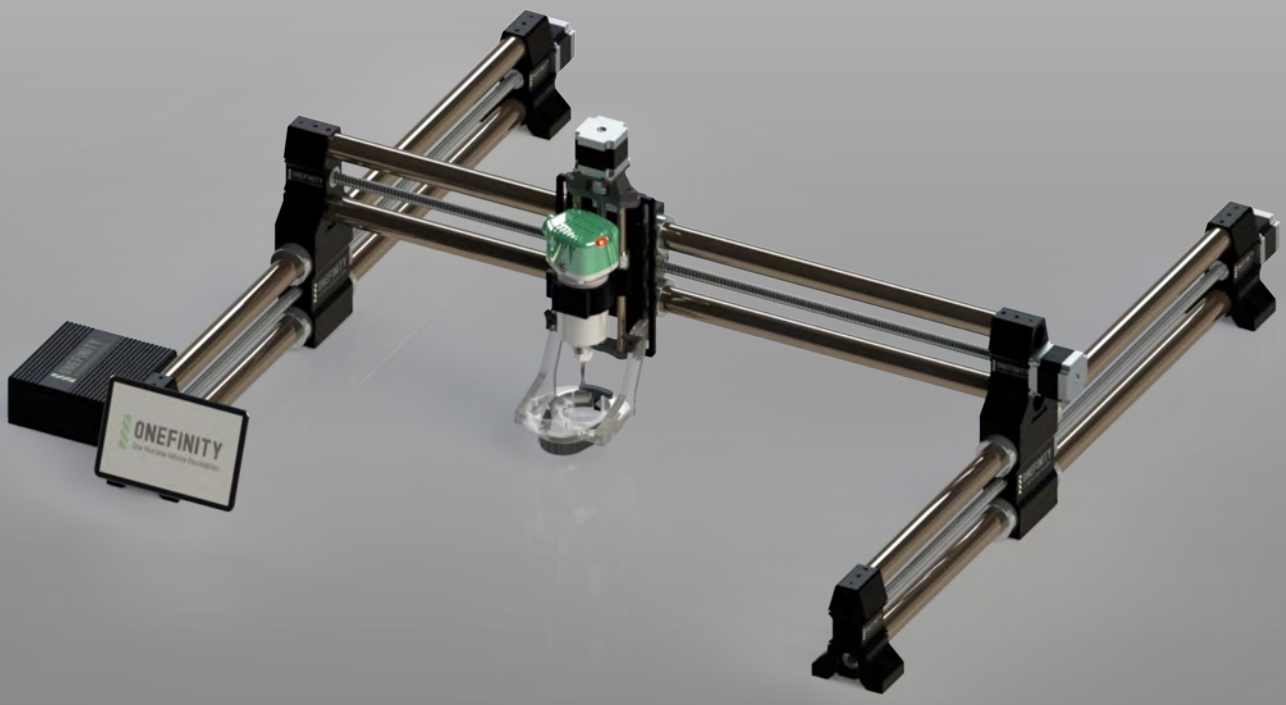
Installation and Operation Instructions
Onefinity Woodworker



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Contents

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General Notes

This manual serves to familiarize you with your Onefinity CNC machine and provide all necessary information required to operate the machine safely and professionally.

This manual is applicable for the Onefinity Woodworker and Onefinity Machinist, hereafter referred to as Onefinity.

Please completely read this manual before the first commissioning of your machine.
In order to minimize the risks of injury and/or material damages, please only commission the machine and the corresponding control when you are sure that you have completely understood these instructions!

Please contact us for any further questions. Please find our contact info on page 36 of these instructions.

Please always keep these instructions nearby the machine. You should always have them readily available when you want to look up something.

Please only use this machine according to its intended use.

We cannot be held liable for persons or material damages which are caused by using the machine other than the intended use, handling which does not comply with the common use of a CNC machine or if safety regulations are not obeyed

In case of improper maintenance **(refer to page 28)** and/or wrong operation of the individual components your warranty claims are omitted.

We reserve the right to perform future technical enhancements on the machine and its components.

General Instructions:

These operating instructions explain the Onefinity and the correct handling of the CNC system. Please read these operating instructions and accompanying documents in their entirety before commissioning of the system in order to become familiar with the characteristics and the operation of the product. The improper operation of the CNC gantry milling system can lead to damage to the product and property and can cause serious injuries, electric shock and / or fire. It is imperative to adhere to the safety instructions listed in these operating instructions at all times. Should you have any questions or concerns prior to initial use of the CNC system or the need for further information, do not hesitate to contact us prior to the commissioning of the CNC system.

Safety Instructions and Protective Measures:
(General Safety Warnings for the Use of Power Tools)

Work Area Safety

NOTICE: Keep work area clean and well lit. Cluttered or dark areas invite accidents.

Caution: Do not operate the power tool in explosive atmospheres, such as in the presence of flammable liquids, gases or dust. Power tools create sparks which may ignite the dust or fumes.

NOTICE: Keep children and bystanders at a distance while operating a power tool. Distractions can cause you to lose control and can result in accidents.

Caution: Operate the Onefinity only in interior spaces on a solid, horizontal table or workbench.

Electrical Safety:

Warning: Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with grounded power tools. Unmodified plugs and matching outlets will reduce the risk of electric defects and malfunctions.

Warning: Do not expose power tools to moisture. The power tool is only suitable for indoor use. Water entering a laser tool will increase the risk of electric shocks.

