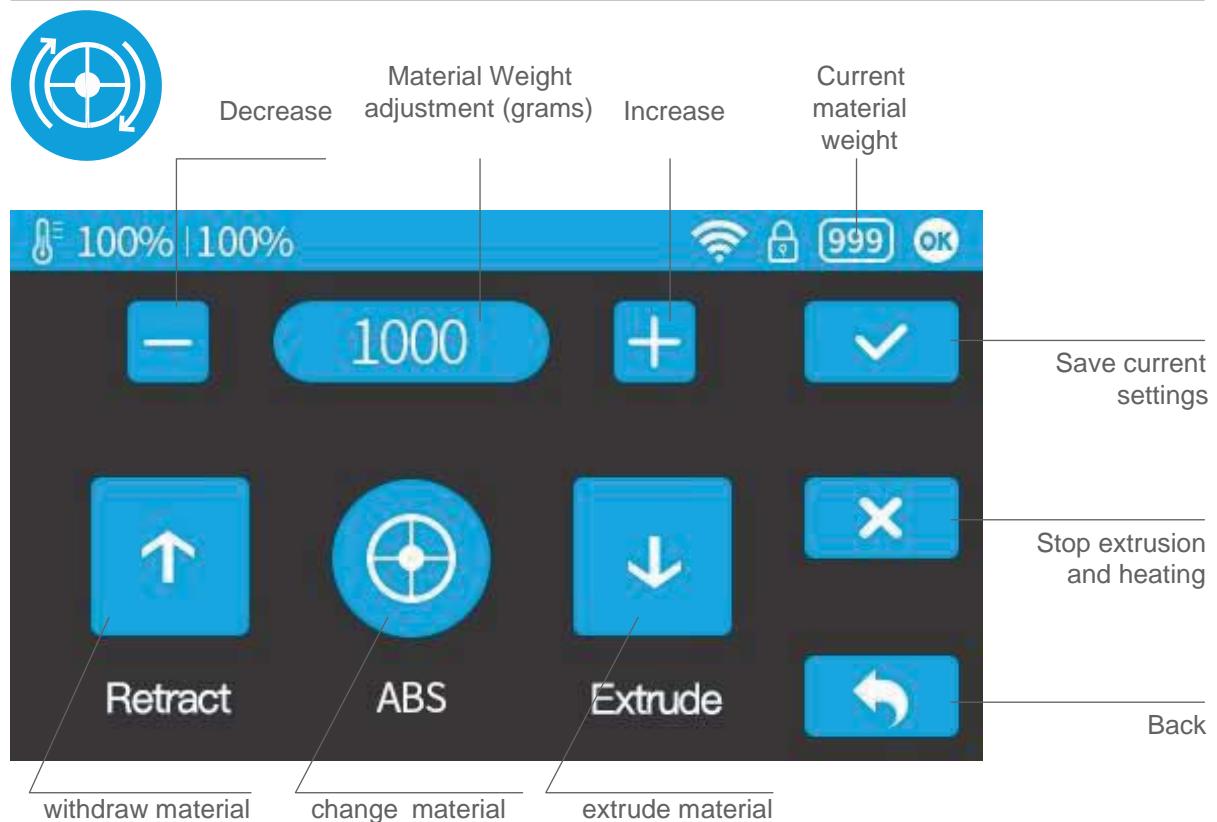
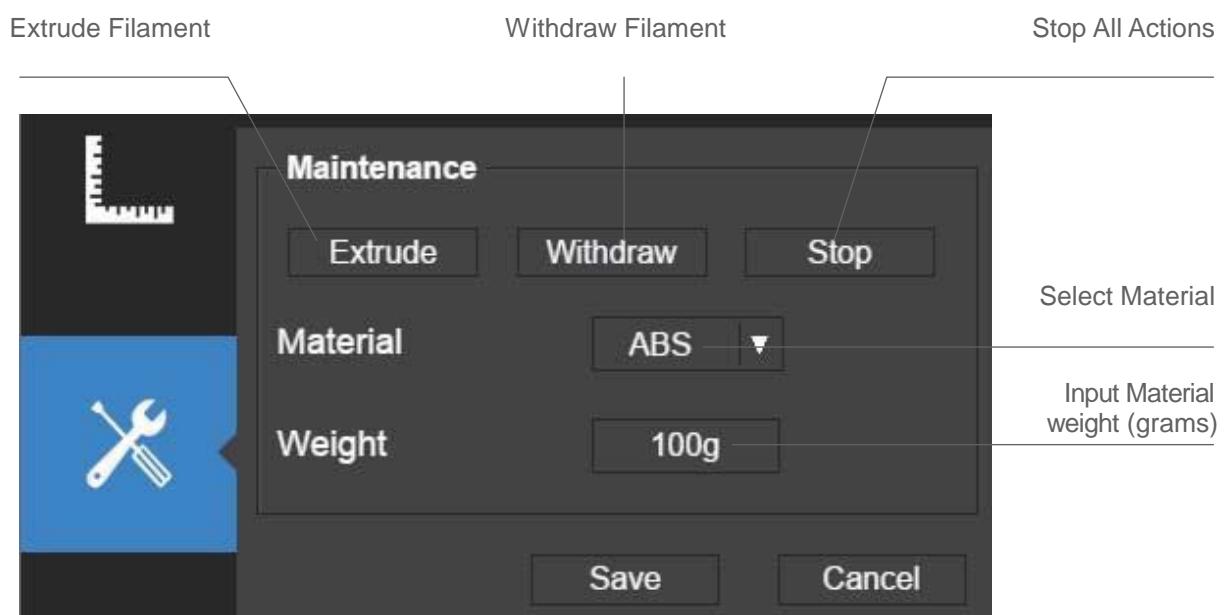


# Set Materials (Touch Screen)

3-7



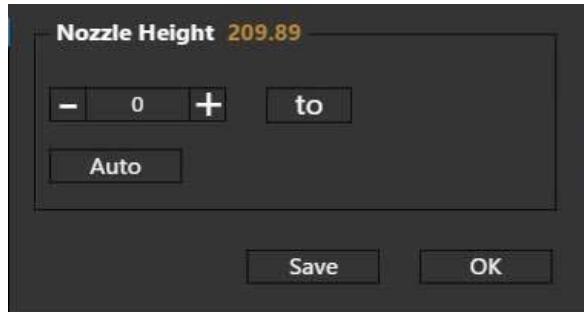
# Set Materials (Software)



# Set Nozzle Height (Software)

3-8

For setting nozzle height with the touch screen please refer to page 2-8.

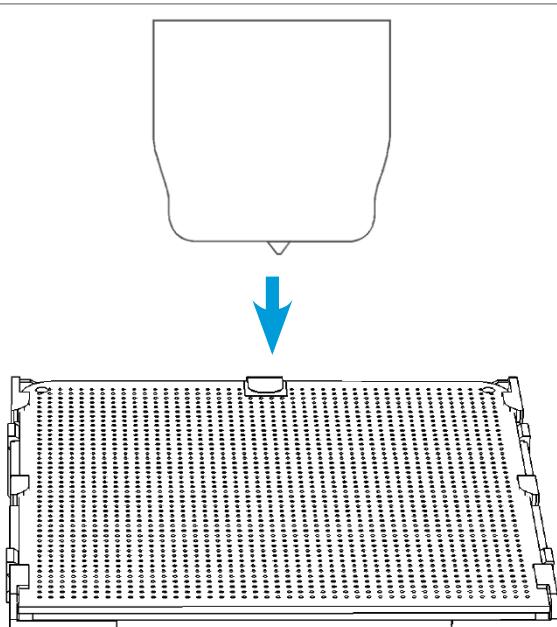


Open the Calibration panel

At the Nozzle Height section, click "Auto" to initiate the automatic nozzle height detection process.

Clicking +/- button will move the platform up and down, or input a specific value at the text field and click the "To" button the move the platform to a specific height.

Click Save to replace the nozzle height value with the current platform height.



During nozzle height detection, the print head nozzle will touch the thin metal sheet on the detector to make the measurement.

