



Beta Program

The OpenPew Project's Debut

Website: openpewproject.org

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Introduction

The OP9 is, to the best of my knowledge, the first 100% printed 9mm pistol suppressor distributed to the fossCAD community. The goal of the OP9 is to lower the barrier of entry into printed suppressors as far as it could go in terms of time, money, and knowledge. That being said, this also opens the floodgates for retards with no experience to hurt themselves. So let me make this clear:

READ THIS GUIDE FULLY BEFORE PRINTING THE OP9 IF YOU DON'T WANT TO DIG OUT PLASTIC SHRAPNEL OR HAVE THE ATF DICK YOU DOWN.

With that out of the way, let's move onto the fun stuff: some words about the beta program.

By volunteering as a beta tester, you are taking on a central role in the development of the OP9. I do not take this lightly and feel a deep sense of gratitude towards any and all of you beautiful bastards who take on this risk. Together, we are decentralizing 1) the tactical advantage that

suppressors give *the people* against unknown foes and 2) hearing protection. Furthermore, we are building some cutting edge shit, which is pretty cool in itself.

Risks to you, brave ones



Hopefully by now you've realized this does not come without its own risks. The primary risk is that of bodily harm during a RUD (rapid unscheduled disassembly). No one likes PLA shrapnel, so I ask all beta testers to use:

1. Safety glasses or a welding face mask
2. Hearing protection
3. If no full face mask, a jacket or similar to cover your face/neck area when test firing.

Another less-concrete risk is of unmet expectations since this is a BETA after all. So let me set those expectations right now to prevent that. Expect wasted filament, trouble fitting pieces together, exploding suppressors, and triumph if you stick with it long enough. Hopefully, by the end of the beta we can prevent others from going through these trials and tribulations.

Finally, there is of course the legal risk. So I encourage, though I of course cannot enforce ;) all US-based beta testers to form-1 their can to eliminate this risk. Coming soon are tools to export an STL with the serial number directly into the outer tube of the OP9, but these tools are not ready yet. So for beta form-1 builds, you'll need to manually edit the STL or manually engrave the number, depending on your skill set.

Beta Program Goals

1. Determine acceptable weight limit that still allows pistol cycling (will be used to beef up OP9)
2. Handgun compatibility
3. Determine assembly tolerances that work for all (e.g. outer tube diameter vs core diameter)

4. Generic feedback
5. Having fun

Build Guide

I am going to intentionally leave the build guide a little unpolished. You beta testers otta have at least 10 IQ points to prevent from hurting yourselves, so this will be the filter. The final OP9 guide will be easier to follow.

Filament

I've done mag dumps in PLA+ without catastrophic failures. Eventually something might break but usually not catastrophically (e.g. thread blowout).

I have only tested Esun PLA+ (Not their matte PLA Pro, that stuff sucks). I have heard good things about Polymaker Pro but have yet to try it, would love to hear how it goes from testers. I've tested a 0.6mm nozzle but 0.4 def works better because of the threads.

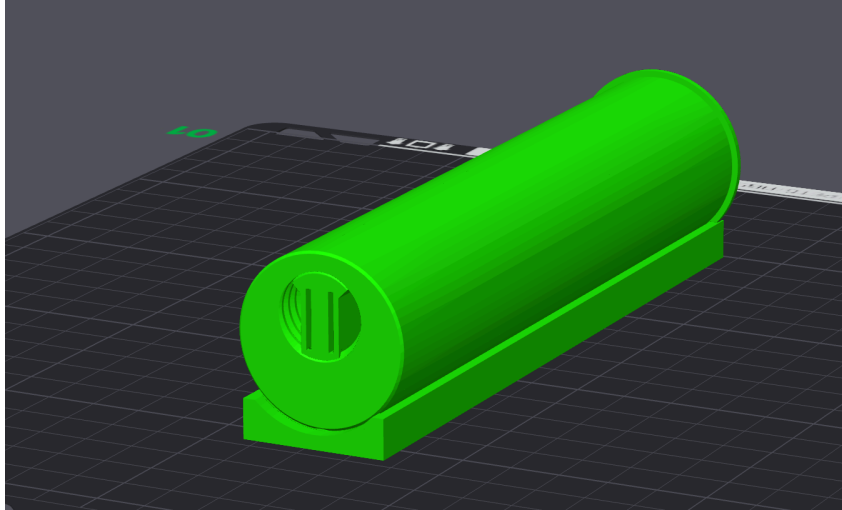
If you really want to go ham, I recommend PA (Nylon). I am super interested to hear how the OP9 prints in filled/unfilled nylons. So far I've only experimented with Bambu's PAHT-CF.

