Bambu Lab P1P 3D Printer

Training Manual

YOU MUST PASS TRAINING BEFORE YOU CAN USE THE BAMBU LAB

TRAINING MUST BE LOGGED BY DS STAFF OR A TA IN THE MASTER SPEADSHEET

LOG ALL PRINT JOBS ON THE BAMBU PRINT LOG NEXT TO THE BAMBU PRINTERS

INTRODUCTION

Why 3D Print?

3D printing allows you to quickly iterate prototypes of your product when you want to implement different features. Printing a device or a part is useful when simpler methods such as plastic bending do not suit your design, or when complex structures are needed.

Most 3D printers use a process called additive manufacturing, where the 3D printed object is created by laying down layers of melted plastic until the entire object is generated. Each layer is a thinly sliced cross-section of the final product.

Why Use the Bambu P1P?

The Bambu P1P is great at printing with very high speed and high precision. It is useful for printing prototypes quickly for future revisions and reprints.

SAFETY

WARNING:

The Bambu Lab P1P and 3D Printers generate HIGH TEMPERATURES, and include moving parts that can result in injury.

Never reach inside the device while it is in operation. Always allow it to cool down before reaching inside.

RISK OF INJURY:

Injury can occur from interaction with the device as detailed above, or during the process of removing the piece from the build plate. Use caution when removing pieces, and when using tools to this end.

CAUTION:

In case of emergency, disconnect power supply from the wall socket.

GETTING STARTED

Specifications & Capabilities

Bambu Lab P1P:

Specifications:

Body

Build Volume: 256 x 256 x 256 mm^3
Chassis: Welded Steel
Shell:
Open frame(Printable Modplates Available)

Speed

Max Speed of Toolhead: 500 mm/s
Max Acceleration of Toolhead: 20 m/s^2

Toolhead

Hot End: All-Metal
Nozzle: Stainless Steel
Max Hot End Temperature: 300℃
Toolhead Cable:
Standard toolhead cable

Cooling & Filtration

Control Board Fan: Optional
Chamber Temperature Regulator Fan: Optional
Auxiliary Part Cooling Fan: Optional
Air Filter: Optional

