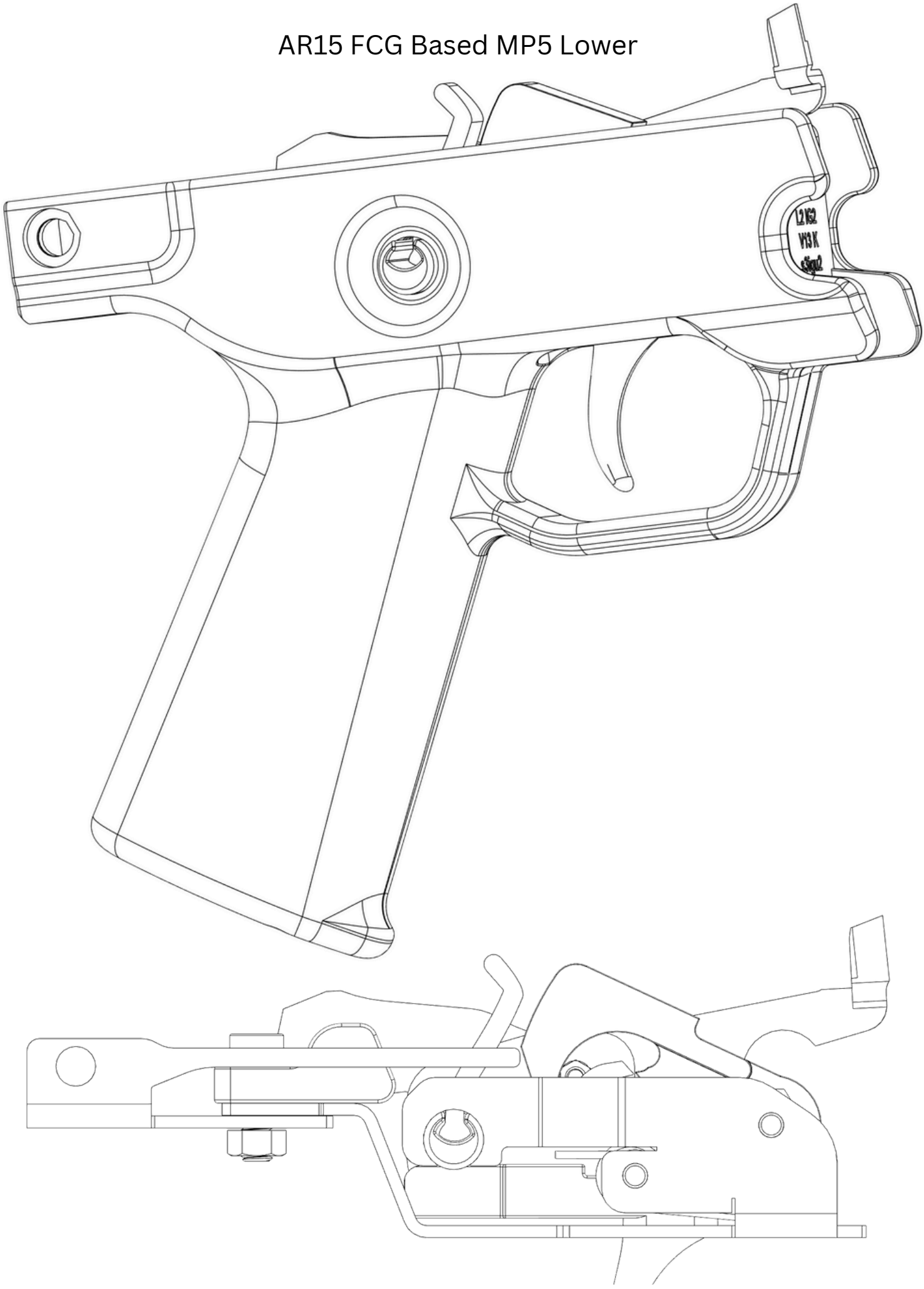
Leber V2

AR15 FCG Based MP5 Lower

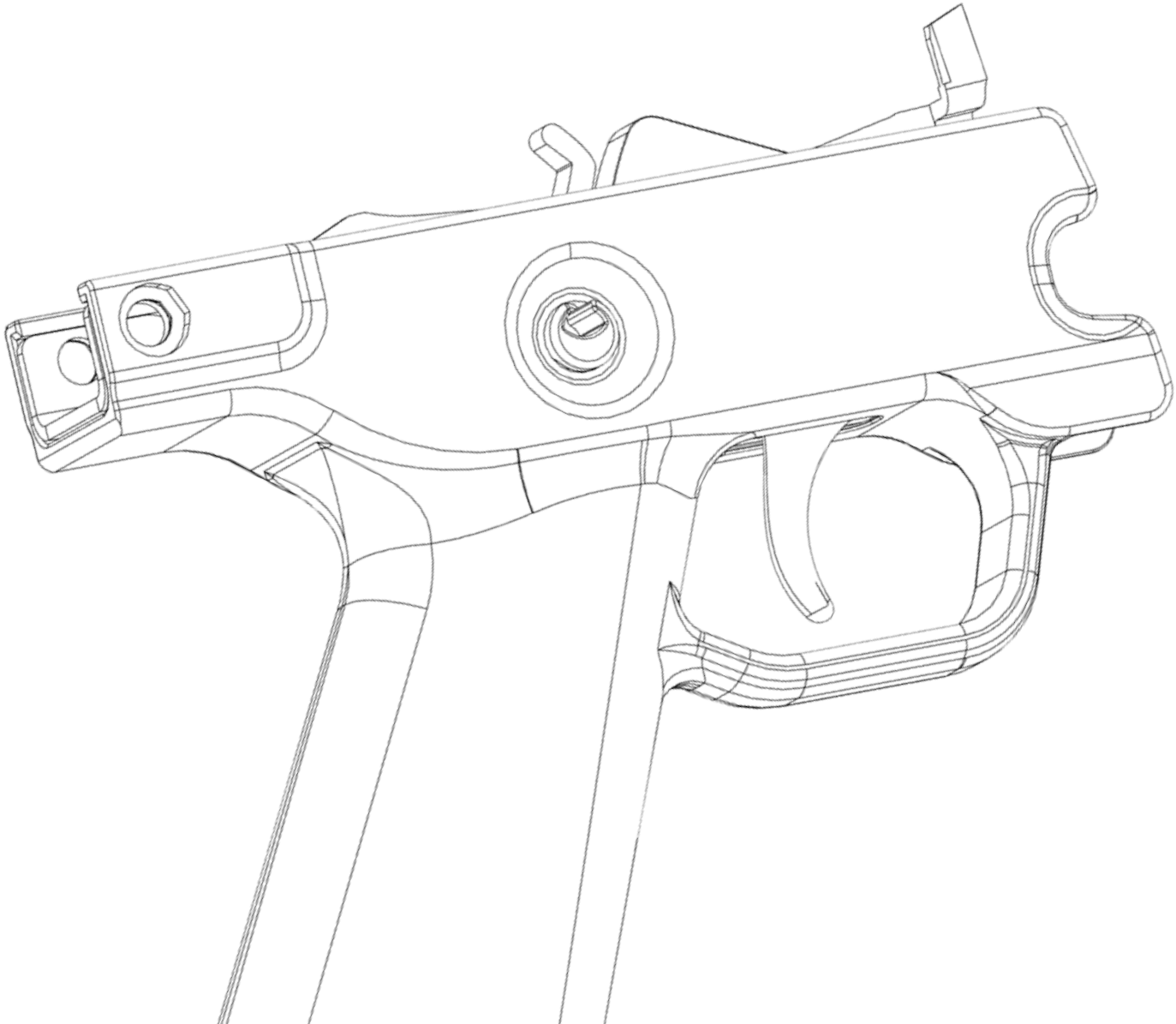


Description

The Leber V2 is an AR-15 Fire Control Group (FCG) trigger pack compatible with SP5, SP5K, AP5, AP5-P, PTR and more. It uses bent sheet metal to retain the hammer, trigger, selector, and ejector.

The steel plates interface with the receiver at the front and back, removing all stress from the polymer external housing. These steel plates allow for a flush external polymer housing, giving the Leber V2 a more factory HK trigger pack appearance while also being much stronger. The lower also features a built-in grip option to mirror the factory HK trigger pack grip, which significantly improves durability. The Leber V2 was designed from the ground up to work with the super safety, though its usage is optional.
Credit to @UberPoor on X/Odyssey for the ARMP5 V1 & V2, as the Leber V2 was heavily based on those early designs.

For those interested in supporting future projects, donations are greatly appreciated. Contributions can be made via Bitcoin to the following address:
bc1qz37yzsa6090alxd5zlulhm3ns38qjrmszcq2c5



MP5 Ejection Guide

Failure to eject (FTE) is the most common issue that arises when using AR-15 FCG lowers. This is due to the added pressure of the AR-15 hammer and the force required to reset the super safety cam. Both of these require significant bolt carrier energy.

That said, this is an easy issue to fix as long as you know what to look for and are willing to spend a small amount of money on quality parts.

- **MP5 extractor spring:** The MP5 extractor spring is the weakest part of the MP5 design and can be easily damaged, resulting in FTE. I recommend replacing your bolt face with an RCM MP5-E bolt face or regularly checking your extractor spring stiffness.

- **Locking Piece:** The MP5 locking piece is the most common cause of FTEs. The lower the degree of the locking piece, the less bolt carrier energy is available, increasing the likelihood of FTEs. This issue can be resolved by using a locking piece with a higher degree (no higher than 100 degrees unless using 115-grain ammo). RCM locking pieces are recommended.

- **Ammo:** Using the wrong locking piece in combination with certain types of ammunition can result in FTE.

  Examples
  - 115-grain 9mm with a 90-degree locking piece and no suppressor attached will likely result in FTE on every shot. (Switch to a 100-degree locking piece.)

