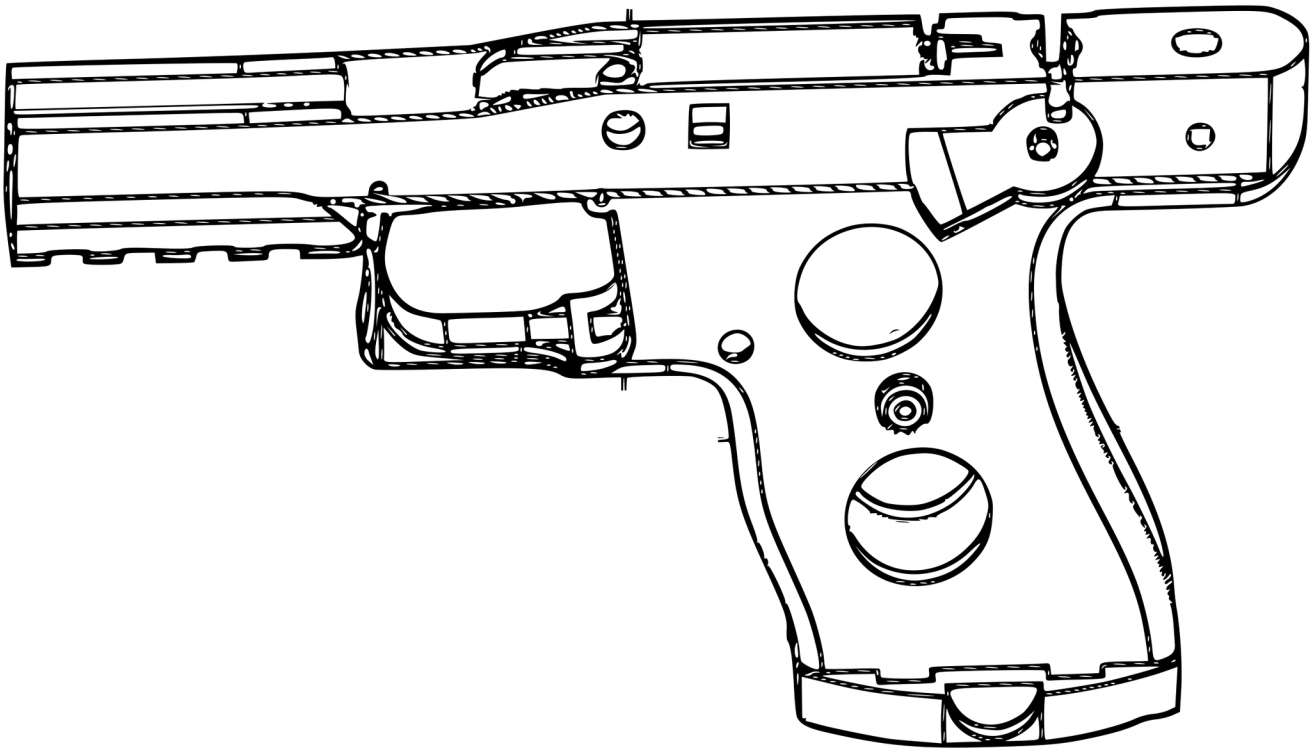
Project Lopoint – V2

by Freeman1337

(a printable frame for the HiPoint C9 and CF-380)



Released: 5/X/2021

Version: 2

Acknowledgments

Thank you to the Rocketchat beta team at Det_Disp, which spent months testing out new frames, giving good feedback, and testing the various accessories included in the bundle. A special thanks goes to notmyrealname1, who made numerous and large contributions early in this beta process. Thank you also to CtrlPew for the original v1 model, and to Atmac, who gave me the push I needed to start seriously learning CAD prior to me taking over this beta.

Original Design by: CtrlPew
Remix and accessories by: Freeman1337

Description

An improved and refined version of the original loPoint v1 frame as developed by CtrlPew. Primary enhancements were made to include usage of the OEM primary safety mechanism to enable more practical usage of this platform by a wider audience. A note, this design still does not include the use of the factory drop safety.

