EVO Additive Manufacturing Center User Manual

airwolf3d.com/evo-owners/evo-user-guide/

Before You Begin

Letter From The Manufacturer

Thank you for choosing Airwolf 3D and the EVO Additive Manufacturing Center. We pride ourselves on providing excellent-quality machinery and an overall outstanding user experience. Like you, we are engineers, makers, designers, artists, and educators.

EVO is the most advanced desktop 3D printer in the industry with features such as 40-plus material capability, enclosure heaters, large 12x12x11 build envelope, advanced touch screen interface, and our own Genesis microcontroller designed especially for the EVO. We have taken our customers' feedback on the 5.5, XL, HD, and AXIOM series printer and incorporated it into the EVO, attempting to push 3D manufacturing to the next level. You will not find another machine like the EVO for the desktop.

At Airwolf 3D we do not see you as just another customer. You are family. You are a member of an elite group who have decided to add a high performance machine to their tools. We have created this guide to get you started with the best experience possible, and give you the instructions needed to push the boundaries of additive manufacturing. Now go create, inspire, design, and push the limits — welcome to the WOLFPACK!

Register Your Machine

Register your machine to take full advantage of the EVO Owners Program. Benefits include:

- White Glove Service from a dedicated team
- Notifications of important firmware updates
- Prioritized feature requests
- Early access to hardware upgrades and beta products

Registration is quick, easy, and ensures the best experience possible: Register for EVO Owners Program.

Safety Guidelines

PLEASE READ CAREFULLY BEFORE PRINTER OPERATION

EVO is an advanced machine capable of reaching extremely high temperatures and fast speeds.

Please be aware of possible hazards when operating.

BURN HAZARD

The heated bed can reach temperatures of 160C and also generates heat inside the enclosed chamber. The hot end reaches temperatures of 315C. Never touch the heatbed or hot end while hot, and keep in mind they may take up to 20 minutes to fully cool down.

Recently extruded plastic can stick to the skin and cause burns if not careful. Always wait until the hotend is completely cool before removing unwanted plastic or debris. The stepper motors can also generate high temperature and contact with the skin should be avoided.

FIRE HAZARD

Flammable materials or liquids should never be placed or stored next to the printer.

ELECTRIC SHOCK HAZARD

The internal electronic components can cause electric shock even when the printer is powered down or unplugged. Never remove the back panel without consulting your Airwolf 3D technician first. ALWAYS disconnect ALL power to the printer before performing any repairs.

MOVING PARTS HAZARD

Never touch moving parts or place your fingers in or on any of the belts, pulleys or gears while the printer is operational. Make sure to tie back hair and remove any dangling jewelry.

OTHER SAFETY CONCERNS

WHILE PRINTING DO NOT LEAVE MACHINE UNATTENDED!!!

If you must leave the printer, make sure to hook up an external video camera for video monitoring.

Age: If under 18, do not operate the machine without adult supervision.

Choking Hazard: The machine features small parts which can be a choking hazard for young children.

Safety Features

HARDWARE

Main Power: 15-amp AC circuit breaker

GENESIS Microcontroller: (2) 5-amp and (1) 15-amp fuses to cover mosfets, heaters, stepper motors, and logic

Heated Bed:
• External relay with 25-amp fuse
• 180C thermal fuse (EVO V2)

Hot End:
• 20W low power consumption heaters
• Polyamide insulators

Power Supply: Short circuit/overload/over voltage/over temperature

SOFTWARE

GENESIS Microcontroller

Hot End: Automatic shut-off on overtemp/overcurrent
Heat Bed: Automatic shut-off on overtemp/overcurrent
Chamber Heater: Automatic shut-off on overtemp/overcurrent
Stepper Motors: Automatic shut-off on overcurrent
Fans: Automatic shut-off on overcurrent
Lights: Automatic shut-off on overcurrent

Touchscreen

Hot End: Automatic cool down after non-use
Heated Bed: Automatic cool down after non-use
Chamber Heater: Automatic cool down after non-use

Unpacking

Remove Machine From Box

CAUTION: DO NOT PLUG IN UNTIL EVERYTHING IS REMOVED FROM INTERIOR. ON POWER UP, MACHINE AUTOMATICALLY LOWERS BED.

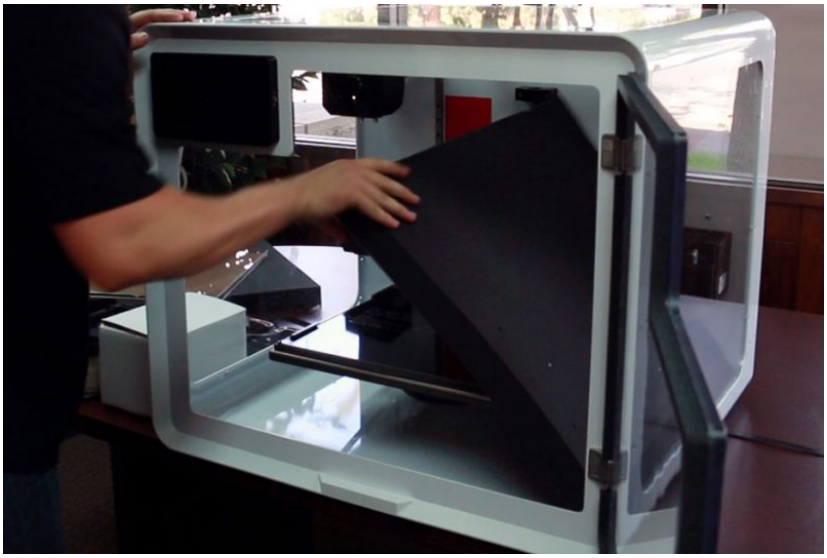
Carefully cut the tape on the top of the box and open the lid. Remove the foam piece on top. With two people, grab the upper section of the frame and pull the printer out of the box. Use caution as the printer is heavy. Locate and remove the accessory box inside the foam packaging.

Check Box Contents

After opening the box, locate the following and make sure everything is included:

- 2 lb spool of ABS
- Accessory bag with Power Cable, USB Cable, Wolfbite, USB thumb drive, Hex Wrench Set
- Flex resistant glass
- .50 nozzles
- Drill bit kit for nozzles

Remove Interior Foam



Remove the foam from the bottom and sides of the bed. Move the printhead aside, if it is blocking access to packing material. CAUTION: If all foam is not removed from the inside of the machine, you risk damage form machine automatically autohoming when powered on.

Install Power Cable

WARNING: CLEAR INTERIOR OF PRINTER. BED WILL AUTOMATICALLY LOWER ON POWER UP

1. Install cable

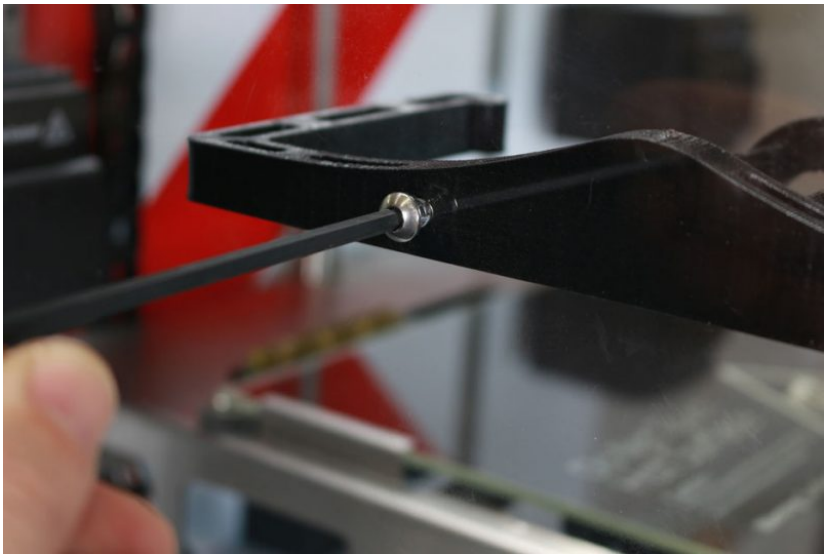
WARNING: BECAUSE OF HIGH POWER DRAW, CABLE MUST BE AT LEAST 14AWG FOR NORTH AMERICA

2. Once interior is clear, power machine on

Locate the power switch located on the rear left corner of the machine. Power on the machine.