Personal Safety:

Caution: Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired and/or under the influence of drugs, alcohol or medication. A moment of inattention while operating a power tool may result in serious personal injury.

NOTICE : All persons who operate the power tool must have read and fully understood all relevant safety and operating instructions. Misunderstanding may result in personal injury.

Caution: Use personal protective equipment. Always wear eye protection. Protective equipment, such as a suitable dust mask or ear protection, reduces the risk of injuries.

NOTICE: Dress properly. Do not wear loose clothing or jewelry. Pin your hair above your shoulders so that it cannot get caught in the Ball Screws and linear guides or moving parts.

Caution: This tool is controlled by a computer. During operation, it cannot be controlled directly. Lack of caution or expertise as well as program errors can lead to unexpected movements.

Caution: Do not touch the insertion tools or motors as they can heat up significantly during operation.

Caution: Never place any parts of the tool or accessories in the mouth as this can lead to serious injuries.

Protective Measures:

The Onefinity has been constructed for advanced users and is only to be operated by technically skilled persons above the age of 16. The CNC gantry milling system as well as associated tools, small parts and electrical components are to be stored outside the reach of children. The operator is solely responsible for understanding and reading the machine user guide and all relevant operating instructions in their entirety. These documents should always be storage in immediate vicinity of the machine. The manufacturer`s instructions concerning the CNC machine and the tools, such as the milling spindle, are to be adhered to. The CNC gantry milling system is only to be used in a technically perfect condition which is to be ensured prior to each operation. The emergency switch as well as, if applicable, additional safety devices, always need to be easily accessible and fully functional. The use of liquids with the machine, such as the application of a coolant pump, is prohibited as it can damage the electronics. The use of lubrication systems is allowed. Please take into consideration that in this case the MDF machine table is not used as its MDF panels can swell and, thus, be destroyed.

Use of the Power Tool:

Caution: Do not alter or misuse the tool. Any alteration or modification is a misuse and may result in serious personal injury.

Caution: Disconnect the plug from the power source before you make any adjustments, change accessories, or store the tool. Such preventative safety measures reduce the risk of starting the power tool accidentally.

Caution: Store idle power tools out of the reach of children and do not allow persons unfamiliar with the laser tool or these instructions to operate the power tool. Power tools are dangerous in the hands of untrained users.

NOTICE: Use the power tools, accessories etc. in accordance with these instructions, taking into account the working conditions and the work to be performed. Use of the power tool for operations different from those intended could result in a hazardous situation with high probability of superficial injury.

NOTICE: Do not reach into the area of the rotating insertion tools. The proximity of the rotating tools to your hand may not always be obvious.

NOTICE: Never use dull or damaged insertion tools. Sharp bits must be handled with care. Damaged bits can snap during use. Dull bits require more force to cut the tool, possibly causing the bit to break.

NOTICE: The speed and feed of the bit when carving, routing or cutting is very important. Always observe the recommended speed and feed for the particular bit.

Caution: If the workpiece or bit becomes jammed or bogged down, turn the power tool "OFF" by the switch. Wait for all moving parts to stop and unplug the tool, then free the jammed material. If the switch to the tool is left "ON", the tool could restart unexpectedly causing serious personal injury.

NOTICE: Do not leave a running tool unattended, turn power off. Only when tool comes to a complete stop and is disconnected from the mains it is safe.

Caution: Do not touch the bit or collet after use. After usage bit and collet are too hot to be touched with bare hands.

NOTICE: Do not allow familiarity gained from frequent use become commonplace. Always remember that a careless fraction of a second is sufficient to inflict severe injury.

Caution: When using the end mills, V-bits or cutters, always have the workpiece securely clamped. Never attempt to hold the workpiece with your hands while using any accessories. These tools can jam easily in the material, and can kickback, causing loss of control resulting in serious injury.

Care of the Power Tool:

NOTICE: Maintain the tools. Check for misalignment or binding of moving parts, breakage of parts and any other conditions that may affect the power tool's operation. If damaged, have the power tool repaired before use. Many accidents are caused by poorly maintained power tools.

Additional Safety Instructions

Caution: Depending on the application field of the machine (private or commercial), observe the applicable occupational safety and health, safety and accident prevention and environmental regulations.

Caution: Some dust created by cutting, milling or other construction activities contains chemicals known to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are: Lead from nonferrous metals with lead content, carbonate from carbon fiber, arsenic and chromium from chemically treated lumber. Your risk from exposures to these varies, depending on how often you perform this type of work. To reduce your exposure to these chemicals, work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

Safely dispose of milling debris — recycle or safely dispose of milling debris and dust, keeping in mind flammability, (potential) spontaneous combustion, and chemical considerations. Even natural materials can have surprising implications for disposing of them, *e.g.*, walnut wood dust is aleopathic (inhibits plant growth) and an irritant to the skin and breathing tract and potentially poisonous to some animals in addition to the typical spontaneous combustion hazard which sawdust poses.

Personal Protective Equipment:

When working with the CNC gantry system, the operator has to wear at least the following personal protective equipment and has to be compliant with the below-mentioned safety aspects: - Safety googles for protecting the eyes against flying chips etc. - Ear protection for protecting the ears against sound and noise. - No wearing of clothes which can get caught in the machine, such as ties, scarves, wide sleeves etc. Additionally, jewelry and especially long necklaces and rings are to be dispensed with. - Shoulder-length or longer hair is to be secured with a hairnet or a hat to prevent it from getting caught in the linear guides and / or rotating tools. Prior to all adjustments to the machine, its control or system-guided tools, such as the Milling Motor, the Drag Knife or the Hot Wire Cutter, the plug is to be disconnected from the power source. Never hold the workpiece to be processed with your hands. It is mandatory that the workpiece is securely fixed on the machine table. Otherwise there exists a high risk of injuries!