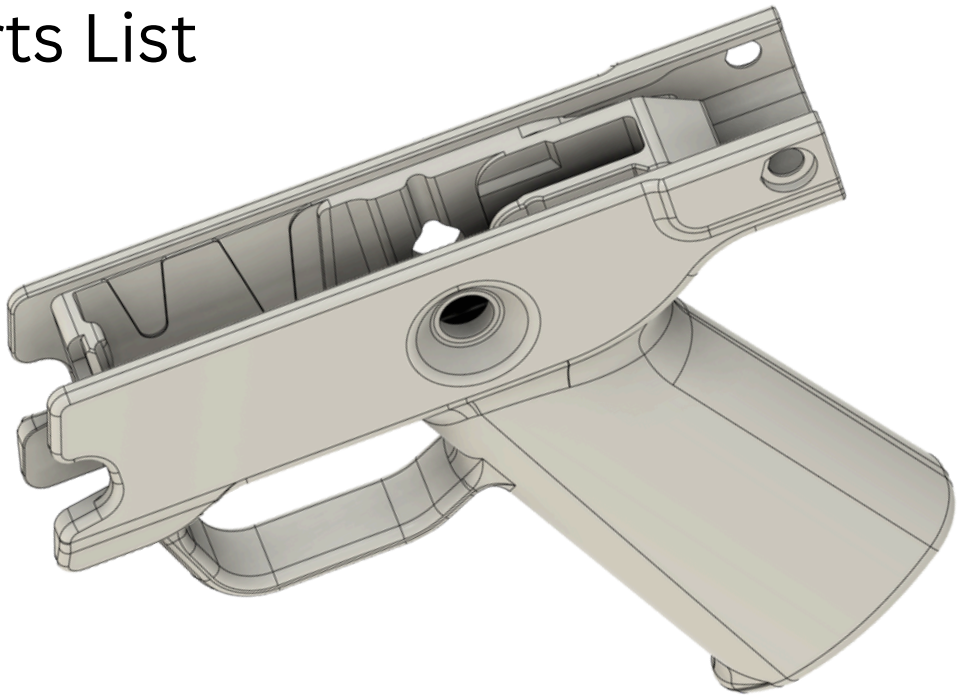
  - 124-grain 9mm with an 80-degree locking piece and no suppressor attached will likely result in occasional FTEs. (Switch to a 90-degree locking piece.)

- **AR-15 Hammer:** The AR-15 hammer requires more force to reset than the factory MP5 hammer. While this is perfectly functional, if you want to improve reliability with weaker ammo types, the Geissele SSA-E FCG is compatible with the Super Safe Leber V2 and is much easier on the bolt carrier. It also requires less force on the trigger, making resetting the cam easier as well. A reduced AR-15 hammer spring might also help; however, if you encounter light primer strikes, it may be too weak.

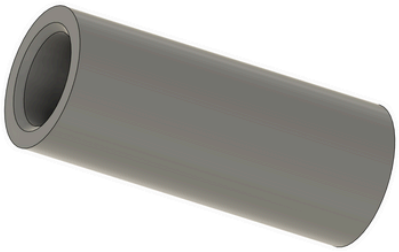
- **Ejector Lever:** This is one part you should never skimp on. Spend the money and buy a quality, genuine German GEN 3 ejector lever. This lower was designed around this ejector lever; using anything else is setting yourself up for failure.

Parts List

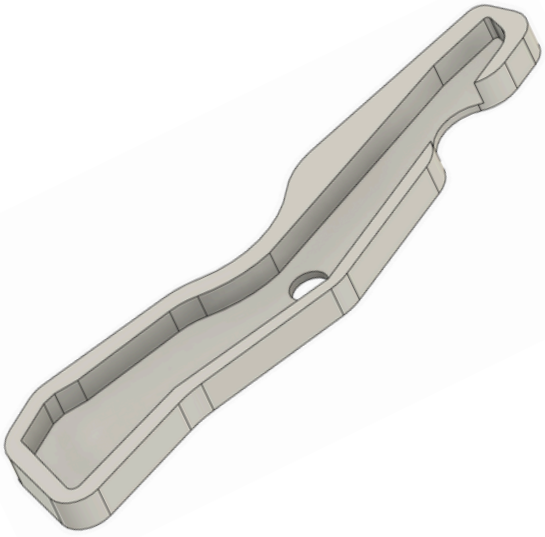
- For the housing, you will need either the K or full-size housing. Make sure to pick the correct housing, as they both look very similar.



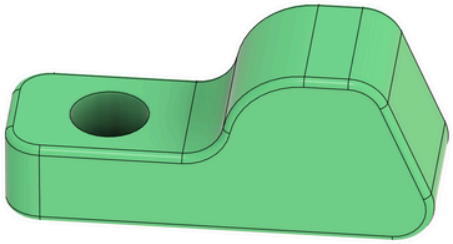
- (FULL SIZE MP5 ONLY) Next, you need a 48mm TPU buffer to prevent the BCG from slipping behind the AR-15 hammer and getting stuck. The only situation where you don’t need the buffer is when using a full-auto sear with a true full-auto FCG, or if you cut your hammer to avoid needing this buffer. (Print in TPU95A 100% Infill)



- The ejector cutting jig is used to cut the ejector in such a way that the hammer no longer stops it from going flush. Improperly cutting the ejector will cause various issues, primarily preventing the charging handle from being pulled back.

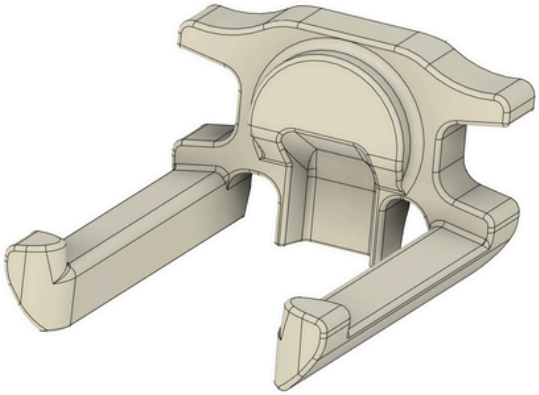


- The Super Safe Ramp prevents the lever from dropping below the reach of the slip trip. Even if you aren't using the super safety, you will still need this ramp unless you use a shorter M5 screw.



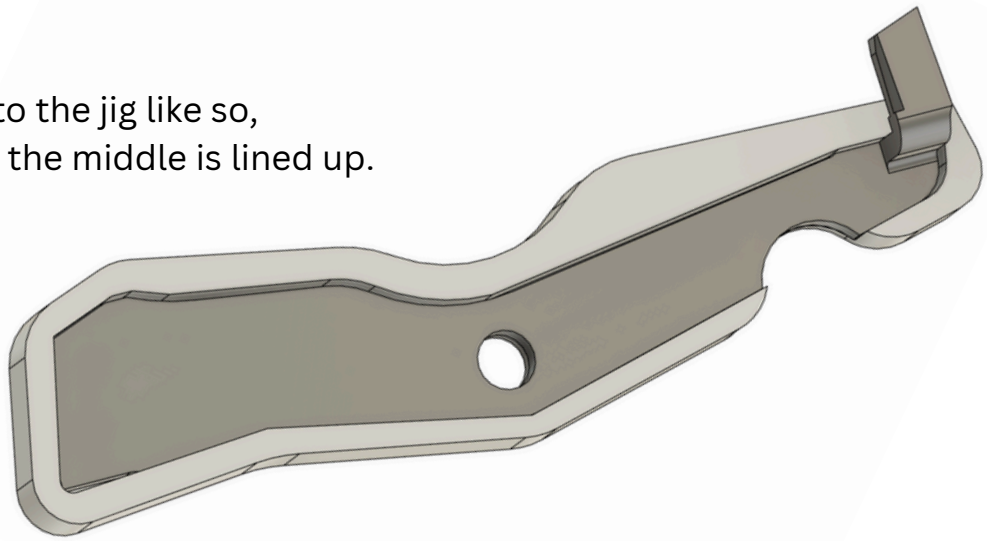
- The selector detent extender bar goes into the detent track after the detent and detent spring, filling the gap so the set screw can apply pressure to the detent spring correctly.

- The Slip Trip is required for the Super Safety to function with this lower. If you do not plan to use the Super Safety, then you will not need the Slip Trip. You can download the latest version of the Slip Trip on my Odysee. https://odysee.com/@S3igu2

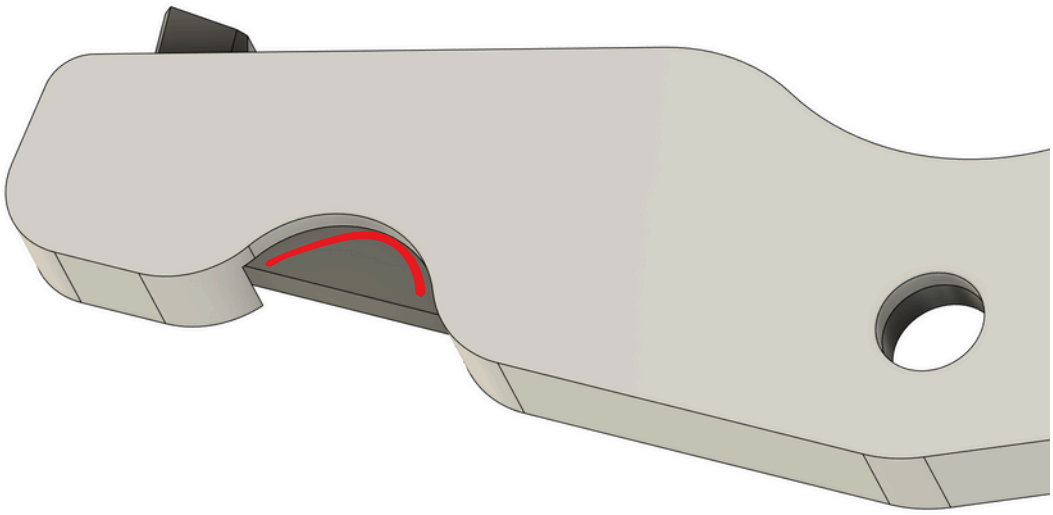


Ejector Cutting Jig Guide

- Place the ejector into the jig like so, ensuring the hole in the middle is lined up.



- Mark the ejector with a Sharpie then remove the ejector from the jig. Cutting it with the jig on works, but it will melt the jig pretty quickly.

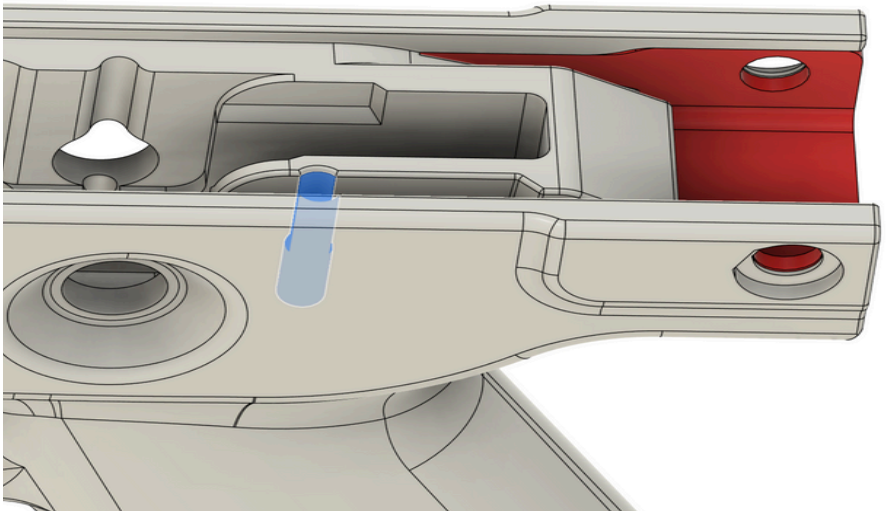


- Cut the ejector where marked with a Dremel or another tool, ensuring you end up with a cut like this. You can also sand and smooth the edges to make sure everything fits properly.

