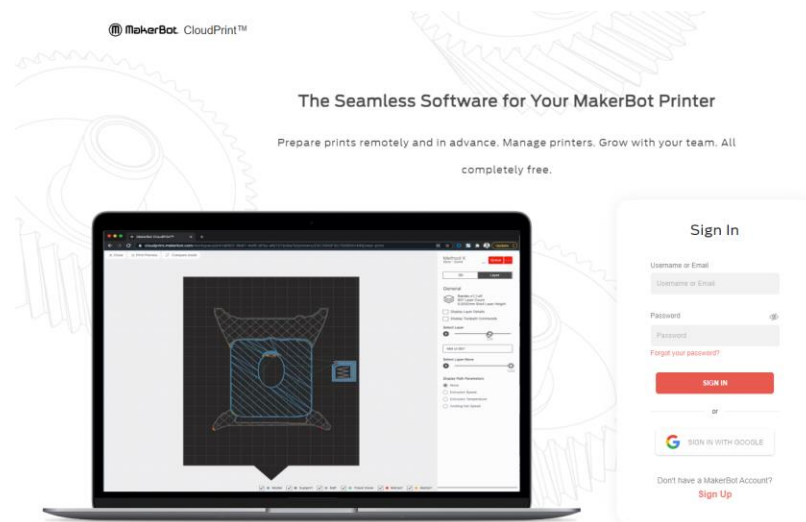# Makerbot CloudPrint Tutorial

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Objective: Tutorial introduce use of Makerbot's CloudPrint website to turn your CAD files into files readable by 3D printers.

1 Navigate to the CloudPrint website, this can be accessed by heading to the Makerbot website (Hold CTRL KEY > Left Click on Link)

2. Login Information Sign In with your Brightonk12.com Google Credentials (Login: Student# and Password "School Password") or Create New Account

3. Workspace Mangement Screen

Screen Tabs

WorkSpace Management: Remotely Control Printers
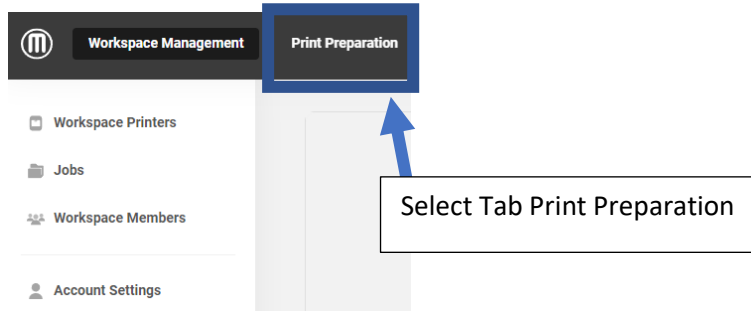**Print Preparation:** Upload File > Set Printing Settings

