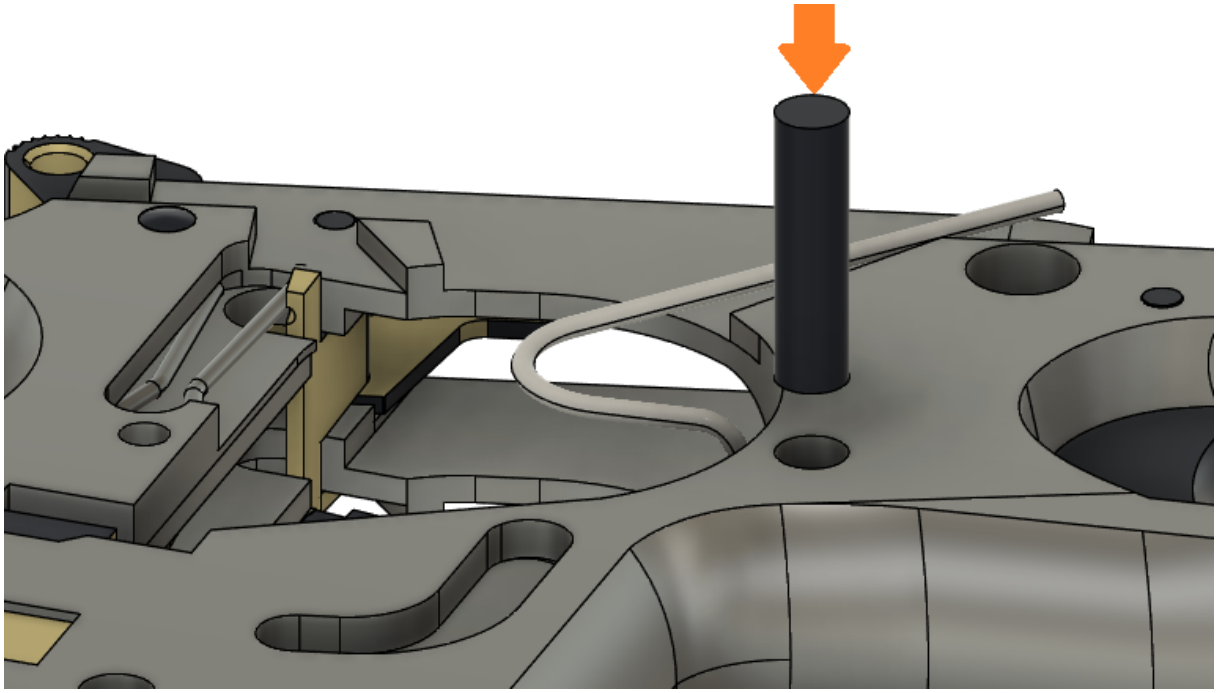
Seating the hammer strut

15. Take the sear spring (#18), and place it so the circular end is facing downwards in the pocket near the sear (on the opposite side of the frame as the ejector). You may need a small tool or paper clip to fully press down the sear spring so that it is seated correctly.