- Shorten the hammer spring by 6.5 mm (1/4 inch)

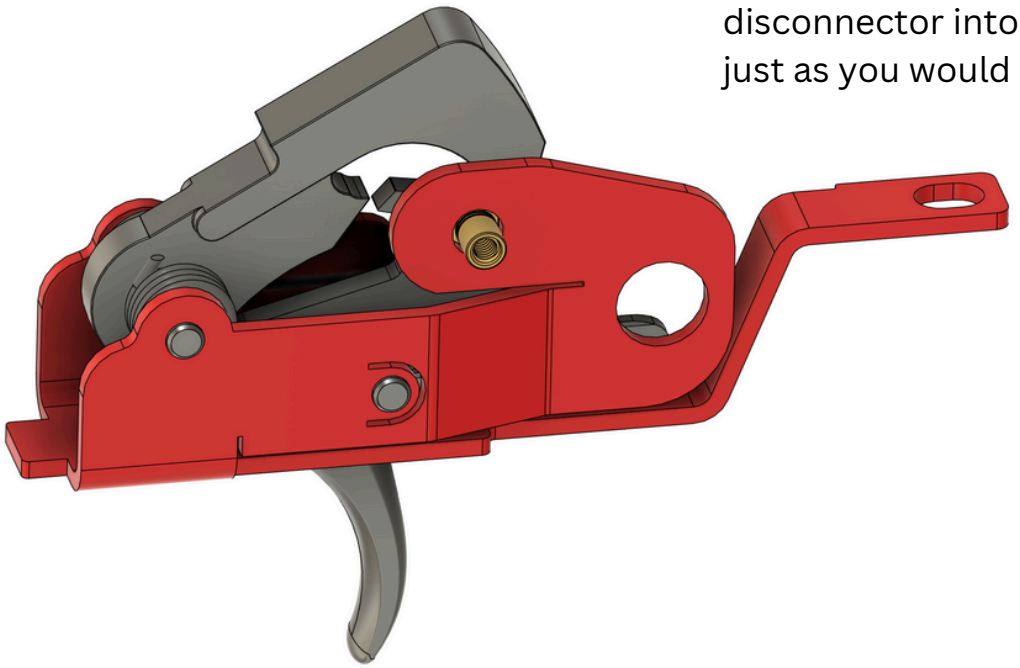
- Remove the ramp and the FCG plate

- Install the ejector spring into the hole highlighted in blue. The spring should drop in easily; if it doesn't, make sure nothing is blocking it in the hole.



Main Plate Assembly

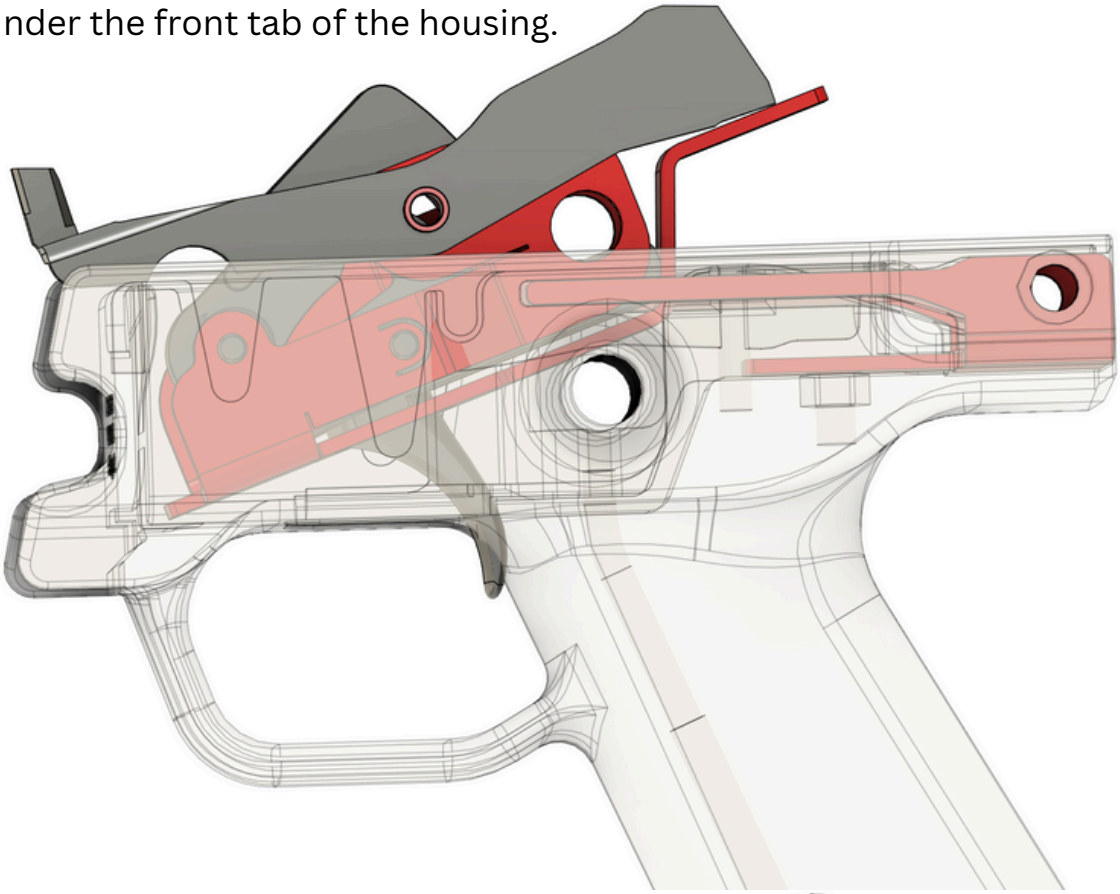
- Install the hammer, trigger, and disconnector into the main SCS plate, just as you would in a normal lower.



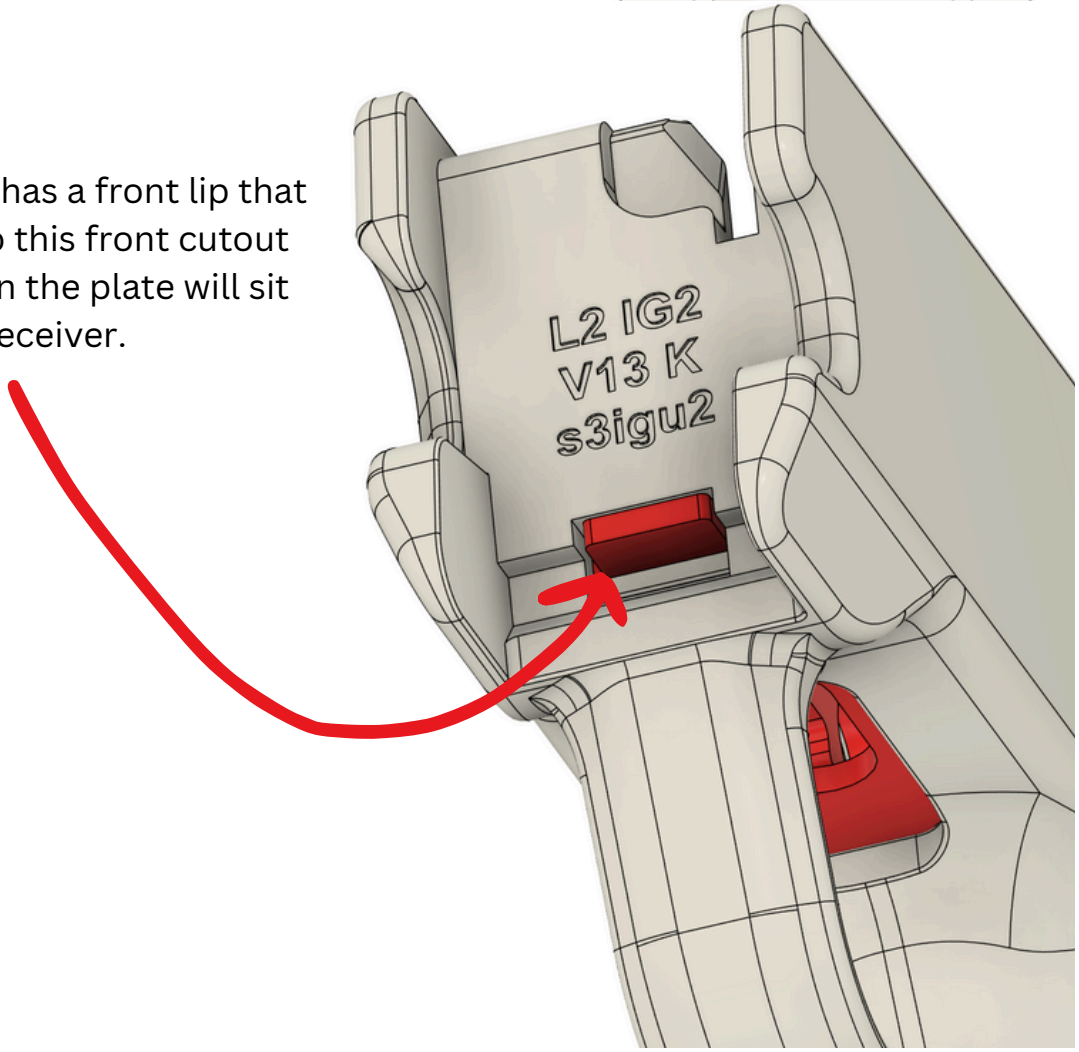
- The ejector will be loose on the plate, so make sure to hold both the ejector and spacer in place until it's in the housing.