Part Orientations

Print the OP9 in the orientations provided in the "all" file. **THIS IS EXTREMELY IMPORTANT.** The print orientations of the OP9 were carefully chosen to marry the best hoop strength with the best axial strength.

Supports

The OP9 core has built-in supports due to the tight-tolerances involved. So none of the parts need additional support.



OP9 core pictured above

To remove the barrel adapter thread support on the core use a pair of needle nose pliers and twist CLOCKWISE. It has been carefully designed to twist off (tested on Bambu P1S and another random printer)

Plate Adhesion

I recommend you print the outer tube with at least an outer brim regardless of filament. The core didn't need a brim when printed in PLA+ for me. It probably needs one when printing in PA or PA-CF though. I'd even recommend an outer + inner brim if using filled or unfilled PA.

Print settings

It should go without saying that you need to print everything with 100% infill. I recommend doing this by setting the # of walls to a very high number like 100. This effectively makes the print all walls through-and-through.

Assembly

1. I recommend you hammer the core into the tube with a rubber mallet or similar, it should be a press fit. There is a very subtle notch in the core and a line in the tube that **MUST LINE UP** (on the bottom of both)
2. Use the printed wrench to screw the thread adapter into the core. Note it's reverse threaded.
3. Screw the OP9 onto your barrel until it bottoms out. Be careful not to cross-thread.
4. Take note of the approx angle that the OP9 sits at when looking down the sights. E.g. if it's upside down it would be 180 degrees. If the bottom is pointing to the right, it's 90 degrees.

5. Re-print just the thread adapter with the corresponding angle you noted. If you ever need to re-print the OP9, just use this same angle for a given gun 😊

Testing & Feedback

Quality feedback is essential to the success of the beta program. Feedback is to be provided via the [OpenPew Matrix chat](#). If you haven't tried Matrix yet, I recommend you download the "Element Messenger" app to access it.

All feedback should include the filament you were using, and the printer you were on. Let's go over the testing that we'd like to achieve in the beta program.

1. Determine acceptable weight limit that still allows pistol cycling (will be used in pistol cycling)
 - a. This can be done by wrapping tape around the op9 until it no longer cycles reliably. It's very important to find a threshold that works for most because the beefier we can make the OP9, the less likely to pop it becomes. The OP9 was optimized relentlessly to get it below 100g of PLA+. But this might be overkill, let's find out.
2. Handgun compatibility
 - a. It's possible for some handguns to not be compatible. E.g. if their threads are not at least 10mm deep or if the suppressor bumps the frame during cycling.
3. Determine assembly tolerances that work for all (e.g. outer tube diameter vs core diameter)
 - a. If the assembly or support removal process is difficult, let's hear it so we can modify tolerances or release a "loose" version for shittier printers and a "tight" version for dialed-in printers. (Currently everything was tested on P1S)
4. Generic feedback
 - a. Any other sensible feedback is welcome

Final Words

If you've read all this and want to be part of the beta, myself and surely the rest of the fosscad community deeply appreciate you. If you want to contribute to the project without becoming a beta tester, feel free to donate via bitcoin (address above) or via a variety of other methods [listed on the website](#).