Printing Queue: Allows operator to start new prints remotely

Printers: Connected to the User
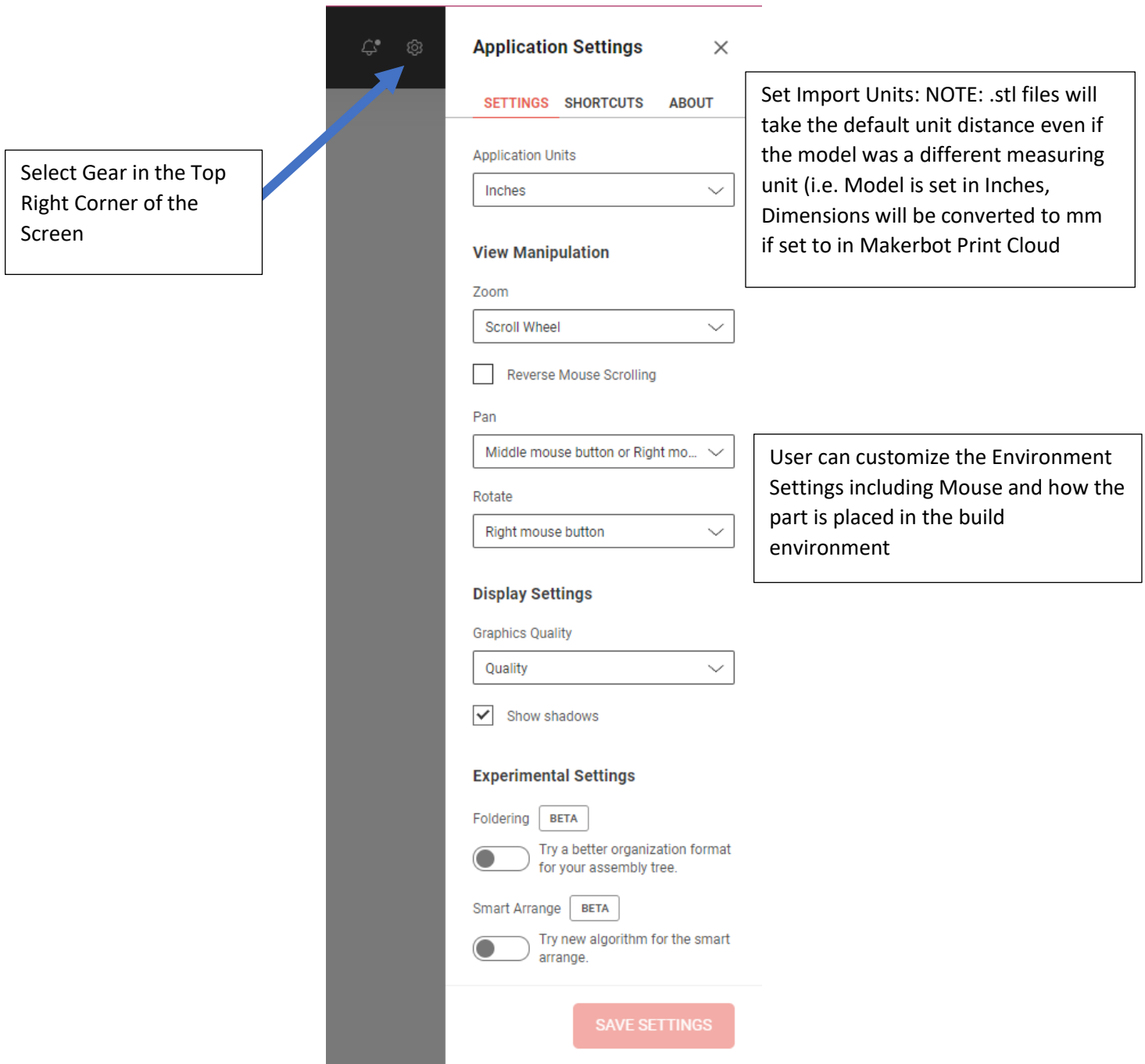User may control printer remotely if the printer is setup with Wi-Fi settings