Main Plate Install

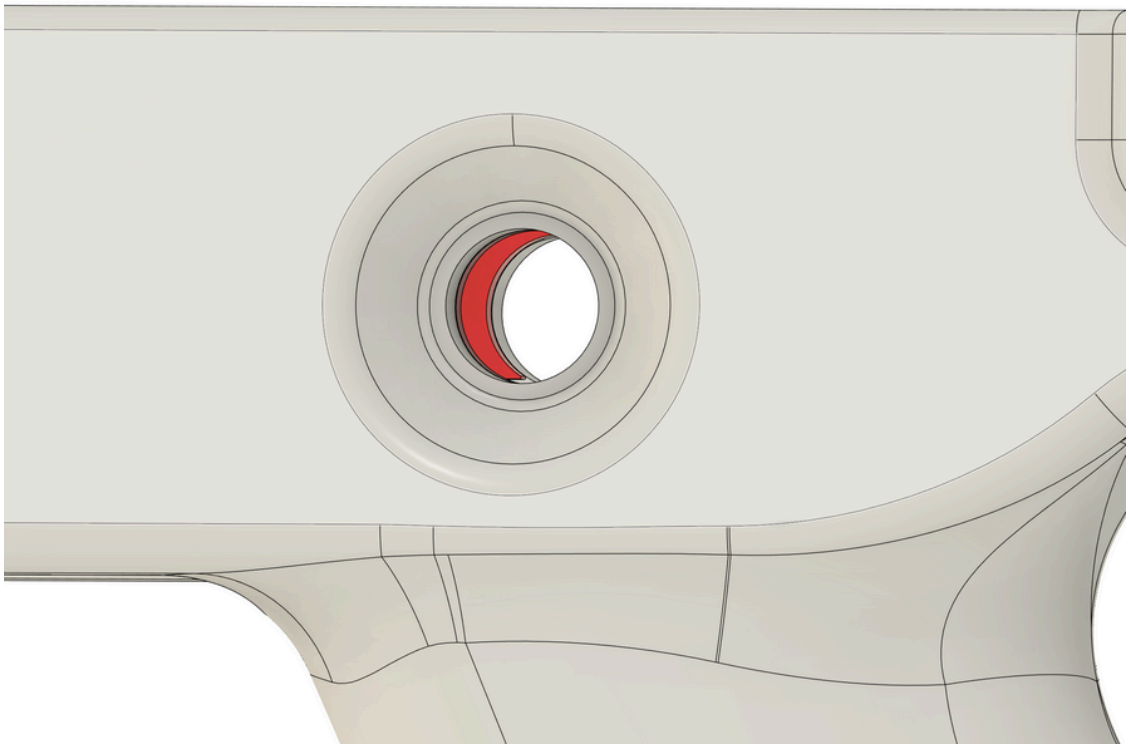
- While holding the ejector onto the plate, insert the front of the main SCS plate into the housing first, allowing it to slide under the front tab of the housing.



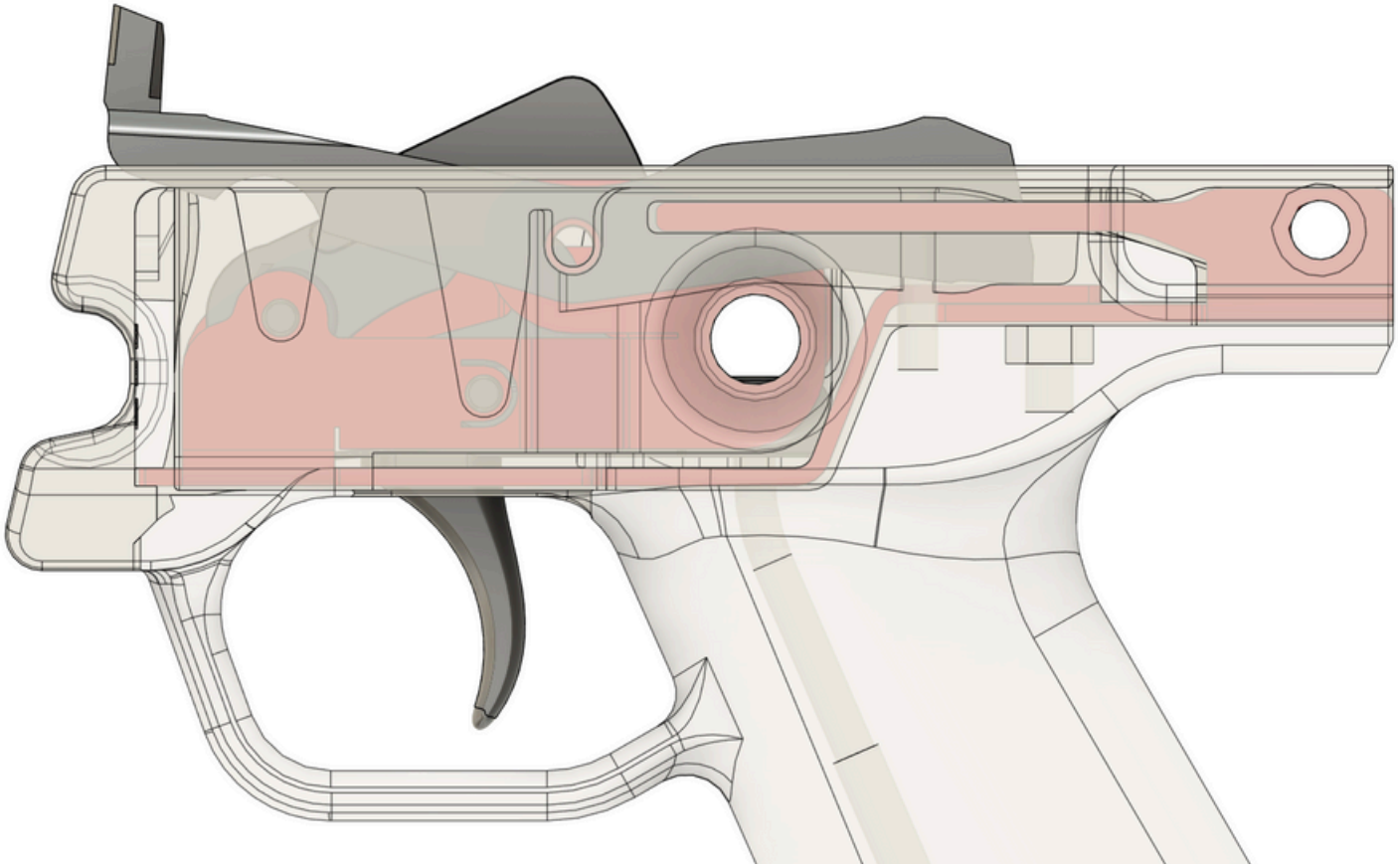
- The main FCG plate has a front lip that needs to be slid into this front cutout first. This front lip on the plate will sit on the shelf of the receiver.



- The most common area to be out of spec with the main send cut-send plate is the selector hole. It should line up almost perfectly with the selector hole in the housing. If you notice the selector won't go in, make sure to push the FCG forward or backward so the plate lines up with this hole.

