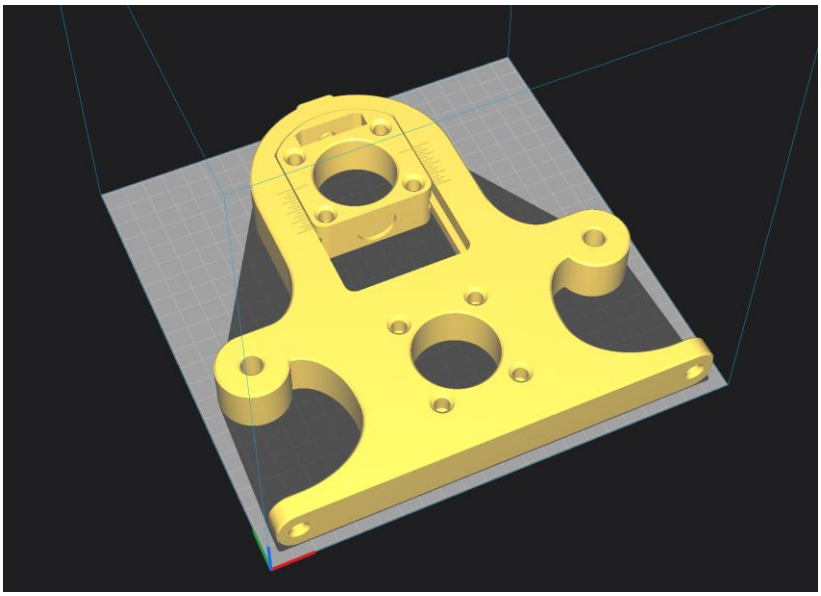
Nick Phan November 10 2023

Phantom Plastic Press Printing Parameters

Slicer: Cura 5.4.0-Beta.1 **My 3d Printer:** Anycubic Kobra 2 **Filament:** SunLu PLA

A lot of the other settings like speed and temperature will probably depend on your individual printers. I generally print Inside to outside because it looks prettier, and I designed this press around my printer's tolerances. You might have to test things.

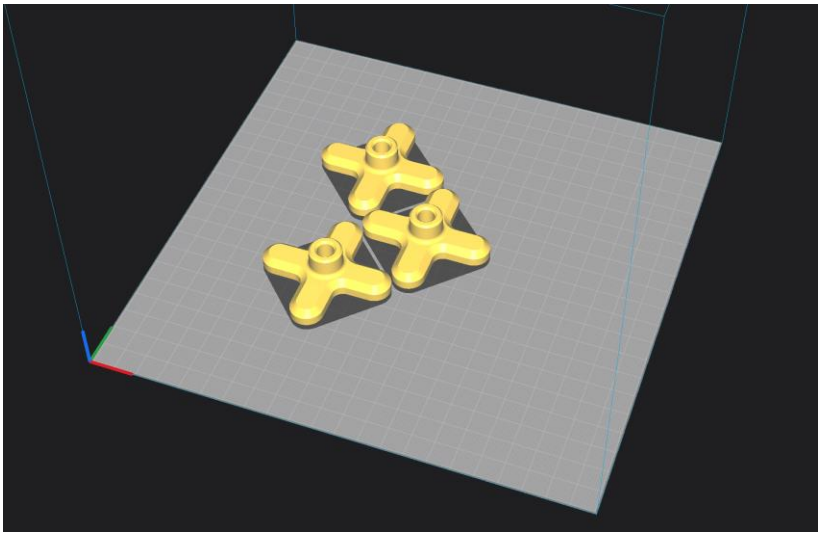
Press body w/ Micro registration (Print 2)



Layer Height: 0.2
Wall line count: 3
Alternate extra wall: Yes
Bottom Layers: 4
Top Layers: 4
Infill type: cubic
Infill Density: 25%
Support: No
Infill Before Walls: No
Build plate adhesion: skirt

You can print either side up. Printing the side with the ruler marks facing up will make them easier to see. The spot where the threaded rod meets the bearing block is the weakest link in this press so we will print this at a high infill to compensate.