Options to

Workspace Printer: Select/Add/Delete Printers
Jobs: Select/Add/Delete Print Jobs
Workspace Members: Connect with other users
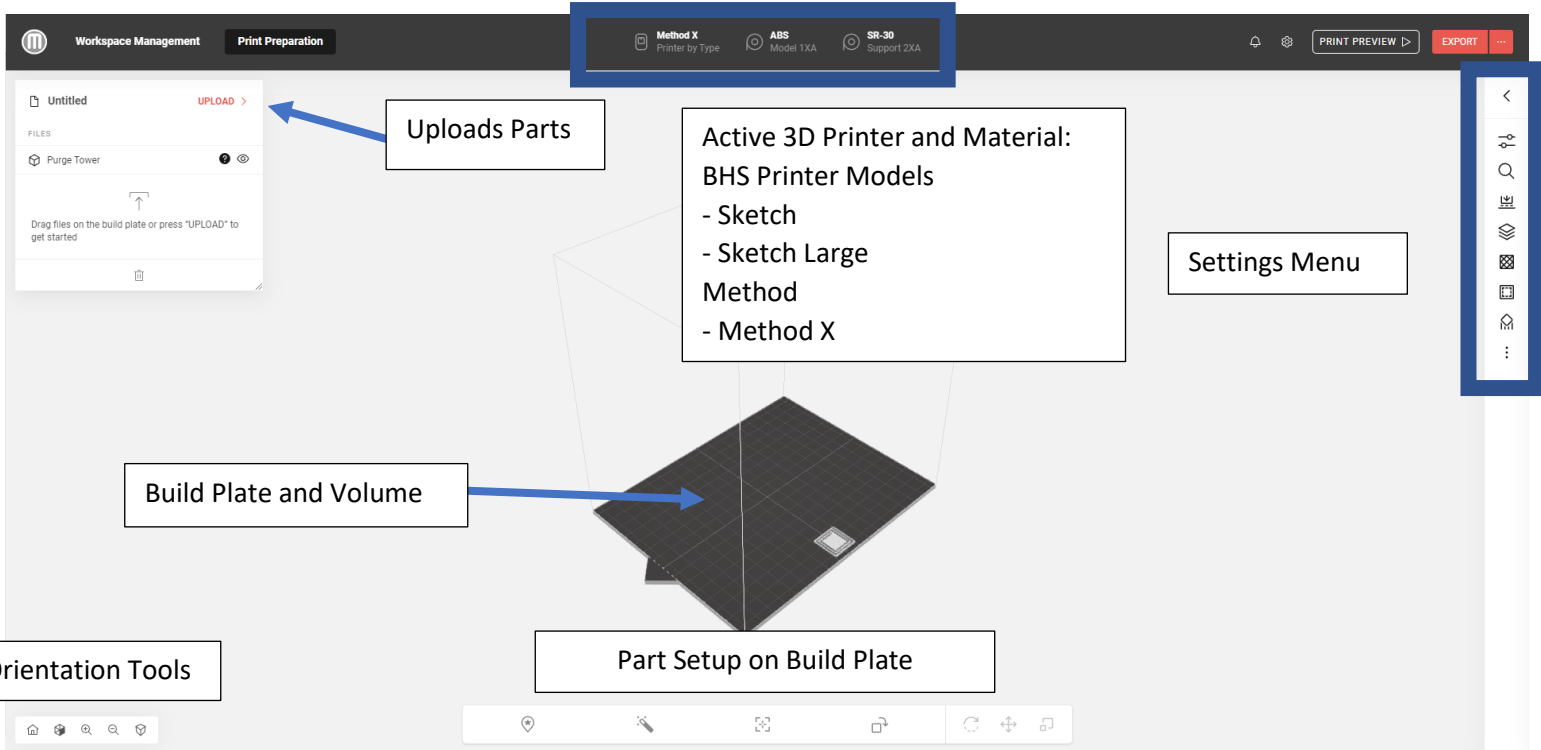**Account Setting:** Adjust User Settings

4. Select Tab: Print Preparation

Select Tab Print Preparation

5. Environment Settings

Select Gear in the Top Right Corner of the Screen

Set Import Units: NOTE: .stl files will take the default unit distance even if the model was a different measuring unit (i.e. Model is set in Inches, Dimensions will be converted to mm if set to in Makerbot Print Cloud

User can customize the Environment Settings including Mouse and how the part is placed in the build environment

5. Printing Screen

Workspace Management | **Print Preparation**

Method X — Printer by Type | ABS — Model 1XA | SR-30 — Support 2XA

PRINT PREVIEW ▷ | EXPORT

Uploads Parts

Untitled — UPLOAD >

FILES

Purge Tower

Drag files on the build plate or press "UPLOAD" to get started

Active 3D Printer and Material:
BHS Printer Models
- Sketch
- Sketch Large
Method
- Method X