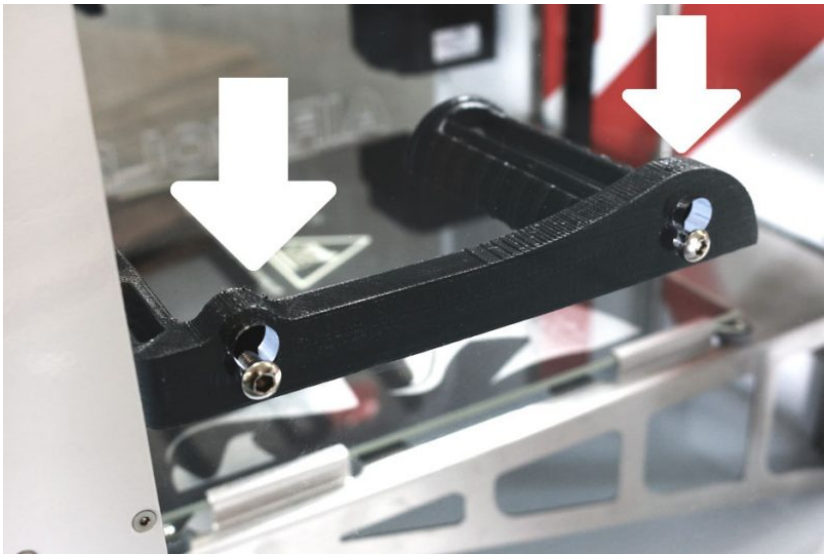
Install Spool Holders

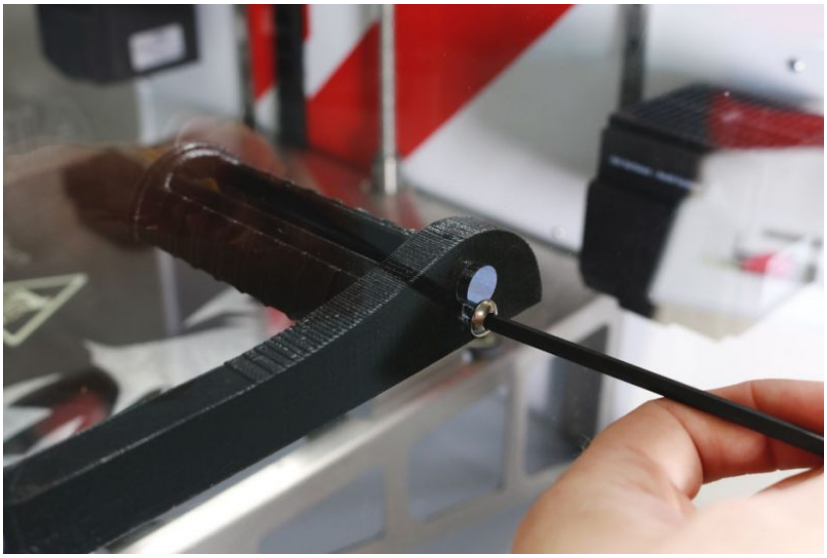
1. Install 2lb spool holders in left window using M6 allen key



2. Push PTFE tubing into push-to-connect fittings in each spool holder

3. Install 5lb spool holders in right window using M6 allen key

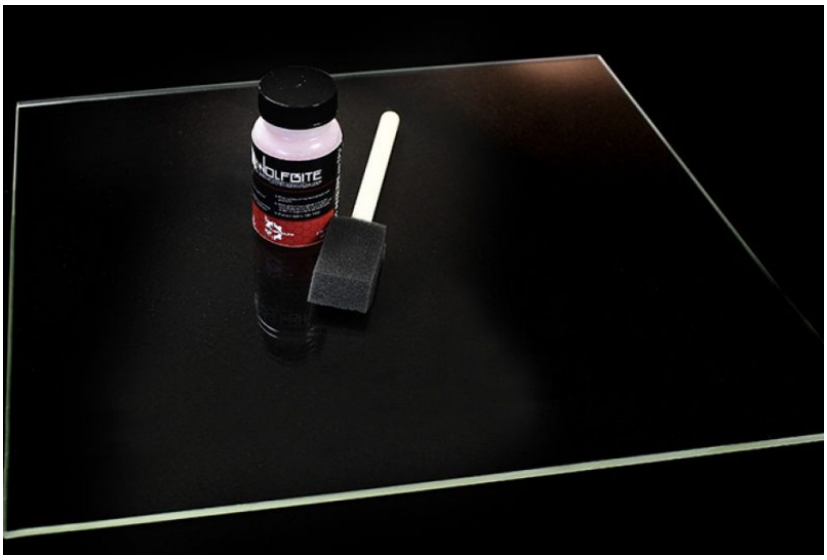




5lb spool holder opening is slotted to ease filament change with large print.

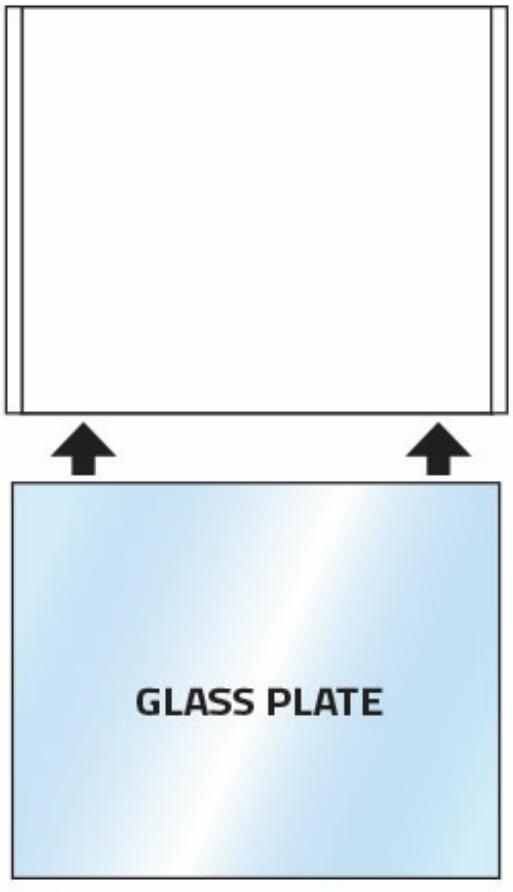
4. When using 5lb spool holder, insert extra PTFE tube into spool holder and connect with union connector to PTFE tube

Install Glass and Apply Wolfbite



1. Install glass into bed

Using two hands, carefully slide glass plate into the metal bed brackets located on both sides of the heatbed. Slide the plate all the way in until it reaches the back of the heatbed.



2. Apply a thin, even coat of wolfbite bed adhesive across bed surface. it will adhere to glass once machine is preheated.

For best results, apply Wolfbite to cold or slightly warm glass.

Getting Started 3D Printing

Preheat Machine

1. Select *PREHEAT*

2. Select *ABS*

3. Select *ALL* (heats both nozzles, bed, and chamber)

Load Filament

1. Once hot end is over **230°C**, select *FILAMENT CONTROL* (feeder will not operate under 175°C)

2. Firmly insert **ABS** filament vertically into left feeder port

TIPS

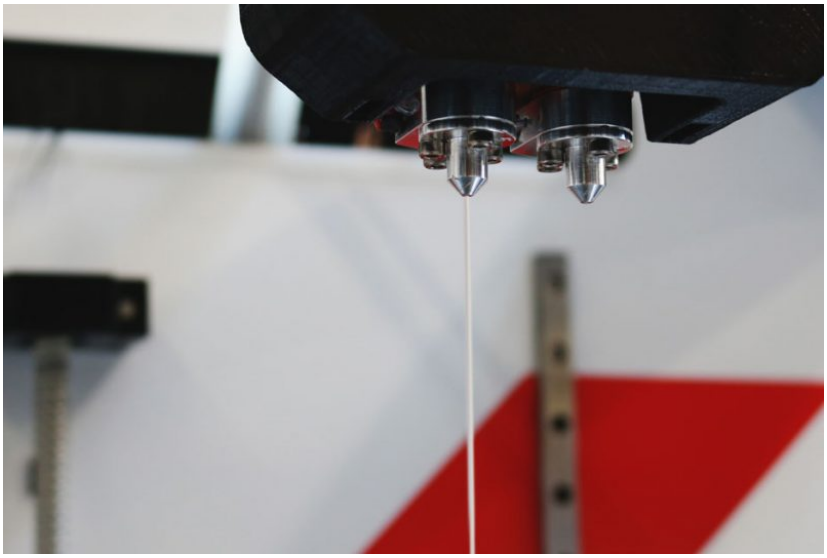
• With continued use, filament insertion will become easier.