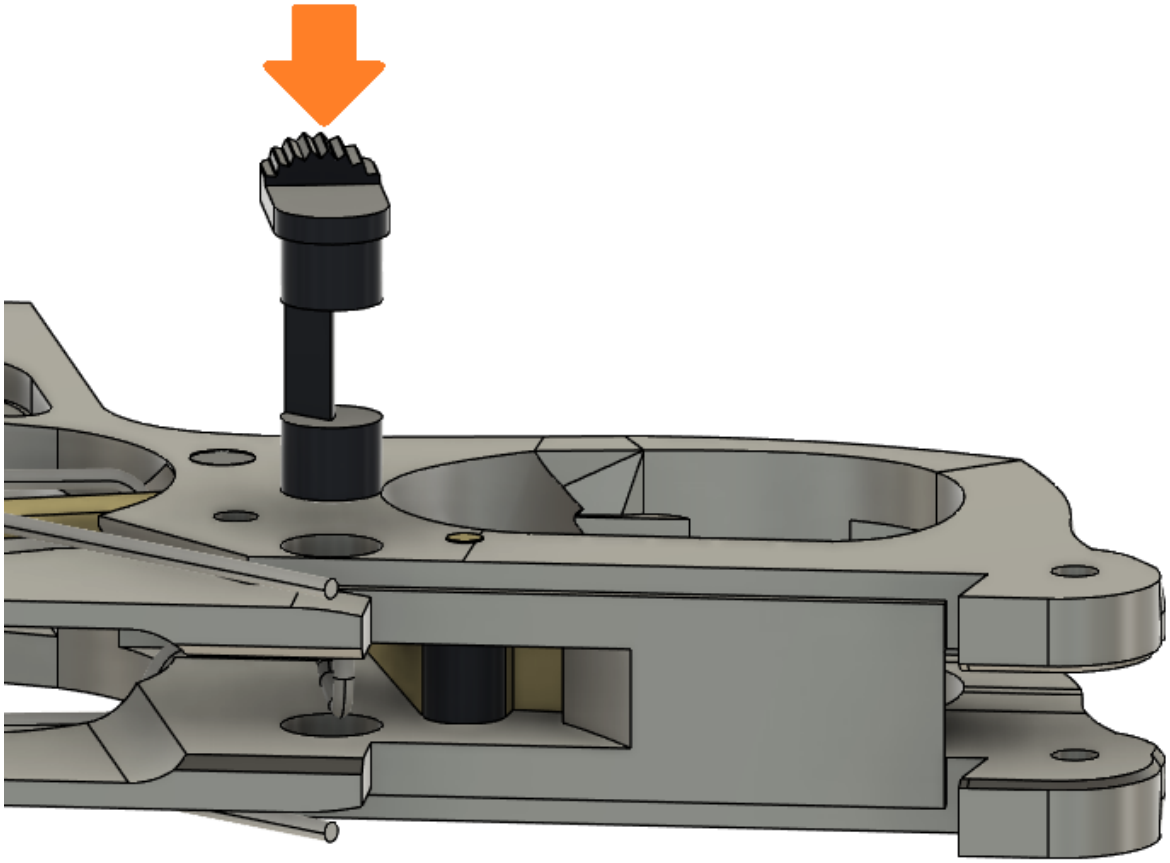
16. Next, pick up the recoil spring (#23) and recoil spring pin (#24). Insert the recoil spring into the pocket behind the trigger so the coil is facing the trigger and tails poke out of the frame. The hole in the spring coil should be aligned with the hole in the frame; now insert the recoil spring pin into the hole in the frame.