# Machine Configuration

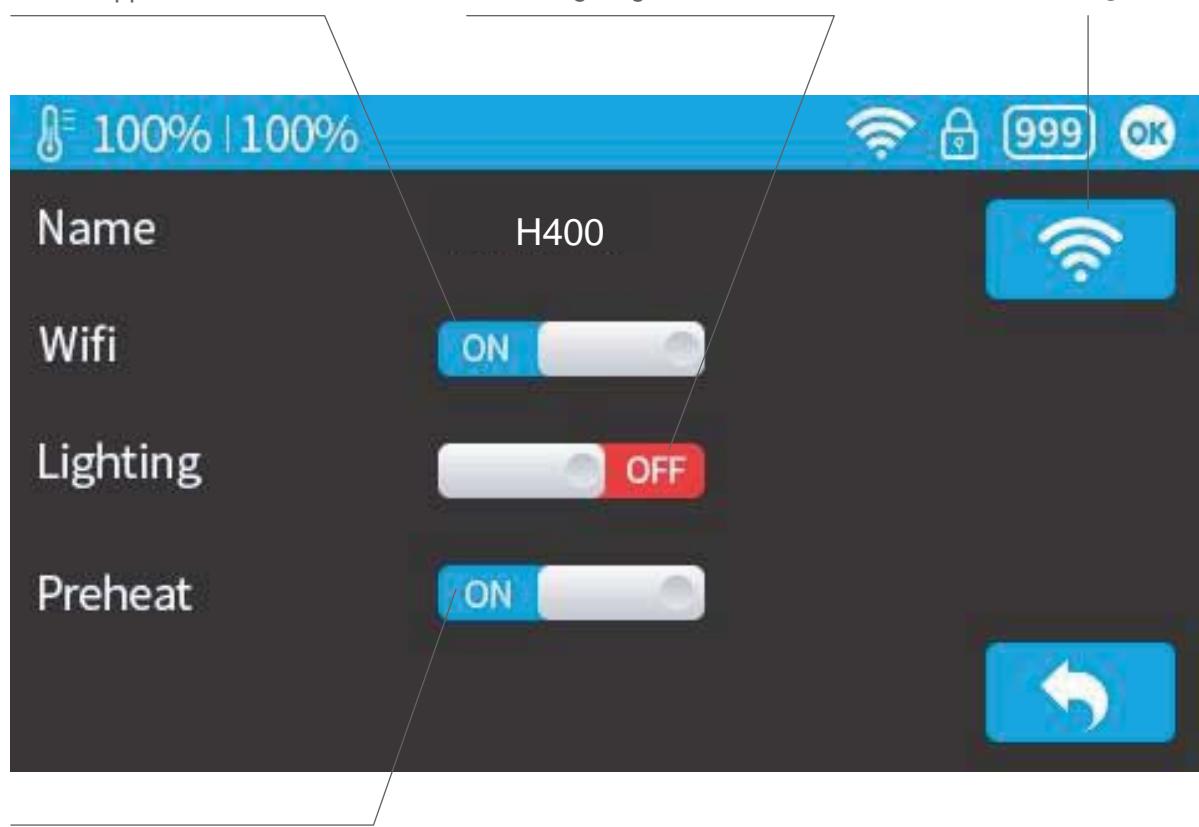
3-9



WIFI switch, if switched off the WIFI setting button will not appear.

internal lighting switch

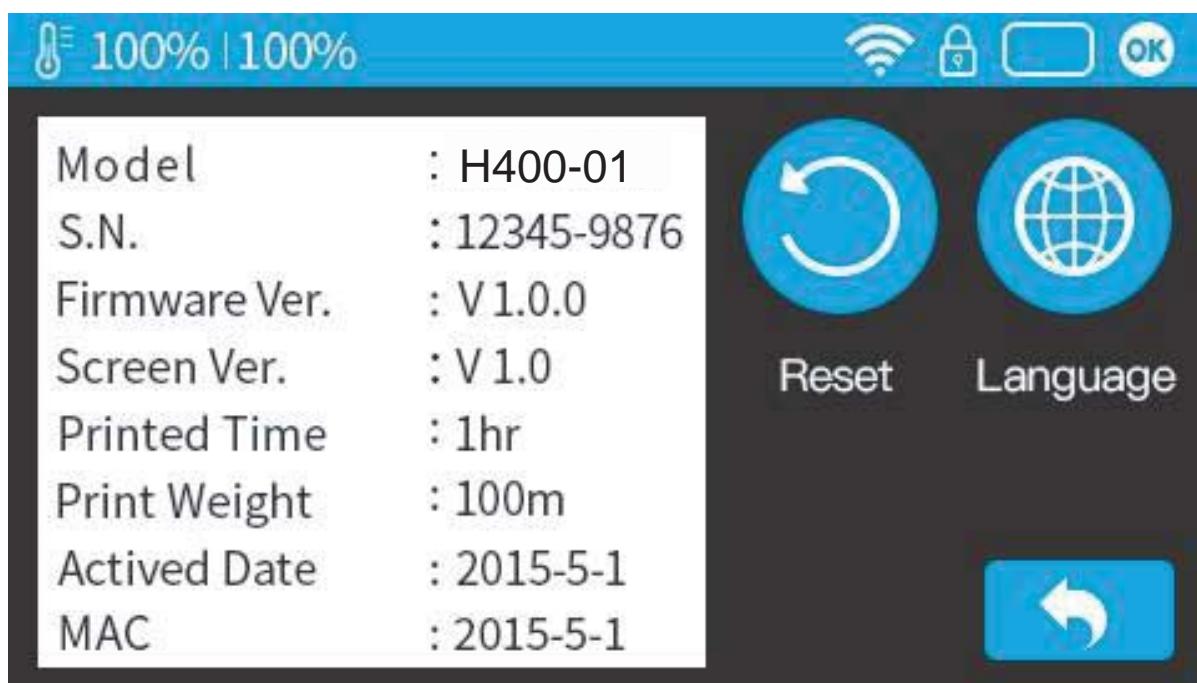
WIFI setting button



Preheat switch, when turned on, the printer will first preheat 15 minutes before proceeding to printing.

# Language and Factory Reset

3-10



**Model:** current machine model

**S.N.:** machine serial number

**Firmware Ver:** shows current firmware version

**Printed Time:** total print time count

**Print Weight:** total print weight count

**Activated Date:** the date of printer activation **MAC:** mac address of printer

**Reset:** revert to factory setting. This will change some machine setting to default; remove total printed time and weight data.

**Language:** choose language. Current available language: Chinese simplified, Chinese Traditional, Korean, Japanese, French, German, English

# Error Prompts

3-11

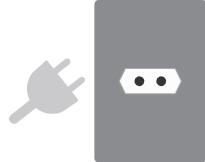
Suggested solution,  
in this case:  
Contact support

Error Message

Error code



## Other possible error prompt:



Unplug printer and restart



Reinitialize the printer

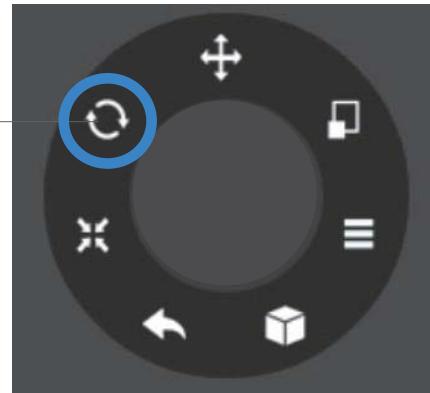


# Rotating Models

4-2

---

Choose the model and click the rotate button.

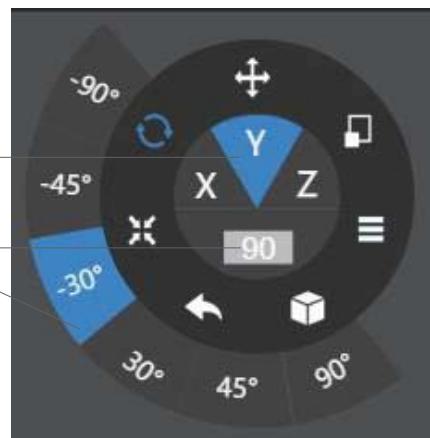


---

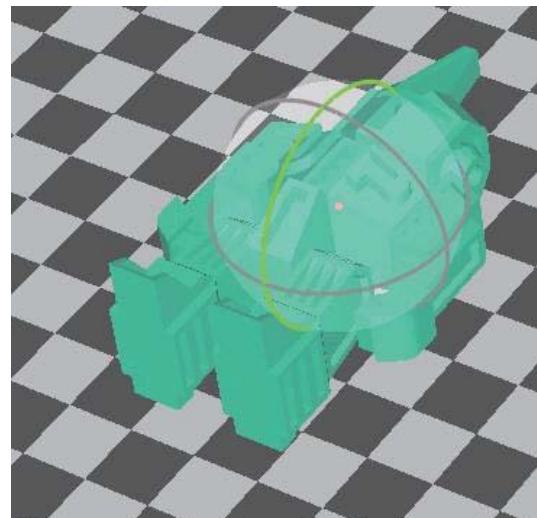
Choose rotation axis

---

User may input a specific value or choose a preset value for rotation.

