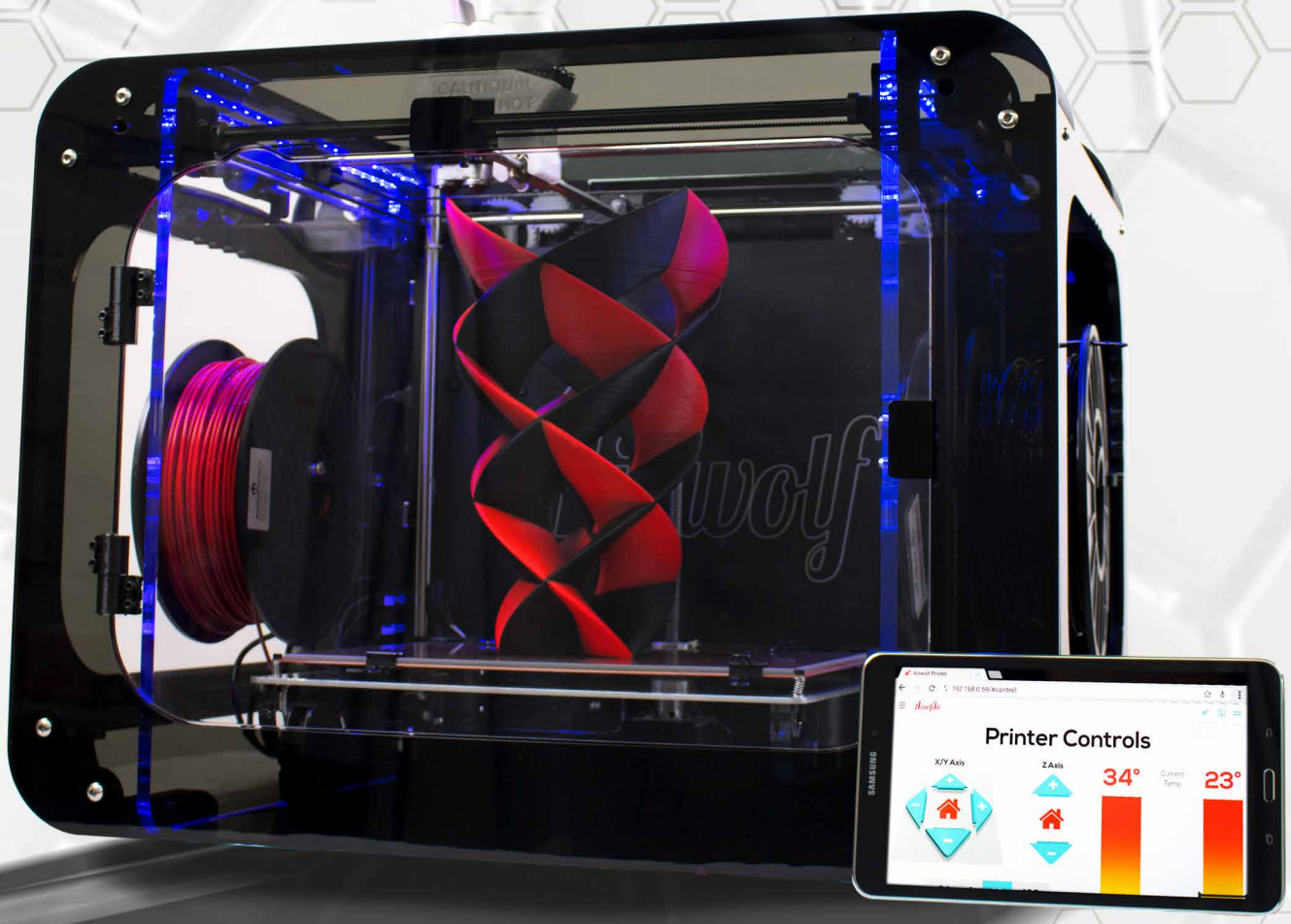
Airwolf 3D™



HDR

QUICK START GUIDE

visit us at www.airwolf3d.com
facebook/Airwolf3d
@airwolf3d

Phone: 949.478.2933
130 McCormick Ave. Suite 105, Costa Mesa, CA 92626

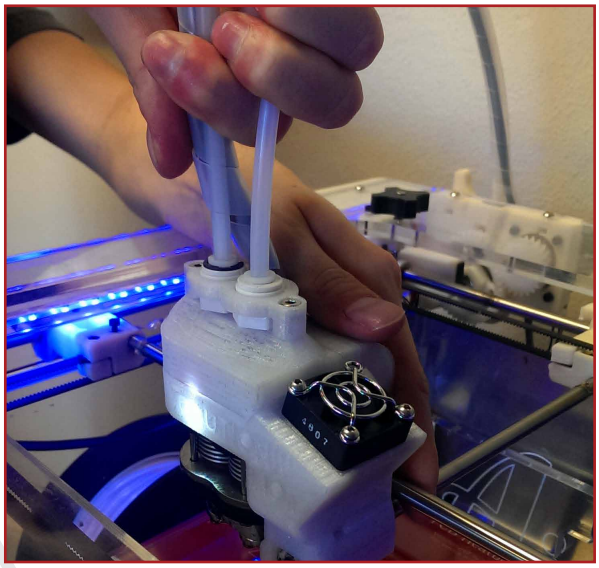
Very Important

Airwolf 3D has spent countless hours perfecting these print settings so that our customers have the best experience possible with their new printer. Please make sure to use these default settings when using the HDR.

They will give you excellent print results without the hassle of tweaking settings. Airwolf will make sure to create and add settings for new materials which are compatible with Airwolf 3D printers.