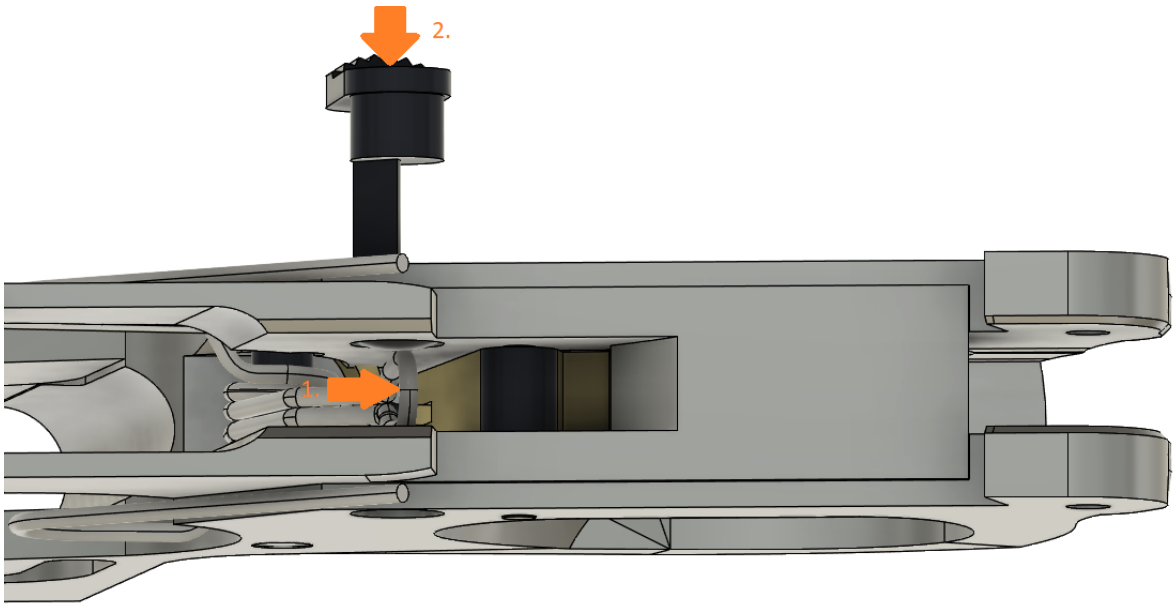




Seating the recoil spring pin

17. With the recoil spring in place, it is time to insert the barrel lever (#10) into the large hole above the trigger. To do this, insert the round-headed side opposite the lever in through the hole on the left side. Note that to fully insert the lever, you will need to press the recoil spring loop forward to seat the barrel lever. Test the lever to make sure it rotates smoothly.