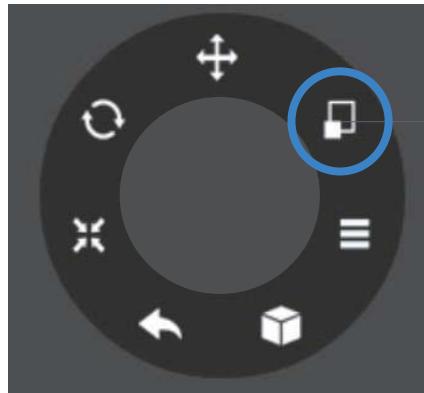


Alternatively, user can use the rotation guide to rotate model in real time by hold and drag with mouse.



# Scaling Models

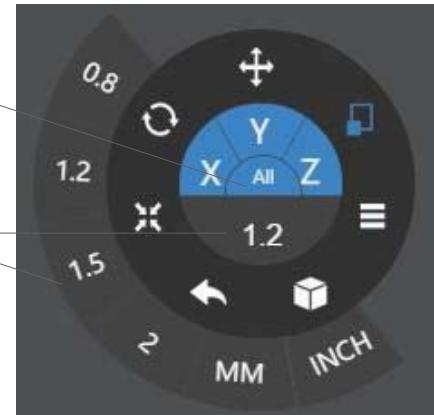
4-3



Choose the model and click the scale button.

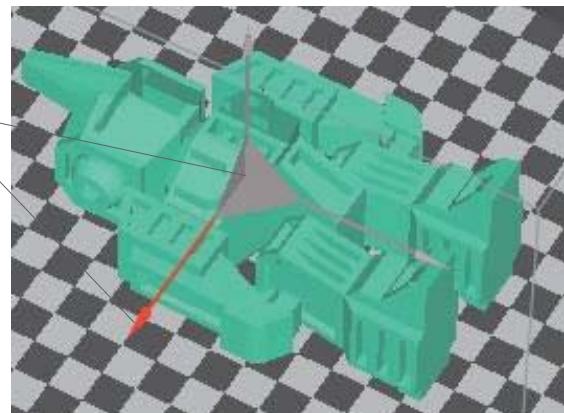
By default the scaling is in all axes.  
User may also choose a specific axis for scaling.

User can input a specific scaling factor or choose a preset value.



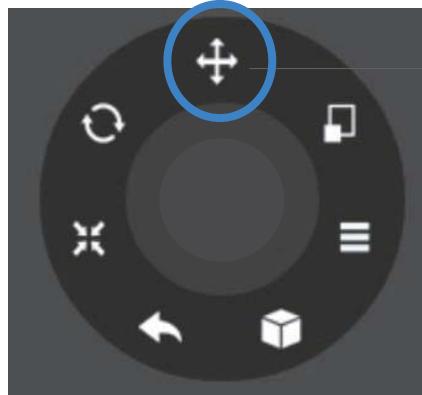
Click MM or INCH to convert models to sizes of corresponding units.

Alternatively, user can use the scaling guide on the model to scale in a specific axis or scale in all directions by holding and dragging the mouse.



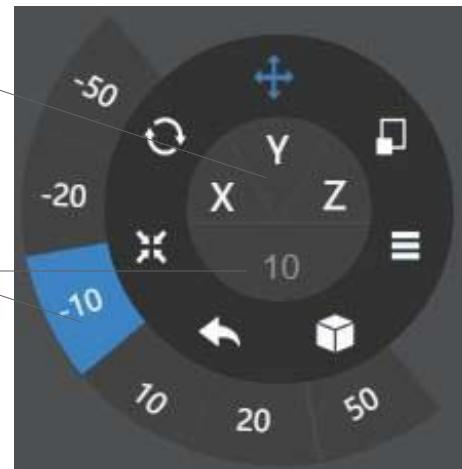
# Move Model

4-4



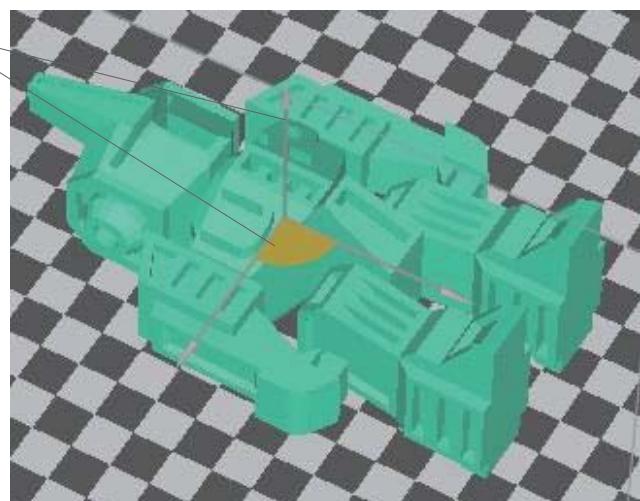
Choose the model and click the move button.

Choose the direction of movement



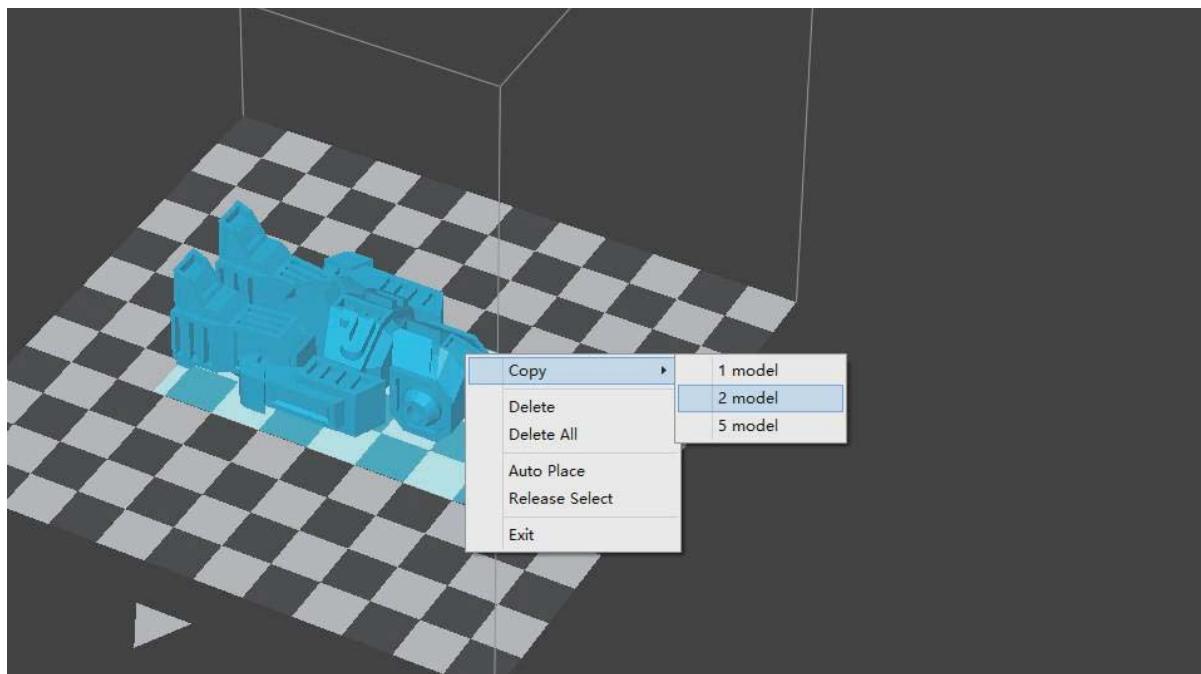
User may input a specific value or choose a preset value for the distance of movement in millimeters.

Alternatively, user can use the translational guide on the model to move on the XY plane or a single direction by holding and dragging the mouse.



# Make Copies

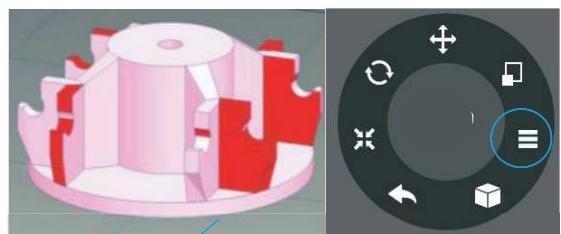
4-5



Choose the model by clicking it (highlighted), the right - click to bring up the menu and select the number of copies to add.

## Repair A Model

1\ If the model contains defective surfaces, the software will highlight the surfaces in red. Click the reach the second level menu.