Emergency Stop Switch :

The emergency stop is located on the top of the Controller housing. In order to be able to intervene at all times, the emergency stop has to be positioned in a suitable place.

By pressing the emergency stop switch, the emergency stop is triggered. The control is interrupted. Additionally, the control software receives the signal to stop the operating process. The machine stops immediately.

ATTENTION! The emergency stop switch can only effect the stop of all components if these components are electronically connected with the emergency stop switch.

If you want to use a system-guided tool, such as a milling and drilling motor, that features a separate ON / OFF switch and that is NOT controlled via the PC, you have to make sure that it is expertly connected with the emergency stop switch. If you do not comply with these requirements, the system-guided tool will continue to run although you have activated the emergency stop switch leading to a high risk of personal injury and damage to property! If you have any questions, please do not hesitate to contact us!

Residual Risk:

Despite all safety precautions against the contact with rotating or hot tools and the protection from crushes, a residual risk remains due to a careless handling and automatic movements of the CNC system.

Symbol	Name	Explanation
	Symbol: Read manual	Alerts user to read manual BEFORE first commissioning
	Symbol: Wear ear protection	Alerts user to wear a hearing protector
	Symbol: Wear safety glasses	Alerts user to wear protective glasses
	General warning symbol	Alerts user to warning messages

Read the following carefully before operating the machine.

1. Keep the working area clean and ensure adequate lighting is available.
2. Do not wear loose clothing, gloves, bracelets, necklaces or ornaments.
3. Do wear face, eye, respiratory and body protection devices as indicated for the operation or environment.
4. Ensure that the power is disconnected from the machine before tools are serviced or any attachment is to be fitted or removed.
5. Never leave the machine with the power on.
6. Do not use dull, gummy or cracked cutting tools.
7. Ensure that the keys and adjusting wrenches have been removed and all the nuts and bolts are secured.
8. Hearing protection — ear plugs or muffs, for long jobs doubling up on ear plugs or muffs may be desirable. Hearing damage is cumulative and irreversible, so one should err on the side of caution
9. Use care when handling endmills, both to avoid being cut, and to avoid damaging them. Handling them with suitable gloves, or using a cloth to avoid contaminating them is recommended. Inspect them carefully before each use and ensure that they are securely held by the collet.
10. Never leave the machine running unattended/unsupervised.
11. Always inform someone before operating the machine and check in with them after successfully completing work.

Workspace:

The workspace needs to provide enough space around the Onefinity CNC for the machine to work comfortably and to be able to fully use its traveling paths. Additionally, a safe distance to possibly nearby positioned machines is to be maintained. The location of the machine as well as the workplace surrounding the machine has to be sufficiently illuminated.

As with all machinery, there are certain hazards involved with the operation and use of your machine. Using it with caution will considerably lessen the possibility of personal injury. However, if normal safety precautions are overlooked or ignored, personal injury to the operator may result. If you have any questions relating to the installation and operation, do not use the equipment until you have contacted your supplying distributor.