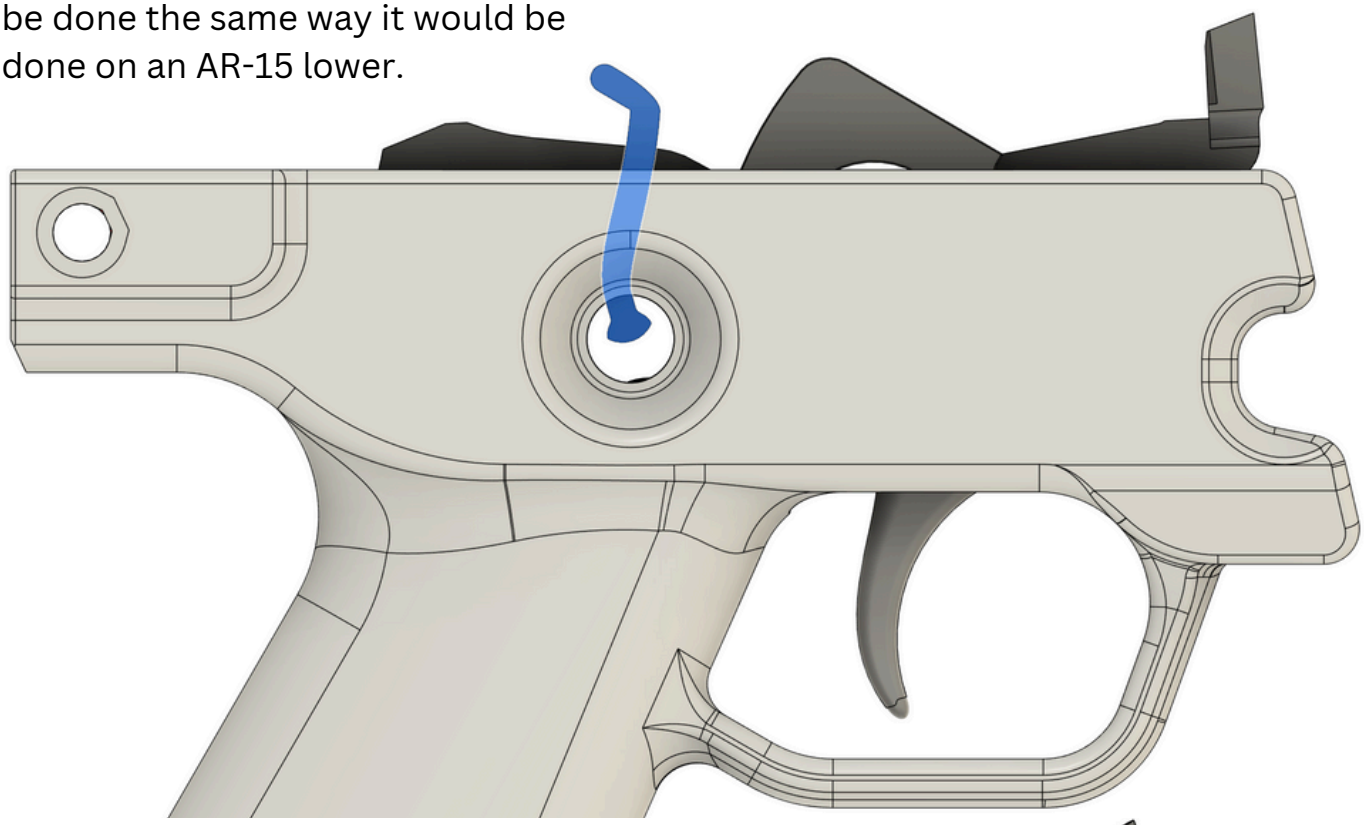


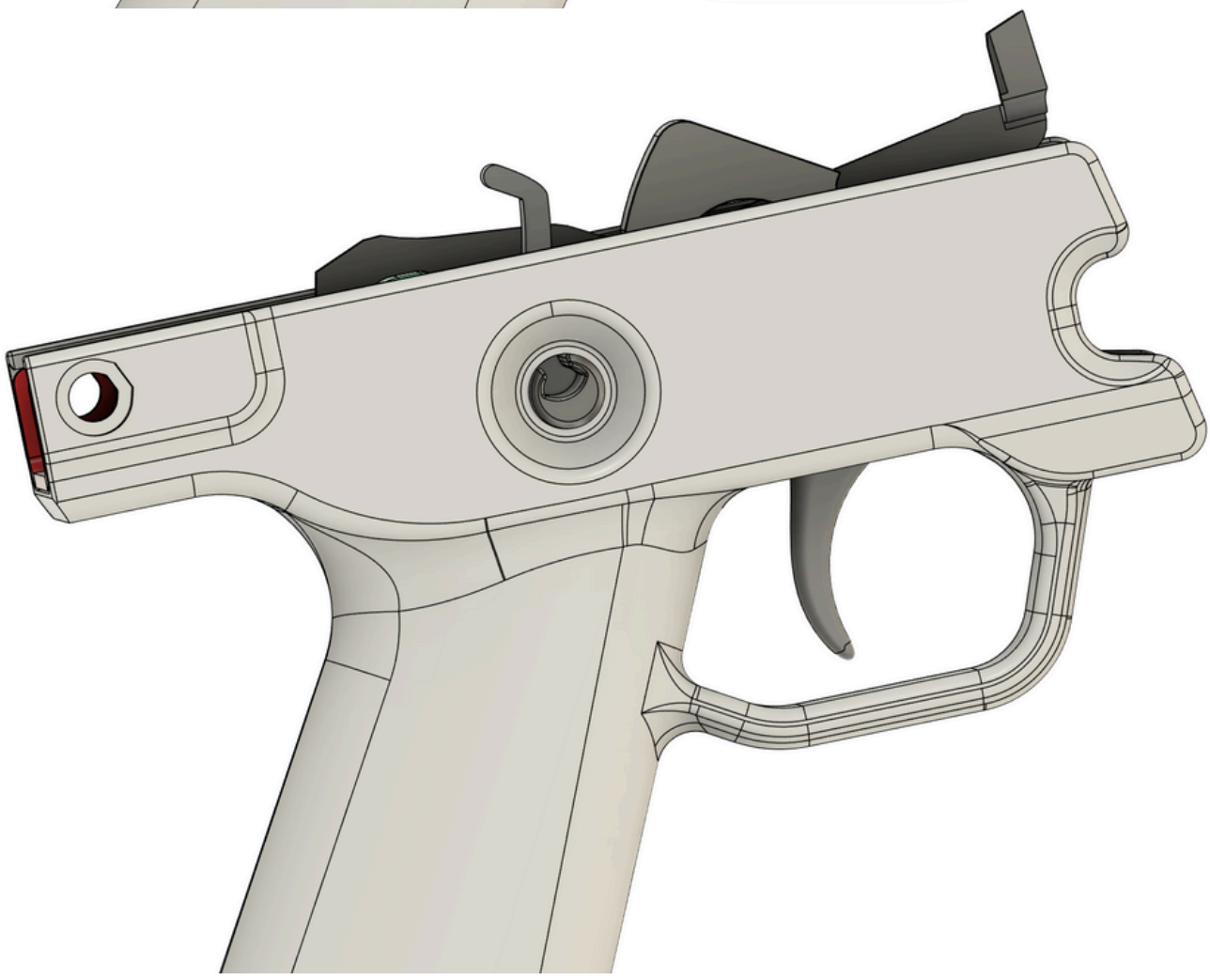
- You will need to push it down and forward; eventually, it will snap into place. This might take a bit of practice, but it should be fairly easy once you get the motion down.



Selector Install

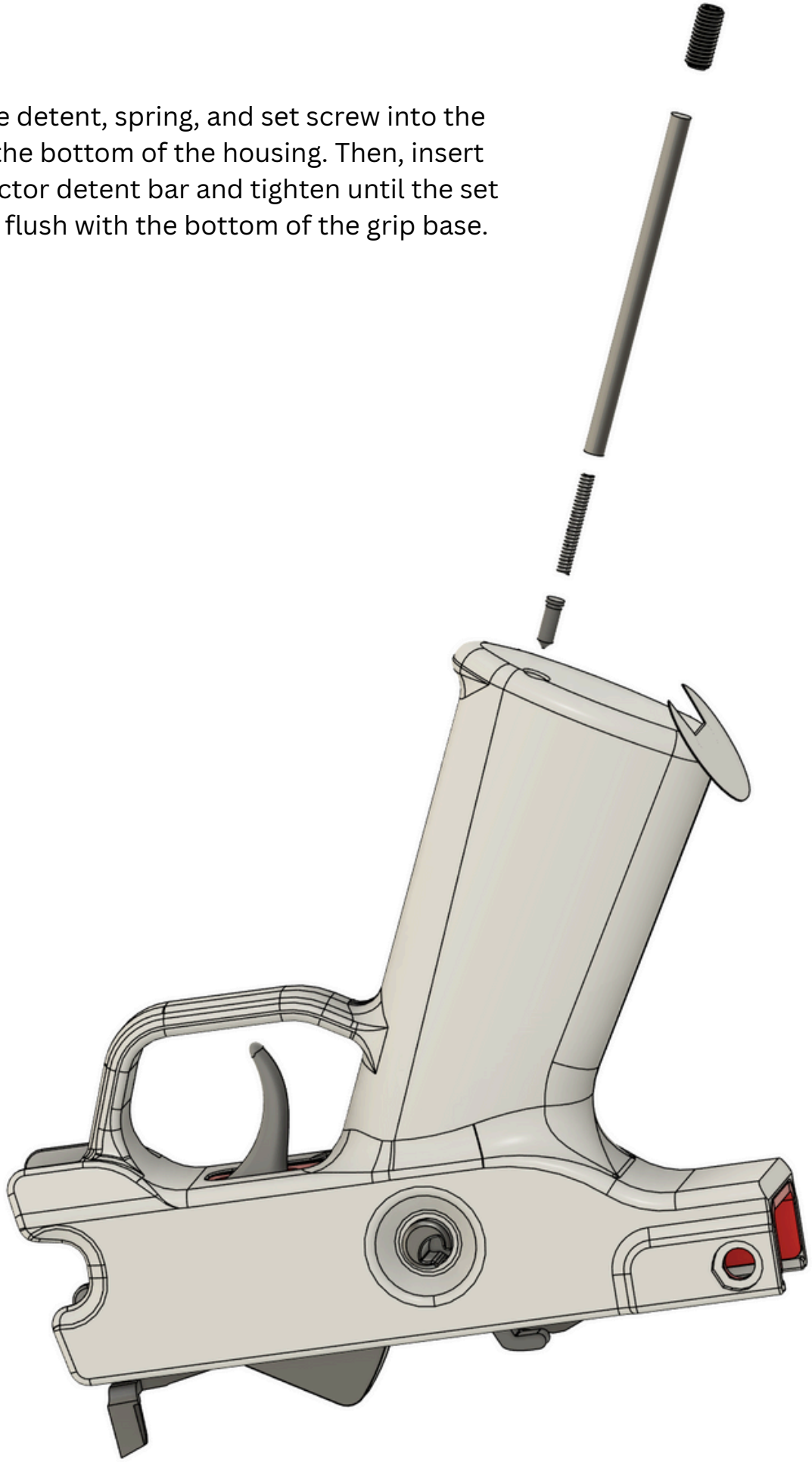
- Now, install your selector. This should be done the same way it would be done on an AR-15 lower.





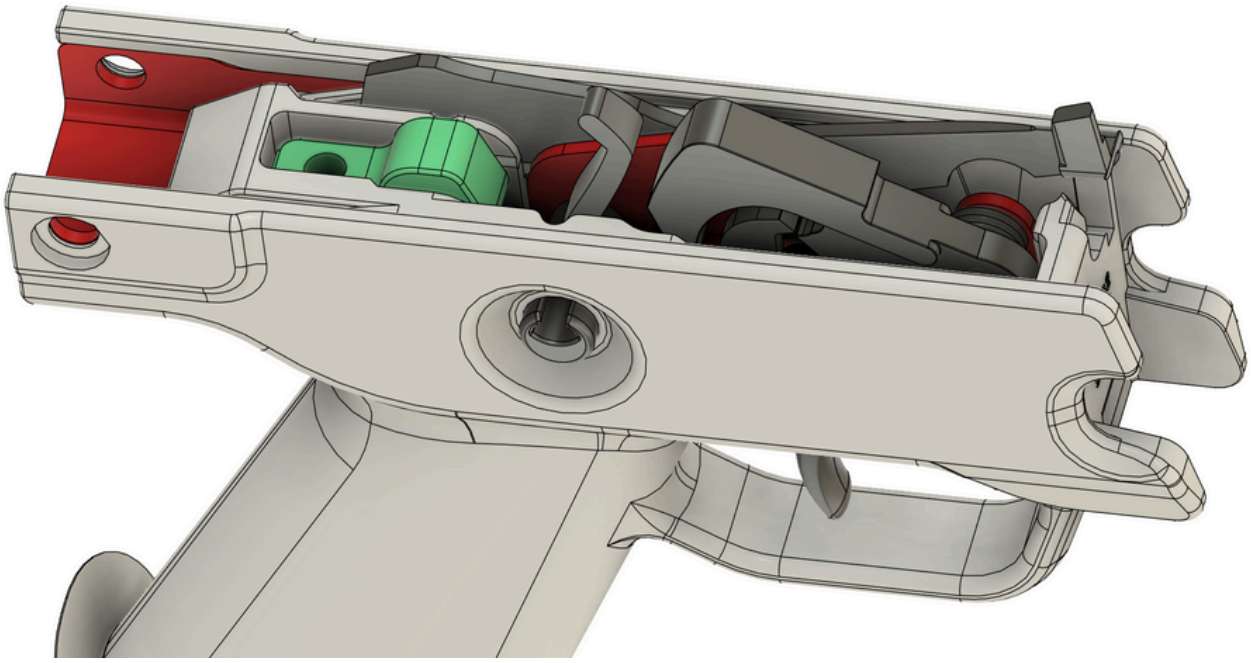
Selector Detent Install

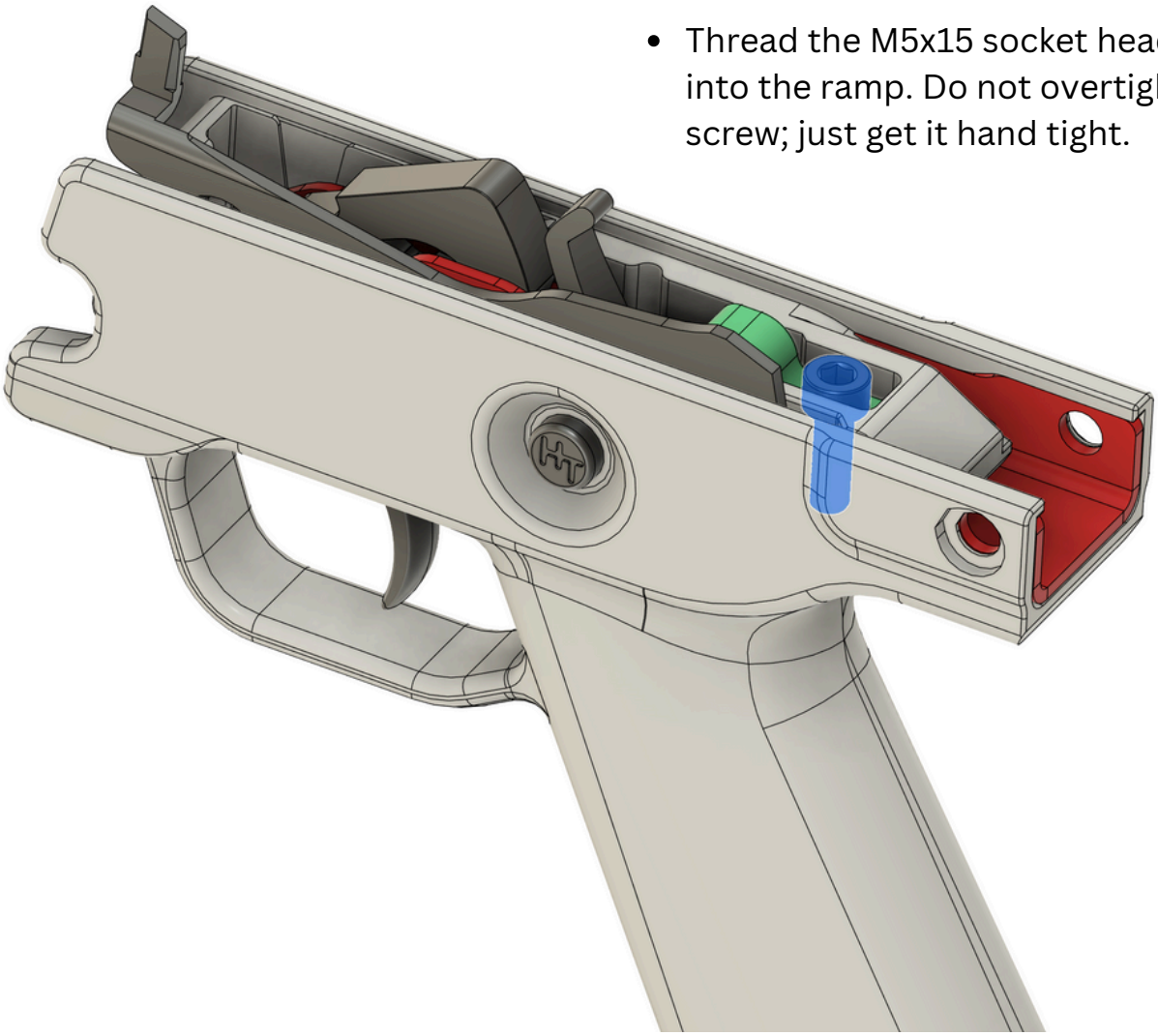
- Drop the detent, spring, and set screw into the hole at the bottom of the housing. Then, insert the selector detent bar and tighten until the set screw is flush with the bottom of the grip base.