For technical support visit:
https://airwolf3d.freshdesk.com

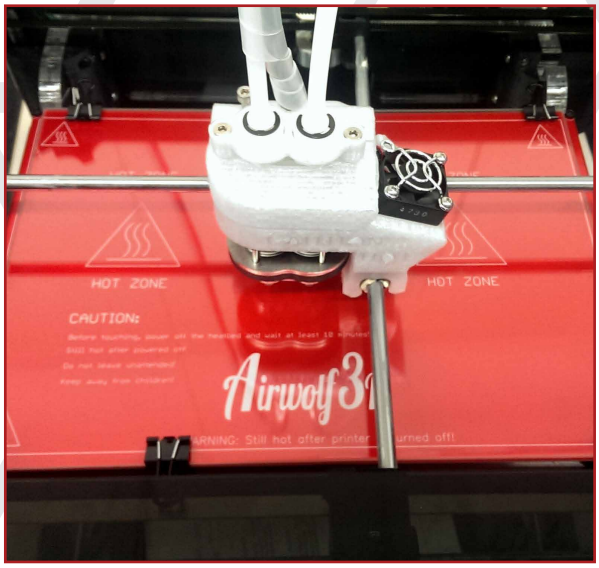
Setup



Unboxing

- Remove the printer from the box.
- Remove the labeled zip ties from the arms of the bed and the red rod stabilizers that hold the X-axis in place. The foam under your heat bed will be removed later in the "Wolfbox Interface" section.
- Press the two tubes into the plastic white adapters on the top of the hot end. Make sure to secure the hot end as you push the tube down to prevent the rods from bending. Also make note that the left tube goes into the left adapter and the right tube goes into the right adapter. Push in the tubes until you feel some resistance. This will ensure that the tubes are seated completely into the tube.

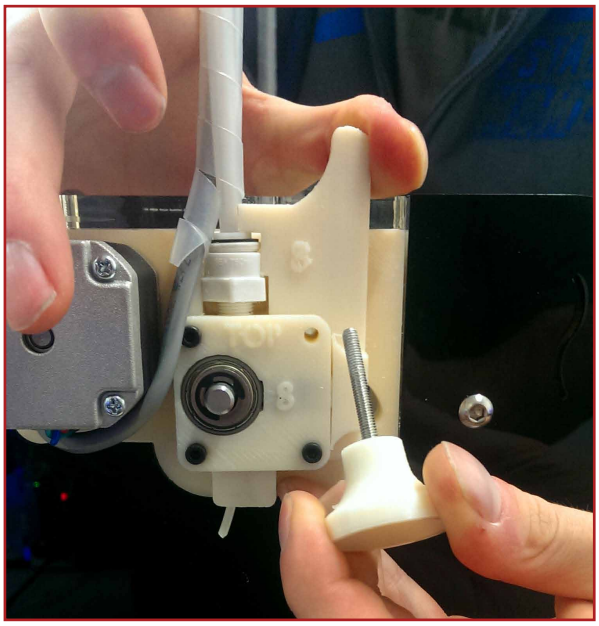
- Insert the E-clips onto the plastic white adapters to secure the tubes to the hot end. There is a plastic white adapter with the E-clip installed on the extruder assembly for reference.
- Firmly press the tube into the white adapter on the top of the extruder assembly. Verify it is securely fastened to the white adapter by lightly pulling up on the tube. When closed, the latch should clear the plastic white adapter and only contact the tube.



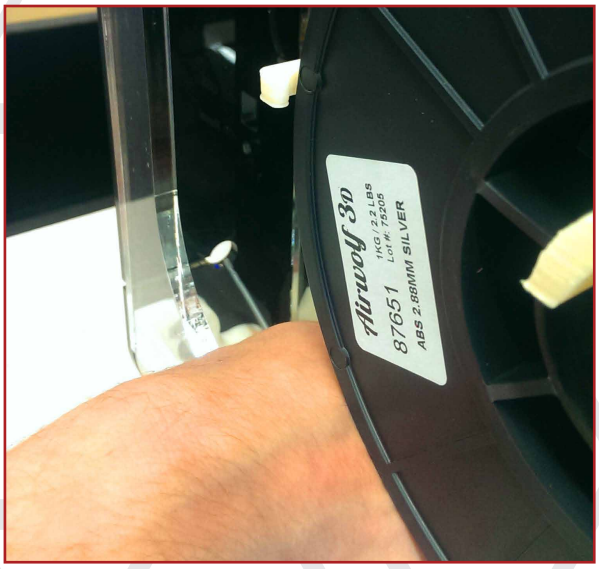
Open the accessory kit. Plug the power cord into the back of the printer and into a power source. A surge protector is highly recommended.

Turn the power switch on at this time to give your Wolfbox 3-5 minutes to boot up.

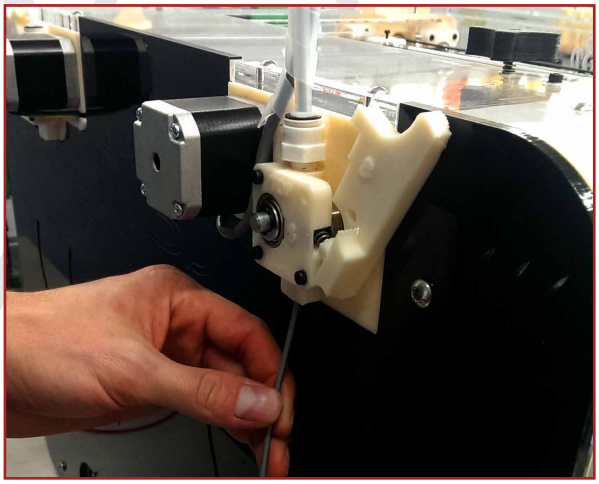
Loading Filament



- Squeeze the latch on the extruder assembly, remove the pin and set it aside, you will need it to run the printer.



- Load the filament onto the spool minder. Make sure the filament is unwinding from the bottom of the spool so the natural curvature of the filament leads it up towards the extruder assembly.



- Insert the filament into the hole at the bottom of the extruder assembly and halfway through the tube.

TIP: Cut the end of the filament to form a point for easy filament feeding.

