# Angled Foregrips - mk2
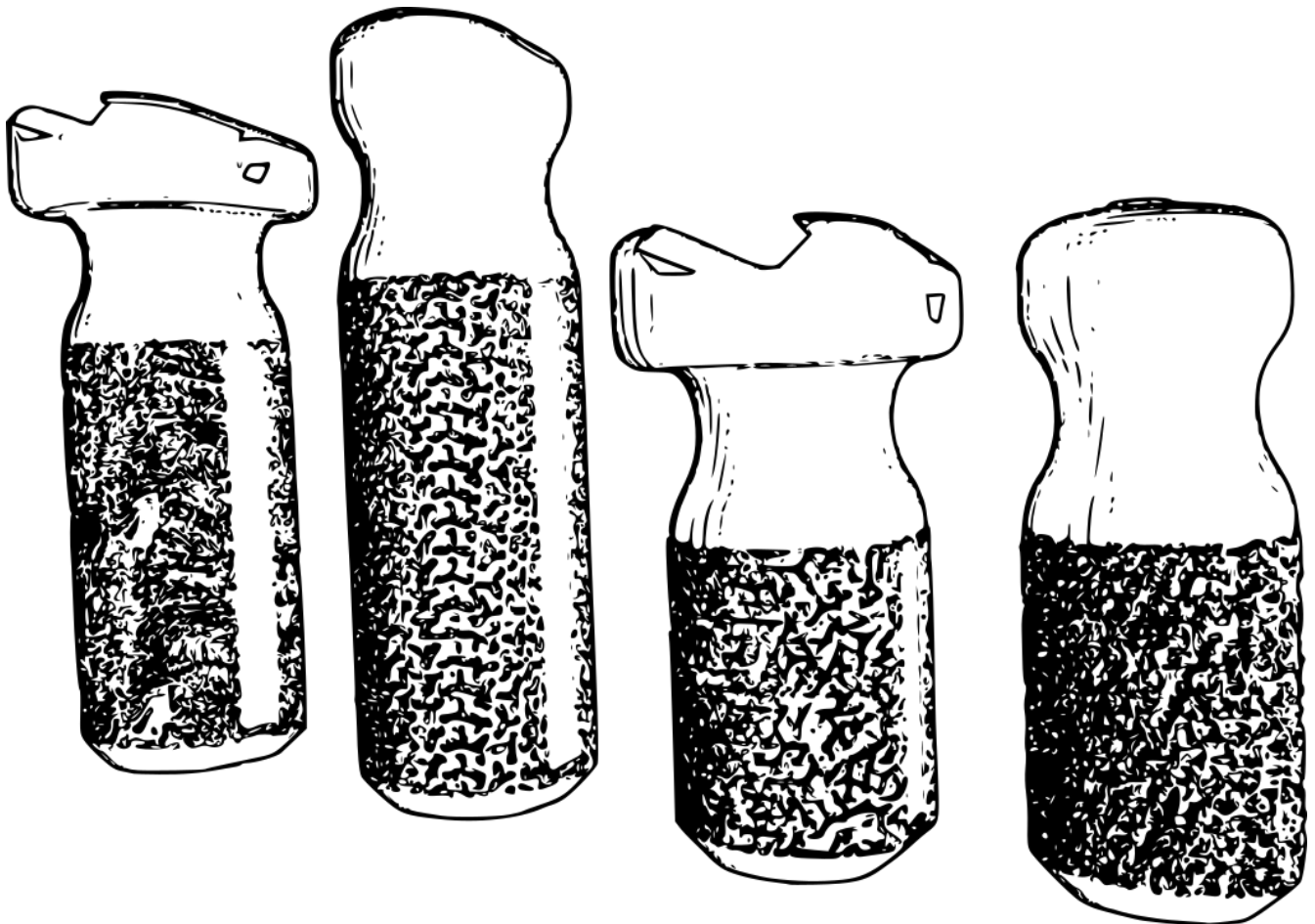## by Freeman1337
*(A pack of angled foregrips (stubby and full size) to fit both mlok and picatinny rail mounting solutions )*

Released: 12/1/2021
Version: 1.0

# Description

One of my first public releases earlier this year was an angled foregrip and pistolgrip adapter set. Those models left a little to be desired, and they used so much filament that I wouldn't blame people for not wanting to print them en mass...

While taking a short break from several pistol frames I've been wrapping up, I decided to improve upon these past designs. I've included full length versions of these grips, and cut down "obrez" versions as well.  That said, the changes were mostly slight in these models, but they add up. For example, the picc rail foregrips are now mostly hollow (like their mlok brothers) in order to save on filament. The fitment on the mlok foregrips is also much improved, and standard length mlok screws may now be used (there's also more room in which to maneuver your hex key for installation onto a rail).

# Instructions

## Materials Required:

-  PLA+ filament of your choosing. Extensive testing done using esun PLA+ and Overture PLAPro

- x1 Long handle m2.5 hex driver

**Depending on the type of foregrip printed:**

**MLOK:**
   -MLOK mounting tabs and screws

**Picc Rail:**
   - M5 hex nut
   - M5 hex cap head bolt
   - A means to trim the bolt to length (if the correct bolt length cannot be found)

# Print Settings:

## Layer Height

| Body | 0.3mm |
|------|-------|

## Shell

| Wall Line Count | 10 |
|-----------------|-----|
| Outer Wall Wipe Dist | 0.4 |
| Top/Bottom Thickness | 1.32mm |
| Top Layers | 10 |