Description

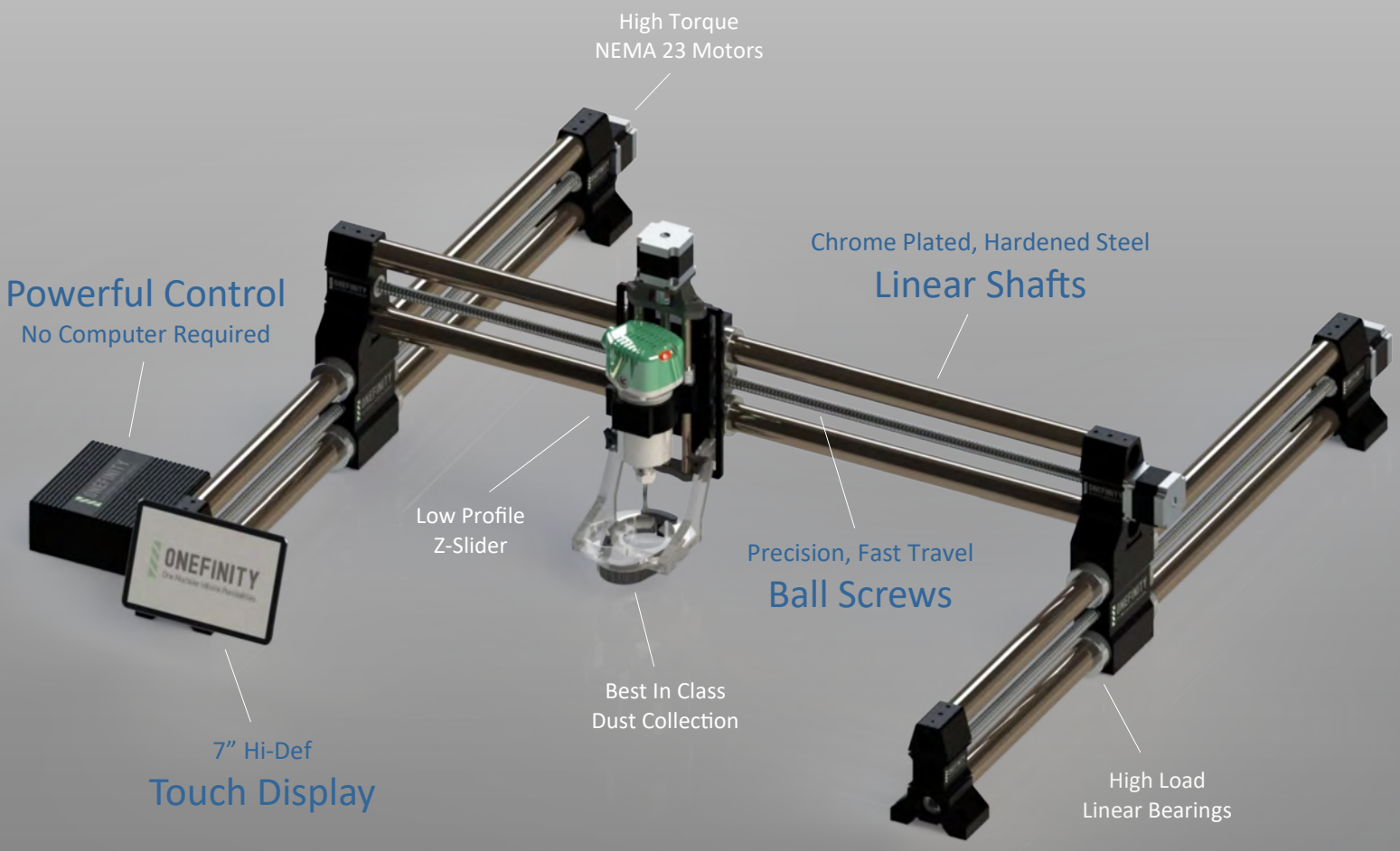
The Onefinity is a multifunctional CNC gantry milling system for the permanent and regular processing of wood, plastics and non-ferrous metals.

Thanks to the innovative design, how and where you carve is limitless! Feel like carving an intricate inlay into your dining table, no problem? Have a small shop where space is limited, Onefinity has been design to be quickly dismantled and stored!

With Fast Travel Precision Ball Screws, gone are the stretchy belts and high maintenance Lead Screws found on similarly priced machines. Hardened Steel Hollow Linear Motion Shafts means no more plastic wheels that require frequent adjustment and a powerful CNC controller with built in CAM software and 7" HD Touch Display allows for operation without a computer!

The machine has three axes which are offset by 90°. This way, it is possible to travel to any point within the working space. Each axis is equipped with up to two stepper motors and stall homing. The stepper motors drive the movable axes elements via precision ball screws. The position of the axis is determined during the reference run (homing cycles), at the beginning of the job, with the aid of the stall homing. The machine table may consist of any solid flat surface big enough to mount the Rails and Controller. The Onefinity consists of the following, sometimes optional, components: - Onefinity Woodworker, Machinist; - electronic control unit in a separate aluminum housing, Z-Slider, Wire harness and Hardware.

Anatomy of the Onefinity



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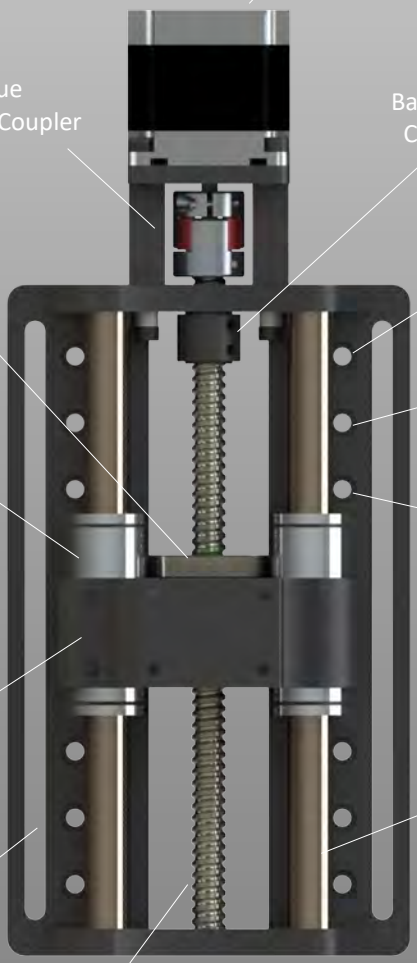
Anatomy of the Z-Slider