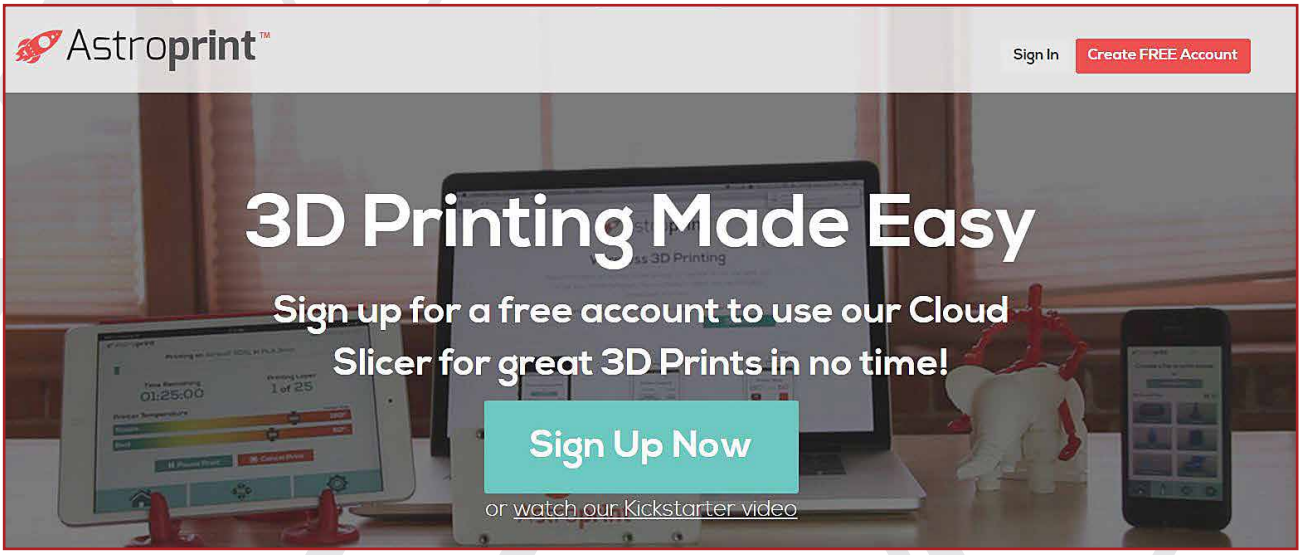
Heat Bed Preparation

For initial setup, you will be preparing the bed for use of ABS filament. For other types of filaments after initial setup, please refer to our Bed Adhesion solution found on the tech portal at **www.airwolf3d.freshdesk.com**

- Open the manila envelope with the glass build plate inside.
- Follow instructions for applying Wolfbite to your glass. The instructions are provided with your bottle or find them on page **20**
- Place the glass with the Wolfbite application face up onto your heat bed.
- The 4 binder clips will be used to hold the glass to the heat bed. The front left clip needs to be offset from the corner by 3 to 4 inches. This is to prevent the hot end from colliding with the clip when it goes to its home position. Place the other 3 binder clips on each corner of the bed.

Astroprint.com Setup

Astroprint.com will be your dashboard for storing .STL files and creating G-code. G-code is the instructions for the printer, e.g. speed, temperatures, and toolpaths.



- On a desktop or laptop computer, go to "Astroprint.com" and create a free account. Decide if you would like this account to be shared with multiple users or kept private. We recommend using a general company email and password so all users can access the printer.

Your printer should be on and have had at least 3-5 minutes to boot up.

- Turn on your Asus tablet. Once it has booted up, swipe across the screen to unlock it.

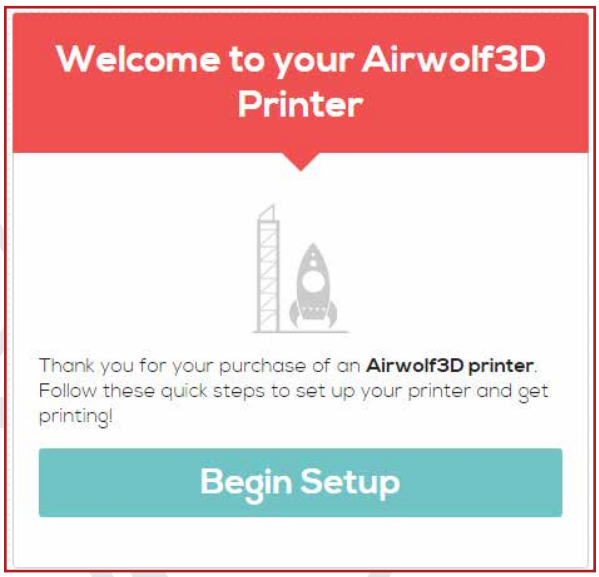
- Swipe from the top of the tablet screen and select the gears settings icon, then select Wi-Fi. You will need to connect to the printer's hot spot for initial setup. The hot spot will be labelled HDR followed by your printer's serial number. This hot spot is temporary and will be shut off at the end of setup.

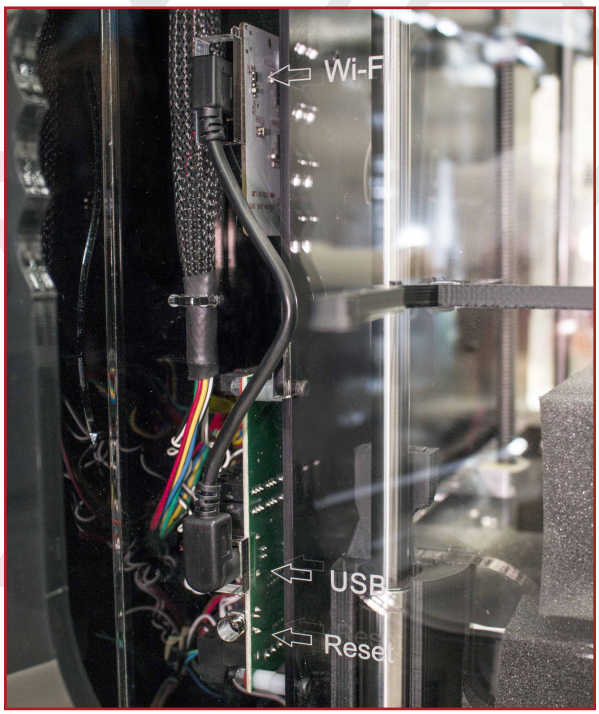
Wolfbox Setup (It is built into your HDR)

The Wolfbox is the Wi-Fi board that will give you control of the printer, and how you will start print files. It will be attached to the astroprint.com account you created to allow access and use of your stored .STL files and G-code.

- Open a Google Chrome Browser window on the tablet and type "10.10.0.1". This will take you to the Airwolf 3D Printer setup page.
- Click "Begin Setup".

  Verify that the Airwolf Printer Name is identical to your serial number, then click "Internet Setup". You can find this number located on the back panel of your printer etched into the acrylic.
- Select the Wi-Fi network you wish to connect your printer to and click "Connect". If your network has a password, you will need to type this in and click "Connect" again.
- Success! Click on "Astroprint Account" to connect the printer to the Astroprint.com account you previously created.
- Type in your email address and password for your Astroprint account, then click "Printer Connection".