Supported Filaments

PLA, PETG, TPU, PVA, PET: Ideal
ABS, ASA: Capable
PA, PC: Capable

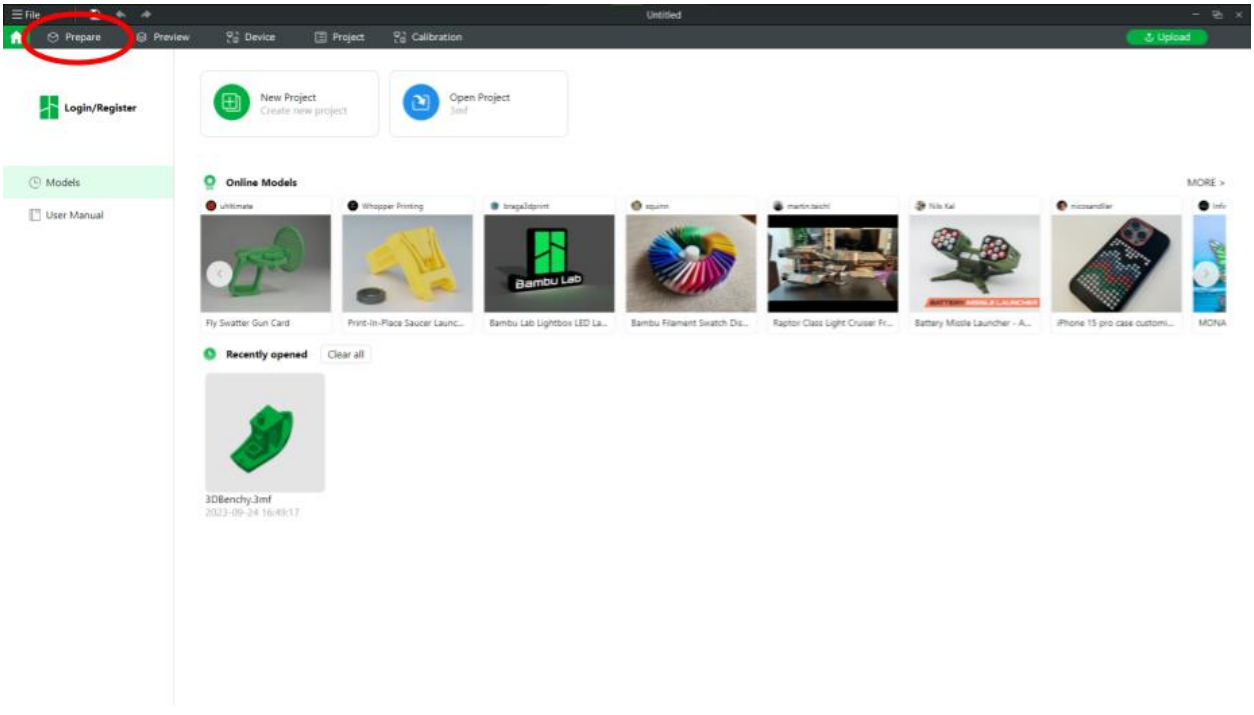
Print Materials

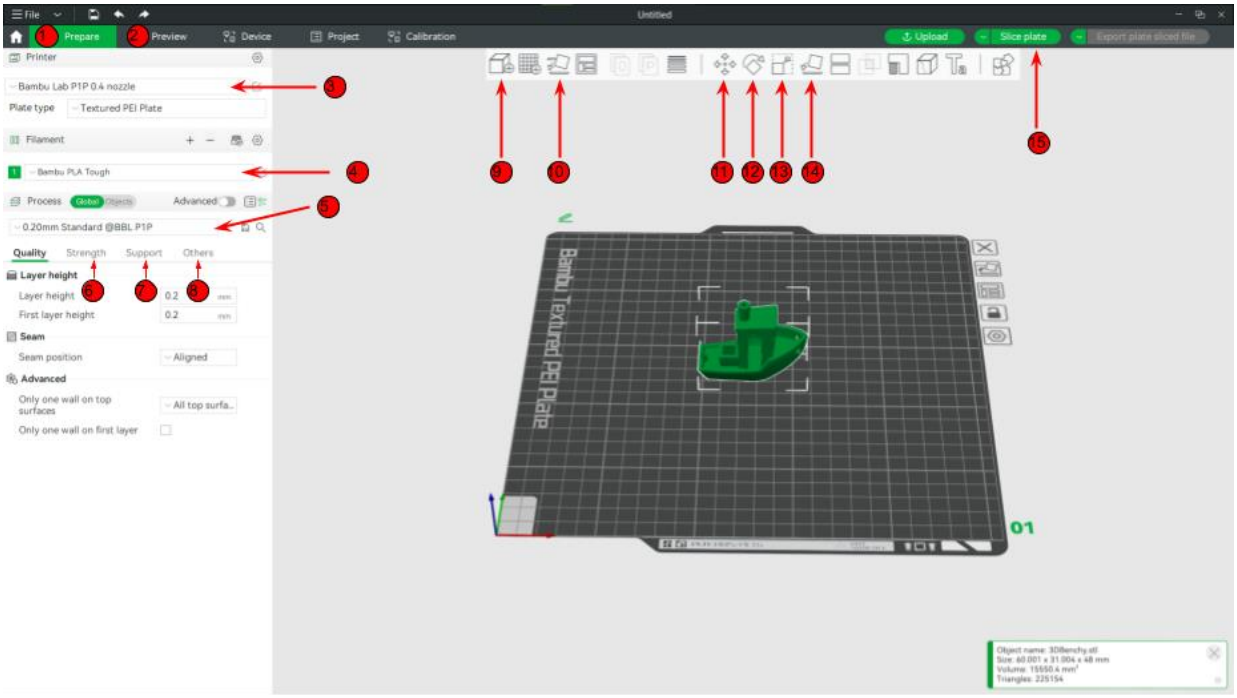
The P1P is usually loaded with PLA or PETG, but is capable of more types of filament.

PREPARE YOUR DESIGN

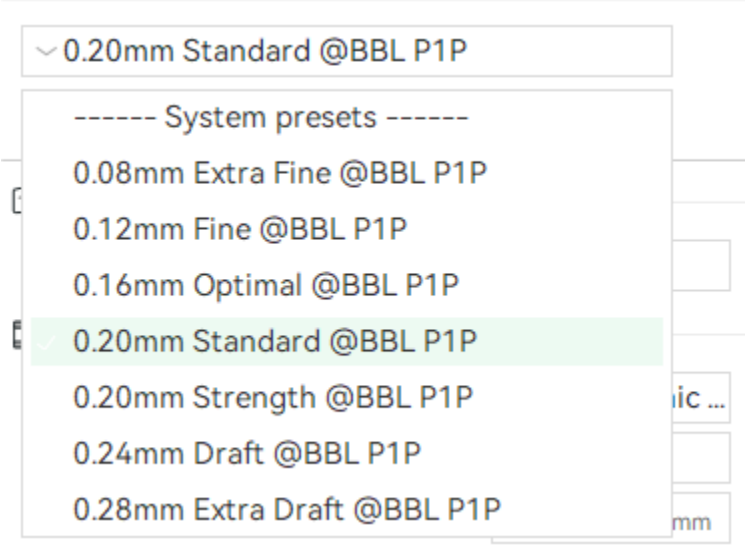
Once you have a 3D design ready to print, you must save in a compatible file type (.stl, .obj, .step/.stp, or .3mf). The most common format is the **STL file**.