Improvements were also made to grip fitment in order to remove slide/grip rub (which has often caused issues with short cycling). The mag catch/release openings were also modified for increased reliability, since original fitment was rather loose and allowed the catch to fall all the way through the frame. Some De-featuring was also included to improve strength and post-print cleanup.

Instructions

Hardware Requirements:

- HiPoint C9 or CF-380 parts kit
  - Any parts not included in said parts kit

The following parts shown below are required for this build:

The parts shown here are not:

You might notice that some of the parts we need are not included in these pictures. That's because this particular kit did not include a main safety or a mag spring. The main saftey I needed to purchase separately at a high (comparatively) markup, and the spring I was able to make.

Tools:

A selection of basic gunsmithing tools is needed to complete this build. The one we require are:

- gunsmithing hammer | link
- gunsmithing punches | link
- 1 3d finishing nail | most hardware stores
- diagonal wire cutters | link
- metal file | link

Optional tools:

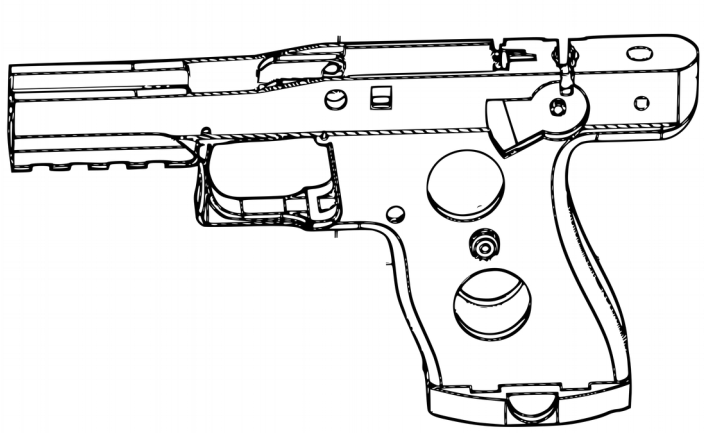
Gunsmithing Pin Block | link

Bench Vise | link
Dremmel Tool | link

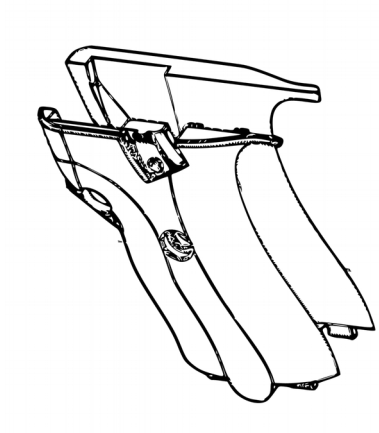
Print Settings:

Material	PLA+
Nozzle Size	0.4mm
Filament Size	1.75mm
Layer Height	0.2mm
Top/Bottom Layers	10/10
Wall line count (Perimeters)	10 walls
Infill Pattern	Line
Infill %	100%
Supports	Tree/45°/Everywhere

Material List:

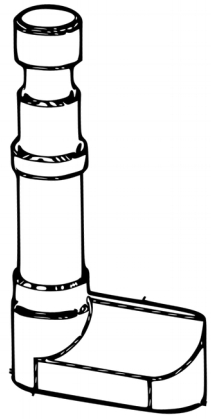


Frame

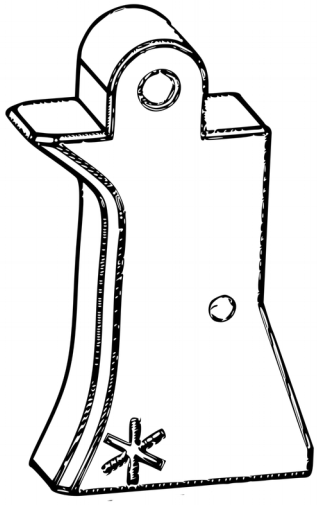


Grips

Mag Catch Button



Mag Catch



Trigger
(by notmyrealname1)