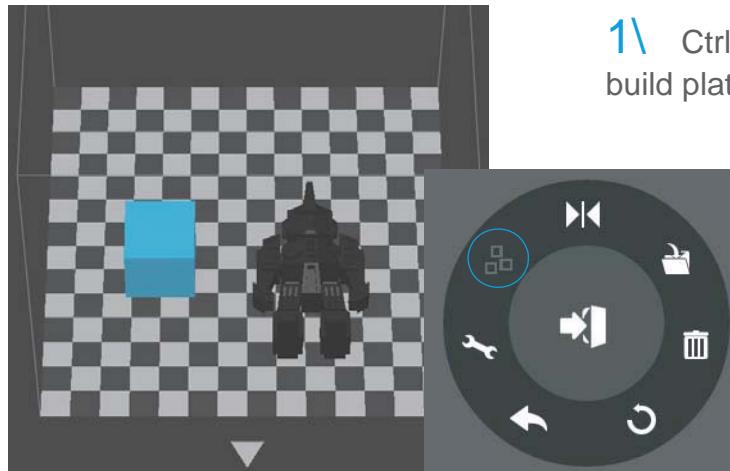


2\ Click the wrench button the repair the the red defective surfaces will resume a normal color when repaired.

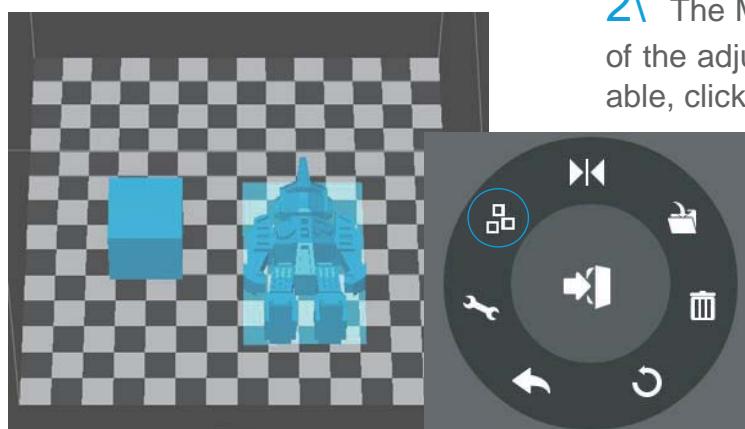


# Merge and Save Models

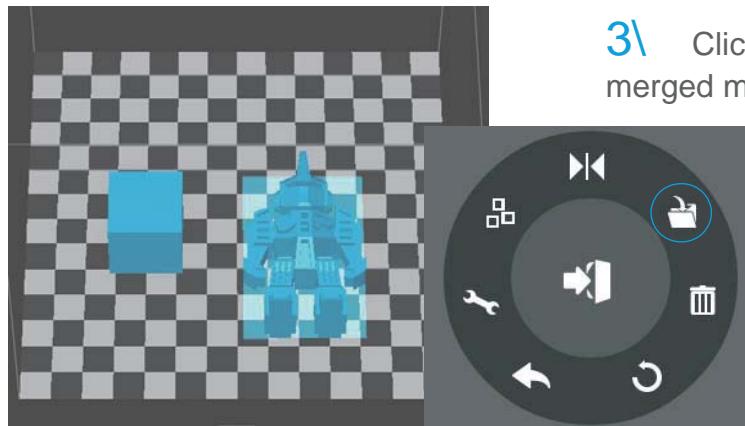
4-6



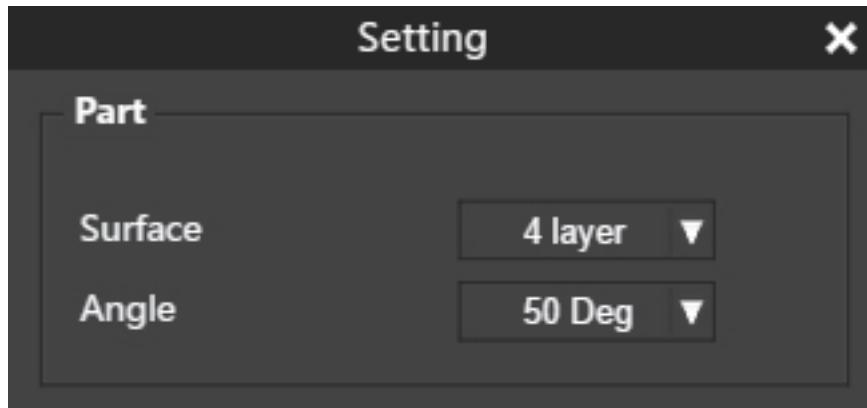
1\ Ctrl/CMD-click all the models on the build plate



2\ The Merge button on the second level of the adjustment wheel will become available, click to merge the models.

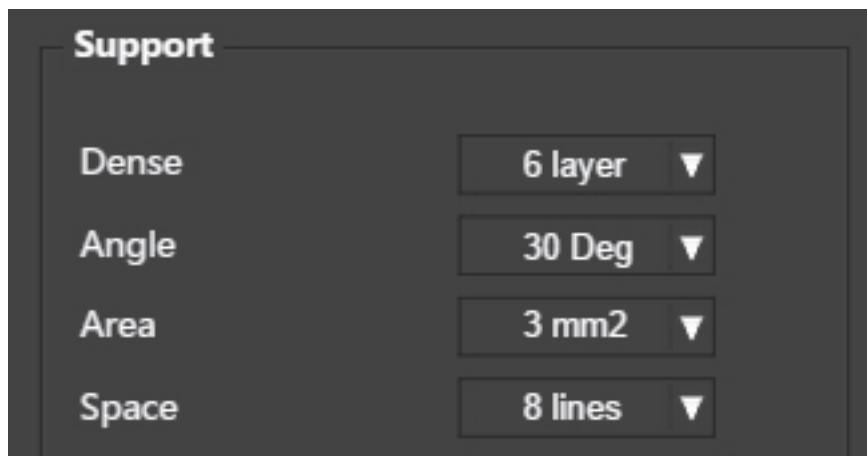


3\ Click the save button to save the merged models to your computer.



**Surface:** The number of solid/sealed layers at the top and bottom of the printed object.

**Angle:** This determines at which angle the Surface layers will start to be printed.



**Dense:** Choose the number of dense layers between support and supported surfaces.

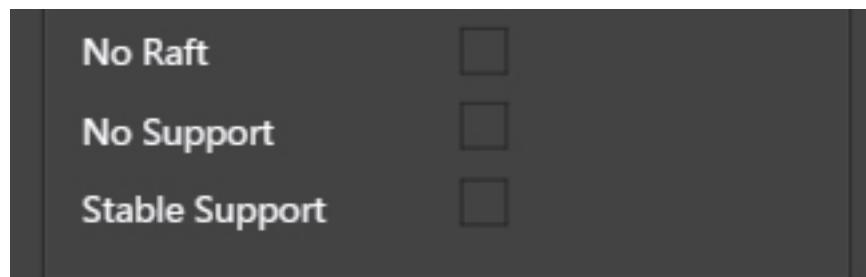
**Angle:** Determines the angle which support and dense layer to generated.

**Area:** Determines the minimal surface area that will be supported. Surface area less than this value will not be supported.