• Remove top window for better access.

3. Select *NOZZLE 1*

4. Select *LOAD*

5. Feeder will pull filament into hot end



6. Select *PRIME* to feed more filament

7. Repeat steps for *NOZZLE 2*, if needed

Start Your First Print

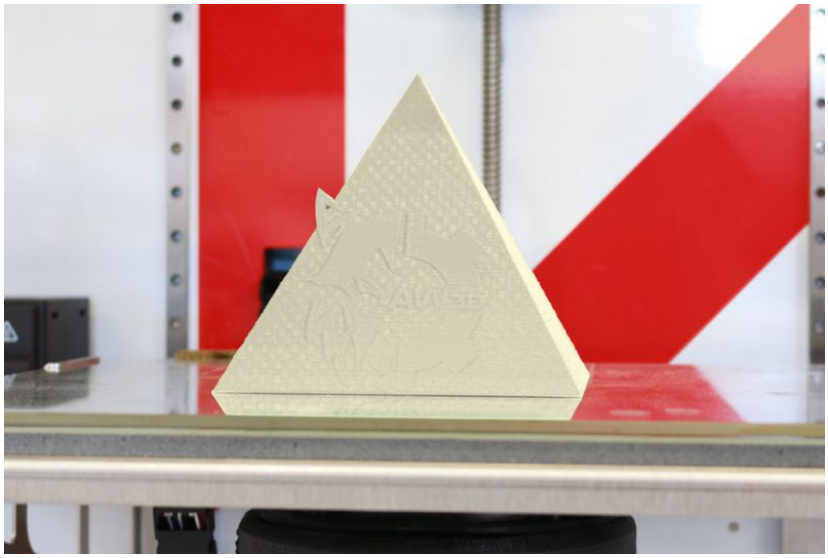
1. Select *PRINT*

2. Select *INTERNAL DRIVE*

3. Select *AIRWOLF TEMPLE.GCODE*

Machine will (1) home Z, X, and Y; (2) complete pre-heating; and (3) begin the print.

Select “Airwolf Temple.gcode”



A completed sample print

Connectivity

Connect to Wi-Fi

1. Select *SETTINGS*

2. Select *WI-FI SETTINGS*

3. Choose your network and enter your password

4. Select *CONNECT*

Connect to Ethernet

1. Locate the LAN port located at the rear, lower left side of the machine.

2. Connect the LAN wire. The Touchscreen will display the machine's IP address.

A leased line or secure LAN is highly recommended.

Touchscreen

Home Menu

Back To Top

Print Menu

1. Select *PRINT*

2. Start a print using G-code from USB or internal drive

3. Machine raises bed and waits until all print temps are approximately matched

4. Machine cleans nozzles, auto-levels, and primes filament before starting print

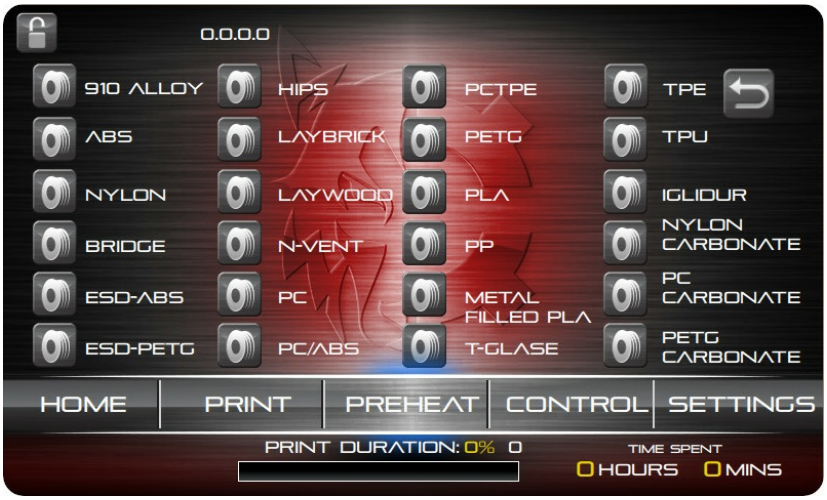
Preheat Menu

1. Select *PREHEAT* on the main menu.

The primary *PREHEAT* menu will appear and display the most commonly printed materials.

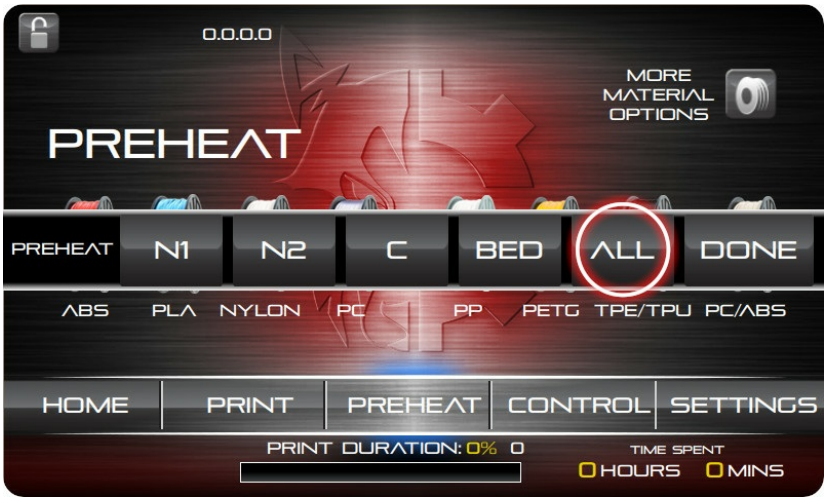
2. Choose your material.

If you do not see the material in which you wish to print, select *MORE MATERIAL OPTIONS* to see the full menu of materials with pre-set profiles.



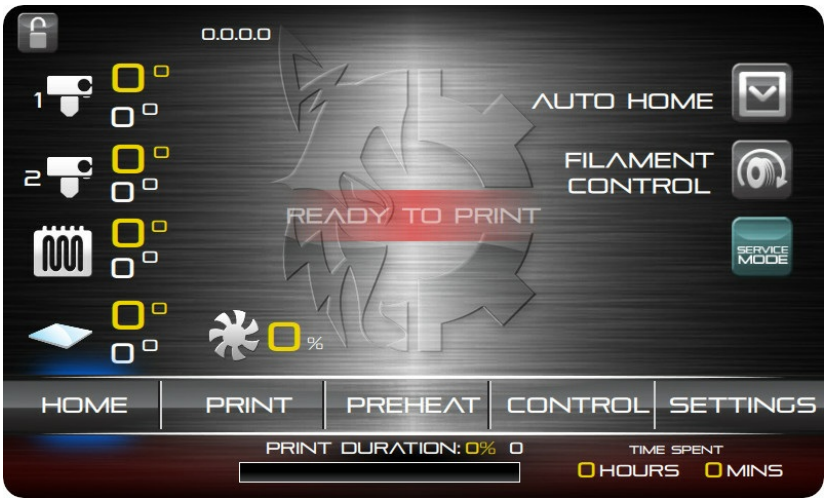
The expanded materials menu gives access to optimized settings for over 20 different types of materials.

3. Choose *PREHEAT* configuration.



Select your material and a popup menu will appear with options to preheat NOZZLE 1 (*"N1*), NOZZLE 2 (*N2*), the chamber (*C*), *BED*, or *ALL*. Choose *ALL* to preheat nozzles, chamber, and bed accordingly.

Tip: Unless you are an advanced user, it is highly recommended that you select *ALL* when preheating. The pre-set material profiles on the machine are optimized to provide the best results when printing.



Preheating is complete when screen flashes *READY TO PRINT* notification.