Menus and Options

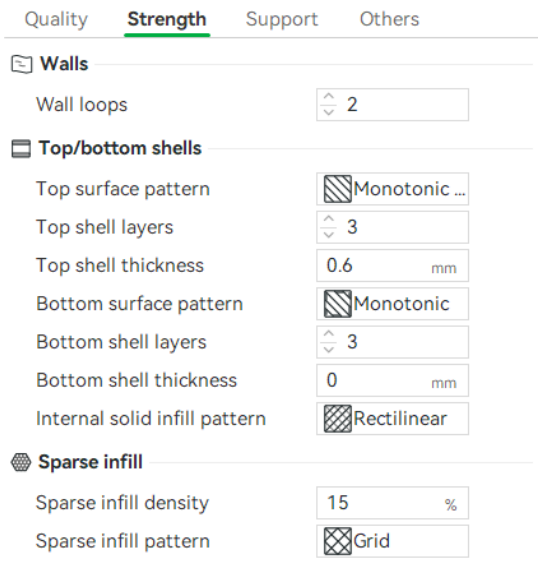




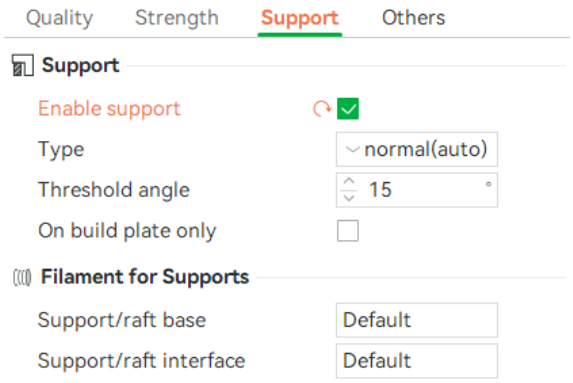
1. Prepare
    a. Control print settings and manipulate object on build plate
2. Preview
    a. View sliced model and parameters
3. Set printer and nozzle size
    a. Should be set to Bambu Lab P1P 0.4 nozzle
4. Filament Type
    a. Make sure to match with filament spool on the back of the printer (usually Bambu PLA Basic or Generic PLA)
5. System Preset
    a. Determines speed and detail of model (layer height)
    b.



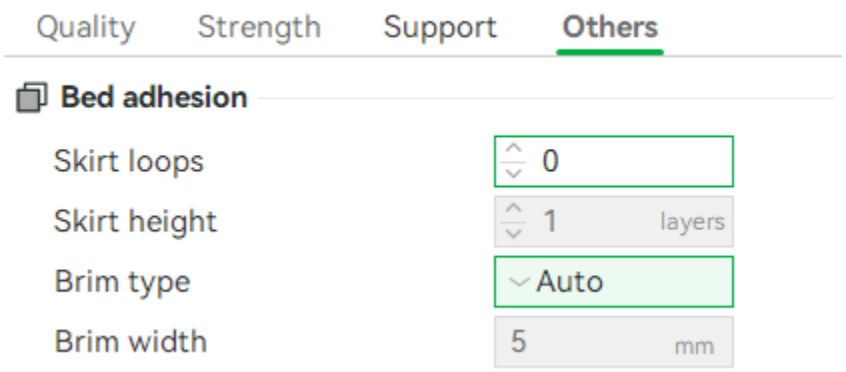
6. Strength Menu
    a. Edit wall thickness or infill