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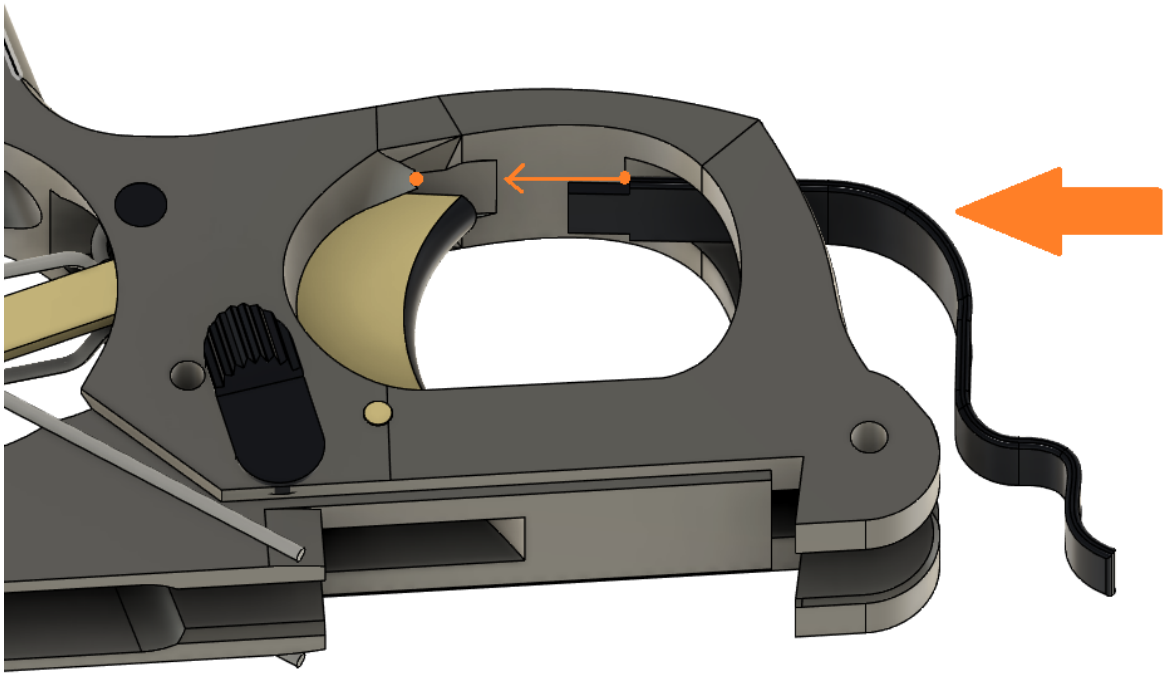
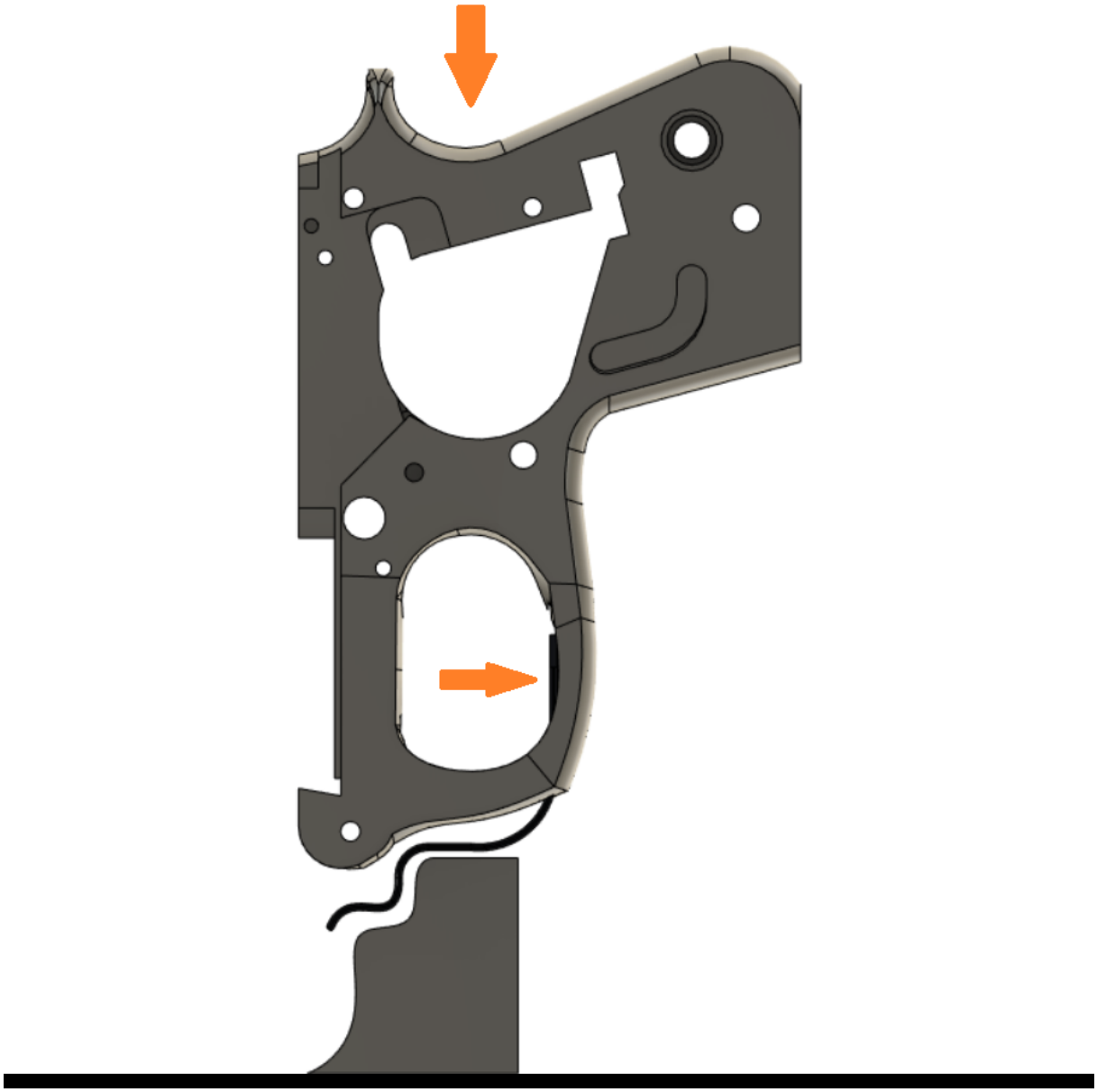
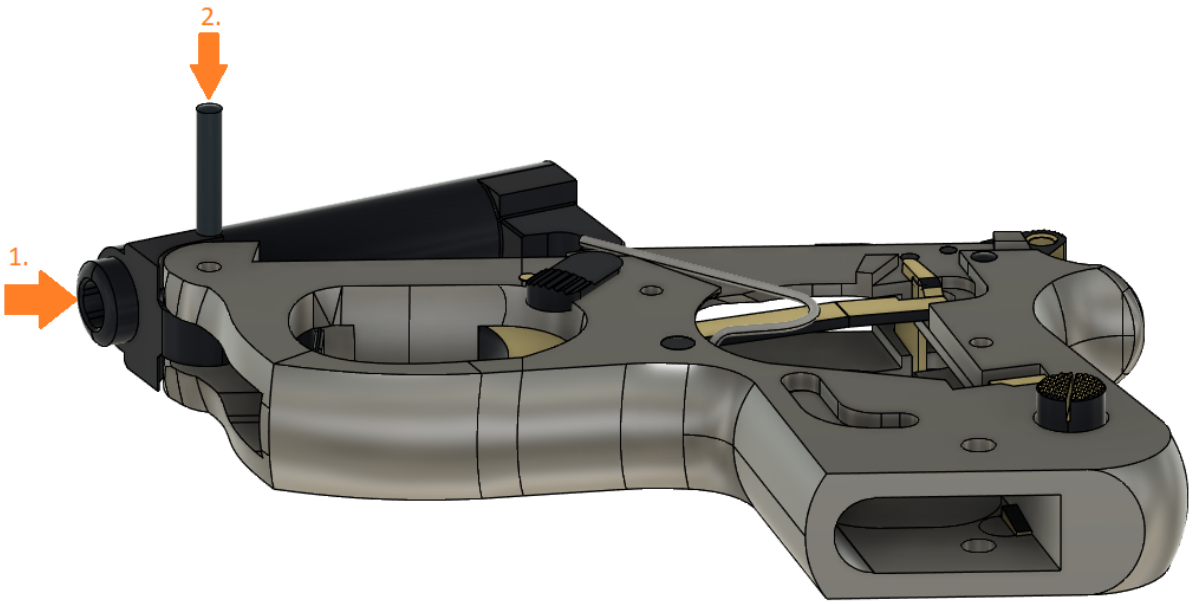
18. Grab the trigger guard (#25) and insert it through the trigger guard channel and into the narrow channel under the trigger. Use the trigger guard pusher as laid out in the diagram on the following page to push the metal trigger guard fully into its channel.