- Check that the printer's USB cable is connected to both the RAMBo board (USB) and the Wolfbox (Wi-Fi). Click "Continue".
- Verify the Baud Rate is set to 250000 and click "Connect".
- You're Done! Feel free to Share or Tweet or click "Start Printing!"

Verification

1. Ensure you are set up correctly by checking that 3 icons on the top right of your screen are green.

2. Obtaining your printer's IP Address

   - From the menu, go to Settings.
   - Go to Internet Connection
   - Below Wireless Connection, you will see the network you are connected to and the IP address of your printer. Write this IP address down. You will need it if you experience network or Wi-Fi connectivity issues.

3. Turn off the Hotspot

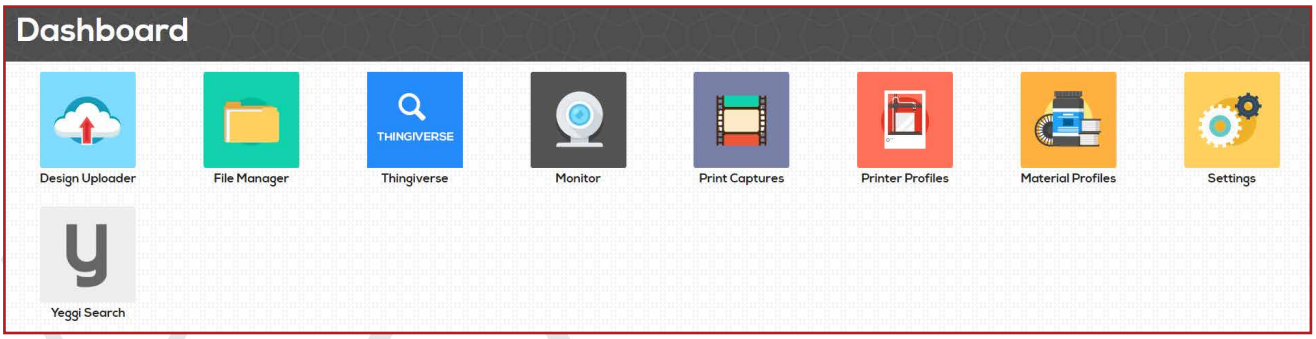
   - Manually turn off the hotspot after set up is complete.

Final Wolfbox Setup

- Removal of foam under the bed can be found on page **14**
- There are a few final setting adjustments you will need to make using your Wolfbox interface. Please see page **16.**

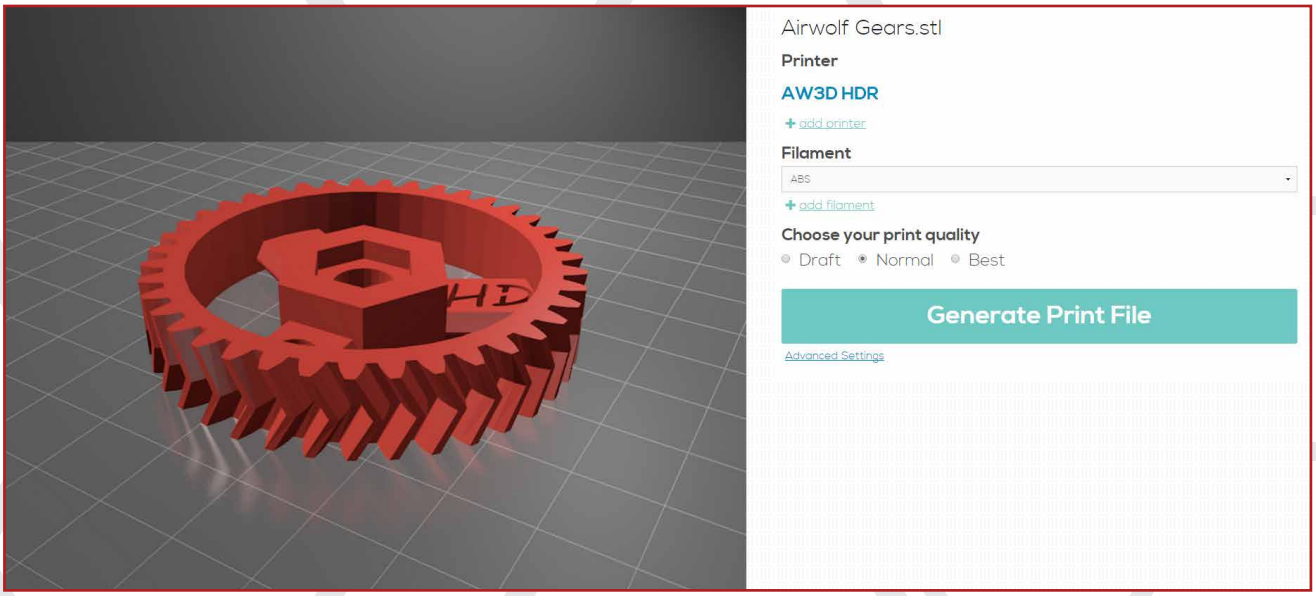
Astroprint Interface

Astroprint.com will be your dashboard for storing STL files and creating G-code. G-code is the instructions for the printer, e.g speed, temperatures, and toolpaths.