    b.
7. Support Menu
    a. Turn supports on or off



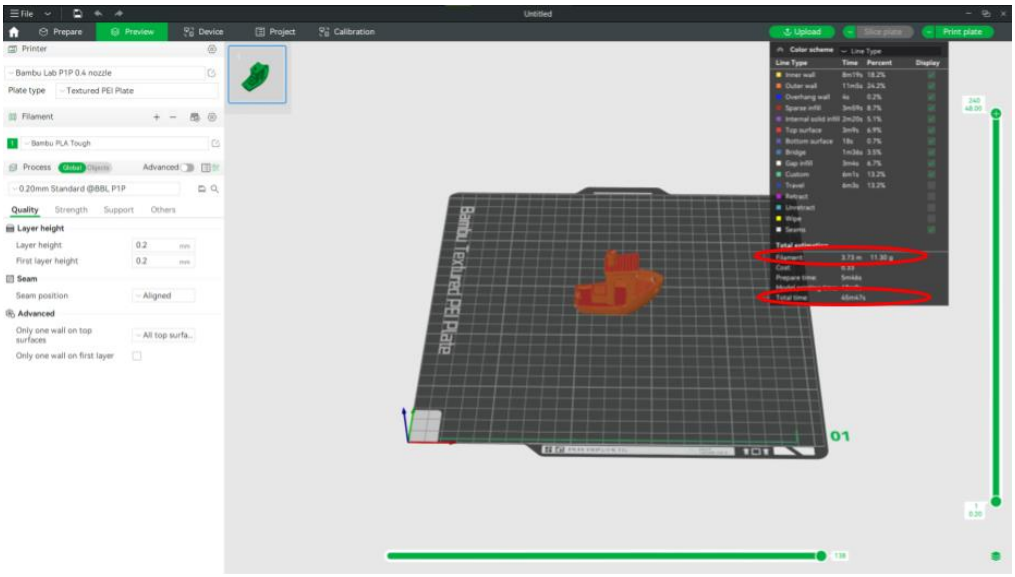
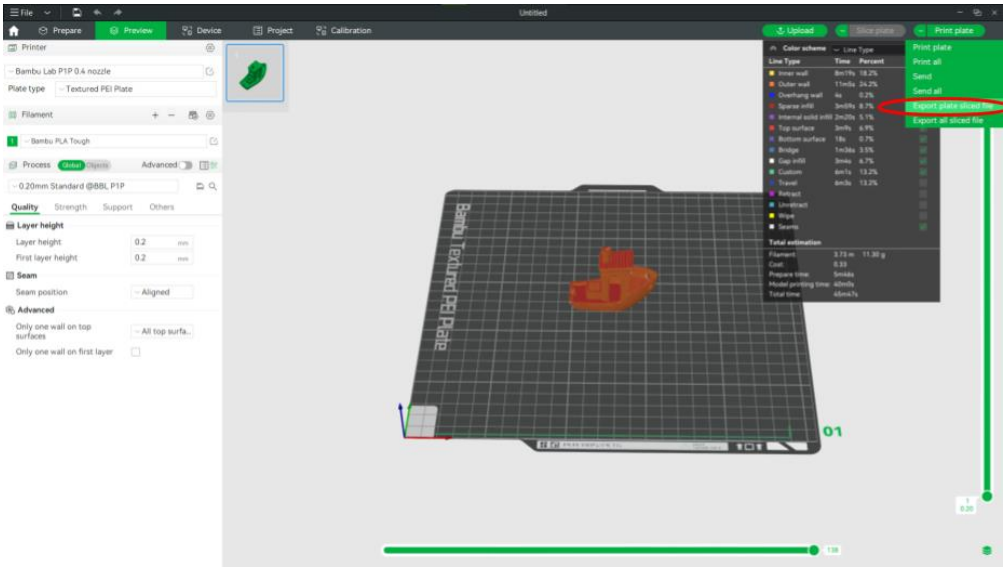
    b.
8. Others menu
    a. Choose to add a brim or skirt to the print



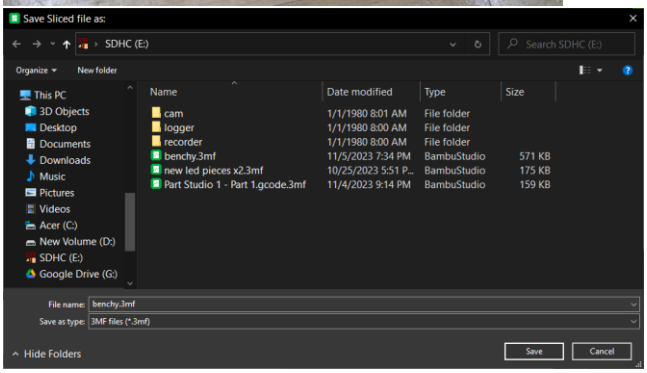
    b.
9. Add Model

10. Auto-Orient
11. Move Model
12. Rotate Model
13. Scale Model
14. Lay on Face
15. Slice Model

Steps to Print

1. Add model, orient on build plate
2. Choose filament, preset, and any other custom settings
3. Slice plate and view in the preview menu. Check filament usage and total print time, and change preset if needed.
    a. 
4. Click dropdown next to “Print Plate” and select “Export plate sliced file”
    a. 
5. Name and save .3mf file to microSD card (connect through usb dongle to computer)

a. 

b. 