Settings Menu

Build Plate and Volume

Part Setup on Build Plate

Orientation Tools

Mouse Buttons

Wheel = Zoom In/Out

Middle Button= Pans

Left Mouse Button = Selection

Right Mouse Button = Rotates Image
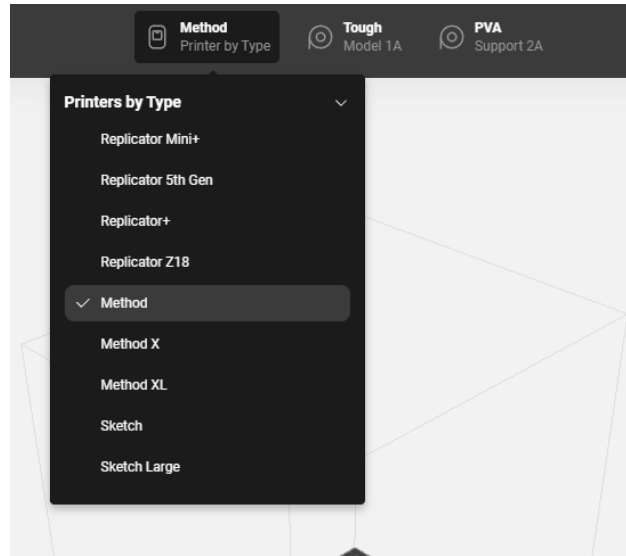
5. Select Printer Type kind
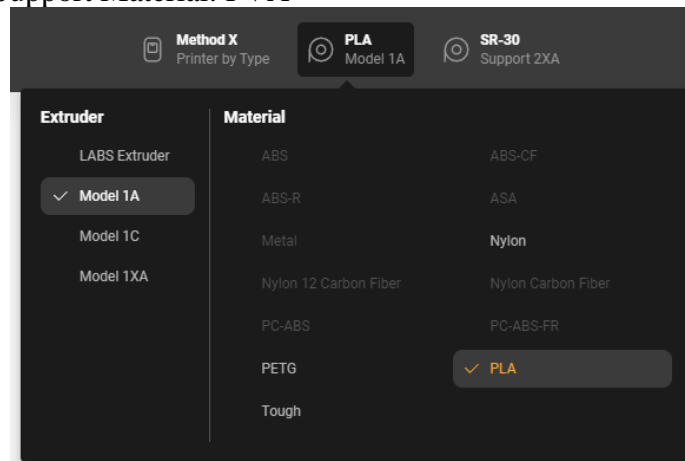- BHS Printers
        - Sketch
        - Sketch Large
        - Method
        - Method X

6. Select Material Types: Check the machine with what material is inserted
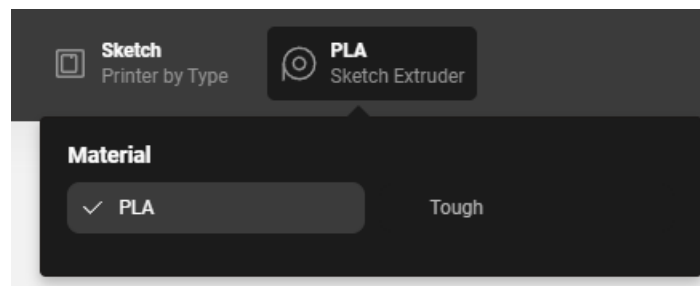   Method and Method X
        - Extruder Head Model 1A Build Materials: PLA, Tough PLA. (NOTE: Method X can use ABS)
        - Extruder Head Model 1C Support Material: PVA
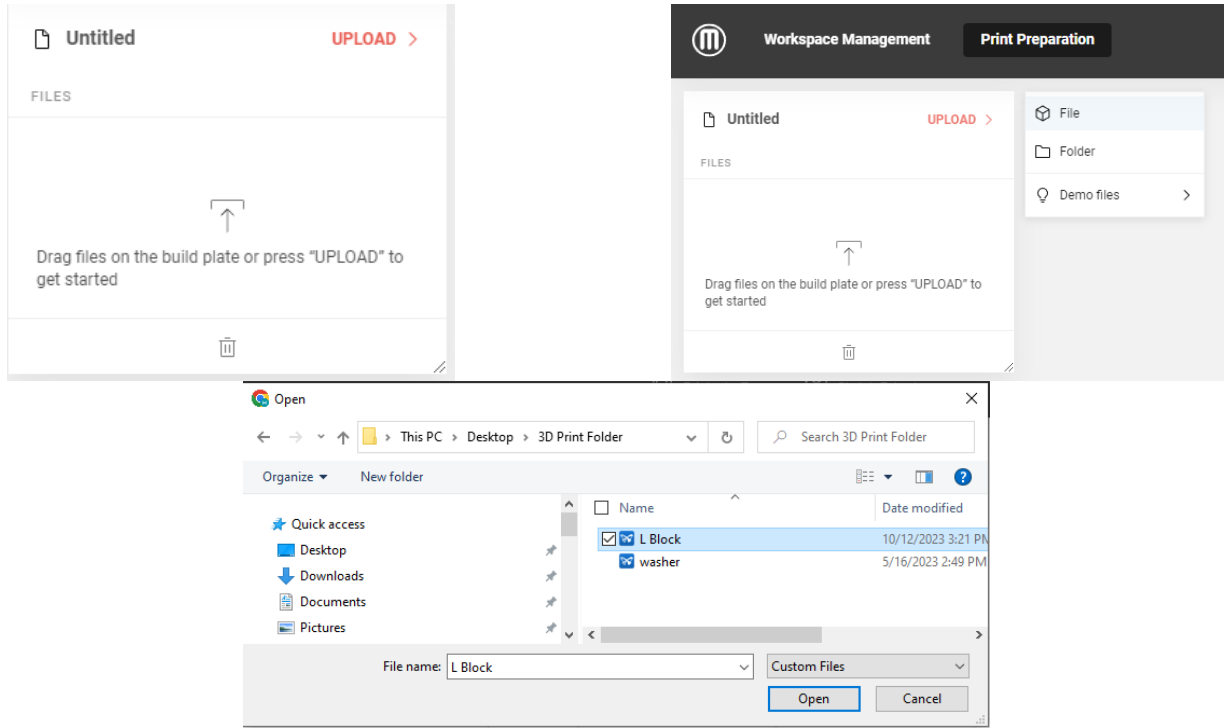