Design Uploader

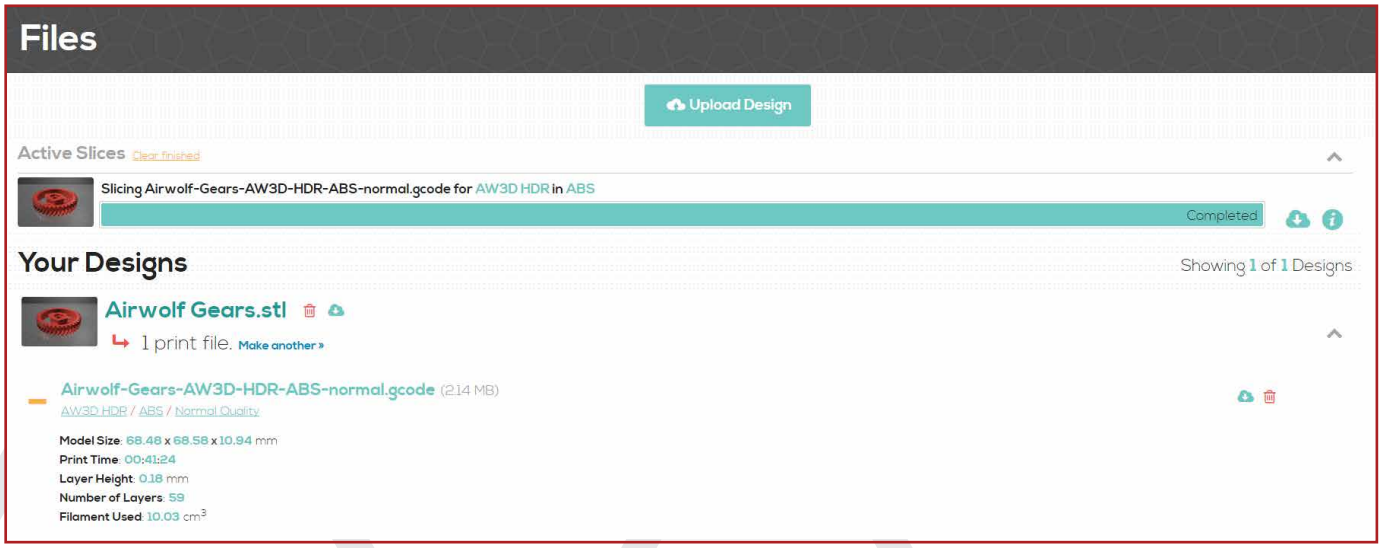
- Open AstroPrint and select "Upload Design", then navigate to the STL you'd like to upload. A new page with a picture of the STL file should appear.



- Select a "Printer Model"
  - "add printer" if the printer model is not already available in the list.
- Select a "Filament"
  - "add filament" if the material is not already available in the list.
- Select a "Print Quality"
  - "Normal" will yield a high quality part in most cases. Selecting "Best" when the part does not require it will significantly increase print times unnecessarily.

- "Advanced Settings" can be used to alter the default settings.
- Click "Generate Print File". This will slice your STL into G-code and return you to your file manager.

File Manager



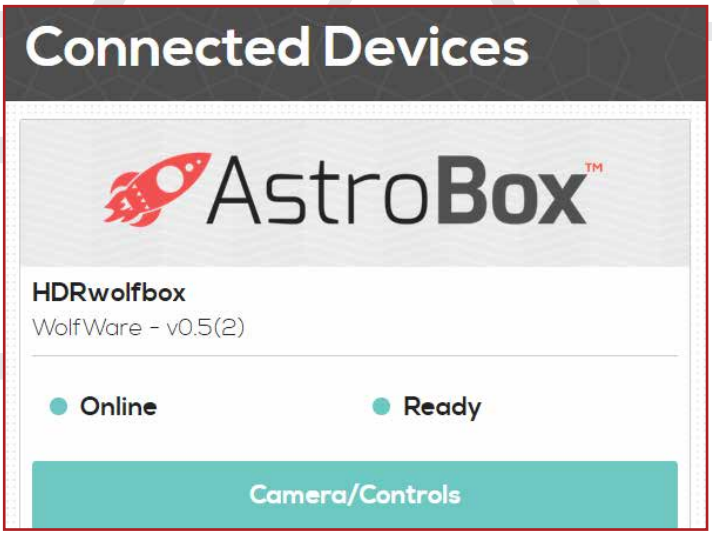
- Under "Active Slices", the part should be slicing, demonstrated by the loading bar. This process may take a minute or two, depending on the STL file.
- Under "Your Designs", the latest STL file should be listed at the top. Under each name of the STL files, it will display "# print file(s)". Clicking this will display all of the print files already generated along with the settings used for that specific print. Clicking on the settings will pop up a secondary window with all the specific settings used. Clicking "Make another >>" allows you to create another print file for that particular STL.

Thingiverse

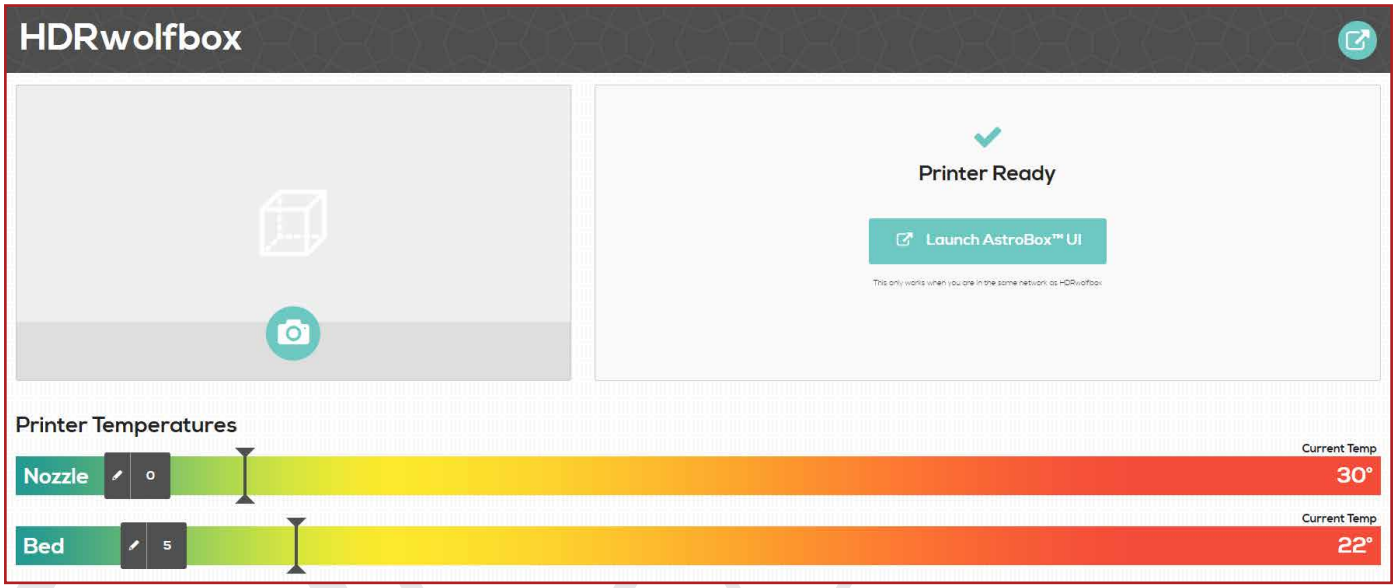
Browse and download STL files others have created.

Monitor

After initial setup, this tab will display your HDR printer and will give you access to the Wolfbox Interface (page **12**).