**Space:** Determines how dense the support will be. The larger the value, the less dense/compact the support will be.

# Print Preference (Continued)

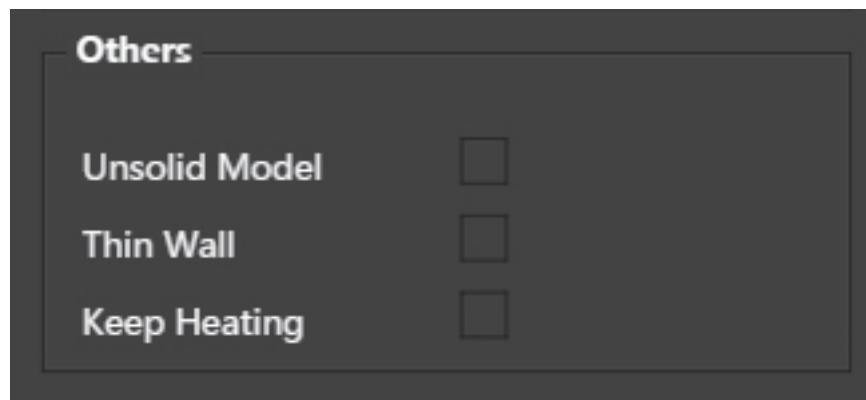
4-8



**No Raft:** Print without a raft.

**No Support:** Print without support.

**Stable Support:** Support structure will be stronger, but less easy to remove.



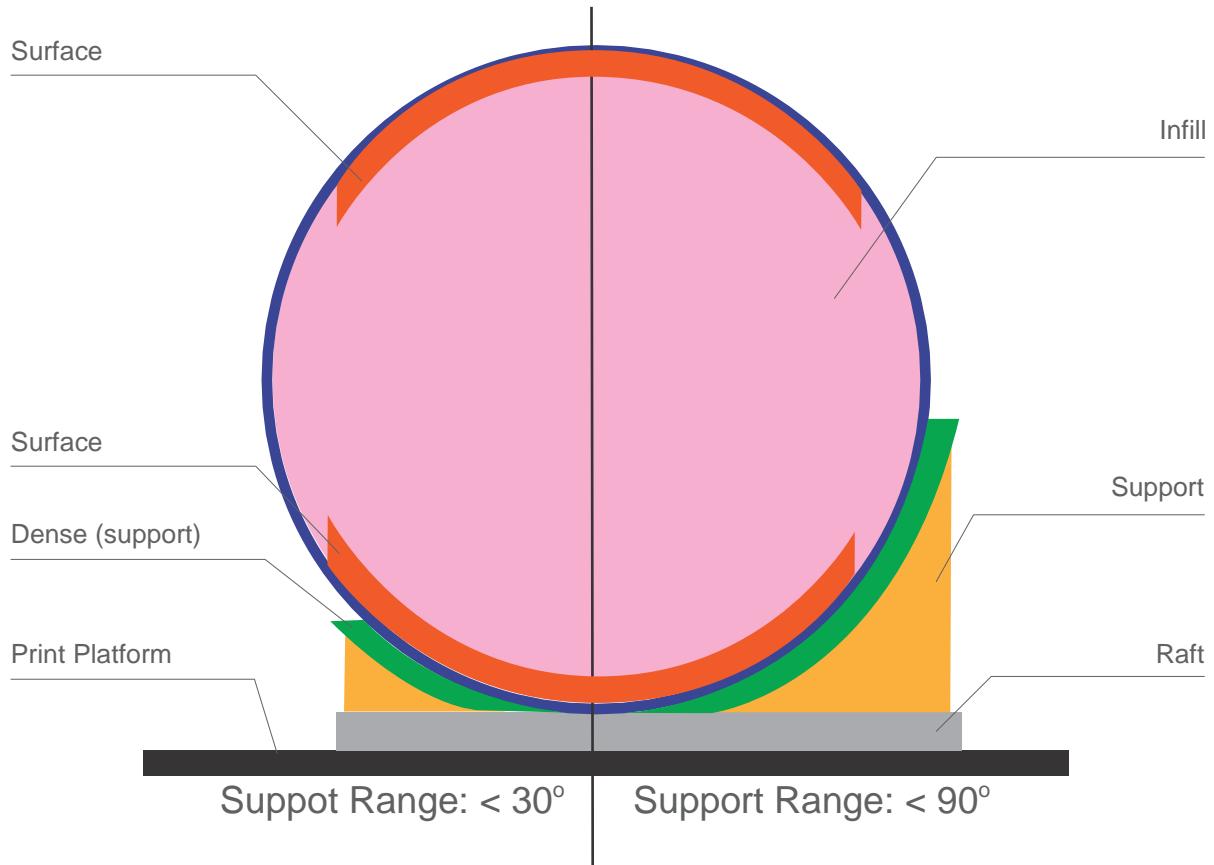
**Unsolid Model:** The software will attempt to print a non-solid model.

**Thin Wall:** The Software will detect wall thickness that is too thin to print and expand the feature to a printable size.

**Keep Heating:** The platform will stay heated after the print job is completed.

# Printing Parameters

4-9



**Dense:** Solid support structure ensures that the surface being supported retains its shape and surface finish.

**Infill:** The inner structure of the printed object. The density of the crosshatch-patterned infill can be adjusted.

**Raft:** The thick structure that assists with the adhesion of the object to the platform.

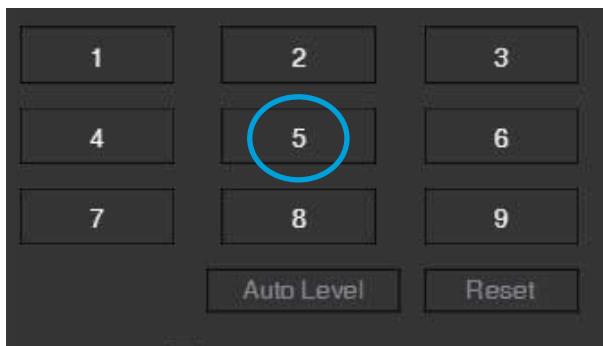
**Surface:** The top and bottom solid layers of the printed object.

# Procedure for Setting Nozzle Height 5-1



1\ Initialize the printer

2\ Put the Calibration Card or folded piece of paper on the platform under the nozzle.

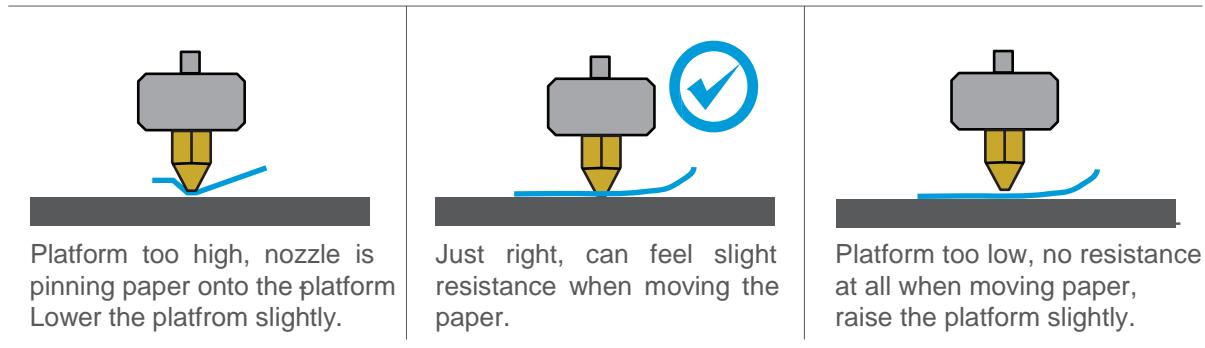


3\ Move the print head to the middle of the platform by clicking the 5 button.

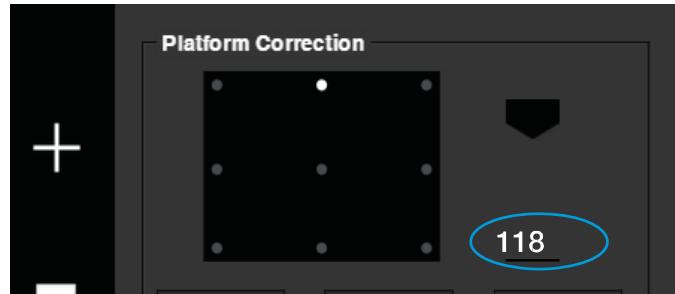


4\ Raise the platform until it is just touching the nozzle. Move the paper between the nozzle and the platform to see if there is any resistance.

## Procedure for Setting Nozzle Height (Continued) 5-2



5\ When the ideal platform height is obtained, record the platform height value. Repeat steps 1 –5 for all of the other eight positions and note their platform height values.



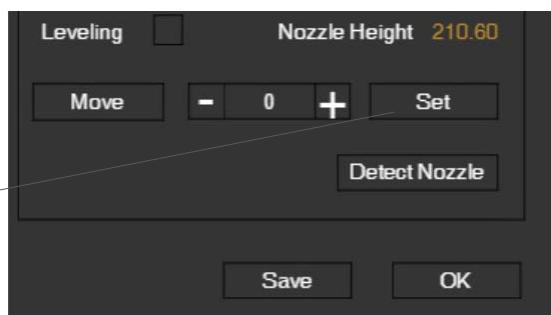
6\ When you have obtained the platform height values for all nine positions, find the **lowest value** among all the values.

In this example, the first calibration point has the lowest value and is thus the highest point on the platform. (The highest point of the platform requires the minimal amount of travel to reach the nozzle).

Platform Values at 9 calibration points (hypothetical):

1: 118	2: 118.5	3: 118.7
4: 118.6	5: 118.9	6: 119
7: 118.8	8: 118.9	9: 118.8

7\ Move the platform to the position with lowest platform height value as determined in Step 6 and click the "Set" button. This will set this point as the "Nozzle Height".