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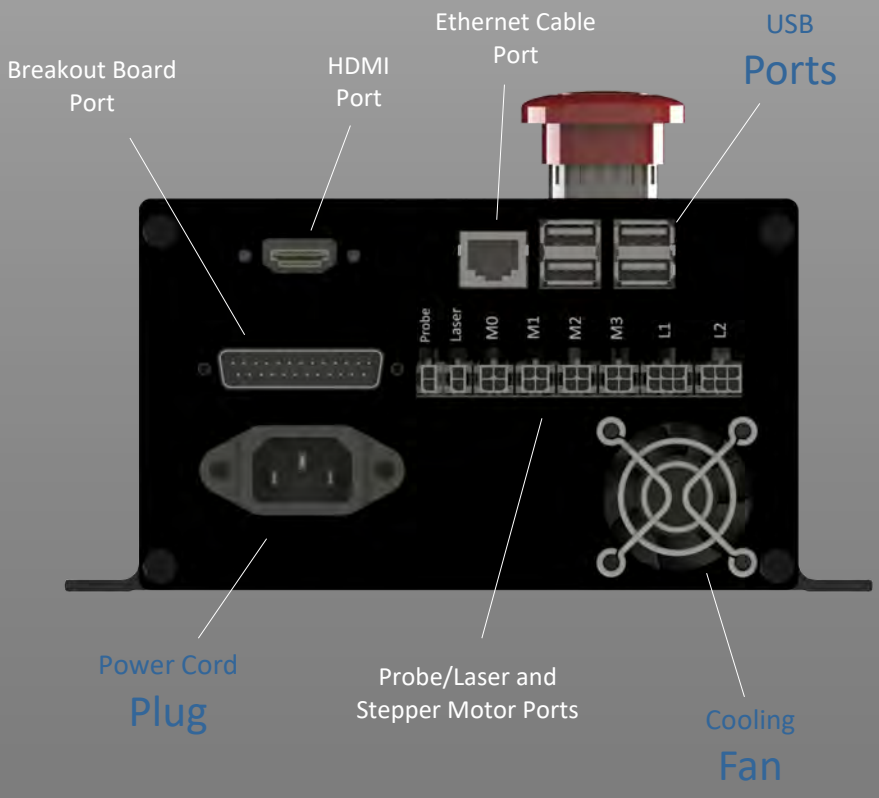
Anatomy of the Controller

Important note: The Onefinity Controller is based on the Buildbotics open sourced CNC controller. To learn all of the controllers capabilities please visit: www.buildbotics.com



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Specifications and Features

Rapid Rate:
X Axis: 500 inches/min (accel 750 km/min2)
Y Axis: 500 inches/min (accel 750 km/min2)
Z Axis: 200 inches/min (accel 750 km/min2)

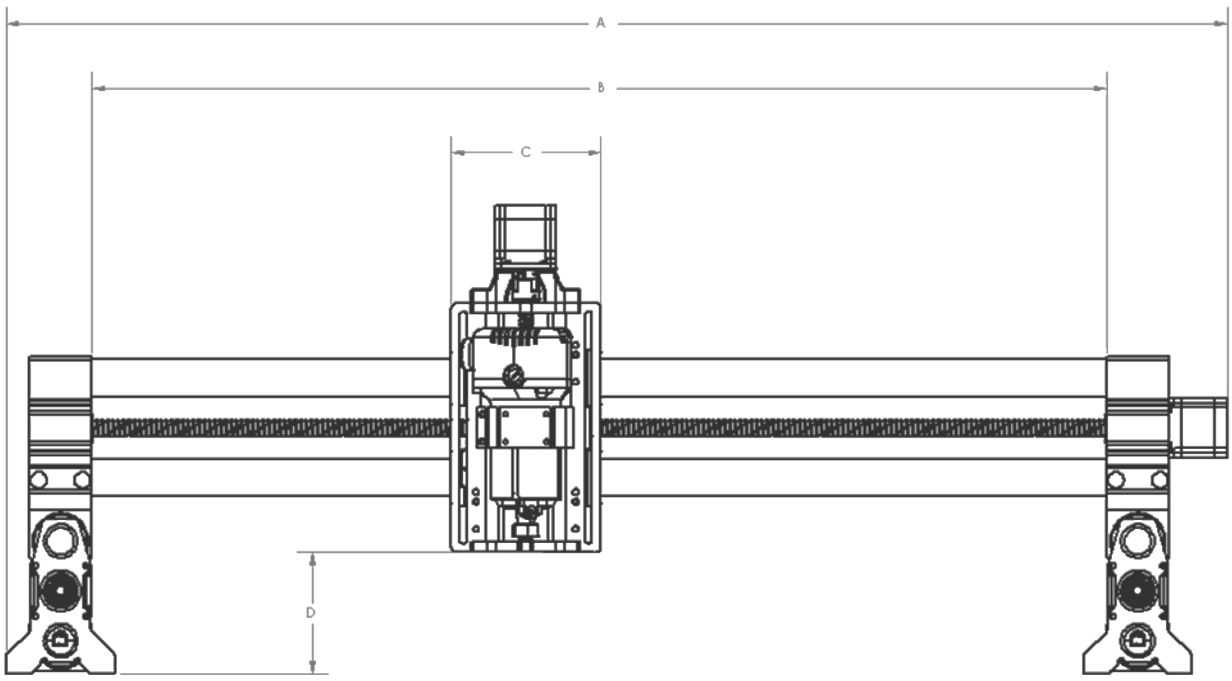
Cutting Area:
X Axis: 32- 1/4 inches
Y Axis: 32- 1/4 inches
Z Axis: 5 - 1/4 inches

Dimensions (see diagram):
A: 45 - 3/8 inches
B: 37 - 3/4 inches
C: 5 - 1/2 inches
D: Adjustable: 4 - 3/32 inches or
5 - 7/16 inches
Depth (not including display) 45 - 3/8 inches

Specifications:
16mm Ball Screws on X and Y axis
12mm Ball Screw on Z axis
Chrome plated, hardened steel linear shafts on all axis
4 motor driver channels
7 inch Hi-Def Touch Screen
Up to 256 microstepping
250k steps/second on each motor output