Ramp and M5 Screw install

- Place the ramp into the cutout of the housing.

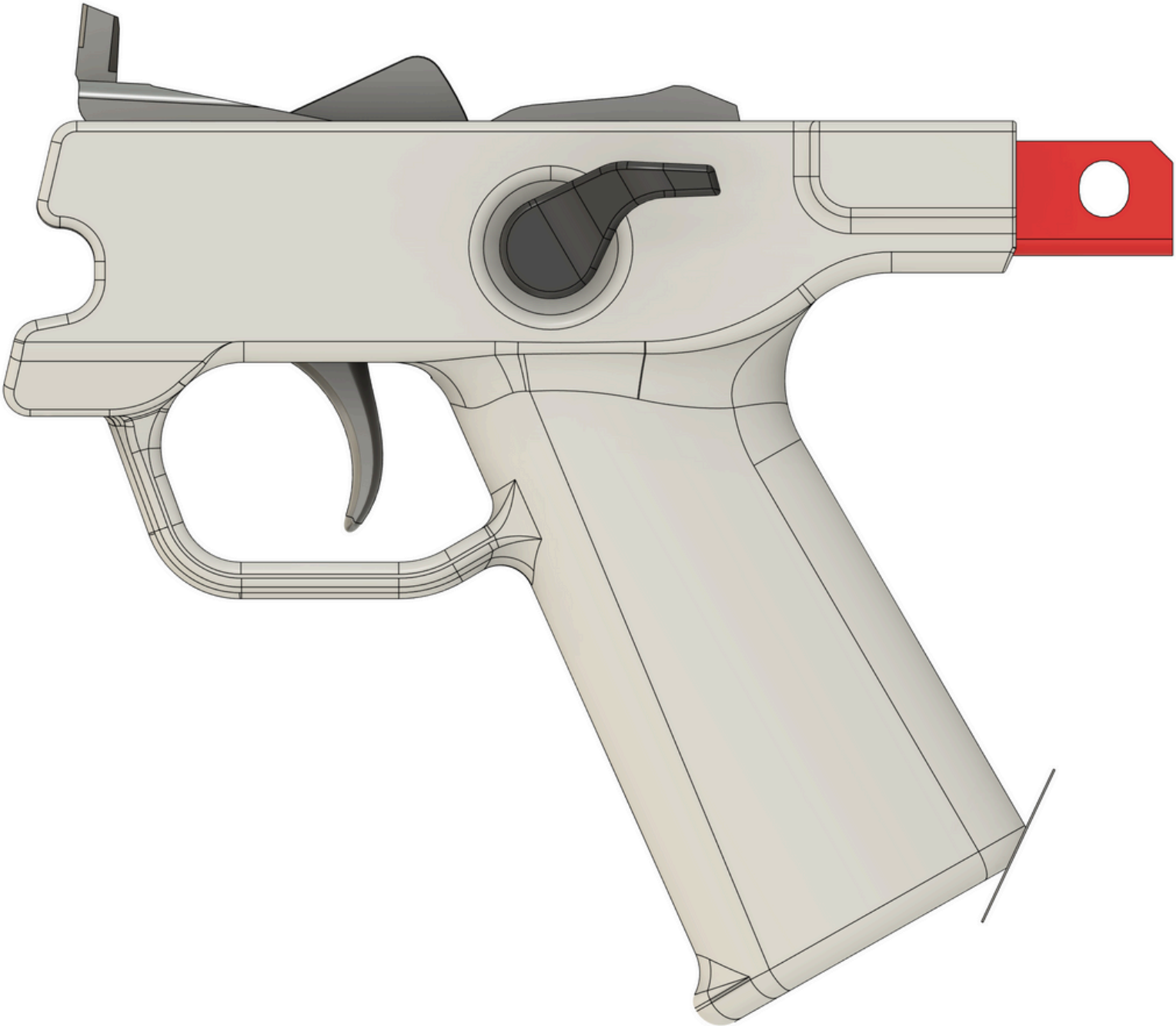




- Thread the M5x15 socket head screw into the ramp. Do not overtighten this screw; just get it hand tight.

TPU Buffer install Full Size MP5 Only

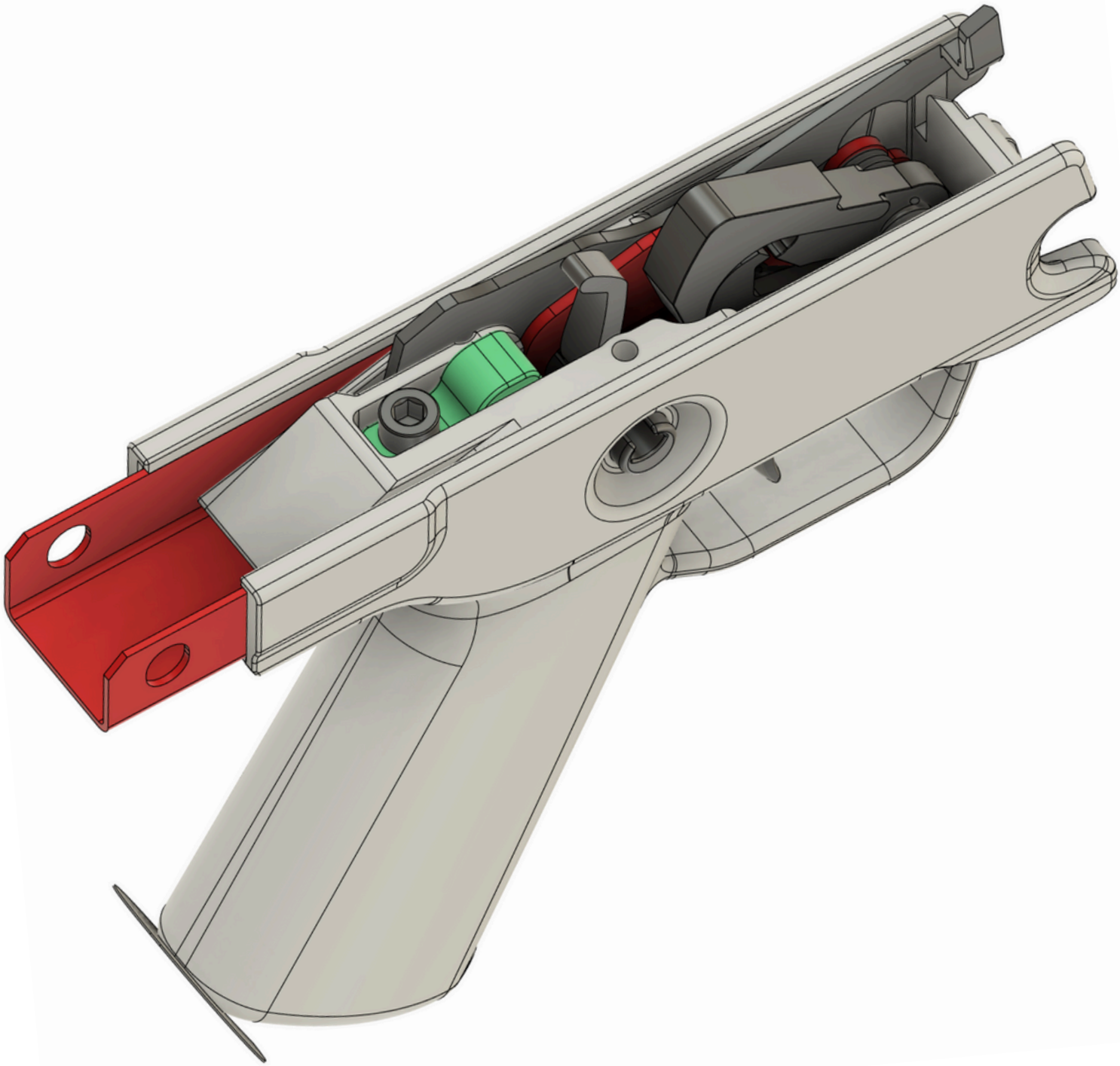
- Slide your 48mm TPU buffer onto the recoil spring and install the lower as you would any other MP5 lower.