Control Menu

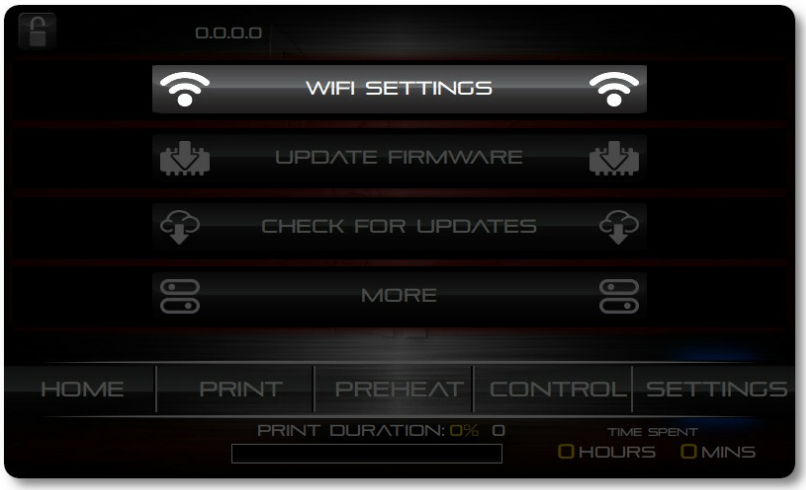
Move axes accordingly, including X, Y, and Z home.

Settings Menu

WI-FI SETTINGS

Connect touchscreen to internet to update.

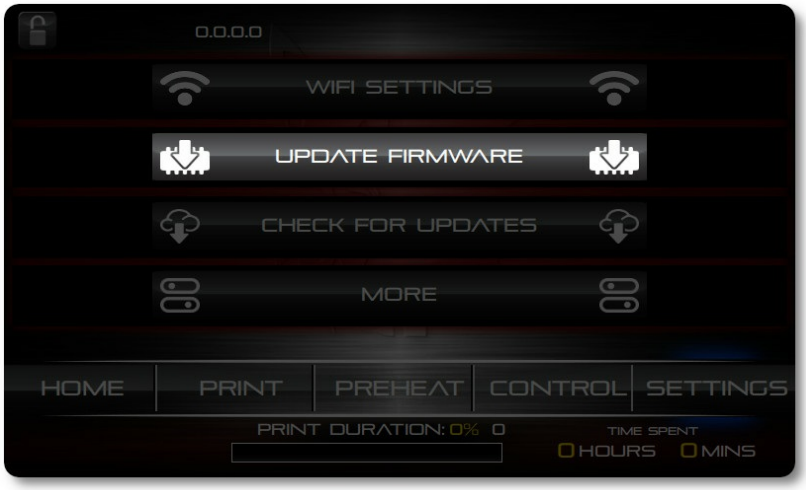
SETTINGS > WI-FI SETTINGS



UPDATE FIRMWARE

Firwware can be updated through *USB* or *INTERNAL* (*INTERNAL* updated with WI-FI updates).

SETTINGS > UPDATE FIRMWARE



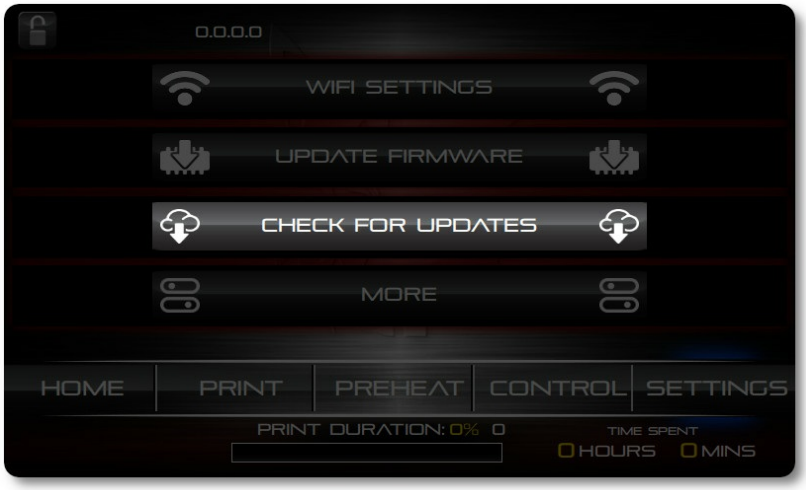
CHECK FOR UPDATES

SETTINGS > CHECK FOR UPDATES

Update the touchscreen on your EVO. Select *OK*, and the screen will indicate that an update is in progress. This may take a few minutes.

This requires its own update and is separate from Firmware updates.

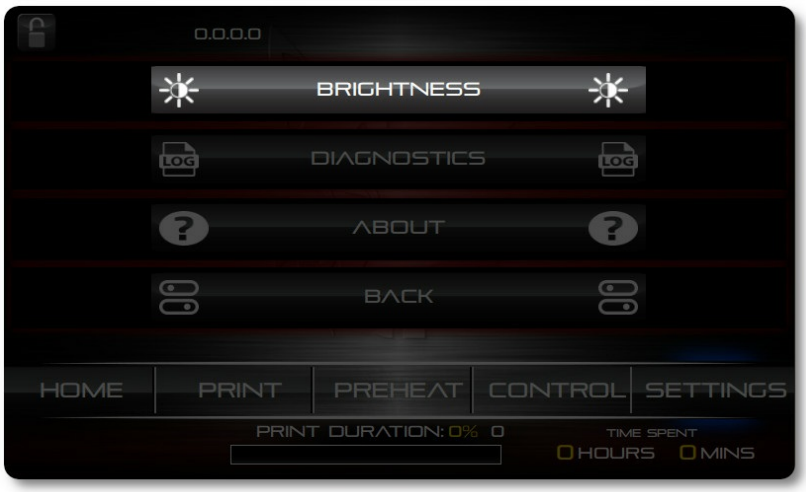
Refer to Section on How to Update Touchscreen



BRIGHTNESS

Adjust the brightness of your touchscreen display.

Select *SETTINGS > MORE > BRIGHTNESS*



Adjust the slider control to preferred level of brightness.

DIAGNOSTICS

SETTINGS > MORE > DIAGNOSTICS

- *GET LOG* (For technician use)
- *AUTO HOME*
- *CHECK AUTOLEVEL VALUES* shows Z probe results for each corner
- *CHANGE PASSCODE*

ABOUT

SETTINGS > MORE > ABOUT

- Relevant WI-FI connection information
- Length and approximate weight of filament used in each nozzle
- Hours run above 150°C and above 260°C (e.g. polycarbonate and higher-temperature materials)

Touchscreen Version

The Touchscreen Version is located in the upper left corner of the display.

Firmware Version

The Firmware Version is located in the upper right corner of the display.

Security

Speed Control

The Speed Control changes the overall print speed.

Time Spent

Time Spent measures print time.

Tips & Tricks

Start Small

Small parts finish quicker and require fewer settings adjustments.

ABS Works Best

EVO is designed to print ABS continuously and it will give the best results.

Apply Wolfbite to cold or slightly warm bed

This ensures the best surface finish and longest life of product. It also reduces any chance that the glass will chip or break.

Filament Tips

- Use high quality filament
- Filament greater than 3mm may cause hot end to jam
- Dry filament tends to print more consistently than filament subjected to moisture

Printing With ABS

- Keep top on and door closed
- Use either Wolfbite Original or Wolfbite Mega
- Small prints require less heat on bed and in chamber
- Chamber will rise to 50°C, even without chamber heaters
- Fan speed over 40% may cause hot end temp to drop and jam hot end

Printing With Polycarbonate

1. Apply fresh Wolfbite Mega on cool, **clean** glass
2. Set nozzle to 290°C+
3. Set bed to 150°C
4. Set chamber to 60°C
5. Use large (.25mm+) layer heights
6. Keep infill speeds slow — fast speeds can cause skipping

Printing With PLA

1. Open the top of the machine, if possible.
2. Turn off chamber heaters.

Printing With Flexible Filament

Prior to loading filament, prime hot end with PLA. PLA will flush out existing filament and melt quickly when TPE or TPU is introduced.

Slow down print speed to 16mm/s or less and increase retraction amount to 5mm or more.

Printing With HydroFill

Prior to loading filament, prime hot end with PLA. PLA will flush out existing filament and melt quickly when HydroFill Water-Soluble Support is introduced.