Pressure Knob (Print 3)



Layer Height: 0.2
Wall line count: 3
Alternate extra wall: Yes
Bottom Layers: 4
Top Layers: 4
Infill type: cubic
Infill Density: 15%
Support: No
Infill Before Walls: No
Build plate adhesion: skirt

Print 3 of these, the 3rd one will help you attach the other 2

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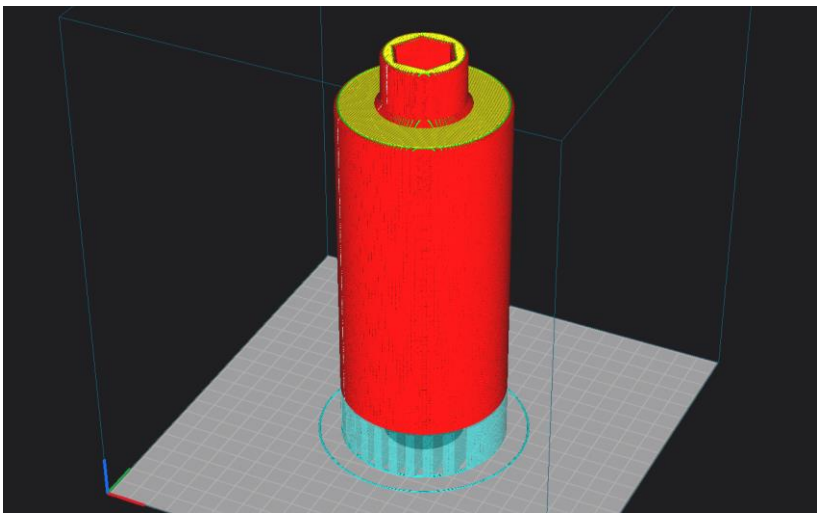
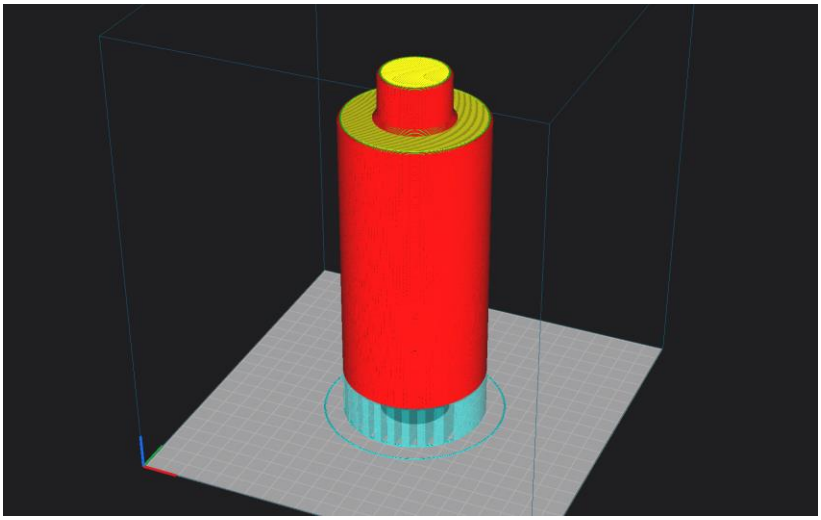
Top Roller



Layer Height: 0.2
Wall line count: 3
Alternate extra wall: Yes
Bottom Layers: 4
Top Layers: 4
Infill type: cubic
Infill Density: 15%
Support: YES
Infill Before Walls: No
Build plate adhesion: skirt

The rollers are the only things that need support!

Bottom Roller



Layer Height: 0.2
Wall line count: 3
Alternate extra wall: Yes
Bottom Layers: 4
Top Layers: 4
Infill type: cubic
Infill Density: 15%
Support: YES
Infill Before Walls: No
Build plate adhesion: skirt

Print this or another one with the hex hole. Your choice.