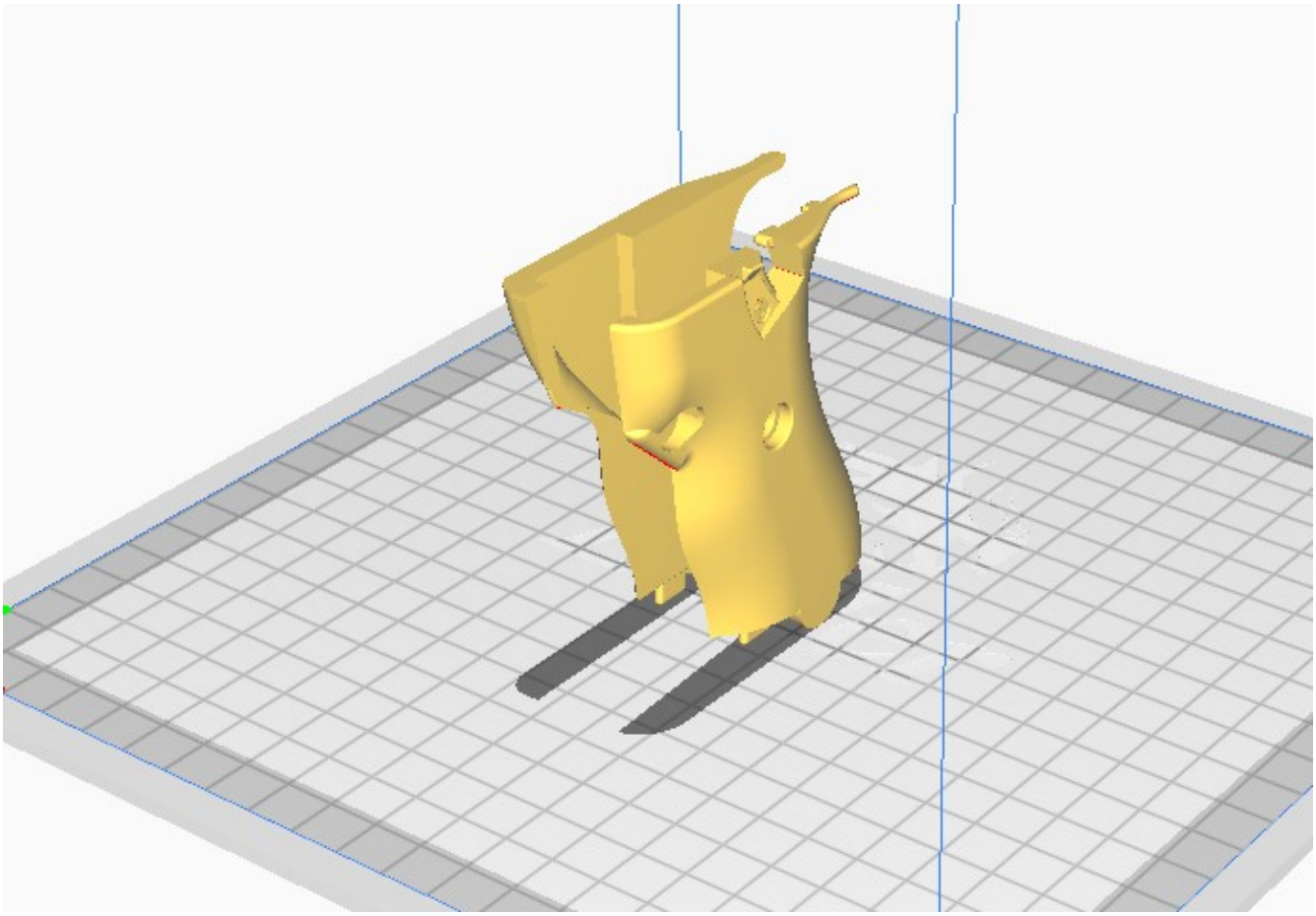
Print Orientation

Frame

This frame needs to be printed magwell down. I highly recommend the use of tree supports for this frame, as cleanup is much more difficult and time consuming when using traditional supports. In this guide, I'll cover print orientation of each included model and cleanup of the lopointV2 frame.