Feature:
Low profile Z-Slider
Fast set-up (less than an hour)
WiFi
Quick connect wiring
4 USB ports
Smooth S-curve acceleration
Control and configure from your web browser
Remote video monitoring (optional)
Wired (ENet) or wireless (WiFi) networking
2 Switched load outputs
PWM & RS485 (VFD) spindle control
3D Visualization of GCode paths
Accurate ETA and time estimates

Optional Accessories:
Suckit Dust Boot
Oops Clamps
Quick Change Waste Board Frame
Stiffy (3rd X-Rail)
Touch Probe
Laser
Vacuum Hose Boom
Joystick
Webcam



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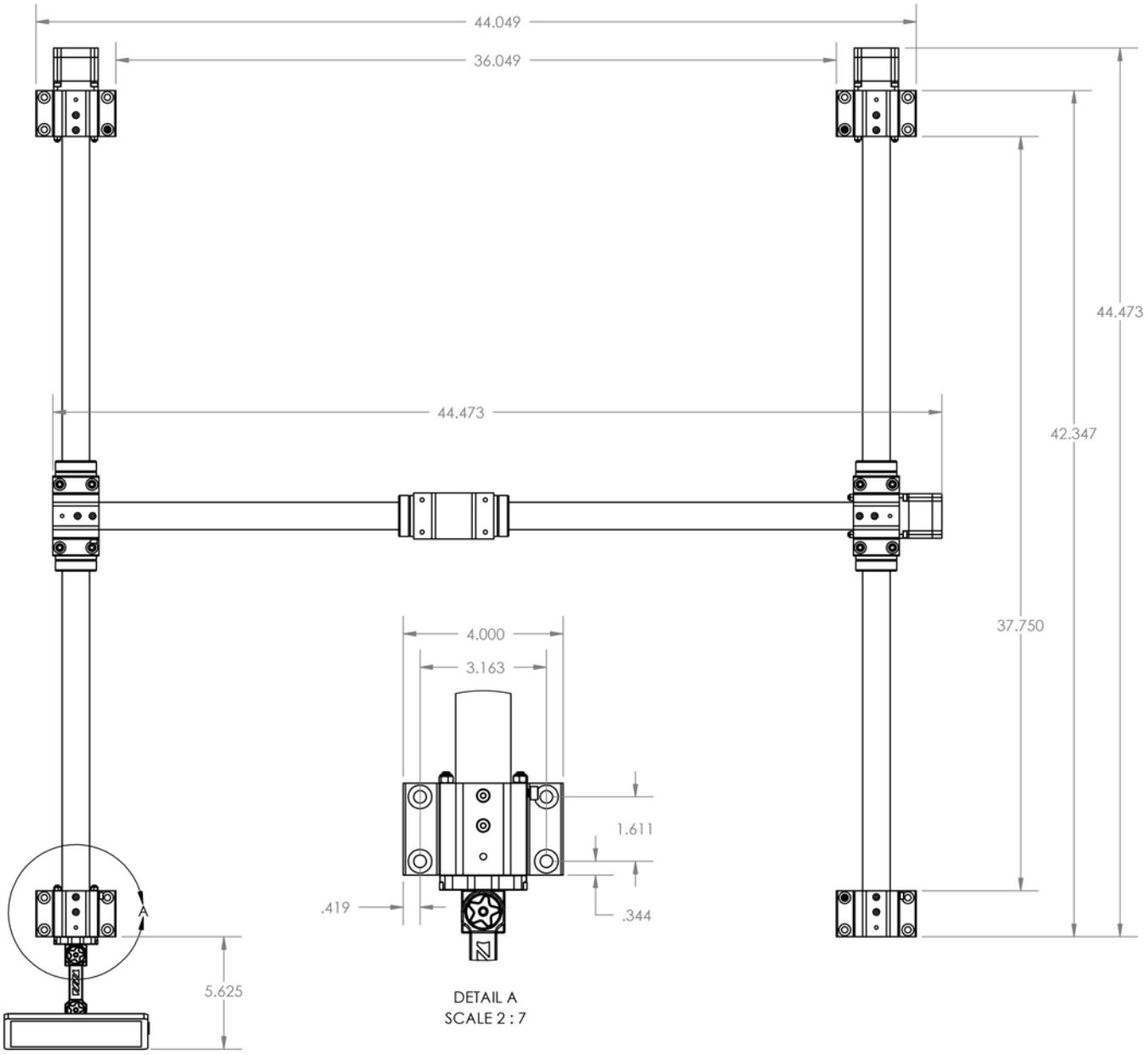
Woodworker Dimensions

General Disclaimer: While Onefinity has made every effort at the time of publication to ensure the accuracy of the information provided herein, product specifications, configurations, system/component/options availability are all subject to change without notice. Product design specifications and colours are subject to change without notice and may vary from those shown. Errors and omissions excepted. Images displayed are for illustration purposes only. The images are intended to help illustrate the product and it's functions and are not indicative of actual relative differences.