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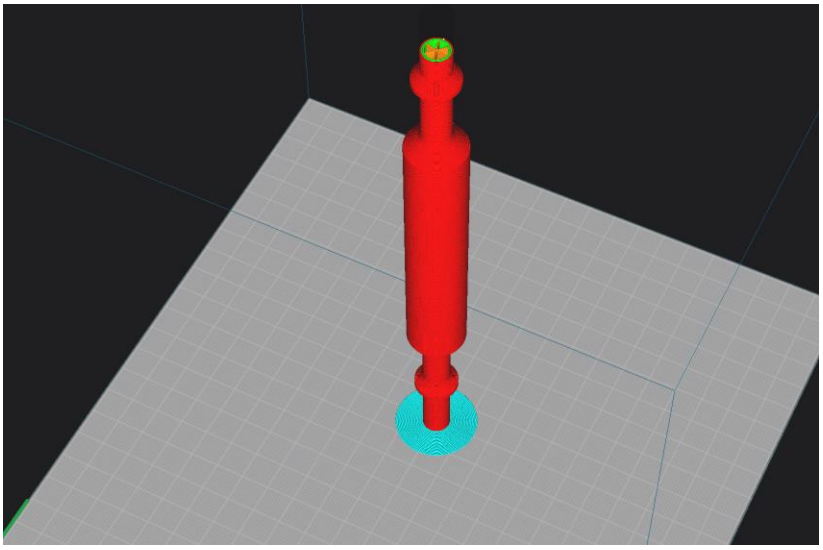
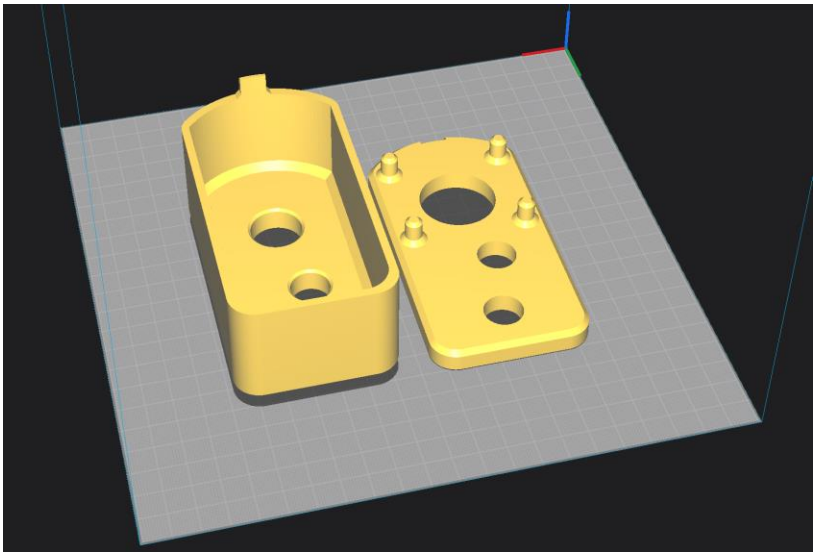
Press Bed Support (Print 2)



Layer Height: 0.2
Wall line count: 3
Alternate extra wall: Yes
Bottom Layers: 4
Top Layers: 4
Infill type: Triangle
Infill Density: 15%
Support: No
Infill Before Walls: No
Build plate adhesion: Brim

Triangle Infill is very important! Cubic doesn't support the thin parts well enough. Print with a Brim and 1 at a time if your build plate adhesion isn't as great.

Gearbox cover



Layer Height: 0.2
Wall line count: 3
Alternate extra wall: Yes
Bottom Layers: 4
Top Layers: 4
Infill type: cubic
Infill Density: 15%
Support: No
Infill Before Walls: No
Build plate adhesion: skirt