Grips

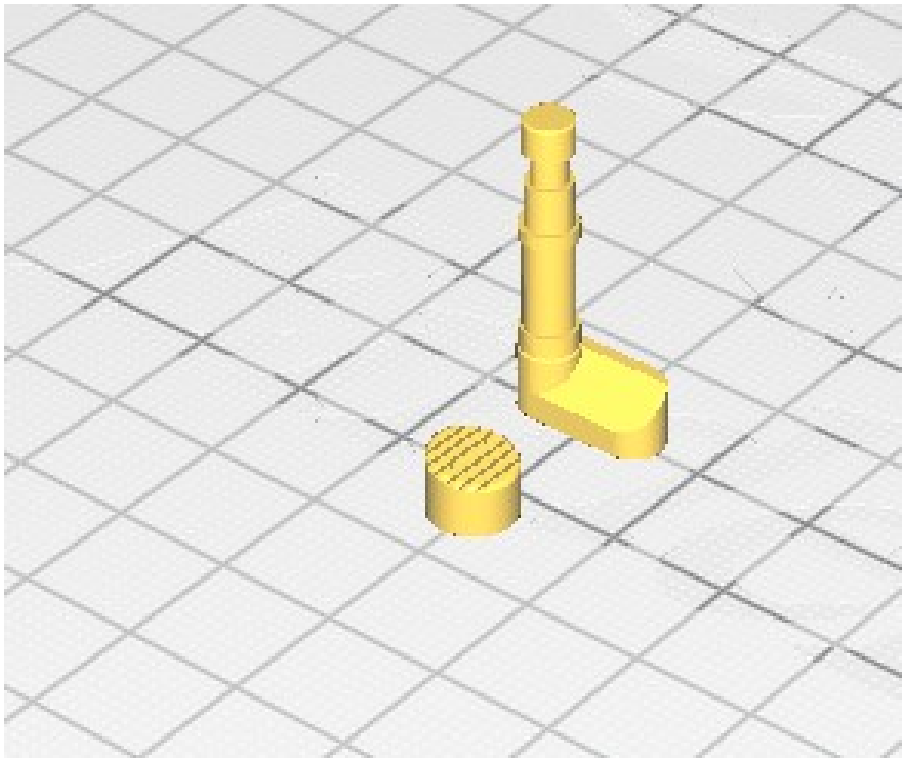
The best results for these grips can be obtained by printing vertically with tree supports. Yes, this uses more filament, but the overall fitment appears better then laying flat on the build plate.



Mag release and button

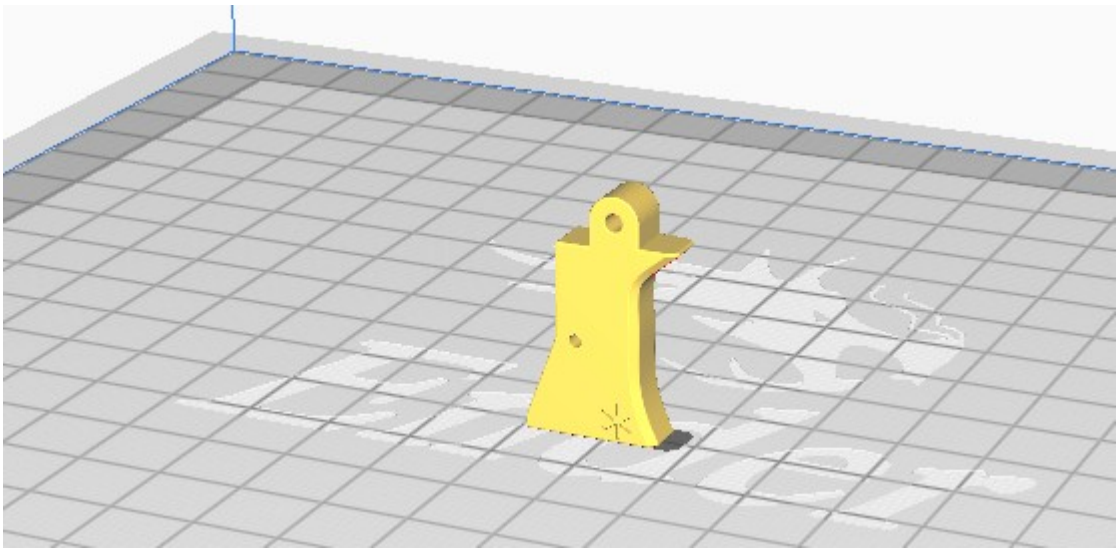
The mag release and button can be printed at the same time on the same build plate. I've included these models because I've sometimes had issues with kits missing a mag catch, or myself loosing the button on accident. Long term durability of the catch isn't as good as with a metal catch, but it'll get the job done in the short/mid term.