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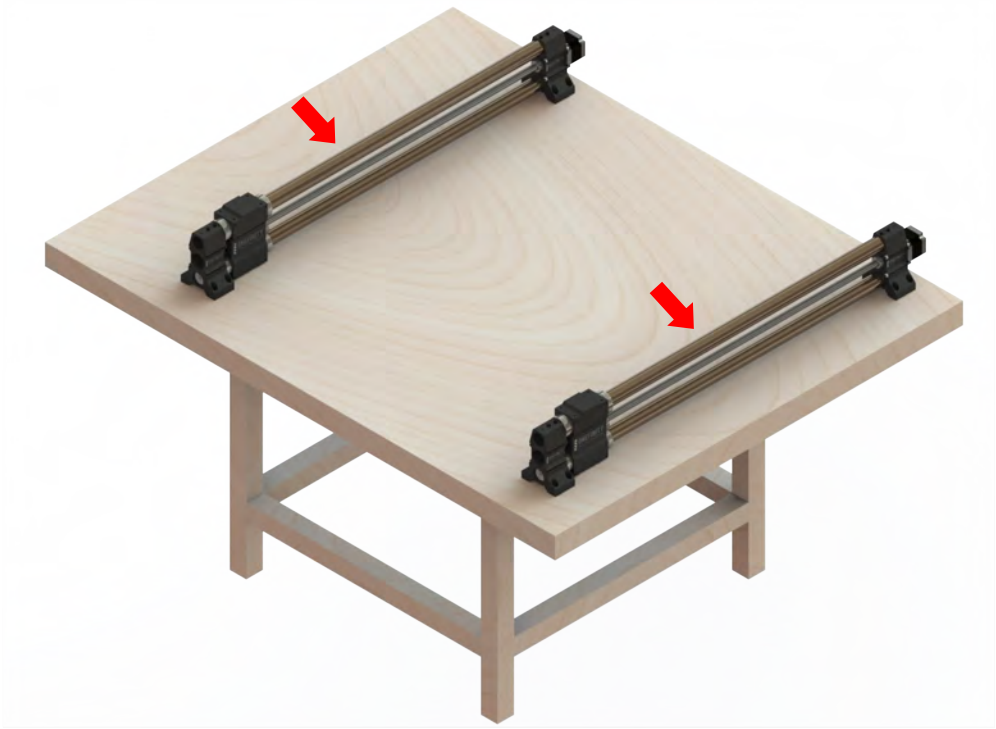
Assembly Instructions

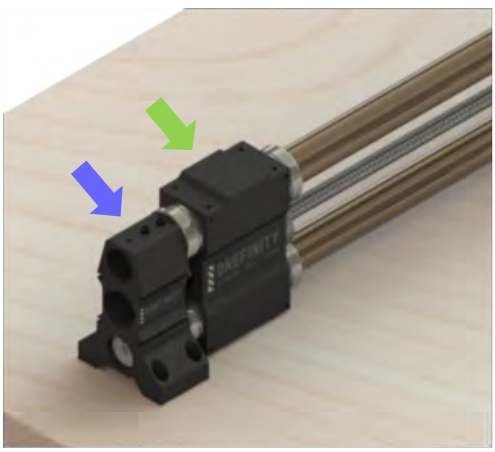
The following instructions detail how to install your Onefinity CNC Machine. Please read these entire instructions carefully. If you have any problems or do not understand these instructions please contact us at support@onefinitycnc.com or 1-888 717 4242 for further assistance.

For step-by-step instructional video's and how-to's please visit our Youtube page at: https://www.youtube.com/onefinitycnc. **Note:** It is highly recommended that you view all of our assembly videos prior to attempting to assemble your Onefinity machine.

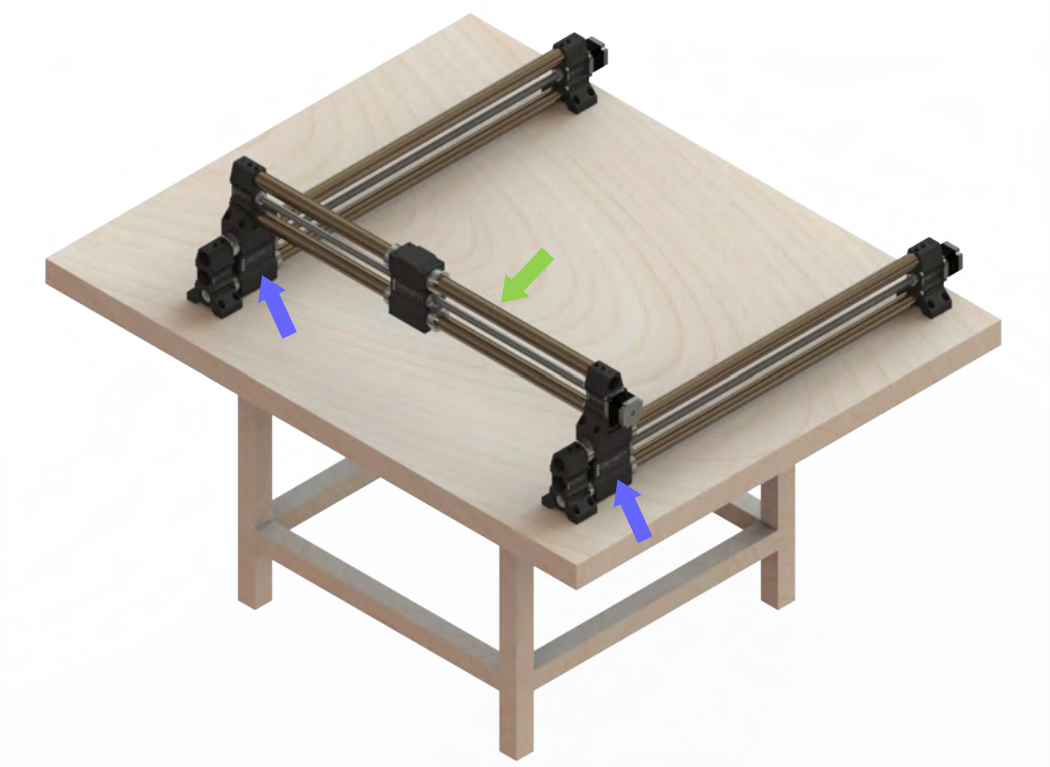
Step 1: Set Y-Rails (Red Arrows) on the bench and place them close to where you would like them to be installed. All the Rails are the same so it doesn't matter which ones you use. See below picture. **Important:** The recommended table size is 4' x 5'.