I usually print the mounting plate and gearbox cover at the same time

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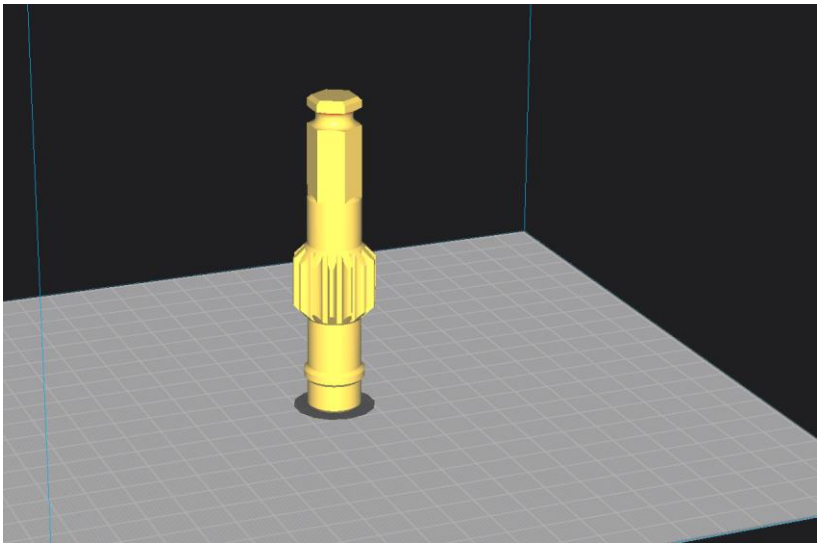
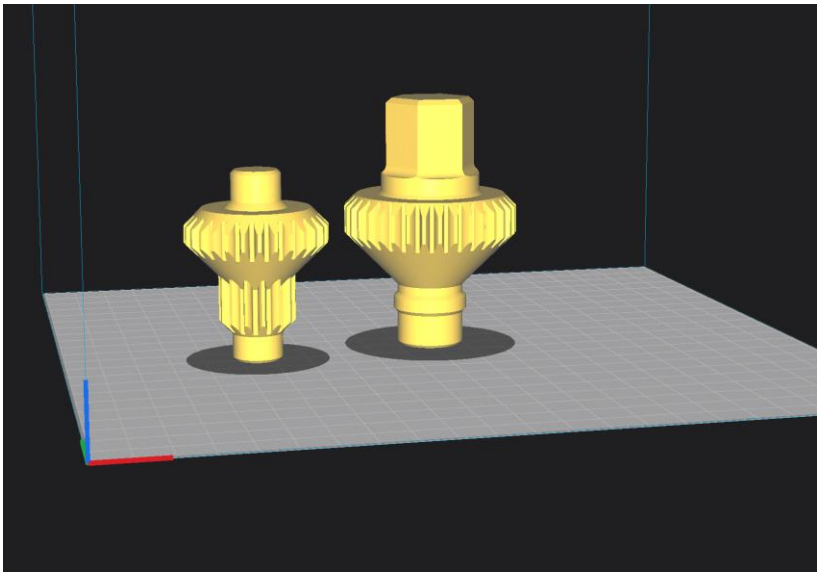
Crank Gear



Layer Height: 0.2
Wall line count: 3
Alternate extra wall: Yes
Bottom Layers: 4
Top Layers: 4
Infill type: cubic
Infill Density: 100%
Support: No
Infill Before Walls: No
Build plate adhesion: Brim

Print this solid, as it is most likely to shear when under high pressure or when the press is dropped or bumped.

Middle gear and hex gear



Layer Height: 0.2
Wall line count: 3
Alternate extra wall: Yes
Bottom Layers: 4
Top Layers: 4
Infill type: Triangle
Infill Density: 20%
Support: No
Infill Before Walls: No
Build plate adhesion: Brim

You can print these at the same time.

