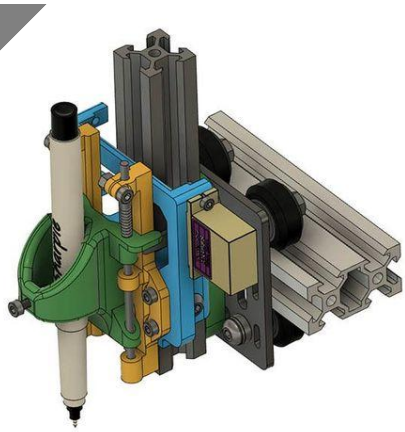
Printables by JOSEF PRUSA

3D MODEL ONLY



Z-axis servo/ Stepper motor Pen Plotter mount for V-Slot

geodave

VIEW IN BROWSER

updated 12. 4. 2022 | published 7. 4. 2022

Summary

12/28/2020 Update: I added the file *RP_200411_Servo_Z_Dual_X.cfg** that has my klipper configuration using the servo...

Art & Design > Other Art & Designs

Tags: fusion360 arduino penholder penplotter cncplotter

12/28/2020 Update:

I added the fileRP_200411_Servo_Z_Dual_X.cfg* that has my klipper configuration using the servo for the Z-axis for reference.

Z-axis servo/Stepper motor Pen Plotter mount for V-Slot

I needed a pen mount for the Rolling Plotter I am designing and https://www.thingiverse.com/thing:2349232 was pretty much what I wanted except I needed it to mount to a 2020 V-slot. I redrew it in fusion 360 like it was & then modified it to work for my design. I had some troubles getting the servo to work with Marlin firmware, so I made a couple of other mounts to use a nema17 pancake stepper & a 28BYJ-48 stepper motor. I then found a way to use the servo with klipper firmware, but might use a stepper motor later. I found the models of the servo, sharpie, & 28BYJ-48

stepper motor on grabcad, but didn't include them in the fusion 360 assembly file here.

The build log of my printer can be found here: https://openbuilds.com/builds/a-rolling-plotter.9207/

Here is a video of my plotter in action.

For any of the mounts print: **Pen_V_Mount.stl V2020_Z_6_4mmShim_Plate.stl Base_Slide_Mount_Long.stl** or**Base_Slide_Mount_Short.stl**. The Long version is 5mm longer for looser spring **V2020_Z_6_4mmShim_Plate.stl**

4 -**M3_Spacer.stl** if using M3x16mm screws to mount Pen mount to V-slot mount

For the servo mount style you can mount the servo on which ever side is more convenient for you.

Print: **Z_Servo_SideMount_V2020.stl**

Edit the**Z_Servo_SideMount_V2020.f3d** file if you need to change any of the design.

For the 28BYJ-48 motor mount you can also mount on which ever side is more convenient for you.

Print: **Z_Mount_28BYJ-48_V2020.stl Horn_28BYJ-48.stl**

Edit the**Z_28BYJ-48_SideMount_V2020.f3d** file if you need to change any of this design.

For the Nema17 pancake stepper mount, I only made a mount on one side, but you can mirror the part if you want it on the other side.

Print: **Z_Nema17_Pancake_V2020.stl Horn_Nema17.stl**

Edit the**Z_Nema17_Pancake_V2020.f3d** file if you need to change any of this design.

Depending on how deep your motor sits back, you might have to use the 4mm thicker*V2020_Z_10_4mmShim_Plate.stl rather than the 6.4mm plate above. If you need more depth than that, you can edit the**V2020_Z_6_4mmShim_Plate v3.f3d** to the size you need.

I printed all the files at .2mm layer height with eSun PLA+

I printed the Base_Slide_Mount with 4 perimeters & 30% infill

All the other parts I printed at 4 perimeters & 50% infill.

I only used supports on the front of**Pen_V_Mount.stl** print.

I mounted the Base_slide to the V-slot mount with 4 - M3x16mm screws & locknuts with a plastic 2mm washer.

2 - M3x10mm screws with locknuts to clamp down the M3 rods on the slider

1 - M3x16mm screw & nut to clamp pen in place, you might want a longer screw for smaller diameter pens.

2 or 4 - M5x12mm screws with T-nuts to mount to V-slot. Since pen is light, I only used 2 screws

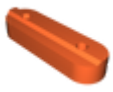
2 - M5x16mm screws with T-nuts to mount V2020_Z_6_4mmShim_Plate to carriage.

I cut a 2020x250mm V-slot in half for the vertical V-Slot & using the openbuilds V-Slot Gantry Plate-20mm for carriage which is 65mmx65mm. The springs I took from pens from a dollar store. Those springs were rather long, so I cut one in half & used half on each side. The M3 rods I took from an old DVD drive as mentioned in the build I remixed this from.

I have only tested the servo mount, so let me know if you find a problem with the other 2 mounts. I sized the nema17 pancake mount around the pancake motor from zyltech.com. All pancake motors are not the same depth.

Category: Art Tools

Model files



v2020_z_10_4mmshim_plate.stl

pen_v_mount.stl

z_nema17_pancake_v2020.f3d

base_slide_mount_long.stl

m3_spacer_v1.stl

z_servo_sidemount_v2020.stl

z_nema17_pancake_v2020.stl

z_28byj-48_sidemount_v2020.f3d

z_servo_sidemount_v2020.f3d

horn_28byj-48.stl

6mmplate_with_beltclamp_v31.stl

horn_nema17.stl

base_slide_mount_short.stl

horn_28byj-48.f3d

v2020_z_6_4mmshim_plate.stl

v2020_z_6_4mmshim_plate_v3.f3d

z_mount_28byj-48_v2020.stl

Find source .stl files on Thingiverse.com

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