

Timber Bot V1 - Core XY



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Summary

Timber Bot is a (CNC cut) wood framed high quality Core XY 3D printer that is fun to build, easy to resize and...

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Timber Bot is a (CNC cut) wood framed high quality Core XY 3D printer that is fun to build, easy to resize and customize.

I created the Timber Bot to give me a fun project that I can build with my kids and let them decorate/paint. I wanted the basic Core XY mechanics to be reliable, quality, and reusable for many projects. This project is a "Work in Progress". Many parts may change.

Update as of October 2022. I ended up moving and changing jobs while working on this project. I only ended up building the small prototype and then later the laser engraver version that I haven't even posted picture of yet. I may be done at this point or I may pickup the project again in the future. I don't know.

What do I plan to do with this?

- Build at least four 3D Printers with build volumes ranging from 160x200x240 up to 300x300x500.

- Build one with a print head tool changer
- Build a laser Engraver ~400x600
- (Maybe) Eventually build an SLS 3D printer (That will be the fun one)

I don't plan to produce detailed instructions until the VERY VERY end. But feel free to ask questions and I will answer in comments or update this listing.

Online Resources:

[Onshape CAD document](#)

[Google Photo Album of build \(Includes early versions\)](#)

[The Limit Switches I used](#)

[Wire Connectors for Limit Switches](#)

[Pan Head Screws #8 x 1/2" \(About 3.5 mm X 12 mm\)](#)

[Dry Wall Screws 1 1/4"](#) (Note from the comments. **vwbug200713** said, "drywall screws? thats bad it is harden steel and brittle you should use gold colored general purpose or construction type screws they are more durable and not brittle". He has a good point. I just used what I had on hand.)

Print instructions

PLA+, PETG or ABS is recommended. PLA will work but be VERY Careful when screwing in coarse threaded screws. You need something strong for the pieces that hold bearings.

Explanation of the Attached Files:

Core XY Parts: This is a full set of all the 3D printed Core XY parts except the tool Carriage. Left and Right specific parts are marked with letters "L" and "R". These should be printed on a good quality printer with Tolerances less than 0.1 mm. If you can't print [this item and have all the pieces move](#) then you will very likely have problems printing this set of parts.

Z Axes Parts Set: This set has only been tested with smaller print beds. I plan to test with a 300x300 size bed in the next couple months. I may make several changes at that time. For now this set works well and can be used with many mounting configurations.

Tool Mounts: I provide the STEP file for the generic tool mount so you can customize it. I also include a 3MF file with the mount I used to attach the [Bear BGM extruder](#).

Optional Parts: This file has a few optional parts that you might be interested in. Power Switch Mount can be used to hold two switches for Power and Lights. The file can be printed to use several colors of filament using the filament change at layer method. The Wood Trim piece can be scaled to any length you want. It can then be clipped onto the edge of the

wood frame box as a decoration. The Power supply and Main board mounts are Generic clip mounts that can be used to mount many types of electronics.

DXF files for CNC cutting. This machine can be scaled to fit any practical size. The Variables you need to know are the Length of your MGN12 rails for X and Y. The length of your 8 mm rods for the Z axes. And the thickness of the wood you will use. Instructions are detailed in [this video](#) generate your own.

There are a LOT more build photos in the Google Photo Album link above*

Model files



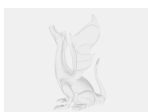
z-axes-full-set.3mf



optional-parts-all-10282020.3mf



corexy-parts-full-set-10282020.3mf



generic-tool-carriage-rev-d.step



tool-mounts.3mf



laser-tool-carriage-set.3mf

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