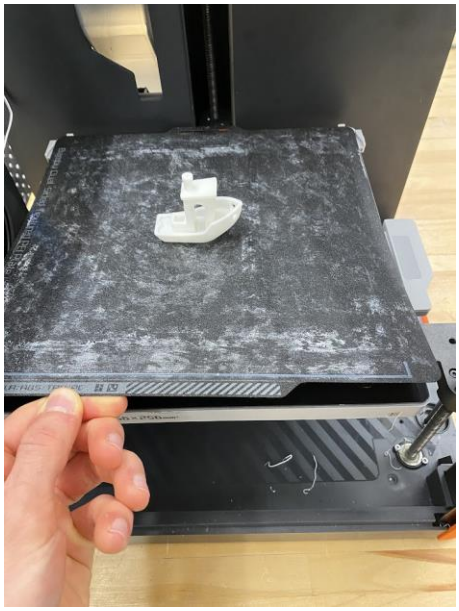
6. Insert microSD card into top slot on printer, go to the folder menu, select your file, and print

a. 

b. 

c. 

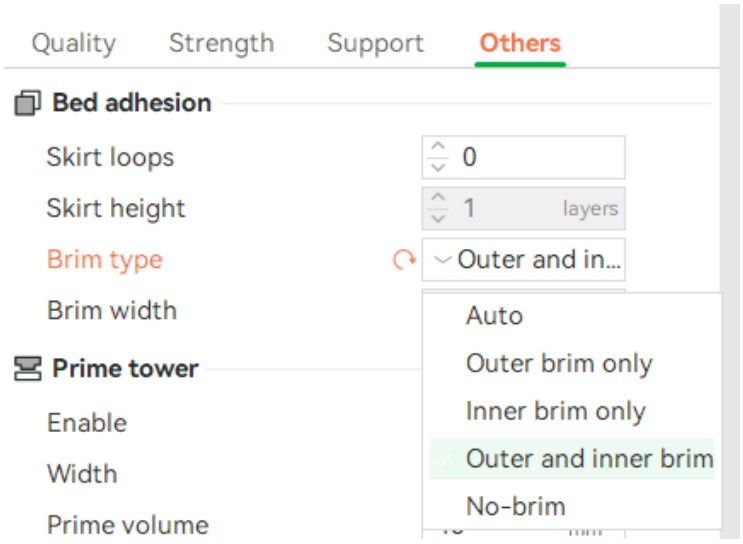
7. **Make sure the first layer prints before leaving the print to finish**
8. When print is completed, lift up front tab of build plate to disengage magnets, and remove the print by flexing the plate and pulling off the part. If needed, use a scraper to gently scrape it off

a.  

9. Return build plate to the printer

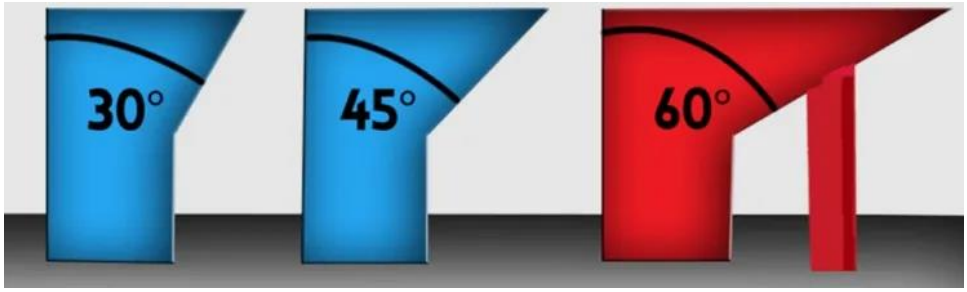
Troubleshooting Common Problems

<u>Print does not adhere to plate</u>

- Try adding a brim by selecting “Outer and inner brim” in the “Bed adhesion” menu to give the print more surface area on the plate. If this does not work, you can apply a light coating of glue stick to the plate.
    - 

<u>Print warps at an overhang/bridge</u>

- If your model has an overhang with a sharp angle or a long bridge, turn on supports

- 

Printer runs out of filament during print

- Remove the partially completed print and ask a DSTA or Tom Benassi to replace the spool

Print head is moving, but no filament is extruding

- Ask a DSTA or Tom Benassi to purge filament

Print is stuck to the build plate

- Let the print cool before removing, as it is harder to remove a hot part
- Use the metal spatula if needed

File is not visible in SD card menu on printer

- Make sure file was saved as a .3mf format

Links

Thingiverse

- Helpful for finding parts other people have made

Bambu Labs P1P Manual

- More detailed information about the printer