



LPJLA (Linear press from junk laying around) Vertical heat insert press



Miko

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Summary

LPFJLA (Linear press from junk laying around) Vertical heat insert press

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I wanted to build my own heat insert press from parts laying around the house. I used some 2020 extrusions for body and two linear rails with bearing idlers.

I designed two simple ends, choose what to use yourself:

One has four holes for heat inserts (end - 4 heat inserts)

Other one is made in two parts and glued together. Ironing tool is secured with removable zipties or something similar. (end - glue cap & end cap-round)

Feel free to design another end or remix mine.

For counter weight I used some metal stepper motor mount I had. You will have to design yours for yourself as I did not provide alternative printed part.

Parts with 2x at the end need to be printed two times and with 4x four times.

Design is made to be drilled in small wooden plank or something similar.

BOM:

24x M5x10mm (Can use larger with washers) - Crews are little bit overkill. You can build it with 16, maybe even less

24x M5 t-nut

2x M3x25mm

2x M3 washer - used as shims for idlers.

4x F623 Bearings

4x M3x16mm - Front carriage

2x MGN12C rails - carriages I designed are for MGN12C and not MGN12H. In future maybe I design other set.

2x 2020 Extrusions - one for base and one shorter for arm. I used 280mm for base and 104 for arm.

Depending on rail you will have to use shims or screws that are different size

4x M3 self tapping screws for attaching base to wood plank

GT2 belt - aprox 470mm depending on 2020 extrusion lenght

1x wooden plank or something similar

In pictures I have 4 extra bearings and 8 extra m3 washers as a replacement for 5mm adapter.

Assembly

For top idlers:

Top - 5mm adapter - Bearing - washer - Bearing - 5mm adapter - Top

Motion:

Press belt with smooth side down on linear rail carriage and press Carriage printed part onto it then Arm printed part on top of that. Sandwich all together with 4x m3x16mm screws. Repeat for other side with something to use as counter weight insted of Arm printed part

Fusion file is attached if you want to play with it.

TODO:

- Polish everything, maybe redesign to use less screws
- MGN12H carriage
- Counter weight mount
- Better guide, BOM, photos

Model files



arm.stl



end-cap-round.stl



carriage_2x.stl



end-4-heat-inserts.stl



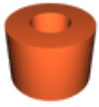
end-glue-cap.stl



base.stl



lpfj-linear-press-from-junk-heat-insert-press.f3d



5mm-adapter_4x.stl

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