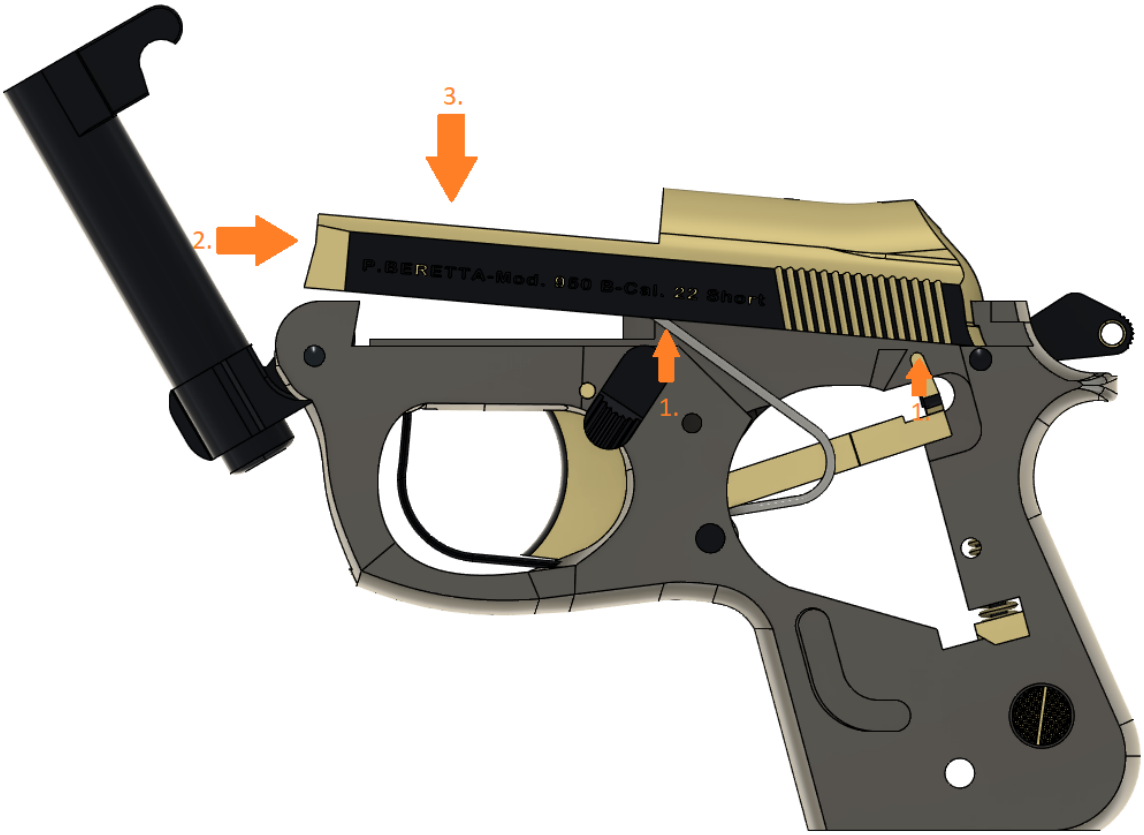
Trigger guard installation tool

19. Line the barrel (#2) up with the holes at the very front of the frame. Put in place so that the holes are aligned and insert the barrel mounting pin (#3). The barrel should be held in place but can be tipped-up (then back down).