# Calibration

5-3

The 9-button calibration screen shows the calibration points of the platform. Clicking on the value next to a number moves the nozzle to the corresponding position on the platform. The arrow buttons move the platform up or down for manual platform calibration. Before adjusting the platform calibration, click the "Reset" button to clear the previous values. Perform the Nozzle Height Procedure in Sections 5-1 and 5-2 before setting the Platform Calibration. Leave the platform at the Nozzle Height and click on the value in a numbered box. Use the up or down keys to move the platform until the nozzle is just touching the platform. Do this for each of the 9 positions then click Save.

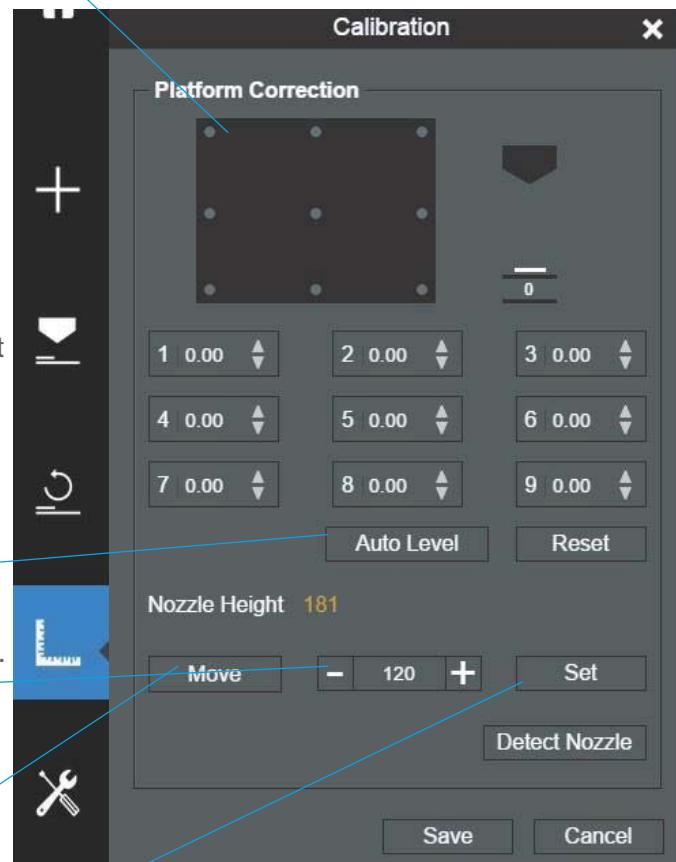
The auto buttons triggers automatic leveling and nozzle height detection. Auto Level is not available on the H400.

Moves the platform up/down: click the +/- buttons to move the platform up and down.

For sending the platform to a specific height, input the value in the text field between + and - and then click "Move" button.

Click "Set" button user want to save currently platform height as nozzle height.

After running the Platform Calibration, the 9 buttons will have values similar to those in the figure to the right. If your values are outside a total range of 2.00 mm, please attempt the Platform Calibration again.



**NOTE:** Having a level platform and correctly set nozzle height are essential for consistent, error-free printing. If the platform is unlevel or the nozzle height is not set correctly, the following issues may happen:

- Nozzle jams
- Warping or lifting of prints from the platform
- Prints breaking free from the platform during printing

# Printer Info

5-4



Printer info will be displayed by clicking the small button on the top left hand corner of the connected printer icon. Information including printer type, serial number and firm-ware version will be displayed. User could also set a custom name for the printer at the Name field.

# Software Version and Update

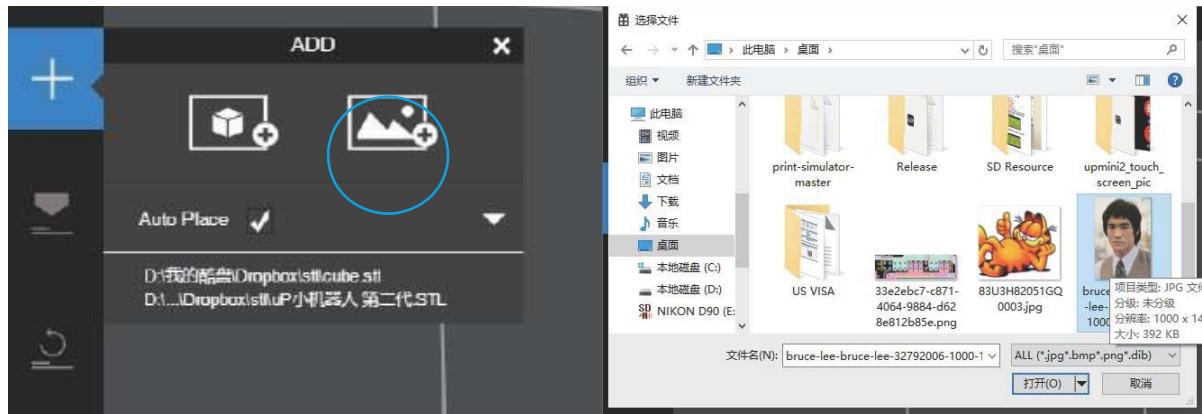
5-5



Check Auto Update to allow the software to inform user of the latest version.

# Convert Picture Into 3D Model

6-1



Click add picture button and select a picture.



The Base height determines the thickness of the flat layer that will hold the picture.

Model Height determines the contrast of the final print.

The convert negative button will reverse the pixel intensity so that the user can choose for the picture to be protruding from or sunken into the base.

# Convert Picture Into 3D Model

6-2



Update 3D model button. This button will convert the modified picture on the left to a 3D rendering on the right.



The OK button will send the 3D rendering to the 3D printing interface for printing.

1. Ensure the nozzle height is set correctly. If the nozzle height is set too low, it will cause warping; if it is too high, it will crash the nozzle into the platform causing damage and nozzle clogging. You can manually fine tune the nozzle height in the “Calibration” screen (see section 5-1 through 5-3). You can also try to adjust the nozzle height value plus or minus 0.1 - 0.2 mm from the previous nozzle height value.

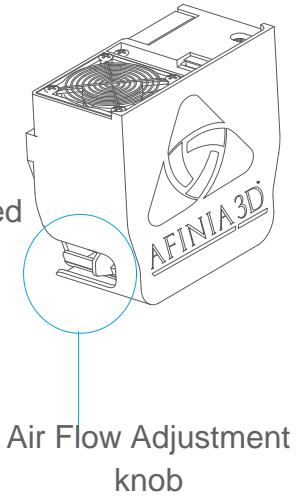
2. Calibrate the printing platform well (see section 5-1 through 5-3). An unleveled platform usually causes warping. Also, allow enough time for pre-heating the platform. Please use the 3D Print Preheat function. A well preheated platform is essential for printing large objects without warping.

3. The airflow on the print head is adjustable, slide the air flow adjustment knob to change the amount of air going over the top of the model to cool it. Generally, the more cooling performed on the object, the better the print quality. Cooling also helps in raft and support removal. However, cooling also encourages warping, especially for ABS.

PLA can accept strong cooling without deformation.

ABS can accept light to medium cooling.

ABS Plus can accept medium cooling.



Air Flow Adjustment  
knob

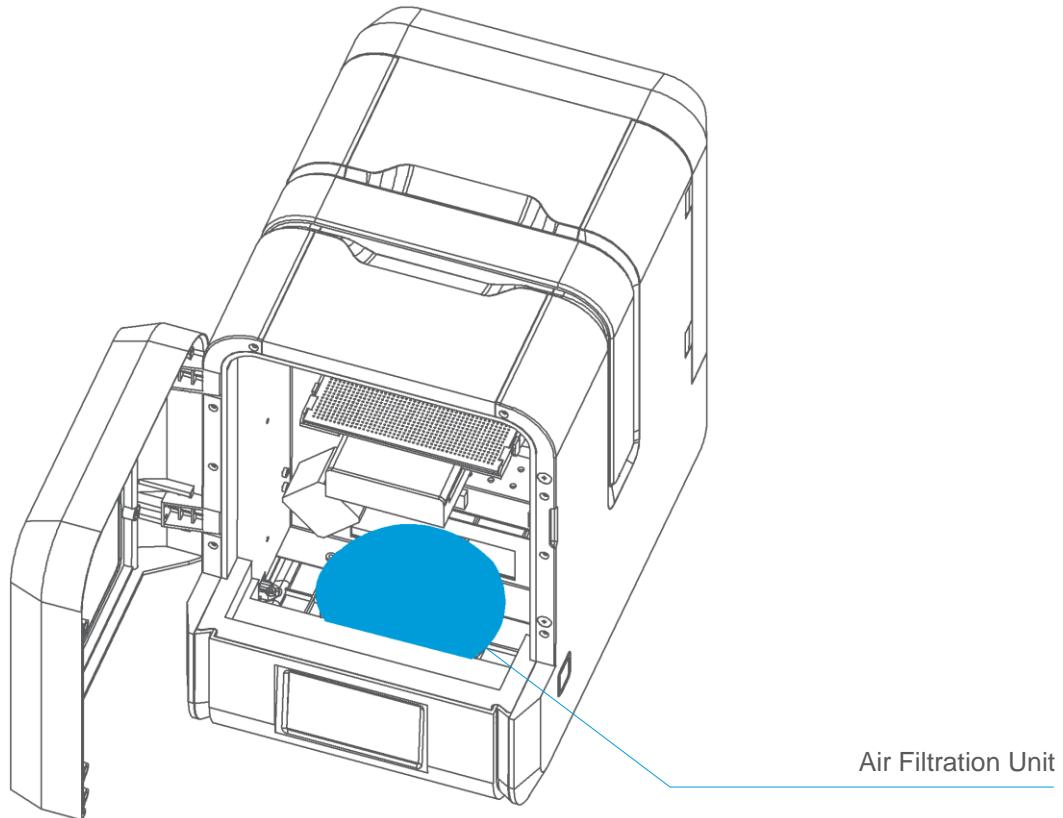
4. Printing with no raft. It is highly recommended to use a raft for normal printing as it improves adhesion and is required for platform leveling compensation (Calibration). It is turned on by default, but may be turned off in the “Print Preference” panel.