Use a prime tower when possible to keep HydroFill flowing and primed between layers.

Dual Color and HydroFill Parts

Only for advanced users. For instructions on nozzle offset calibration, see section on Precise Dual Color and HydroFill.

Precise Dual-Color and HydroFill Printing

Nozzle offset calibration is necessary for optimal dual nozzle printing.

1. Print out a sample dual material piece with walls abutting each other in both X and Y directions.

2. Measure second nozzle overlap in both X and Y directions, and save these values.

3. In APEX Software, navigate to *Expert* > *Switch to full settings*.

4. Once in the *Full Settings* interface, select *Machine* > *Machine settings*.

5. Under *Extruder 2* settings, enter recorded X and Y overlaps.

6. Reprint test piece and perform again until walls cleanly adjoin one other

Small prints with curling from excessive heat

1. Lower print temp

2. Lower bed temp

3. Turn off chamber heater

4. Increase fan speed

Large prints with lifting

1. Increase bed temp to 145°C
2. Set chamber heater to 60°C
3. Apply wolfbite over entire surface

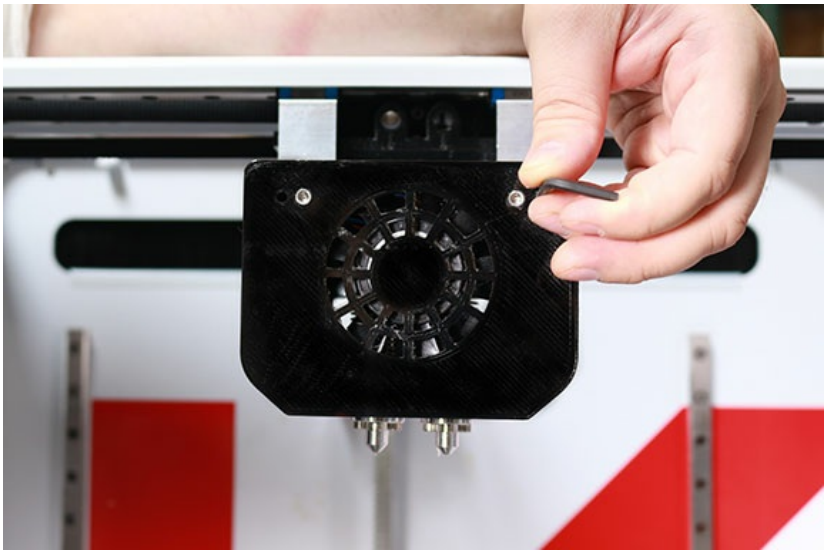
Cracking in parts

Increase chamber temp to 60°C

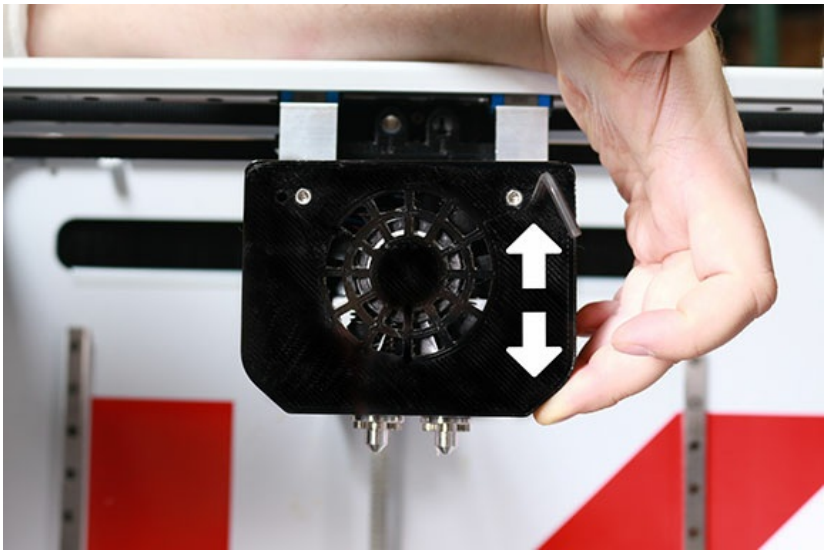
Maintenance

Leveling Nozzles

To level nozzles, perform the following steps:



1. Loosen right bolt and tilt until hot ends are approximately level.



2. Tighten both bolts.

3. For more precise leveling, use the *Bed Bob* function to enable print bed to be used as a visual guide for nozzle leveling.

To Use *Bed Bob*

1. Press the *CONTROL* tab and click the “gear” button.

The machine will autohome, heat and clean nozzles on brush, auto-level, and move the hot end to Home position. The machine will then automatically enter *SERVICE MODE*, bringing the hot end to center position for easier access.

A new window will open.

2. Click the *Bed Bob* button to raise the bed.

3. Once the bed is in a fully raised position, make minor adjustments as necessary until nozzles are visually level.

NOTE: The *Bed Bob* function simply toggles the bed into a raised or lowered position.

4. Once nozzle leveling is complete, click the *CLOSE* button and the machine will automatically auto-home.

Nozzle Removal/Replacement

IMPORTANT: Only change one nozzle at a time. If both nozzles are loosened, entire hot end assembly will become loose.

1. Heat nozzle to temperature of inserted filament

2. Select filament change and remove filament from nozzle to be changed

3. Power down machine (head should be in service position and bed should be at lowest height)

4. Wait for nozzle to cool

5. Use an M2.5 hex wrench and loosen each of the three 50mm screws holding the nozzle to the heater body

6. Place one bolt inside the replacement nozzle and lightly screw in to hot end assembly

7. Repeat for the second and third bolts

8. Tighten all bolts evenly, and power machine back on to test

Fan Housing Removal/Replacement

1. Heat primary nozzle to temperature of inserted filament

2. Heat secondary nozzle to temperature of inserted filament

3. Select filament change and remove filament from both nozzles

4. Power down machine (head should be in service position and bed should be at lowest height)

5. Wait for nozzles to cool

6. Use an M2.5 wrench to remove both 55mm screws in the fan cover (the two additional holes are for modular hot end removal and adjustment)

7. Carefully pull the fan off and separate the 4-pin connector

Feeder Removal/Replacement

1. See steps 1-7 of Fan Housing Removal/Replacement

2. If filament is still jammed between feeder and hot end assembly, use a razor blade to cut filament in the space between the two

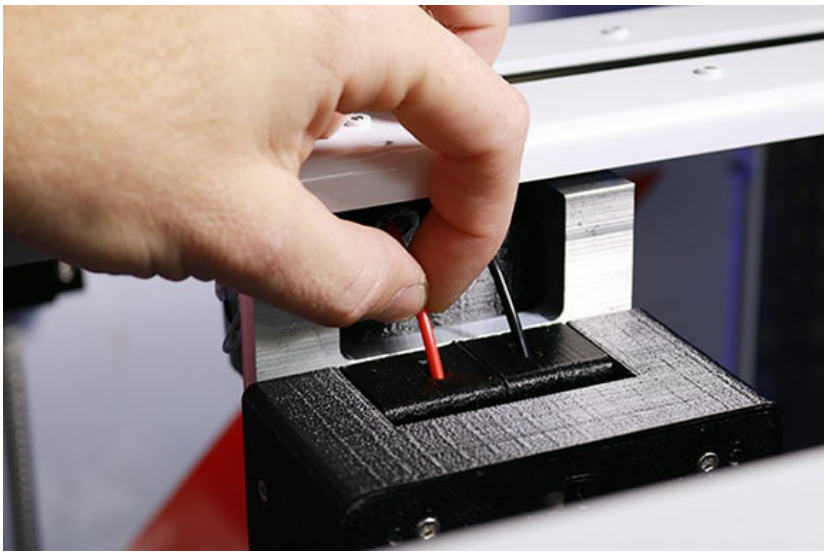
3. Use an M2.5 wrench to remove all four bolts coupling the feeder to the modular hot end assembly

4. Pull the feeder off, and inspect and clean as necessary

Modular Extruder Replacement

CAUTION: Do not plug or unplug wires while machine is powered on.