Function checking the lower

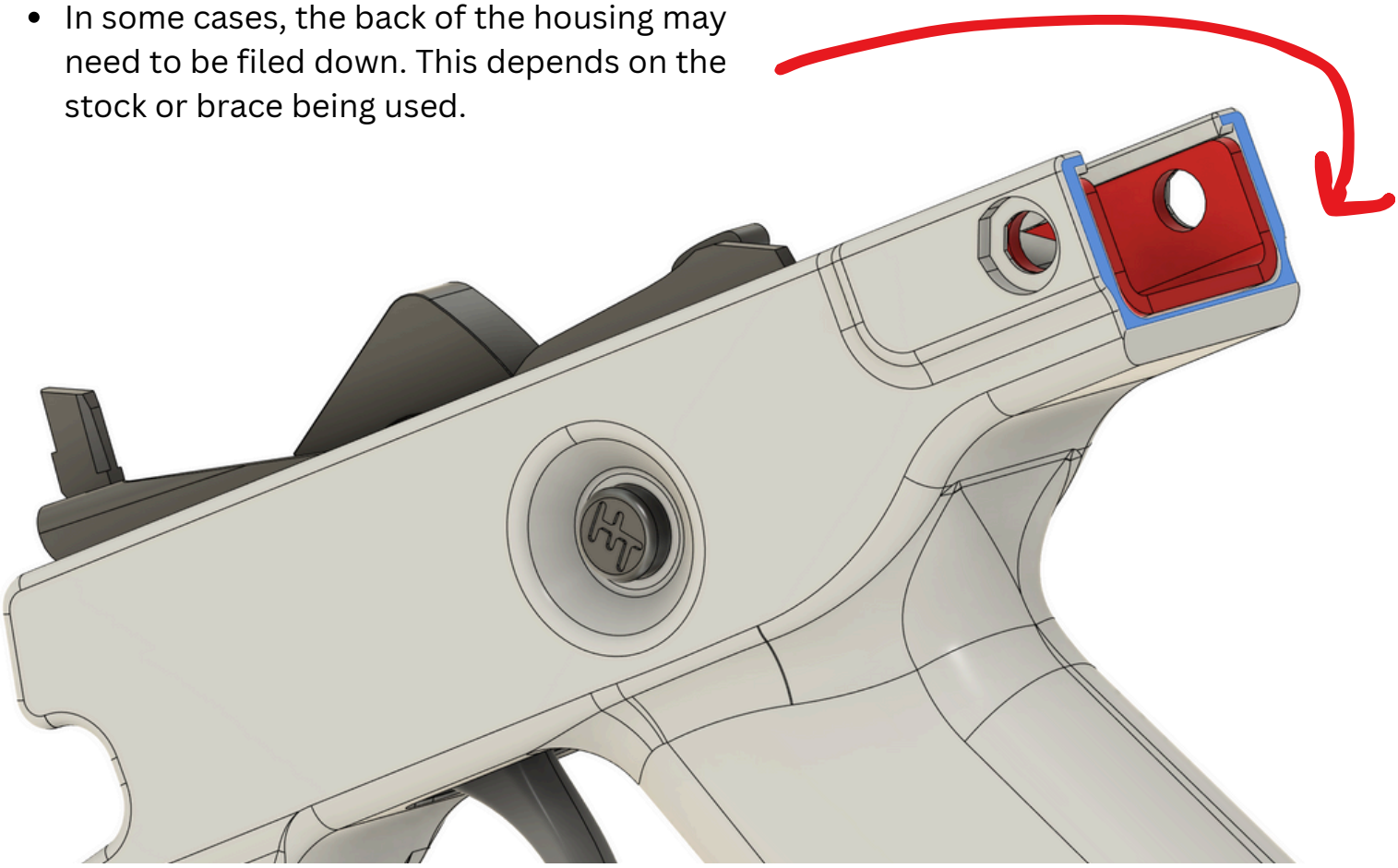
At this point, verify that the ejector moves freely up and down without any resistance. This step is crucial, as a sticking ejector will cause failures to eject. Additionally, you can now perform a function check of your FCG in both semi and Super Safe modes while it is off the receiver. Be sure to catch the hammer to prevent it from slamming into the polymer housing.

When testing a brand-new lower with live ammunition, it is highly recommended to start with a few mags of 124-grain NATO rounds, a 90-degree or 100-degree locking piece, in semi-auto mode only, and without a suppressor.
Make sure to follow the slip trip documentation if using the super safety.

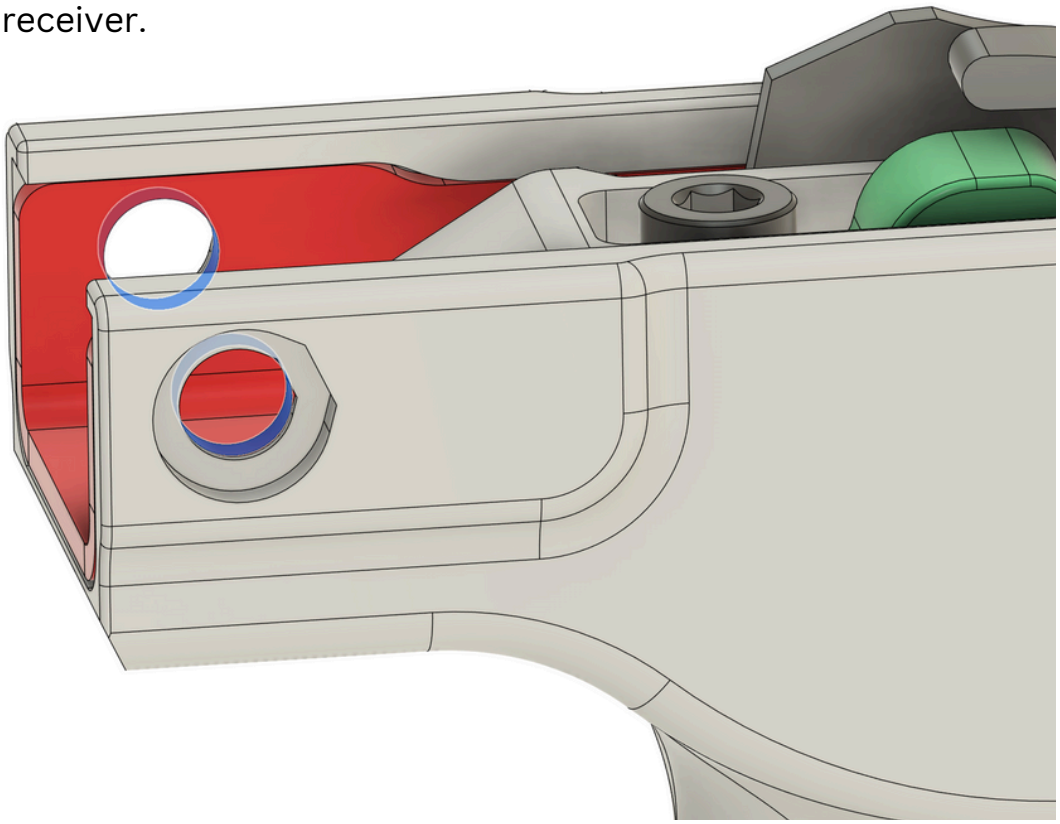


Housing Fitment

- In some cases, the back of the housing may need to be filed down. This depends on the stock or brace being used.



- The plates are designed to be pushed forward or backward when the M5 screw is loose, ensuring the holes line up with the receiver.



Troubleshooting

- **Failure to eject:** See the ejection guide at the top of this document.

- **Bolt carrier stuck in the back of the upper (full size):** Verify that your 48mm TPU buffer is installed over the recoil spring. Also, avoid using non-standard AR15 hammers, as this will require a different buffer size or modification to the hammer itself.

- **Feeding Issues:** If you encounter feeding issues, I recommend using high-quality magazines such as genuine HK magazines or KCI Gen 2s. If failures persist, try replacing your mag catch with a genuine HK mag catch.

  Back plate wont seat all the way in: Ensure there is no support structure in the track of the lower housing where the back plate slides in. Any support structure in the track will prevent the plate from being fully inserted.

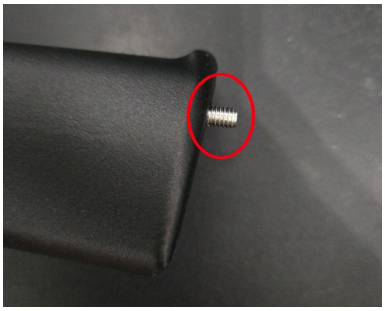
- **Stuck selector detent:**

  To unstuck your detent, follow these steps:

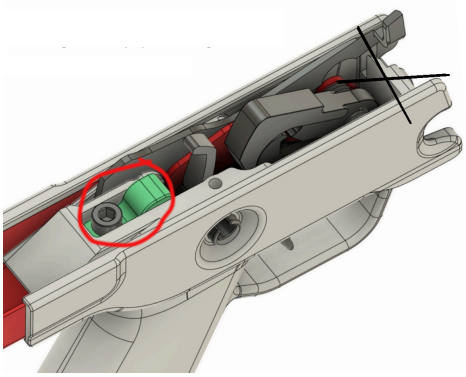
  1. Cock the hammer and remove the detent screw located at the bottom.
  2. Lightly tap the grip to loosen the detent bar, then push the cam to the semi position.
  3. Insert the flat end of a zip tie between the cam and the detent. Continue rotating the cam; it may take a few tries for the detent to loosen.

Leber V2 Disassembly Guide

Loosen the detent setscrew
(no need to remove it completely)