Print in the orientation shown. For best results, use the smallest possible layer height that your printer is calibrated for (0.12 seemed to work well on a fairly stock ender3v2 pro).



Trigger

Many thanks to notmyrealname1 for supplying the trigger included in this release. It is best printed vertically as shown. While every kit I’ve come across has a trigger, this one just seems to feel good and look cool.



Frame Post-Print Cleanup

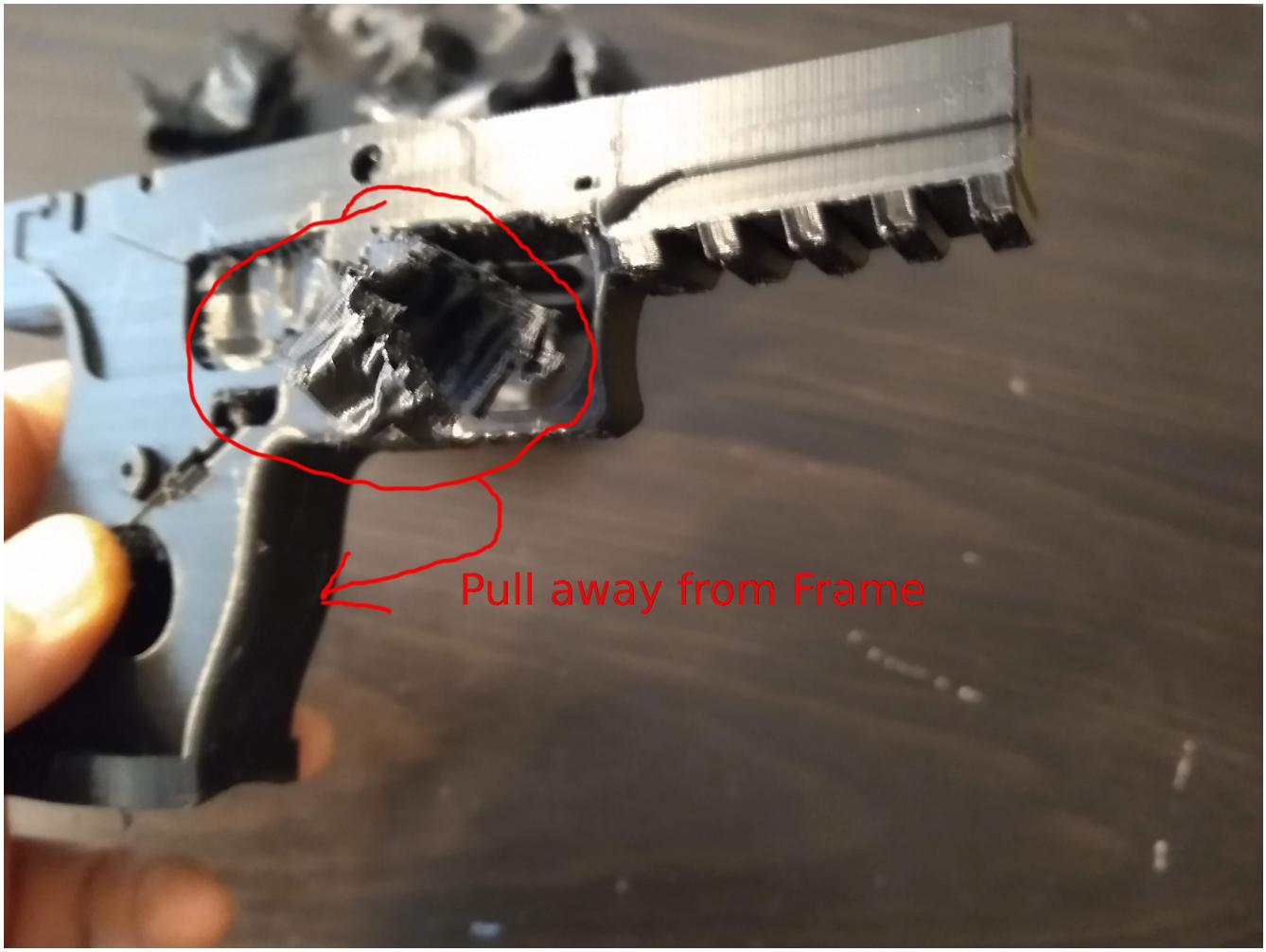
Here, we'll walk through the process of cleaning up a freshly printed frame using the recommended print settings and orientation. Here's the print as it finished on the mat:

First thing’s first, we’ll carefully peel the frame off the build mat:

Next, pull down on the supports touching the bottom picc rail:

Next, carefully tear the removed supports from the frame. Diagonal cutters can come in handy here:

Next, pull the remaining support structure from outside of the trigger guard. Be careful, as too much force can break the trigger guard. If broken during cleanup, the trigger guard can be superglued back into place if so desired:



Next, remove all remaining support from the magwell area. Get in there with a knife and/or sharp flathead screwdriver and remove all of the remaining support structure. Be sure to also remove the small amounts of support from the areas below, as it can interfere with barrel seating and barrel pin alignment later:

Using appropriately sized punches, remove support material from all remaining holes in frame as required. Here is our cleaned up frame, ready for assembly:

Before we start adding any repair-kit included parts to our frame, we need to add the sear pivot. Use a 3d finishing nail 1 1/4” in length. Start by lightly driving the nail into it’s hole, until resistance is met:

Then, clip the nail off as close as possible to the edge of the frame (but not too close):

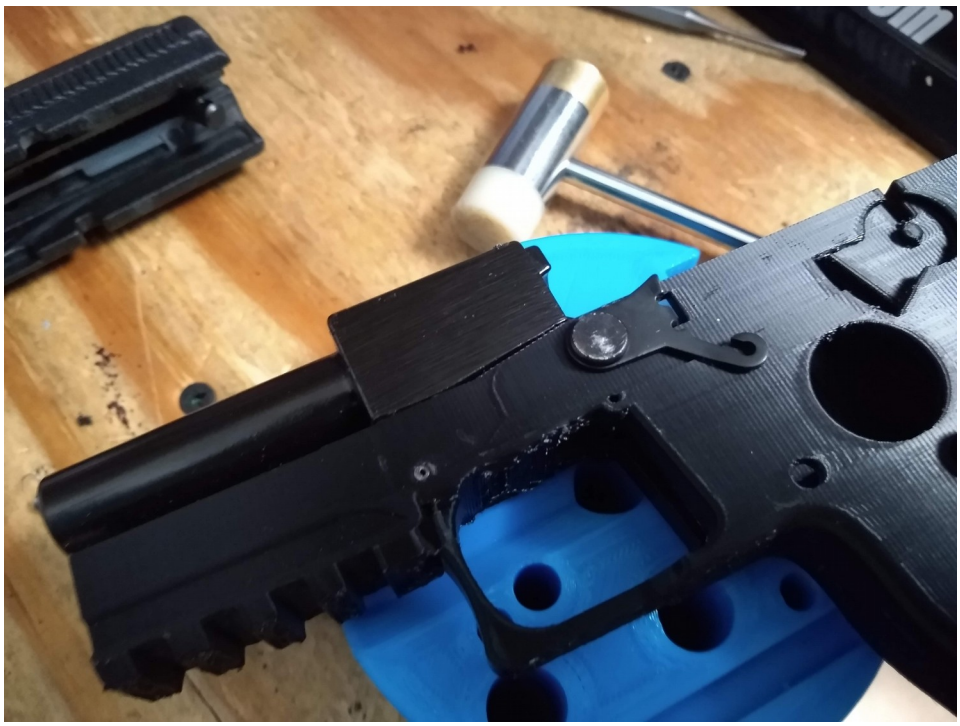
Next, we'll use a Dremel to debur and trim the nail to it's final length. We want the finished length coming right up to the edge of the top of the frame:

Here's our finished product:

Now, to the parts kit. We'll first install the barrel by carefully pushing it in from the top. Even persuasion from a bench vise can help get things where they need to be without the percussion of a hammer:

Once properly seated, drive the smaller barrel pin into place:

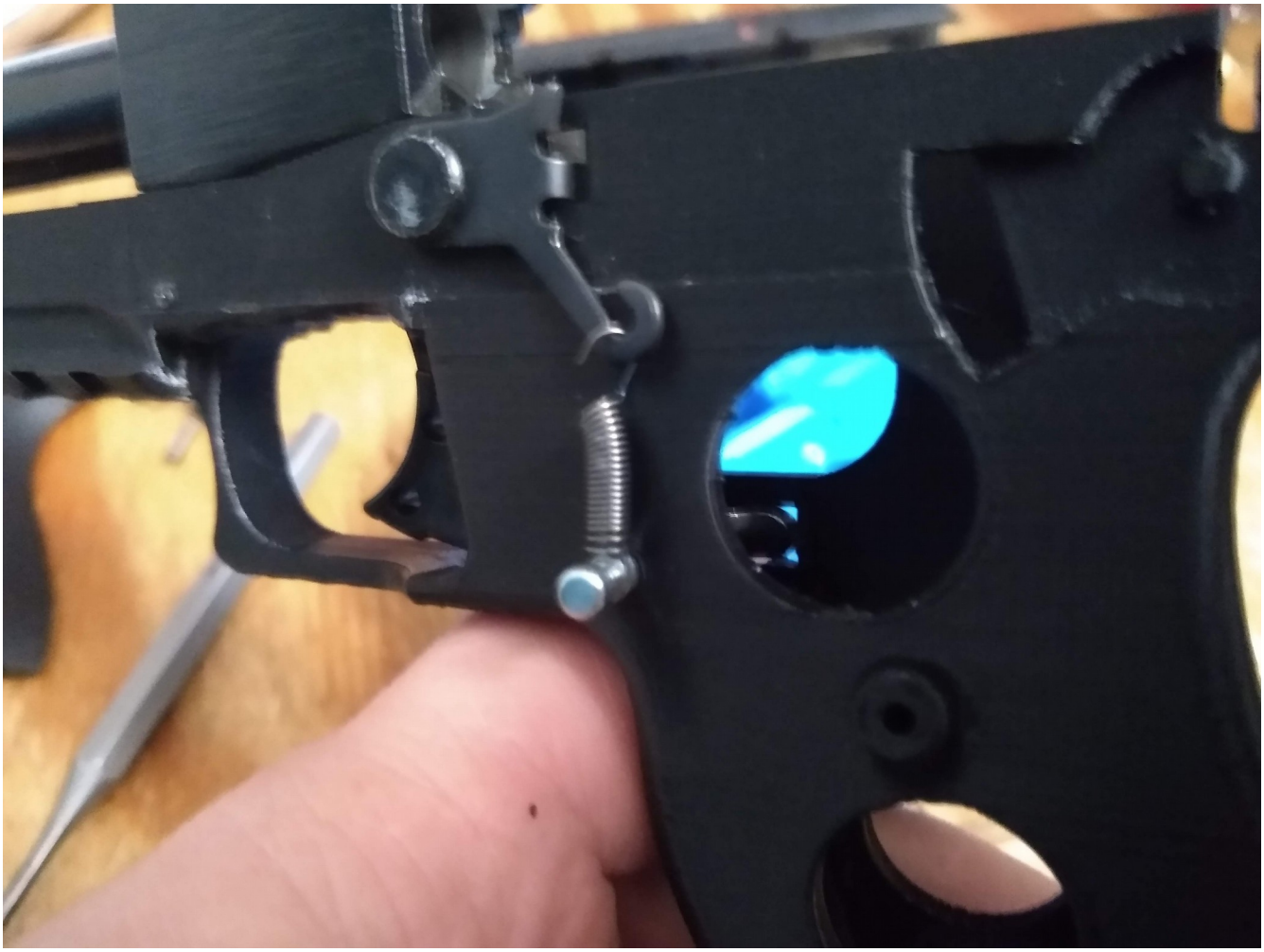
Next, we'll install the larger splined barrel pin. If you have a fairly minty kit, it'll be take some force to install. If your kit has been taken apart and reassembled a few times, it might be really loose. If this is the case, use a SMALL amount of blue loctite on the spline to help keep it in place. This isn't necessary for proper function, and it might be best to apply loctite only after you're satisfied with your kit in the frame it's currently in. Be sure to install the last round hold open as shown before hammering the larger barrel pin into place:



Next, install the trigger. It must be installed from the opening in the right side, and rocked into place. It may be a snug fit, but once in position should pivot freely. Once in place, hammer the trigger pin into place such that the top is slightly recessed into the frame:

Next, install the mag catch:

Install the mag catch spring with the hook facing into the front of the mag catch. Next, install the last round hold-open spring as shown. Be sure not to stretch the spring when installing. Usually, hooking onto the LRHO and then sliding onto the mag catch works best:



Next, install the mag catch button in the orientation shown. It should be a tight fit:

Next, place the safety into place in it’s recess as shown:

The spindle is purposely oversize to account for observed variation in the safety that come with most kits I’ve encountered. Once in place, use a punch and lightly tap the safety until it’s fully mounted into it’s recess and rotating freely:

Next, install the left handgrip as shown:

Once the handgrip is in place, install the sear spring, sear, and sear pivot as shown. The sear should move freely in it’s recess. If it doesn’t, or the trigger is hard/impossible to pull, check your print settings/filament and consider reprinting. Hand fitting this recess is possible, though treat carefully, is this area has the highest likelihood to cause an unintentional discharge when fucked with.

Next, install the right side handgrip:

Next, install the recoil spring:

Next, install the slide. It has to be rocked into position with the dollheads installed (into the slide) so that the dollshead can be inserted into the frame and then secured in place with a pin:

Next, cock the slide back and hold it open using the saftey. Then, install the fatter/short included pin through the frame and slide dollshead. This will secure the slide to the frame, and needs to be removed before the slide can be removed for future cleaning. But, lets be real, this is a 3d printed hipoint... (...you’re likely not going to clean it anyway...).

Huzzah, you’re 3d printed loPoint V2 is now complete and ready to yeet:

Final Notes:

- The most frequent cause of issues with most hipoint pistols and carbines is from shitty magazines. Google around for fixes, which can include disassembling mags and bending mag springs upwards to prevent nosediving
- Polishing the feed ramp on the barrel can also assist in making your lopointv2 function more reliably.
  - This is easier done before installing the barrel into the frame.
- If you're planning on relying on this kit for any sort of personal protection/reliability/CCW:
  - stick to lower capacity mags (which tend to be much more reliable)
  - Try not to take your kit apart too frequently, since frequent assembly/disassembly can cause part fitment to become a bit looser (not good for CCW).

Notes if using this for CCW:

- God help you
  - There's much better options to build with better safety, reliability, and capacity for not much more money.
- While I'd never personally recommend CCW with an empty chamber, I'd recommend carrying Israeli with this kit if you absolutely have to. While the safety works well, it can loosen over time. And as with any other pistol/firearm, it should never be relied on exclusively. Also, due to the OEM drop safety not yet being utilized in this frame, this frame could be sensitive to being dropped (I haven't been brave enough to test this with a round in the chamber).