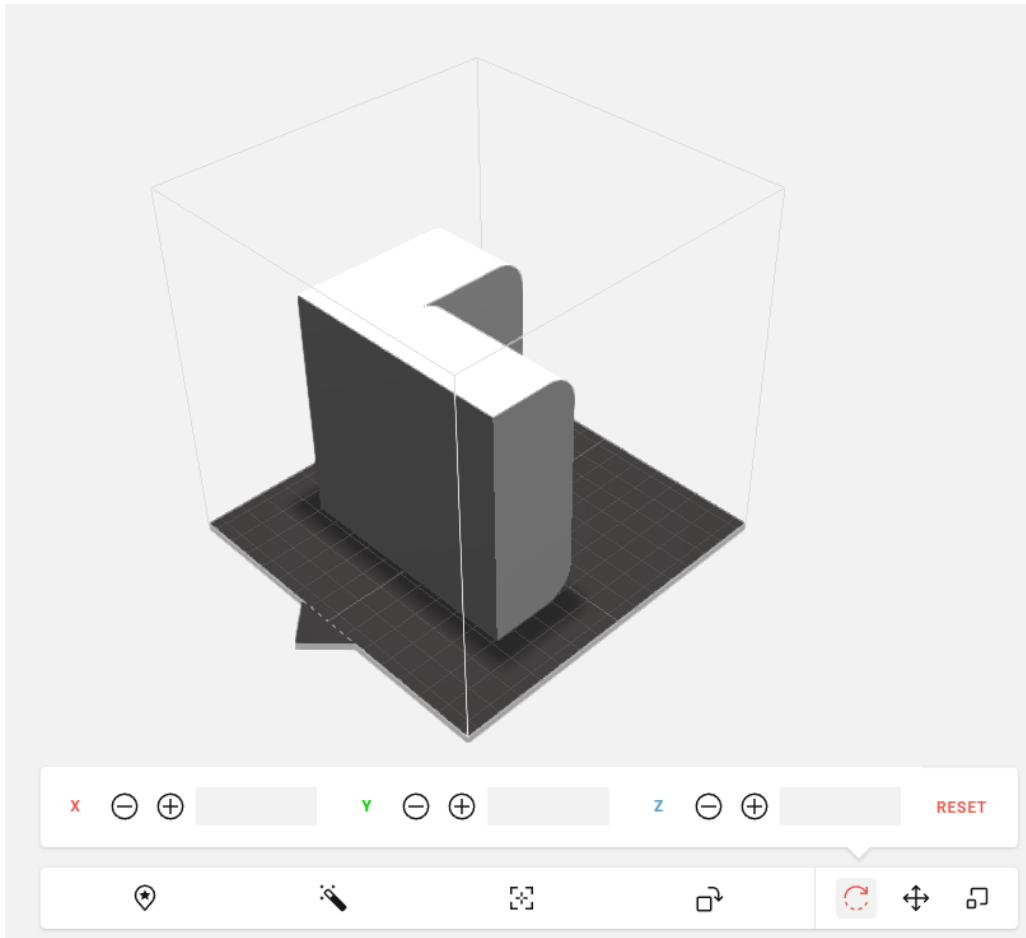   Sketch and Sketch Large
        - PLA

7. Select Upload Button Top Left Corner > Select File > Navigate to the File Location > Select Open

8. Part will be imported on to the build plate

9. Rotate and Resize Parts has Needed

Rotate Part

Selection and Movement Tools

Smart Arrange: Organizes Part on Build Plate

Smart Orient Organizes to best rotation to limit support material