Remove the ramp

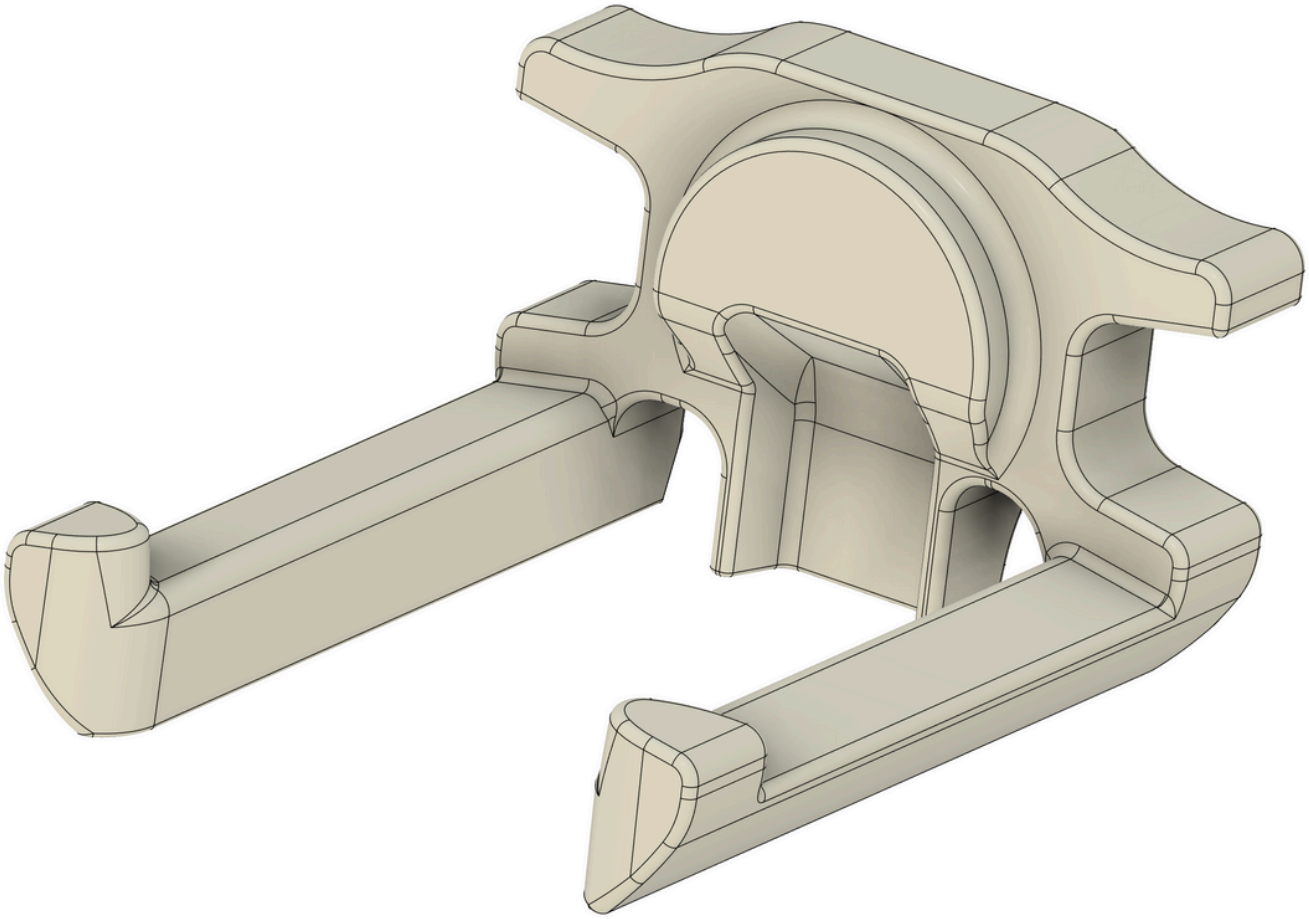


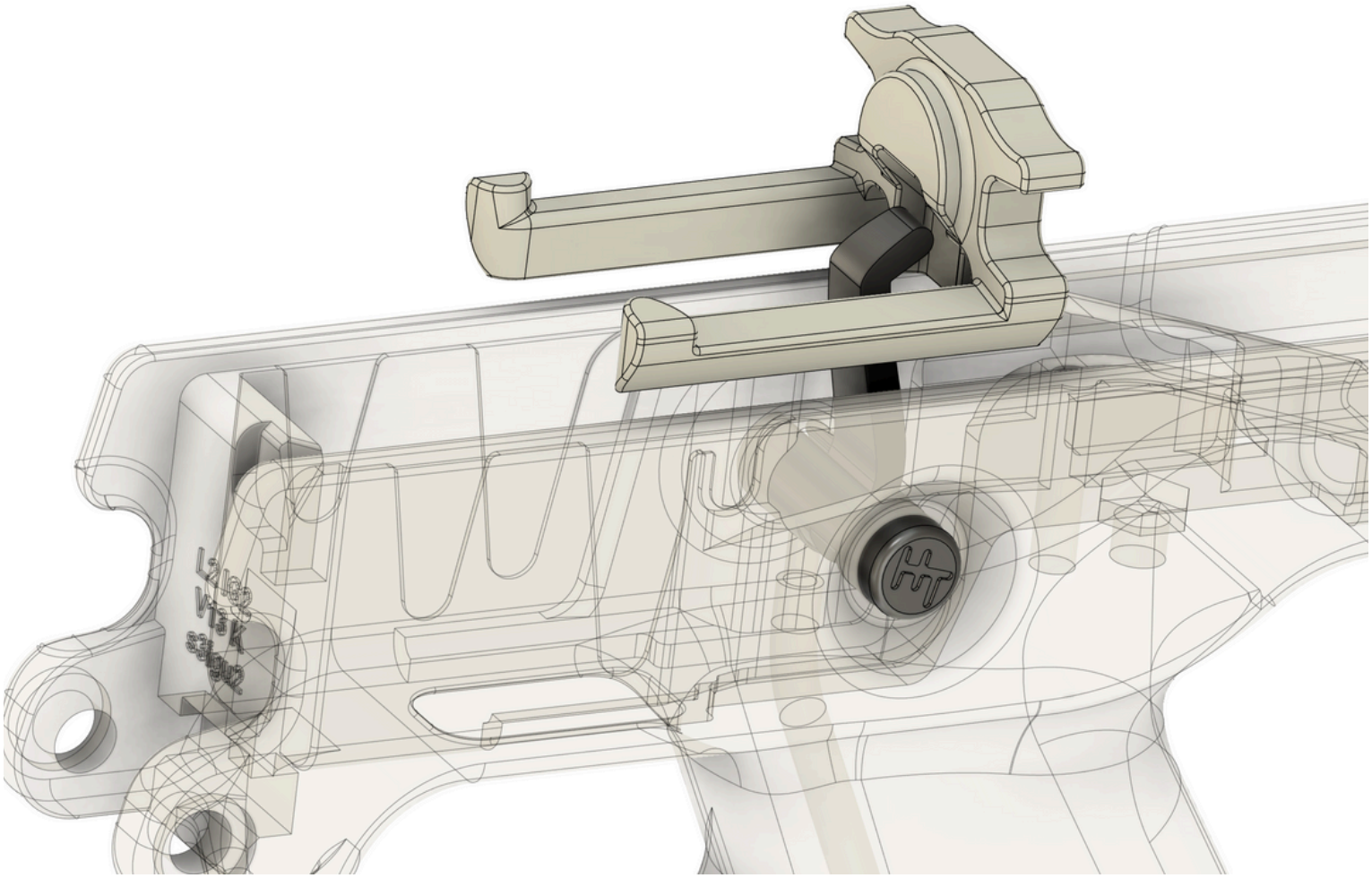
Carefully pry out the cam insert with a small flathead screwdriver

Cock the hammer, insert the flat end of a zip tie between the cam and the detent. Continue rotating the cam; it may take a few tries for the detent to loosen.

Take out the SS cam and lever, then lift the FCG

MP5 Trip Slip V3





Description

The slip trip is a collapsing trip bar that slides on the MP5 rails. It is designed to engage the super safety in the MP5, allowing it to function as it would in a AR-15. The slip trip works with both semi-auto and full-auto cut bolt carriers.

The slip trip is compatible with most, if not all, MP5 clones and is designed to fit around the full-auto carrier block on most clones. However, some fitment adjustments may be required.

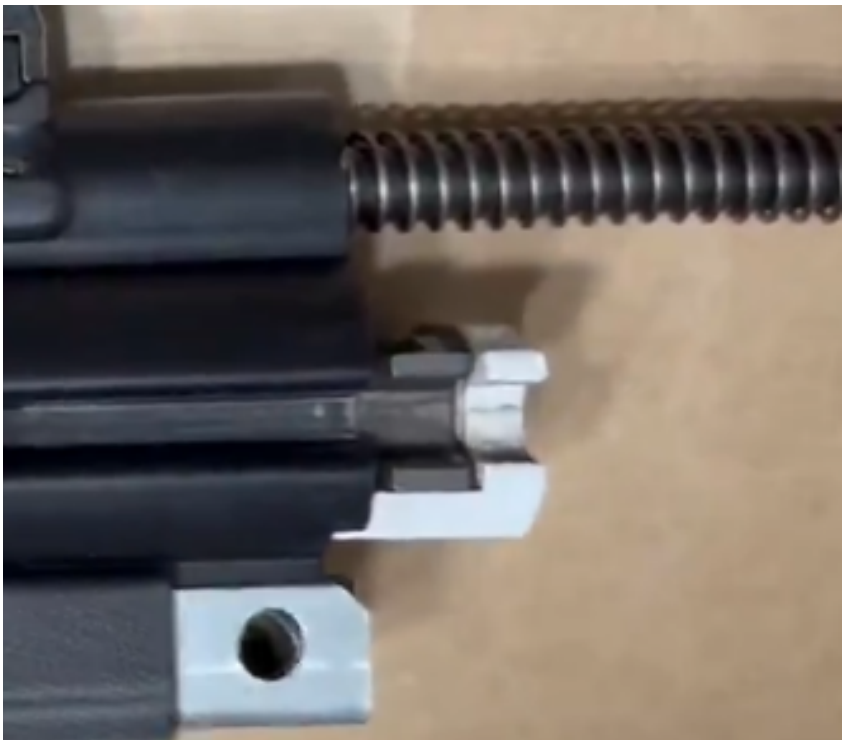
Huge credit goes to hertzofheimer (Instagram) and meatbanana42069 (Reddit) for their original designs and feedback that has enabled this version to exist. This was created from the Trip clip step file and other files from that pack have been referenced for measurements.

Trip Slip Install

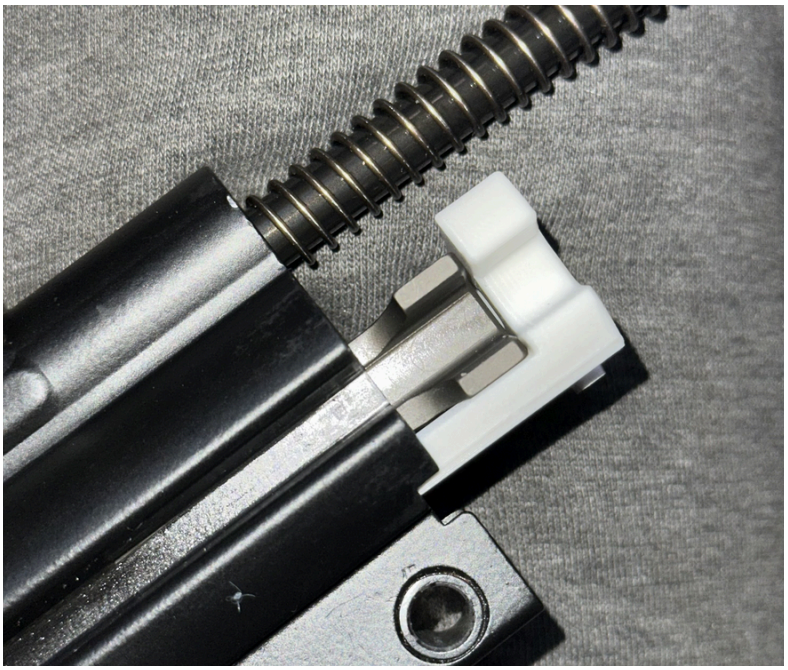
- The trip slip grabs onto the back of the bolt carrier like so and is pulled as the carrier moves forward.

- When fully collapsed the trip slip should sit flush against the back of the bcg without pushing the 2 front arms out.

- Slide the Bolt carried group into the receiver with the trip slip sitting half way on the bolt carrier like so, it should slide easily into the receiver with no issues.



- If there is resistance or it doesn't move smoothly then something is wrong and you should try and find whats causing resistance. The slip trip has a ton of tolerance built in and should NOT even be kinda tight in the receiver.



- When installing the lower onto the receiver make sure the trip slip is not in front of the super safety the bcg needs to be pulled back a tiny bit along with the trip slip so that the super safety is in front of the trip slips trip face lined in red

- As you can see here how the SS lever should sit in front of the trip slip if its not sitting in front the bcg wont be able to be pulled back when installing