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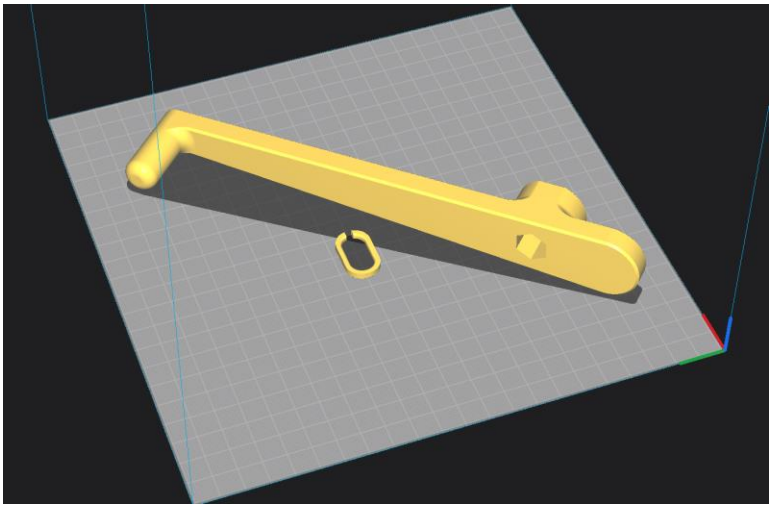
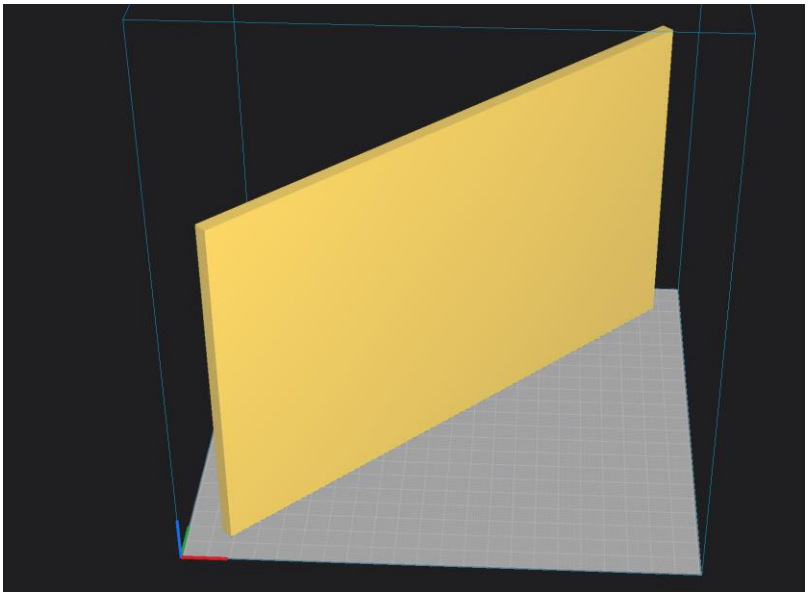
Crank Handle and lock pin



Layer Height: 0.2 (.12 looks better but optional)
Wall line count: 3
Alternate extra wall: Yes
Bottom Layers: 4
Top Layers: 4
Infill type: cubic
Infill Density: 15%
Support: No
Infill Before Walls: No
Build plate adhesion: skirt

Very sturdy and practical. Print it on its side. I like .12 layer height so that top side is smoother.

Press Bed (optional)



Layer Height: 0.2
Wall line count: 4
Alternate extra wall: Yes
Bottom Layers: 4
Top Layers: 4
Infill type: cubic
Infill Density: 25%
Support: No
Infill Before Walls: No
Build plate adhesion: skirt

Good Luck printing this one. After the brim is printed I usually tape it to the print bed. Disable Jerk controls and go slow. This is optional because you could make a press bed from a piece of wood. The ruler height is designed to work with a 1/4inch press bed.

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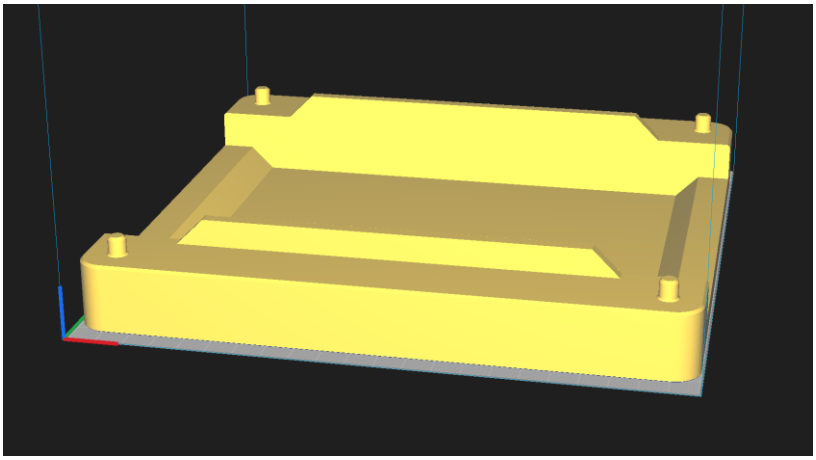
Base (Optional)



Layer Height: 0.3
Wall line count: 2
Alternate extra wall: doesn't matter
Bottom Layers: 4
Top Layers: 5
Infill type: cubic
Infill Density: 10%
Support: No
Infill Before Walls: No
Build plate adhesion: skirt

This can be the base for the press or you can skip this and screw the press halves to a ¾ inch thick piece of wood.