Center of Build Plate: Places part on the center point of the plate

Place Face on Part: Select a Face to place on the build Plate

Move Part

Scale Part

X ⊖ ⊕   Y ⊖ ⊕   Z ⊖ ⊕   RESET

Rotation Menu: Press +/- to Rotate Part

X ⊖ ⊕ 0"   Y ⊖ ⊕ 0"   Z ⊖ ⊕ 0"   RESET
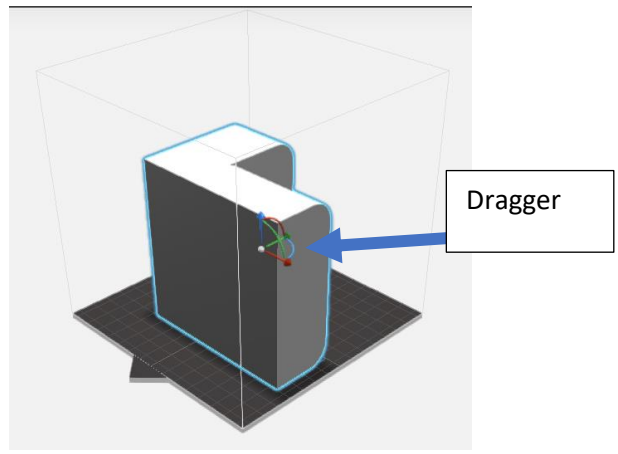
Move Part: Press +/- to Move Part

X   4"   Y   2.999"   Z   4"   RESET
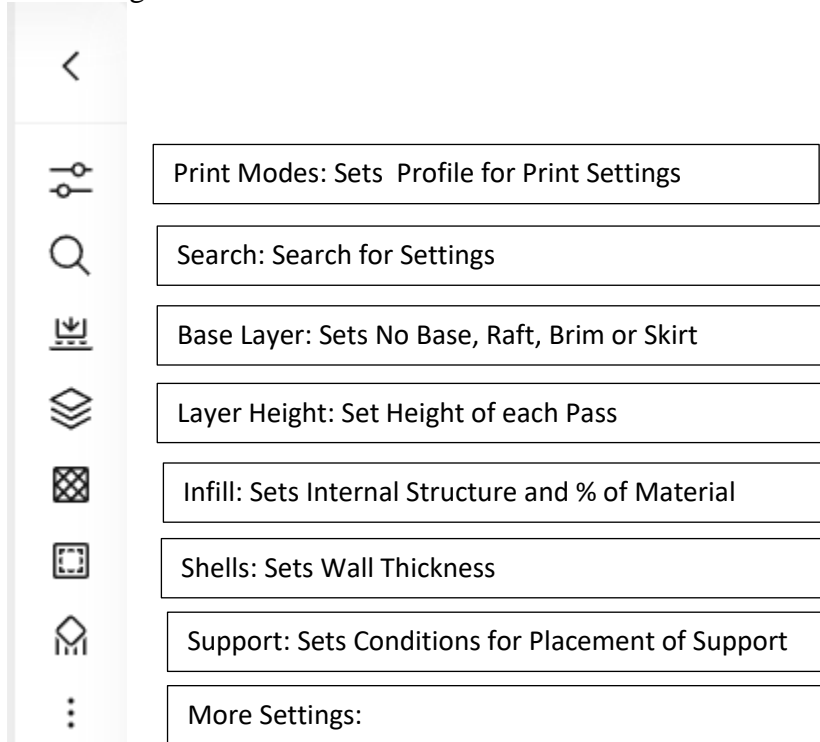
⊖ ⊕ 100%   ⊖ ⊕ 100%   ⊖ ⊕ 100%