## Infill

| Infill | 100% |
|--------|------|
| Pattern | Grid |

## Material

| Print Temp | 217 C |
|------------|-------|
| Bed Temp | 60 C |

## Speed

| Print Speed | 50 mm/s |
|-------------|---------|
| Infill Speed | 60 mm/s |
| Outer Wall Speed | 30 mm/s |

| Inner Wall Speed | 60 mm/s |
| --- | --- |
| Top/Bottom Speed | 40 mm/s |

## Travel

| Enable Retraction | True |
| --- | --- |
| Combing Mode | All |

## Cooling

| Enable Fan Cooling | True |
| --- | --- |
| Fan Speed | 85% |

## Support

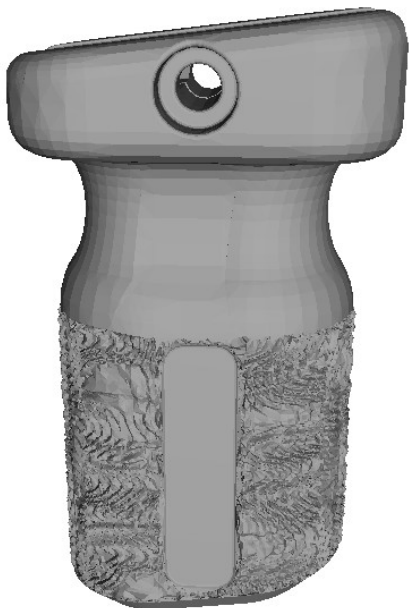| Generate Support | True |
| --- | --- |
| Support Structure | Tree |
| Support Placement | Touching Build Plate |
| Support Overhang Angle | Autogen (cura) |

# Material List:
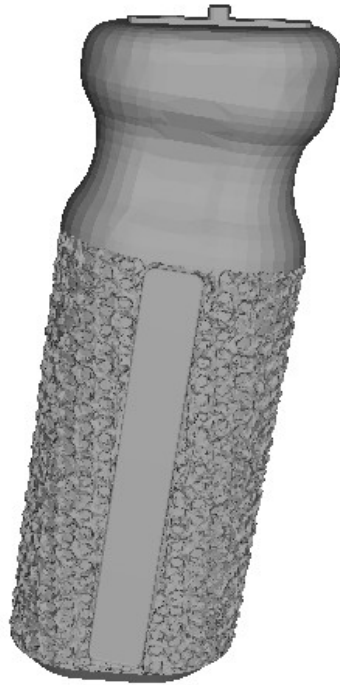


**MLOK foregrip – full size (in the standard stipple)**
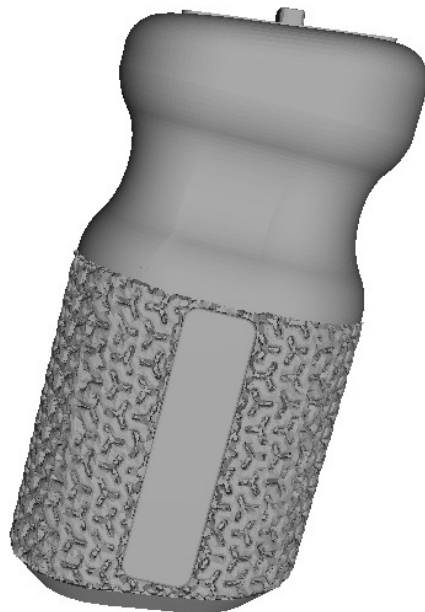


**MLOK foregrip – obrez (in the triforce stipple)**

**Picc foregrip – full size (in the triangles stipple)**



**Picc foregrip – obrez (in the wonderwave stipple)**

# Print Orientation

All models provided in this release are already oriented into the correct printing orientation. If for some reason that orientation is not preserved, print vertically with the bottom of the foregrip flat on the print bed.

# Assembly/Installation

1. Print the model at the orientation set within the release STL files

2. Cleanup and remove all support material as required

3. Further assembly/installation varies depending on the foregrip type.

**MLOK:**

1. Insert the mlok tab screw onto your hex driver and insert into the body of the foregrip.

2. Screw the mlok tab onto the screw (once inserted through the foregrip body.



3. Repeat step 2 for the 2nd hole.

4. Move both tabs into position such that they can be inserted into the mlok rail.

5. While holding the assembled foregrip into the rail, loosen the mlok screw until the tabs start to rotate into the rail.

6. Once the mlok tab has rotated 90 degrees into the rail, tighten until taught. Repeat on the other screw.

7. Alternate tightening until foregrip is fast against the rail, and movement between the two is eliminated.

**Picatinny rail:**

1. Insert M5 nut into the corresponding location on the foregrip body.

2. Using a hammer and punch, install the nut as far into the foregrip body as it will travel.

3. Slide the foregrip adapter onto the picatinny rail.

4. Once in the desired position, insert the M5 cap head screw into the opposite side of the foregrip, threading into the corresponding nut previously installed.

5. Tighten until all movement is removed between the foregrip and the rail, but not so tight as to crack the plastic body of the foregrip.

6. If the grip screw is too long, trim to length if so desired.

# Licensing

GPL v3.1

Note: Resulting prints derived from this design or it's derivatives may not be sold for commercial purposes or significant financial gain/profit of any kind.

## Closing Thoughts

This release was a project completed while I'm getting back into my "groove" since Everytown and their cronies started to try unmasking FOSS developers who dare challenge their extremist beliefs.  My stippling kung-fu has been improving lately, and I figure this release is a great way to make my previous foregrip models more usable, and give the community a bunch of cool textures to play with (while staying "*legal*", since these are *angled* foregrips, not *vertical* ;) ).

These aught to make good stocking stuffers for those who appreciate a good texture pattern while gripping their rifle/pistol/firearm/whatever. Merry Christmas, Happy Hanukkah, Joyous Kwanzaa, and Happy Festivus! May your new year bring peace and prosperity as we all circle the earth one more time (together).

Blessings,

    Freeman1337