5. Printing with no support. It is possible to print without support structures. This can be turned off by choosing “No Support” in the “Print Preference” panel.

## Printer Maintenance - Air Filter Replacement 6-4

---

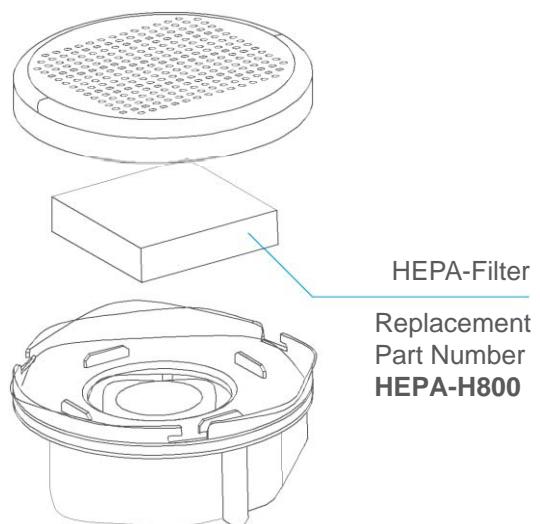
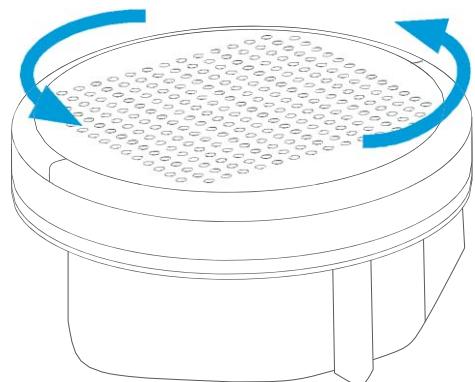
Change air filter for air filtration unit. It is recommended to change the filter every 300 hours of usage or 6 months.

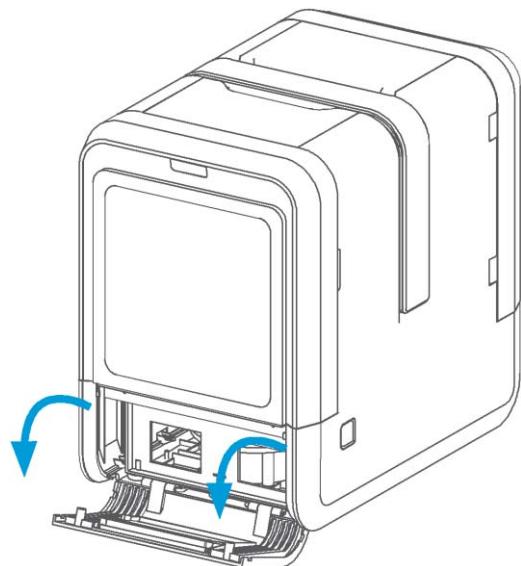


Front View

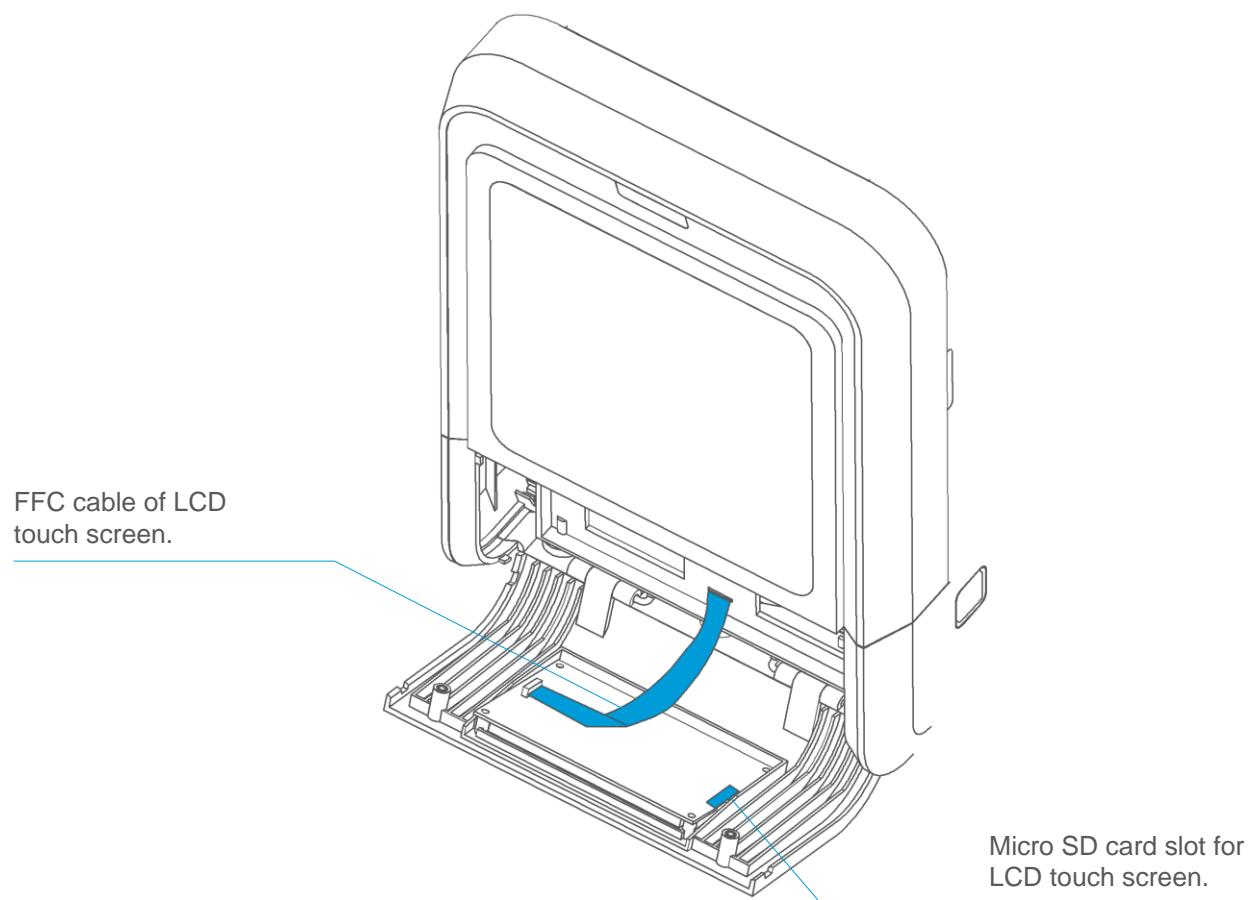
---

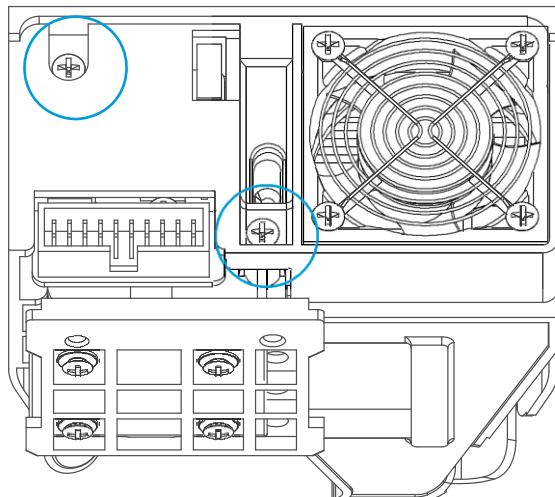
Turn anti-clockwise to open the cap.