Scale Part: Press +/- to adjust Percentage of Scale

Uniform Scale: When Selected (Default) All percentage changes will be applied to all Axis (X, Y, Z)
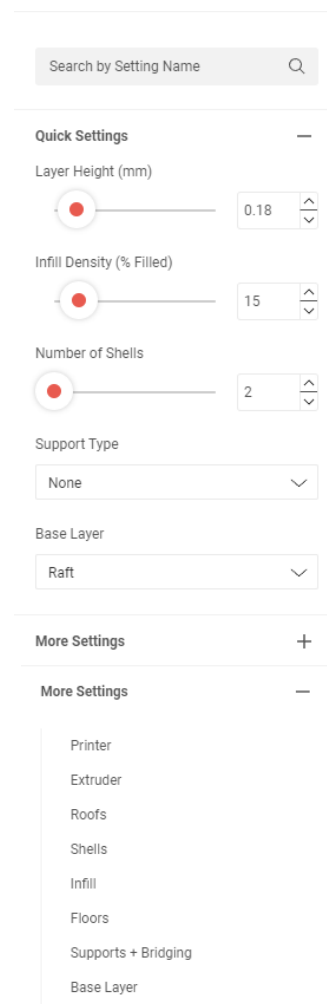
Or Select Part Use the Dragger to Rotate or Move Part

Dragger

10. Settings

Print Modes: Sets Profile for Print Settings

Search: Search for Settings

Base Layer: Sets No Base, Raft, Brim or Skirt

Layer Height: Set Height of each Pass

Infill: Sets Internal Structure and % of Material

Shells: Sets Wall Thickness

Support: Sets Conditions for Placement of Support

More Settings:

Quick Settings

Search by Setting Name

Quick Settings —

Layer Height (mm)
0.18

Infill Density (% Filled)
15

Number of Shells
2

Support Type
None

Base Layer
Raft

More Settings +

More Settings —

Printer
Extruder
Roofs
Shells
Infill
Floors
Supports + Bridging
Base Layer

Selecting More Settings will activate Options that will provide the designer ability to setup a more defined print

11. Settings to change

Shells
1. Number of Shells- 2 (unless object is to be sanded, drilled, tapped, etc. to change finish model)

Layer Height
2. Layer Height- .3 (Ideal for quick prototype products)

Supports + Bridging
1. Support- Placed where surfaces overhang; rule of thumb any surface less than 45 degrees from horizontal will need support
2. Support Angle- depends on object (Remember the angle placed in the setting is to be subtracted by 90 degrees and that value from 0 degrees to that value will be where support is placed (I.E Value Inputted =80; 90-80= 10, 0-10 degrees is where support will be placed.
3. Support to Model Spacing- adjusts the distance from model that support will begin printing. Suggest 1-3 mm
4. Support Density
Raft
1. Raft On/Off

12. Preview Settings
   a. Select Print Preview to see how support material or infill will be placed on the part > Adjust Values as needed > Repeat Preview as needed
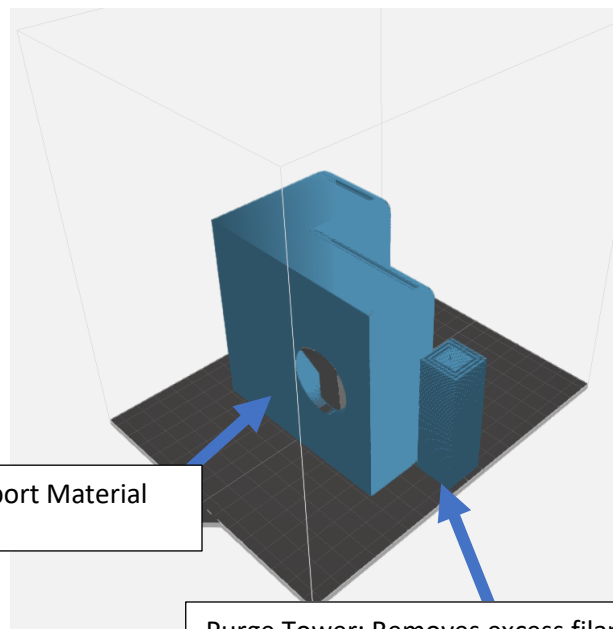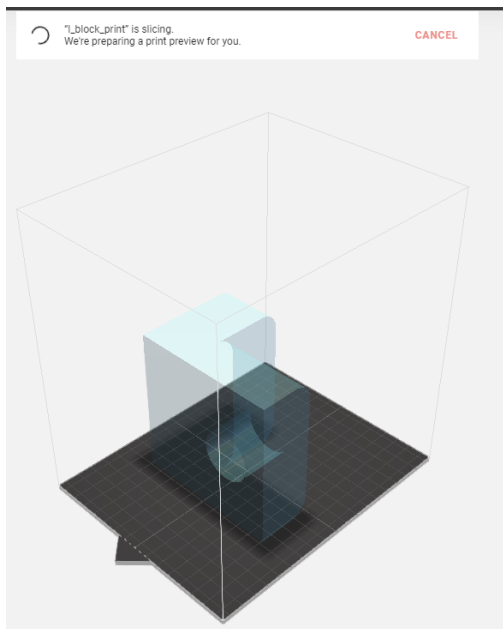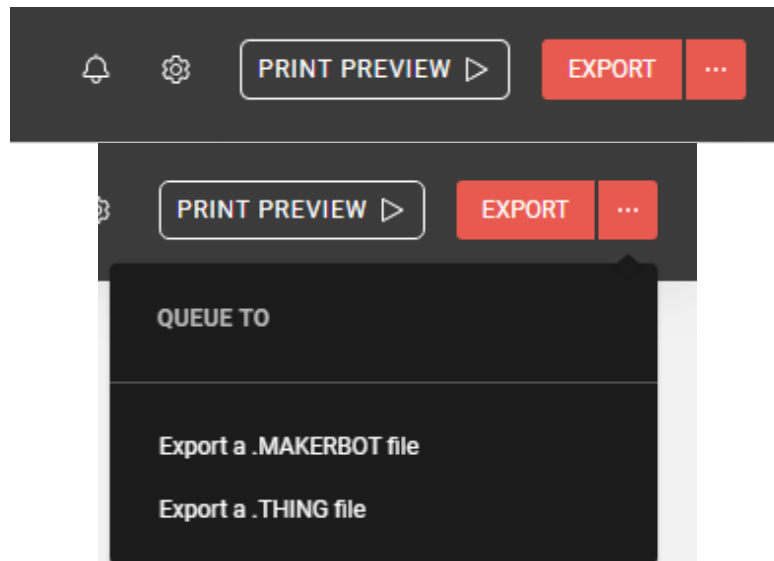