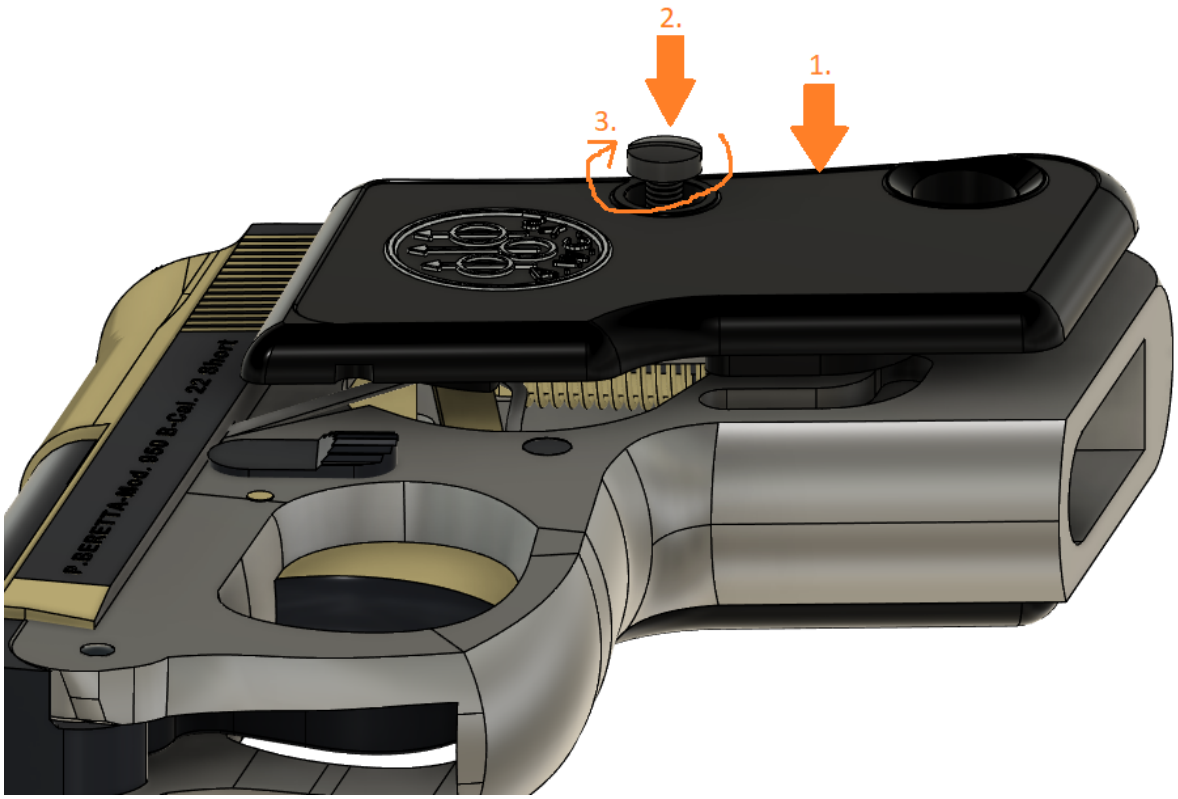


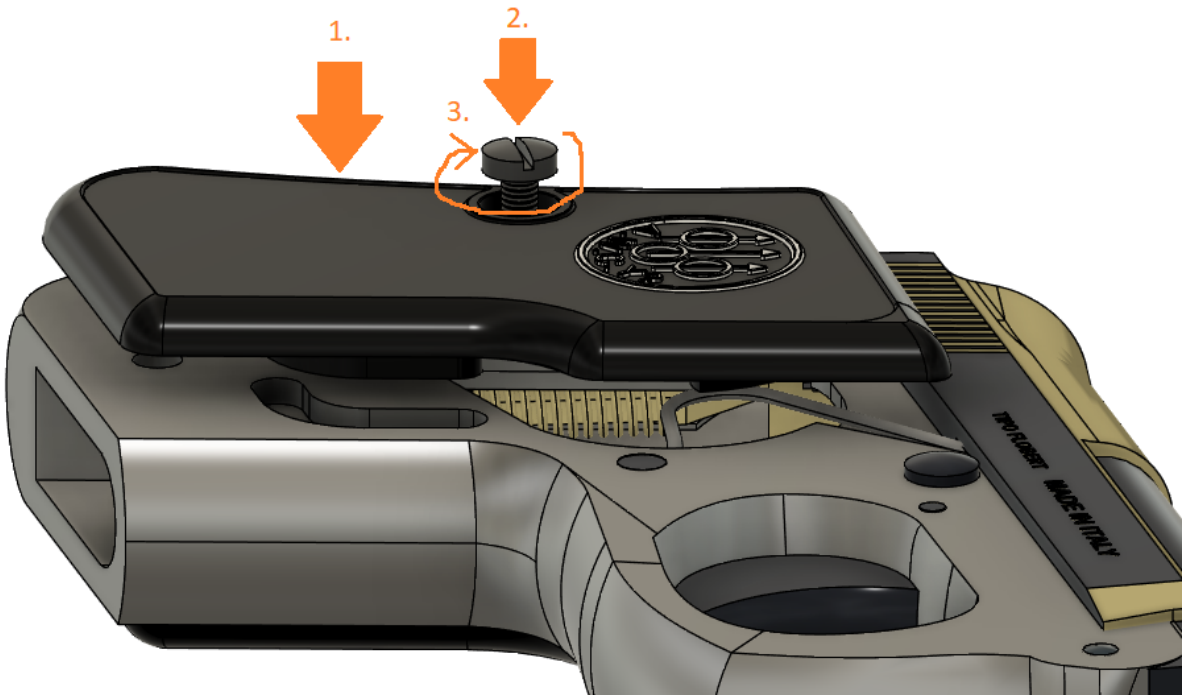
20. **If your slide is already assembled with the firing pin in place, skip this step.** To assemble the slide, you will need the firing pin (#5), firing pin spring (#6), firing pin retaining pin (#7), and slide (#1). Place the spring over the narrow end of the firing pin, then insert the firing pin spring-forward into the rear slot in the slide. Depress the firing pin all the way forward and hold it there, then insert the retaining pin into the hole in the top of the slide. The firing pin retaining pin insertion will not work with the firing pin pressed all the way forward, you may need to use a small screwdriver or similar tool to hold it in place while seating it.

21. **NOTE: DO NOT LET THE SLIDE SLAM FORWARD WITHOUT THE BARREL IN PLACE, IT MAY BREAK THE BARREL SEAT.** Place the slide onto the frame, lining up the slots in the rear of the slide with the nubs on the mid-section of the frame. Once the nubs are inside the matching slots on the slide, pull the slide backwards towards the hammer and release it. If the gun has been assembled correctly so far, the hammer will remain cocked backwards and the recoil spring will return the slide forward.



22. Finally, grab the left grip (#32), right grip (#33) and 2 grip screws (#34). Place them on the frame and screw them in place.





23. Done!

Acknowledgements

DEVS

- erissnow (@erisnow:matrix.org)
- j0nny852 (@jonny852:matrix.org)

GRIP DESIGNS

- Original grip design by Teruteru (on GrabCad)
  - Stippling by j0nny852 and drunkrebel

DOCS AND TRAILER

- capekoviroboti (@capekoviroboti:matrix.org)
- EWW (@drewrox2009:matrix.org)

TESTERS

- justinhates, DeadParrot, drunkrebel, trophytrout, Pendenski, eyeliketurtles, wethepeople

SPECIAL THANKS TO

- The IttyBittyBangBang room for helping us through the dev and testing process
- The entire AWCY? team

CONTACT INFO

Any questions? Send them to @j0nny852 (Twitter) / @jonny852:matrix.org (Matrix).