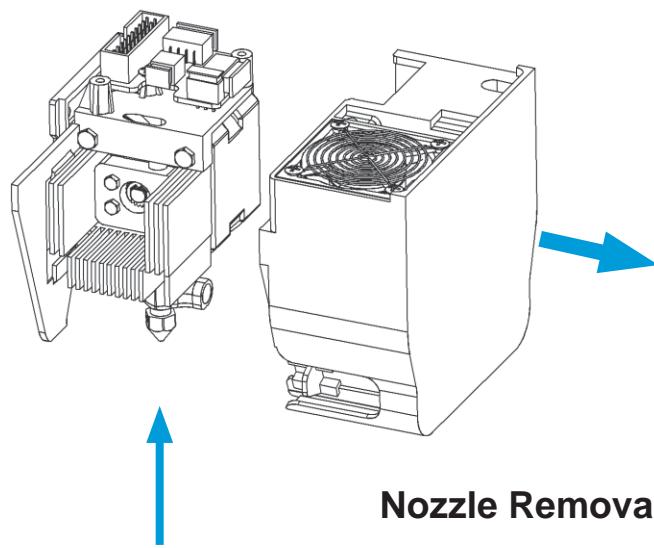
Open the front plate.





The printhead cover can be removed after removing two screws (see circled).

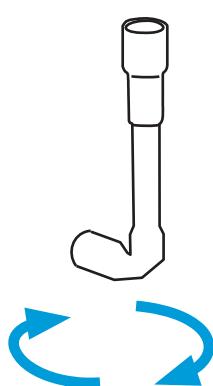
*Top View*



### Nozzle Removal/Replacement

To replace the nozzle, heat up the nozzle to at least 200C by using the Retract function in the maintenance interface.

The nozzle can be removed with the Nozzle Removal Tool found with the printer accessories. Please make sure to support the nozzle heater with a light grip from a pliers.

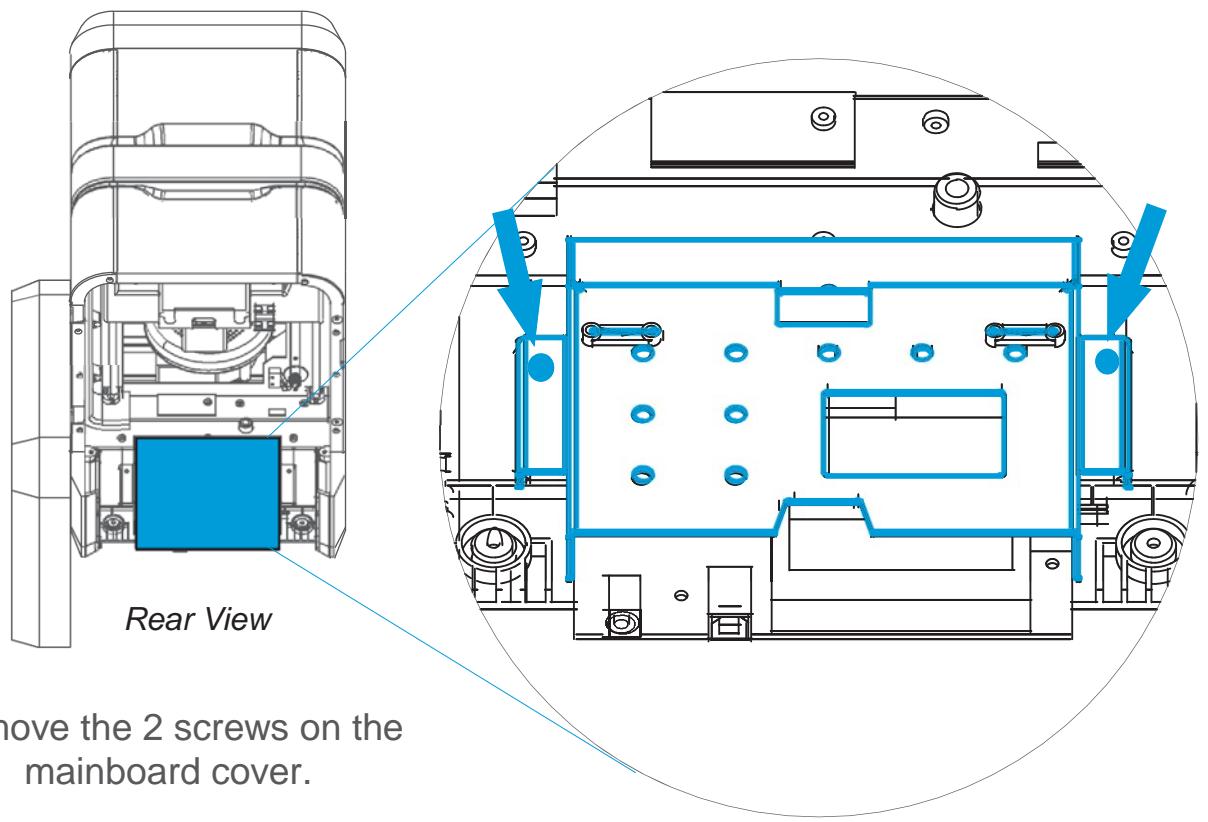


Note: The extruder cover does not need to be removed to replace the nozzle.

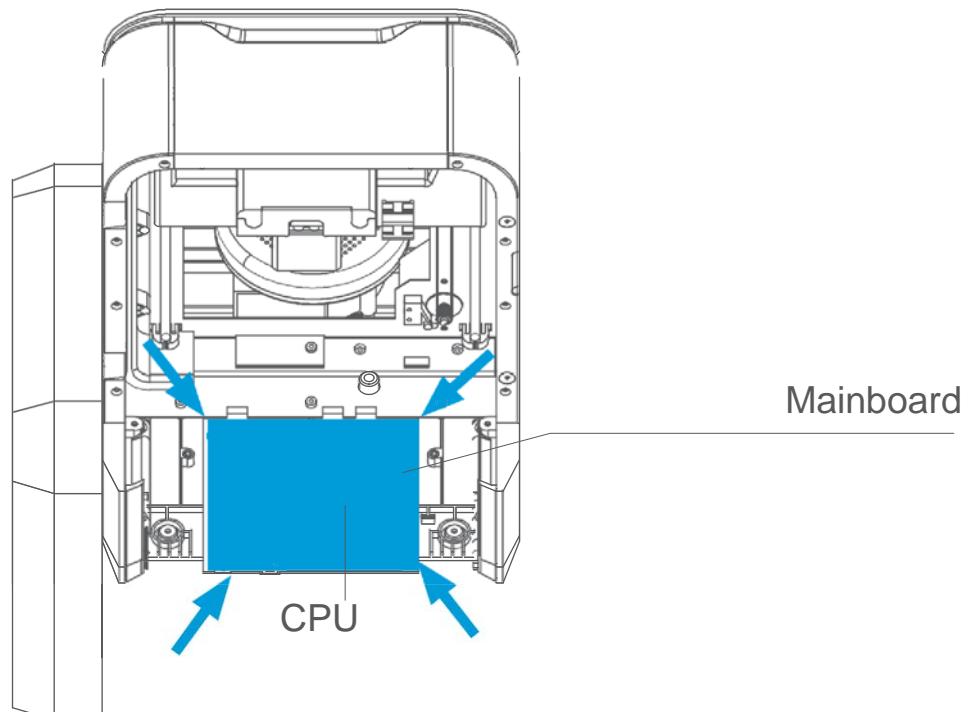
Nozzle Height will need to be updated after nozzle replacement is complete.

# Printer Maintenance - Motherboard/CPU 6-7

**WARNING:** Turn off power and remove power cord to avoid risk of injury. Before performing this work, please contact Afinia Tech Support or risk voiding your warranty.



Remove the 2 screws on the mainboard cover.





**AFINIA**<sup>TM</sup>  
3D

Afinia 3D  
8150 Mallory Court, PO BOX 846  
Chanhassen, MN 55317

[youtube.com/c/Afinia3Dprint](https://youtube.com/c/Afinia3Dprint)

Phone Support: 952-279-2643

Support: [support@afinia.com](mailto:support@afinia.com)      Web: [www.afinia.com](http://www.afinia.com)

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The distance between user and products should be no less than 20cm