Support Material

Purge Tower: Removes excess filament from the extruder head when using two extruder heads to lessens the likely hood of clogs.

NOTE: Operator can move the Purge Tower around by Holding Left Mouse Key > Drag to desired location

13. Export File
   a. Select Export …. in the Top Right Corner

b. 2 Types of Exports
- .makerbot file: this is the file the printer uses to run the print
- .thing file: this file is like a project file. This file will save all of the user settings for this project. NOTE: when Makerbot Cloud is closed all of the data is lost. The .thing file will allow the user to import the file that contains their parts and print settings

c. File will be Placed in the Download Folder
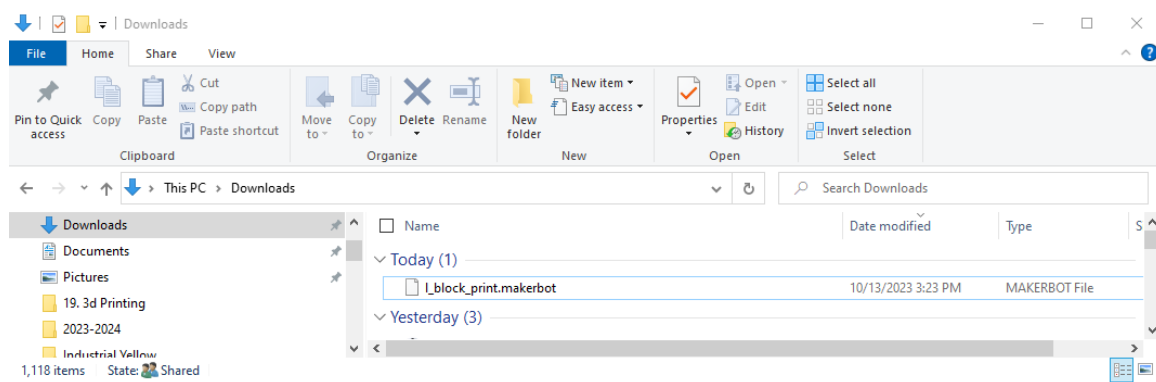
d. Insert Flashdrive from Printer in to the PC

e. Copy and Paste file from the Download Folder to the Flash Drive from the

f. Remove Flashdrive from Computer > Go to the Printer > Insert Flashdrive > Print

g. Before CLOSING Makerbot Cloud > Download .thing File (Project File) > Move the file from the downloads folder to the user's directory