• "Camera/Controls"



- From here, you can view basic information such as the current temperature of the printer and what part is printing (during a print job). You also have the ability to capture photos if you attach a webcam to your Wolfbox. If you are interested in more information on connecting a webcam, please visit our tech portal.

- Click "Launch UI". This will open a new window in your browser with your printer's Wolfbox Interface (page **12**). You must be connected to the same network that your printer was connected to during initial setup.

Print Captures

This tab will display pictures taken if you have attached a webcam to your printer. Please visit our tech portal for more information.

Printer Profiles

During the slicing process, any printer you selected from "add printer" will be listed in this tab.

- You can erase any printers you no longer wish to have listed in your dropdown.

- Do not edit any of the printer settings. Airwolf 3D has spent countless hours perfecting these print settings so that our customers have the best experience possible with their new printer. Please make sure to use these default settings when using the HDR.

Material Profiles

During the slicing process, any printer you selected from "add filament" will be listed in this tab.

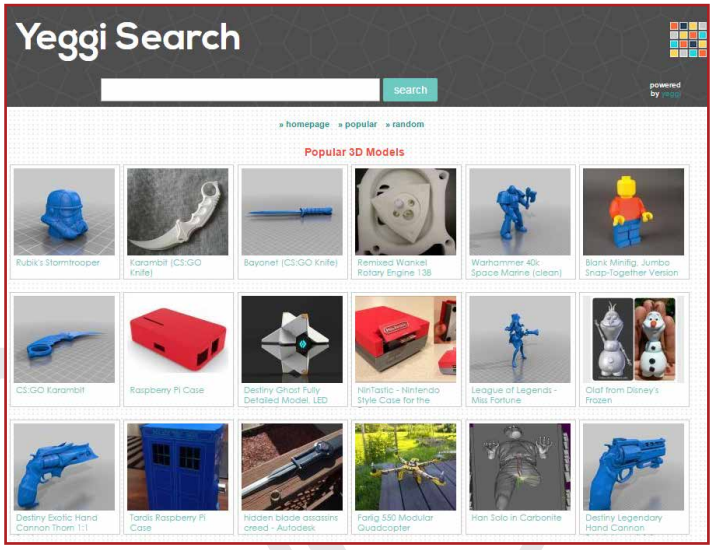
- You can erase any filaments you no longer wish to have listed in your dropdown.
- The option is available to edit default temperatures for the filament, however, we do not suggest changing our recommended settings.

Settings

Change password, name or e-mail.

Yeggi Search

Browse and download STL files others have created.



Wolfbox Interface

The Wolfbox is the printer's interface. This will be where you upload print files from your computer, download print files from your Astroprint account, and start prints.

File Uploader

This option is the same as seen on page 9. Uploading stl files here will still be sliced using Astroprint.com

File Manager

Upload File (stl, gcode)

• Allows you to upload an STL file from your computer to your AstroPrint account and slice it into G-code. The STL file will be stored on your AstroPrint account for future use.

• Allows you to upload a G-code file directly to your Wolfbox. This will not be stored on your AstroPrint account, only on the Wolfbox.

Sync

• Synchronizes the Wolfbox with your AstroPrint account so you can view and download print files that have recently been sliced on your AstroPrint account.

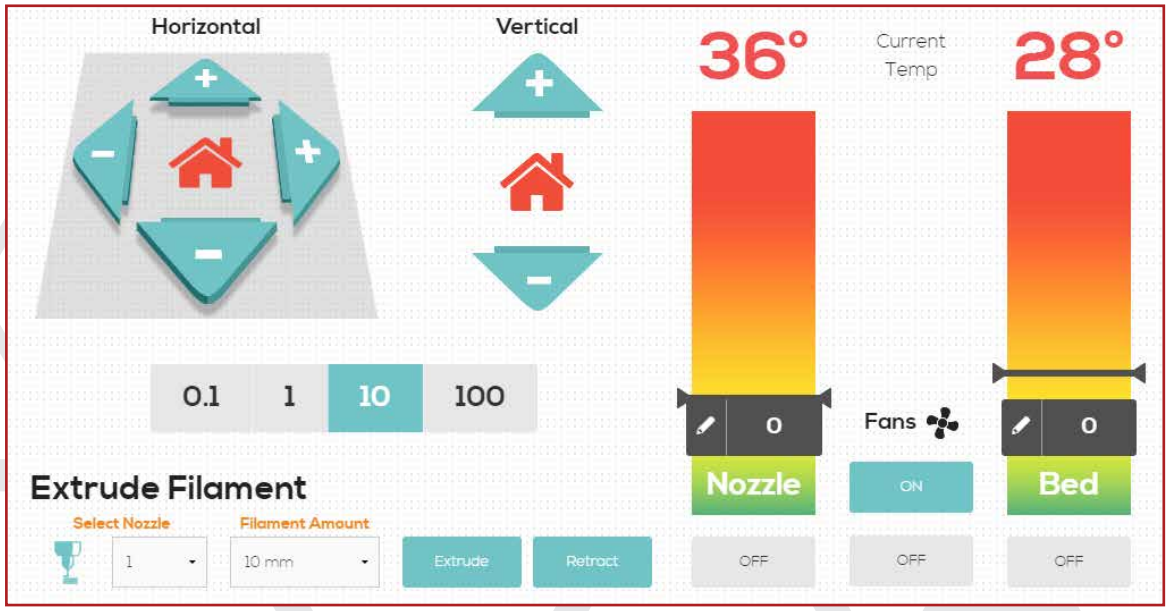
Local

• Shows you only files that have been sliced or run through this printer's interface. You will not be able to see any files that were sliced using your AstroPrint account.

Cloud

• Shows all print files on both the Wolfbox and your AstroPrint account. Print files that have not been downloaded to the Wolfbox yet will be faded out. You can download them to your Wolfbox, or start the print by clicking on them and selecting either the cloud icon (to download the print file to the Wolfbox without starting the print) or the printer icon (to download the print file to the Wolfbox and immediately start the print).

Control



XY Plane (Horizontal)

- X and Y movement of the hot end.

- The house icon will move the hot end to its home position (front left).

Z Plane (Vertical)

- Z movement of the heat bed.

- The house icon will move the heat bed to its home position (the Z limit switch contacts the Z adjust screw).

- The add and subtract options are for distances away from the hot end. So adding distance means the heat bed will go down and subtracting distance will cause the heat bed to go up.

