Laser Level Mounting Pole PVC

rk3d

VIEW IN BROWSER

updated 8. 12. 2023 | published 8. 12. 2023

Summary

Adjustable pole that extends between the floor and ceiling for mounting a laser level.

Hobby & Makers > Tools

Tags: mount cameramount laser level thingiverse pvc laserlevel

I needed something to mount my laser level to hang some pictures up. The laser level comes with a mount that is basically a clamp with a couple points of articulation. It works great if you have something to clamp it to, but if not it's pretty useless. I was initially going to print some parts to make a tripod, but this was simpler and ended up being a little easier to use in tight spaces. Essentially, I was going for a poor man's version of this telescoping pole.

Additional materials

- ~ 5 ft of 1" diameter schedule 40 PVC pipe
- ~ 5 ft of 1-1/4" diameter schedule 40 PVC pipe
- 1 8-32 Thread 1/4" heat-set threaded insert (https://www.mcmaster.com/94459a320)
- 1 8-32 Thread 3/4" screw (https://www.mcmaster.com/90272A197)

How to use

Extend the inner pipe until it reaches the ceiling and then tighten the clamp with a screwdriver. Then turn the nut to add enough tension to hold the mount tight.

Improvements

This was just a proof of concept, so it could be greatly improved. A couple things I noticed:

- The clamp mechanism doesn't always have enough clamping force. Adding a piece of adhesive-backed rubber to the clamp might be an easy way to increase the holding power.
- Needing a screwdriver is annoying - it would be great to just have a knob
- Better yet would be to design a new clamping mechanism that would compress around the pipe as it's twisted
- The pipe isn't as stiff as I expected - maybe switch to metal or use thicker pipe

Print Settings

Printer Brand:

Robo 3D

Printer:

R1 ABS + PLA Model

Rafts:

No

Supports:

No

Category: Tools

Model files

base_1.stl

nut.stl

ceiling_bracket_1.stl

test_ring_for_1in_id_pvc.stl

clamp_1.stl

tensioning_threads.stl

Find source .stl files on Thingiverse.com

License ©

This work is licensed under a
Creative Commons (4.0 International License)

Attribution

✖ | Sharing without ATTRIBUTION
✔ | Remix Culture allowed

✔ | Commercial Use
✔ | Free Cultural Works
✔ | Meets Open Definition