1. Remove filament from both nozzles (if necessary, cut filament as shown)



2. Put machine into *SERVICE* mode

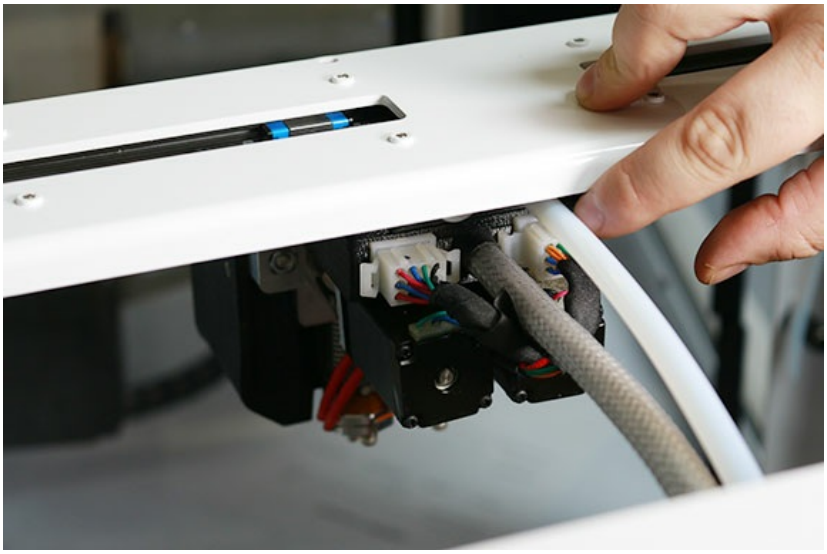
On touchscreen home display, click *SERVICE MODE*.

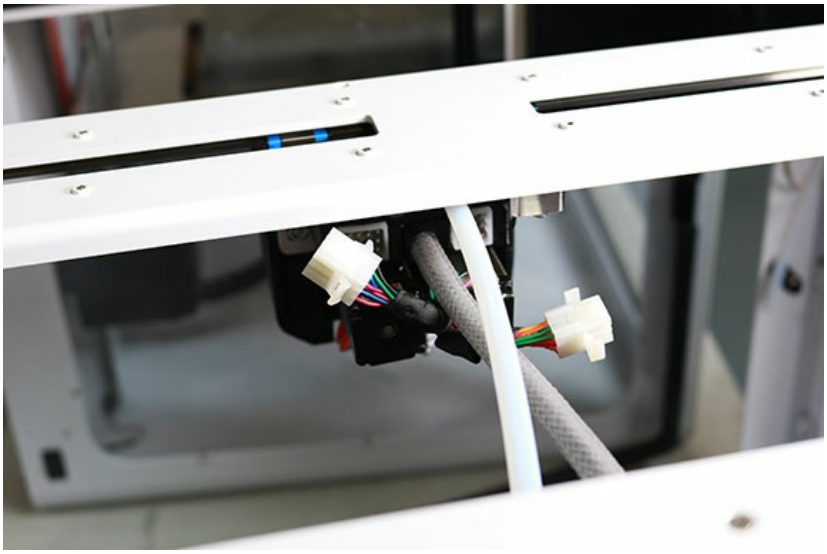
3. Power down machine

CAUTION: Machine must be powered down to prevent damage to GENESIS board.

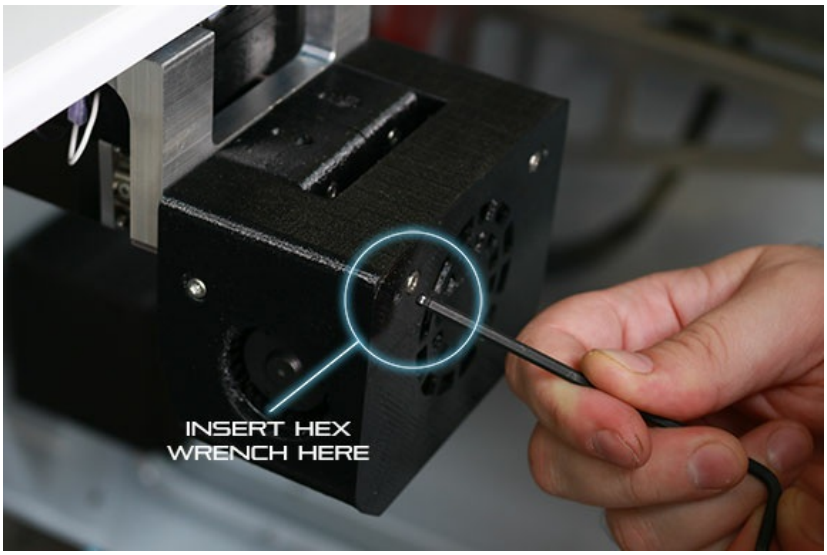
4. Wait until hot ends are cool

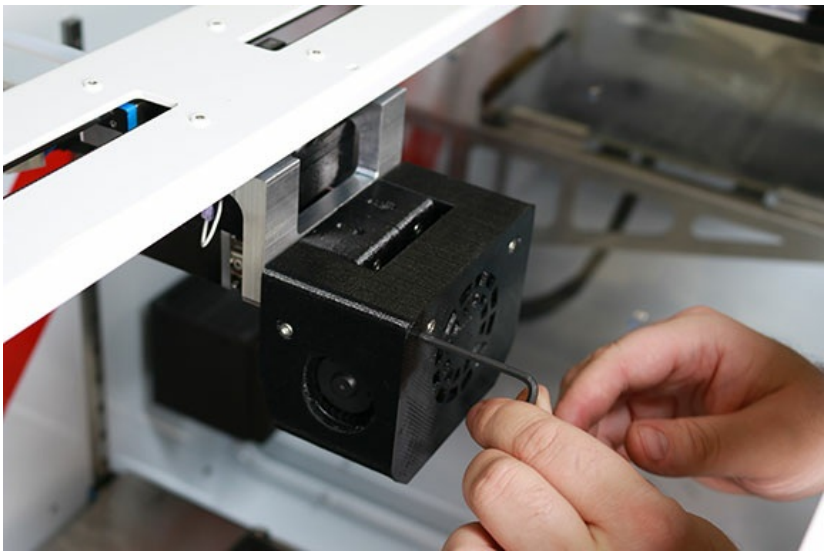
5. Carefully remove left and right plugs from harness mount by grabbing plugs, not wires (plugs will be tight)