Movement Increment Control

- Displayed in millimeters, the amount of movement you would like in the X,Y, or Z axis.

Removing the Foam From Under the Heat Bed

Up to this point, the foam is still under the bed.

- Change the increment amount to 100mm.
- Confirm the zip ties are cut off.
- Under "Vertical", click "-" to lift the bed up.
- Once the bed is clear, remove the foam from under the bed.

Extrude Filament

Select Nozzle

- Nozzle one is on the left side of your hot end and nozzle two is on the right.

Filament Amount

- Increment control specific to filament extrusion/retraction.

Extrude

- Clicking this will push the filament through the hot end by the amount selected in "Filament Amount".

**Nozzles must be heated up to temp before attempting to extrude filament.*

Retract

- Clicking this will pull filament back out of the hot end by the amount selected in "Filament Amount".

**Nozzles must be heated up to temp before attempting to retract filament.*

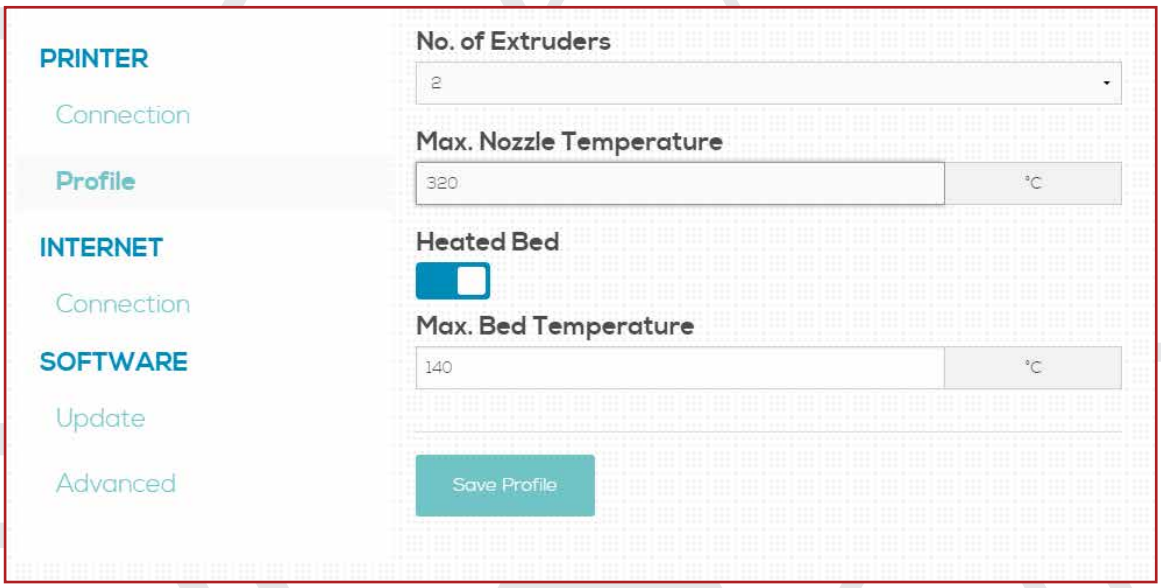
Current Temp

- When sitting idle, both displays will read room temperature in celsius.
- The Temperature Controls are the scrollbars at the bottom. This allows the user to control the hot end temperature, as well as the heat bed temperature.
    - Set the Nozzle Temperature to 240C by dragging the scrollbar up. This will set the target temperature to 240C. The Current Temp will start to increase.
- The side fan on the hot end can also be turned off and on with the ON/OFF button.
    - The fan on the back of the hot end is controlled by the printer, not the user.

Supplies

This tab will take you to Airwolf 3D's Store for stocking up on Wolfbite, glass, filament, etc.

Settings



Printer

Connection

- Here you can change the Baud Rate to 250000 if this step was missed previously. If you are ever having connection difficulties, "Test Connection" is also available here.

Profile

- Maximum temperatures for your printer. Do not changes these to temperatures your printer is incapable of.

****Final Wolfbox Setup****

- For the HD-R, the number of extruders will need to be changed to 2 and the max temperature changed to 320.

Internet

Wireless Connection

- View what network you are connected to.
- IP Address location.

Local Hotspot

- After setup, the hot spot is shut off for security purposes. If you would like the hot spot to remain on, uncheck the box for "Turn hotspot off when a known network is found in the future".

- You can still connect directly to the Wolfbox by navigating through astroprint.com to monitor tab, typing the IP address in your browser, or going to your printers network folder and clicking on your printer under "Other Devices".

Software

Update

- Check for recent updates.

Advanced

- Restore Factory Settings.

  Disconnects the Wolfbox from the Astroprint account and Wi-Fi network, and turns on the hotspot.

Logs

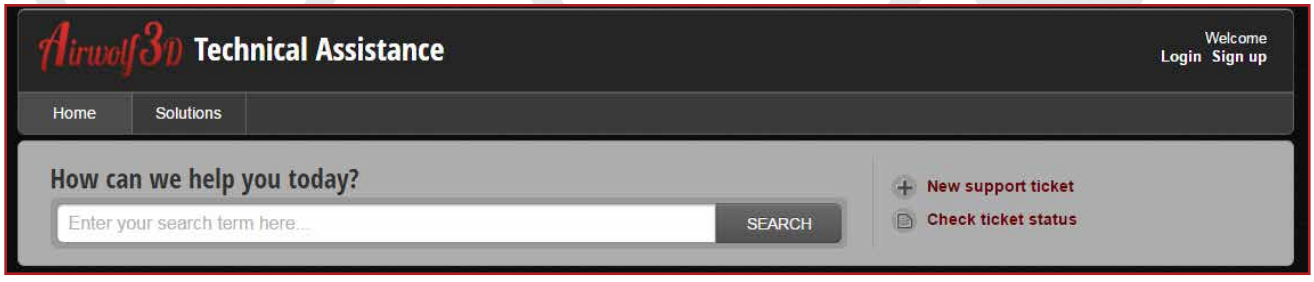
- Send logs to Astroprint. This option is used for troubleshooting errors with astroprint. Checking the "Turn on serial logs" should only be used if there are communication errors occurring.

Support

This tab will take you to Airwolf 3D's Tech Assistance Portal (**https://airwolf3d.freshdesk.com**)

- Solutions are available for everything from Unboxing the Printer, to Maintenance and Troubleshooting.

- Submit a Ticket for assistance from our technicians!

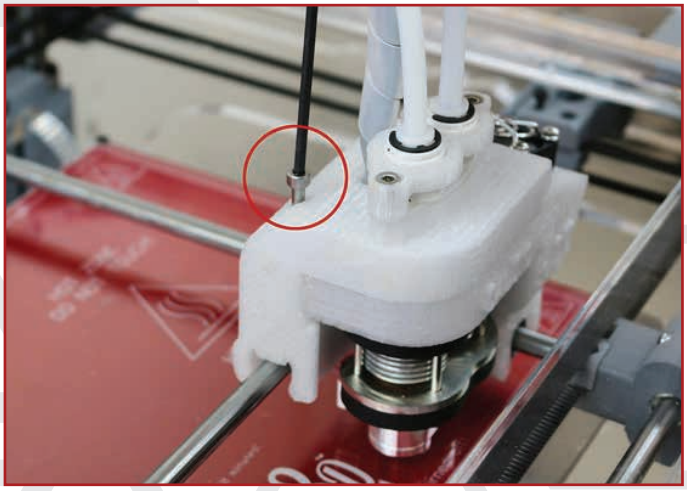


Calibration

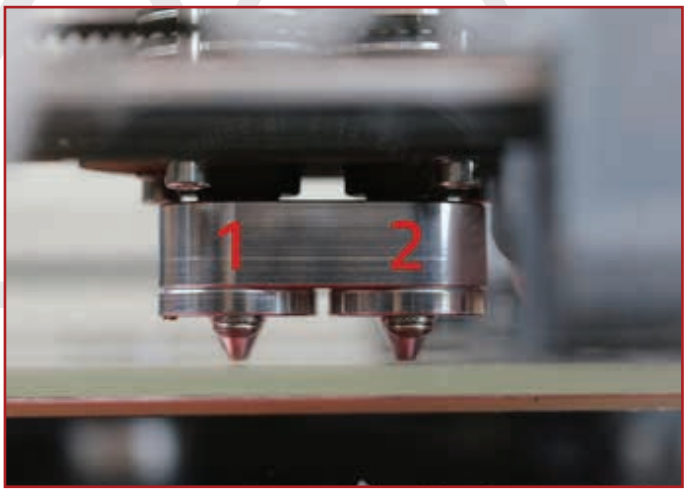
Calibration is extremely important and will drastically improve your print quality and accuracy.
The printer will need to be calibrated initially out of the box, but should only require minimal adjustments from there on out.

Calibrating the Nozzles

- Set the glass on the heat bed and secure it with the 4 binder clips.
- Go to "Controls" in your Wolfbox menu and click the icon under "Vertical" to home your heat bed.
- Wait one minute for the Z stepper motor to turn off allowing easy manual movement.
- By hand, rotate (clockwise) the Z coupling until the glass is just about to touch the lower of the two nozzles.



- If both of your nozzles are level, you do not need to do anything further. Continue to page ___ for "Calibrating the Heat Bed". Otherwise, continue to the next step.
- There is a large M4 bolt that sticks out from the top back left of the hot end. Rotate the bolt clockwise to raise the first (left) nozzle. Rotate the bolt counterclockwise to lower the first (left) nozzle.



- Raise and lower the bed, as needed, while adjusting the screw until you can see that both nozzles would contact the bed at the same time.

Calibrating the Heat Bed

- Watch the video "HD Bed Leveling and Calibration". As an HDR owner, you can skip to 4 minutes in.
  - Find this video in our Tech Portal or YouTube channel.
- From the tablet navigate to your Wolfbox Home page, Upload Print File (.gcode), open file manager and navigate to the file "First Print - HDR Calibration.gcode".
  - sdcard > AW3D_HDR > Sample Prints > Dual Head > Print These (.gcode) > First Print - HDR Calibration
- Preheat the Printer
  - In the Wolfbox menu go to "Control" and heat the nozzles to 240C if not already done.
  - Once the nozzles are up to temp, push the filament the remaining distance into the hot end until you see the filament extruding out of the nozzle.
  - Hold the extruder latch close and push the pin back in.
- You will need the 2.5mm allen wrench from the accessory kit and a piece of paper folded in half.
- On the Wolfbox Home page, click the Print icon next to the G-code file to start the print.

LEVELING THE HEAT BED VIDEO - **Leveling the Heat Bed** (HD series printers).
https://airwolf3d.freshdesk.com/support/solutions/articles/5000016861-video-leveling-the-heat-bed-hd-series-printers-

Additional Information

It is highly recommended to print the Airwolf 3D sample prints for the first two weeks to assist with the learning process. Please visit our tech portal at **www.airwolf3d.freshdesk.com** if you have any questions or concerns.

WOLFBITE
PREMIUM HEATBED ADHESION SOLUTION FOR ABS

Directions for use: SHAKE WELL!

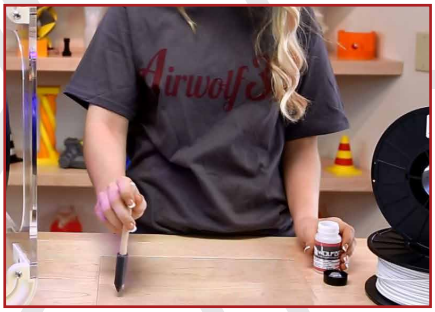
1. *Remove lid and dip foam applicator into solution.*

2. *Apply by painting on cold glass with long strokes, covering the entire build area.*

3. *Place glass onto heatbed and preheat.*

IMPORTANT!!! *One dip of the foam applicator is enough to coat an entire 12" x 12" piece of glass. Be conservative with the solution, as too much can lead to difficulty in removing parts and can even damage the glass. After your print is complete and removed from the glass, take a wet cloth and gently wipe down the glass print surface. This will prep the bed for the next print. You can print multiple times with this method without re-applying the solution.*

Airwolf 3D assumes no liability for misuse of Wolfbite.



WOLFBITE nano
PREMIUM GLASS BED ADHESION SOLUTION FOR PLA

Use Wolfbite NANO for PLA prints.

Airwolf 3D™

130 McCormick Ave. Suite 105, Costa Mesa, CA 92626
Phone: 949.478.2933

visit us at www.airwolf3d.com facebook/Airwolf3d @airwolf3d

For technical support visit:
https://airwolf3d.freshdesk.com