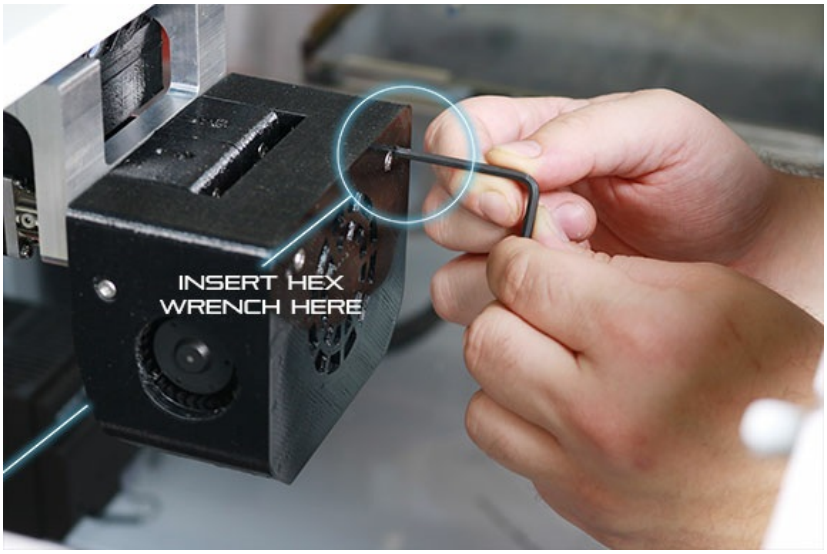


6. Insert M3 allen wrench into left recess in fan cover and loosen

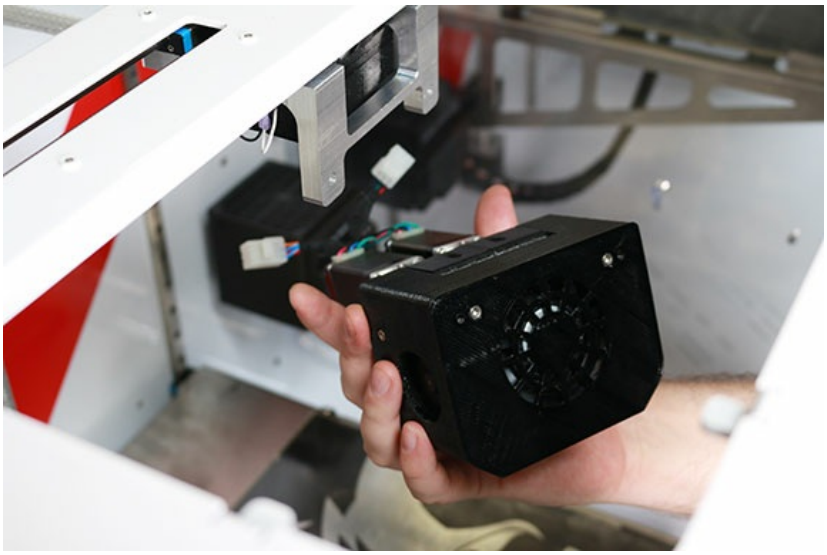




7. Repeat for right recess



8. After both bolts are completely loosened, remove extruder assembly



9. Repeat in reverse order to install new extruder assembly

10. Level extruder assembly

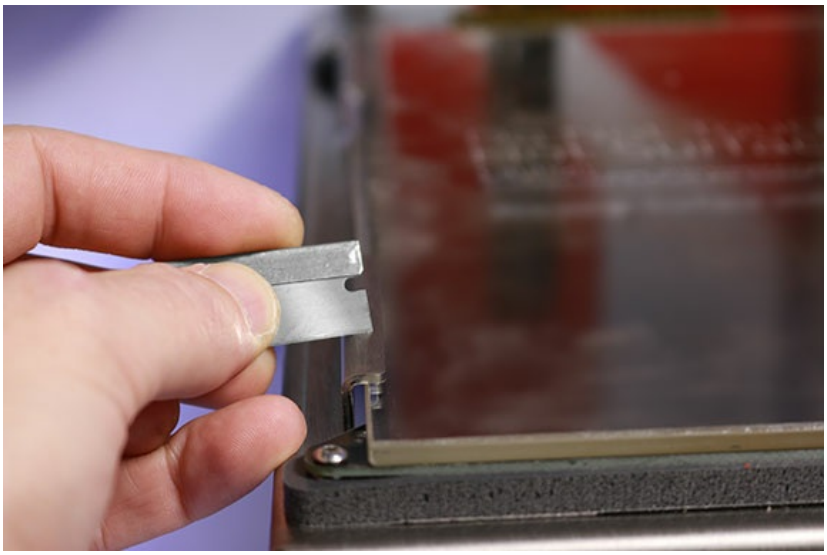
Before resuming operation of the machine, follow the instructions in Section 7.1 Leveling Nozzles.

Clean Bed Rails

Every 100 print-hours, clean bed rails for accurate auto-leveling.

1. Auto home and power down machine

2. Use razor blade to scrape film off steel bed rails for precise contact between rails and hot end



Clean Nozzles

Every 100 hour print hours, clean nozzles for accurate auto-leveling

1. Press *SERVICE MODE*.

2. Power down machine.

3. Carefully take wire brush to body of nozzle and remove residue

Borosilicate Glass Build Plate

The glass used for the EVO build plate is high-temperature, borosilicate glass. Like filament, the build plate is a consumable. It will degrade over time.

To prolong the life of the build plate, practice the following:

- Only apply Wolfbite to a cold plate
- After a print, be patient and let the surface slowly cool down until the part releases
- Make sure the nozzle is not pressing the first layer into the glass — too close of a first layer will create a very strong bond that can damage the build plate

Replace HEPA and Carbon Filters

Every 1000 hours of print time, replace both HEPA and carbon filters.

1. With the build plate clear, select *CONTROL*

2. Use the pointer to push the Z-axis to the top of its travel

3. Power down machine

4. Unscrew the filter cover and both filters should easily drop out

5. If necessary, use a small screwdriver to gently pry out the filters

6. Replace in reverse order

Replace Brass Cleaning Brush

Replace brass brush every 1000 hours, or sooner, depending on condition.

1. Place machine in *SERVICE MODE*

2. Use 2.5mm hex wrench to unscrew both screws holding brush to bed plate

3. Lift out brush

4. Reinstall in reverse order

Lubricate Z Stage Ballscrew

Every 1000 hours, lubricate Z stage ballscrew. White lithium grease is recommended. Any grease used should be rated for more than 80°C continuous.

Update Touchscreen

Please see Section 8.3 Update Touchscreen.

Update Firmware

Please see Section 4.11 Update Firmware.

Troubleshooting

Running Out of Filament

After running out of filament, it is not possible to remove remaining filament in feeders.

Insert new filament into feeder opening, press *FILAMENT CONTROL* and then press *PRIME*.

PRIME slowly feeds new filament into feeder. Do NOT press *LOAD* as it will force new filament in too fast and potentially jam.

Auto-Leveling Errors

Auto-leveling errors are most likely the result of a poor connection between the nozzle and the bed.

Make sure that the M3 screw holding the orange sensor wire to the underside of the heater body is tight.

For best results, clean both nozzles and bed rails as described in Maintenance section.

Warping (Parts Lifting Off Bed)

1. Use correct Wolfbite (apply while glass is cold).

ABS/PETG – Wolfbite Original
PLA – Wolfbite Nano (works best at 60-80°C)
PC – Wolfbite Mega
Nylon – Wolfbite Nitro
Polypropylene – Wolfbite Ultra

2. Increase temperature on bed.

PC: 155-160°C
ABS: 145-150°C
PLA: 70-80°C

3. Center print on bed for even heat distribution.

4. Ensure first-layer nozzle distance is correct.

Change to smaller-letter firmware, if necessary, to press first layer down.

5. If bed is cooler toward back, update to latest HEPA Fan Duct Design.

Download: Fan Duct V2 Rev A STL

Print Too Close or Too Far From Bed

Too close (filament jamming into glass)

1. Make sure nozzle and bed rails are auto-leveling correctly (nozzle will quickly retract once rail is contacted — if not, refer to maintenance section to clean nozzle and rails.

2. Select *SETTINGS* and then *UPLOAD FIRMWARE*

3. Select a higher letter (“A” — closest to bed, “E” — farthest from bed)

Too far (filament barely grazing print surface)

1. Make sure nozzle is contacting bed rails during auto-leveling. If no contact, the Modular Hot End is grounding prior to auto-leveling.

2. Select *SETTINGS* and then *UPLOAD FIRMWARE*. Select a lower letter (A-closest to bed, E-farthest from bed)

Filament Jam

1. Heat nozzle to 20 degrees OVER recommended filament temperature (e.g. ABS to 260°C)

2. Select *FILAMENT CONTROL*

3. Press *PRIME*, and firmly press down on filament to slowly push filament through hot end. Repeat until filament exits tip of hot end.

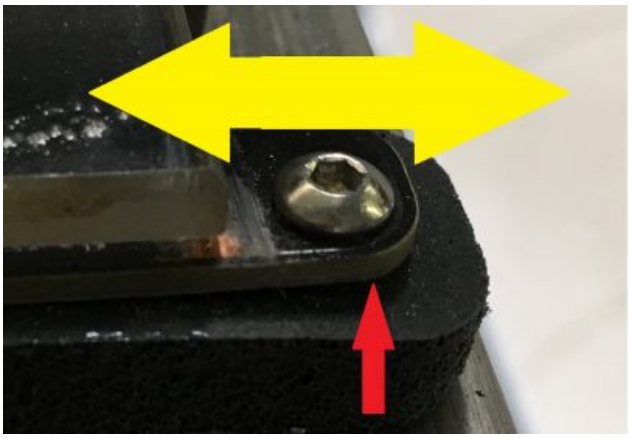
If filament will not extrude, press *REMOVE*

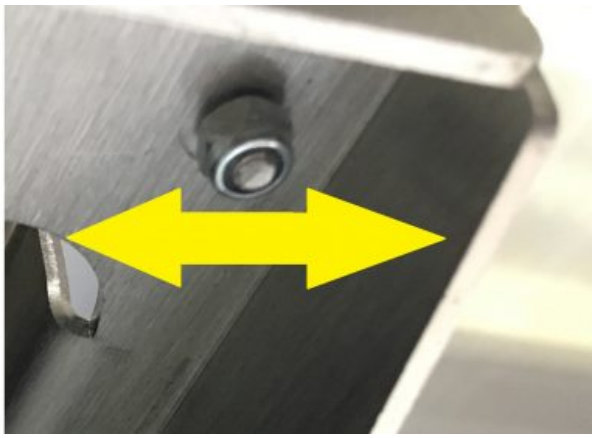
Layer Shifting

Only one type of malfunction can produce Y-axis layer shifting in the EVO Additive Manufacturing Center: the shifting of the glass plate.

To make sure that the glass plate is properly positioned, the corner screws must not be fully tightened.

The corner screw and attached nut should be able to move around (yellow arrows) as the full upward force of the spring (red arrow) clamps the underside of the glass.





HydroFill or Nylon Not Extruding

If HydroFill or nylon is exposed to humidity, printing performance can degrade quickly. However, EVO's heated chamber will eventually dry the filament.

Prior to printing with HydroFill, make sure to prime the second nozzle. Once material is flowing, EVO is ready to print

HydroFill Prime Tower Falling Over Mid-Print

Future versions of APEX 3D-Printing Software will account for the unique first-layer bonding characteristics of HydroFill.

For current versions of APEX, navigate to *Expert* > *Switch to Full Settings*. Select the *Advanced* tab.

Under *Quality* > *Initial layer line width (%)*, change the value from 100(%) to 120(%). This will provide slight over-extrusion on the part's first layer.

Updates & Security

Update Touchscreen

Update the Touchscreen on your EVO by performing the following steps:

1. Make sure EVO is connected to the internet
2. Select *SETTINGS*
3. Select *CHECK FOR UPDATES* (if this does not appear, select back)
4. Select *OK* to update Touchscreen
5. **Do not turn off printer during update** — printer will restart itself

This process may take a few minutes.

Update Firmware

NOTE: Once Touchscreen is up to date, latest firmware for GENESIS microcontroller will become available in Touchscreen's internal drive.

1. Select *SETTINGS*

2. Select *UPDATE FIRMWARE*

3. Select *INTERNAL*

Check your printer's current firmware version located on the top right of the screen (e.g. 154.1.A), and match the suffix to the available firmware.

"*A*" will set first print layer closest to bed, *"E*" will set it farthest from bed.

DO NOT TURN OFF PRINTER DURING UPDATE — PRINTER WILL RESTART ITSELF.

Enable/Disable ScreenLock

ScreenLock protects your work by locking the Touchscreen and preventing others from changing settings on the machine.

NOTE: ScreenLock feature is only available in Touchscreen Version 1.48 and later. If you do not have Version 1.48 installed, follow the instructions in Section 9.1 Update Touchscreen to update your machine and automatically enable ScreenLock. Once your Touchscreen is updated, a "lock" icon will appear in the upper right corner of the Touchscreen display.

To enable ScreenLock on your machine, press the “lock” icon. Your Touchscreen and machine settings are now locked.

To disable ScreenLock and re-enable Touchscreen settings, press the “lock” icon and enter your passcode.

The default passcode is: 0000. Learn to change your passcode in Section 9.4 Change/Reset ScreenLock Passcode.

Change/Reset ScreenLock Passcode

By default, your Touchscreen passcode is **0000**. To change your password, navigate to *SETTINGS > DIAGNOSTICS > CHANGE PASSWORD*.

Passcodes must be 4-10 numerical characters.

If you lose your ScreenLock passcode, please contact the EVO Customer Service Team for a temporary master reset code.

Contact Us:
Phone: (949)478-2933
Email: info@airwolf3d.com
Support Desk: Log In

File Storage

To keep your data safe, files are encrypted while EVO is actively printing. Storage of this data is temporary. Data is automatically cleared and fully removed as soon as your print completes or a user manually stops the print.

While saving a file on EVO’s internal drive is secure, the file still may be copied manually if another user connects via flash drive and copies the file. To prevent others from accessing files and machine settings, enable Screenlock.

MAC Addresses

Your machine’s MAC addresses are unique and module-based for both Ethernet and Wi-Fi. To view your MAC addresses, navigate to *SETTINGS > ABOUT*

Network Security

Touchscreen and Firmware updates are downloaded through an SSL network on Airwolf 3D’s server. To disable Wi-Fi and update via Ethernet, please see Section 4.2 Connect to Ethernet.

Warranty Information

Limited Warranty Policy

AIRWOLF 3D warrants its printers and its parts against defects in materials or workmanship

for one *(1) year* from the original delivery date. This limited warranty extends only to the original purchaser. During this period, AIRWOLF 3D will repair or replace defective parts with new or reconditioned parts at AIRWOLF 3D's option, without charge to the original purchaser. This repair is limited to parts and labor at AIRWOLF 3D's facilities only. All shipping fees both to and from AIRWOLF 3D during the 1-year period must be paid by the original purchaser.

Please note that any warranty services or questions must be accompanied by the order number and original invoice from the transaction through which the warranted product was purchased. The order number and original invoice serves as your warranty number and must be retained. AIRWOLF 3D will not provide warranty service without the order number and original invoice.

All original parts (parts installed by AIRWOLF 3D at the original system build) replaced by AIRWOLF 3D or its authorized service centers, are warranted. Any after-market additions or modifications are not warranted. The original purchaser is responsible for the payment for any service or repair outside the scope of this limited warranty.

AIRWOLF 3D makes no other warranty, either express or implied, including, but not limited to, implied warranties of merchantability, fitness for a particular purpose, or conformity to any representation or description, with respect to its printers other than as set forth below. AIRWOLF 3D makes no warranty or representation, either express or implied, with respect to any other manufacturer's product or documentation, its quality, performance, merchantability, fitness for a particular purpose, or conformity to any representation or description.

Except as provided herein, AIRWOLF 3D is not liable for any loss, cost, expense, inconvenience or damage that may result from use or inability to use the product. Under no circumstances shall AIRWOLF 3D be liable for any loss, cost, expense, inconvenience or damage exceeding the purchase price of the equipment, less any shipping fees.

The warranty and remedies set forth herein are exclusive and in lieu of all others, oral or written, expressed or implied. No reseller, agent or employee is authorized to make any modification, extension or addition to this warranty.

Warranty Conditions

AIRWOLF 3D's One(1) Year Limited Warranty is subject to the following conditions:

1. This warranty extends only to printers distributed and/or sold by AIRWOLF 3D. It is effective only if the printers are purchased and operated in the USA.
2. This warranty covers only normal use of the printer. AIRWOLF 3D shall not be liable under this warranty if any damage or defect results from (i) misuse, abuse, neglect, improper shipping or installation; (ii) disasters such as fire, flood, lightning or improper electric current; (iii) service or alteration by anyone other than an authorized AIRWOLF 3D representative; or (iv) damages incurred through irresponsible or other non-recommended practices.
3. You must retain your order number and original invoice to receive warranty service.
4. No warranty extension will be granted for any replacement part(s) furnished to the

original purchaser in fulfillment of this warranty.
5. AIRWOLF 3D makes no warranty (either expressed or implied) regarding third-party (non-AIRWOLF 3D) installed parts or products.

WARRANTY EXCLUSIONS

AIRWOLF 3D accepts no liability for problems caused by after-market modifications or additions to its printer. AIRWOLF 3D is not responsible for any loss of work (“down time”) caused by a product requiring service. This warranty is null and void if the defect or malfunction was due to damage resulting from operation not within manufacturer specifications. It is also null and void if there are indications of misuse and/or abuse. AIRWOLF 3D has the option of voiding the warranty if any one other than an AIRWOLF 3D technician attempts to service the product. AIRWOLF 3D will not warrant any problems arising from an act of God (lighting, flooding, tornado, etc.), electrical spikes or surges, or problems arising out of hardware, software, or additional devices added to complement any product bought at AIRWOLF 3D. AIRWOLF 3D will not be held responsible for typographical errors on sales receipts, repair tickets, or on our website. AIRWOLF 3D makes every effort to make sure all information on our website is correct.