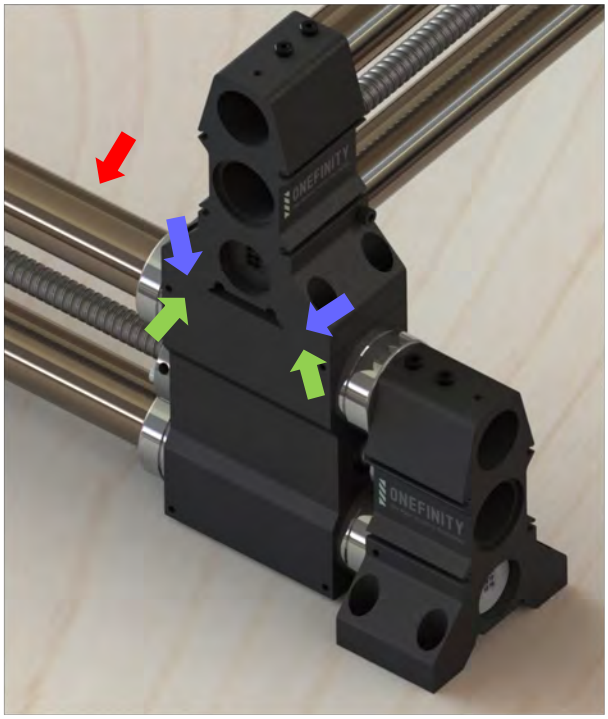
Step 2: Slide the Gantry assembly (Green Arrow) all the way to the front until it's tight to the Rail End (Blue Arrow). See below pictures. (Note: you can also turn the ball screw to get the Gantry Assembly to move to the front). **Important:** Make sure they are all the way to the front!

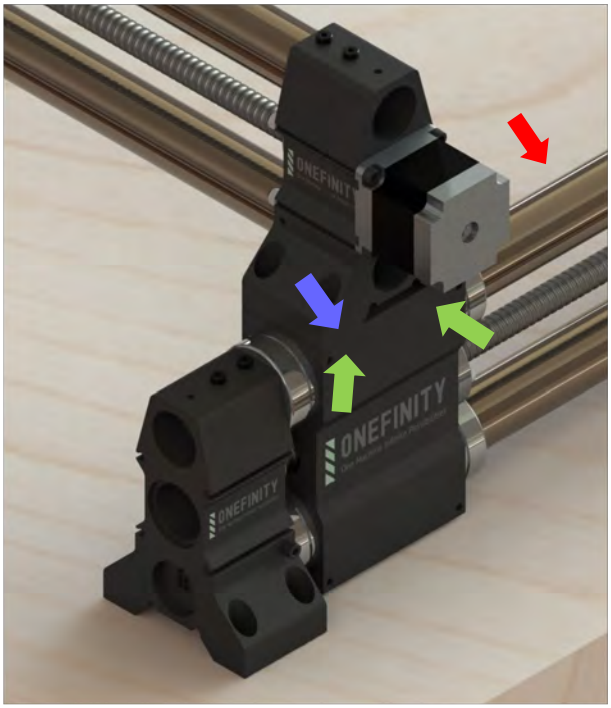


Step 3: Place the X-Rail (Green Arrow) on the Y-Rails Gantry Blocks (Blue Arrows)

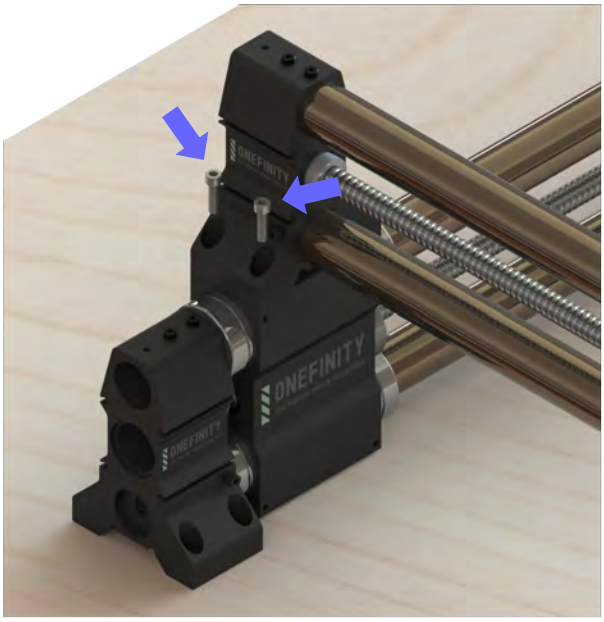


Step 4: Adjust Y-Rails (Red Arrows) until the Gantry Assemblies (Green Arrows) are flush with X-Rail Ends (Blue Arrows). **Note:** It is important that these parts are flush with each other before fastening together.

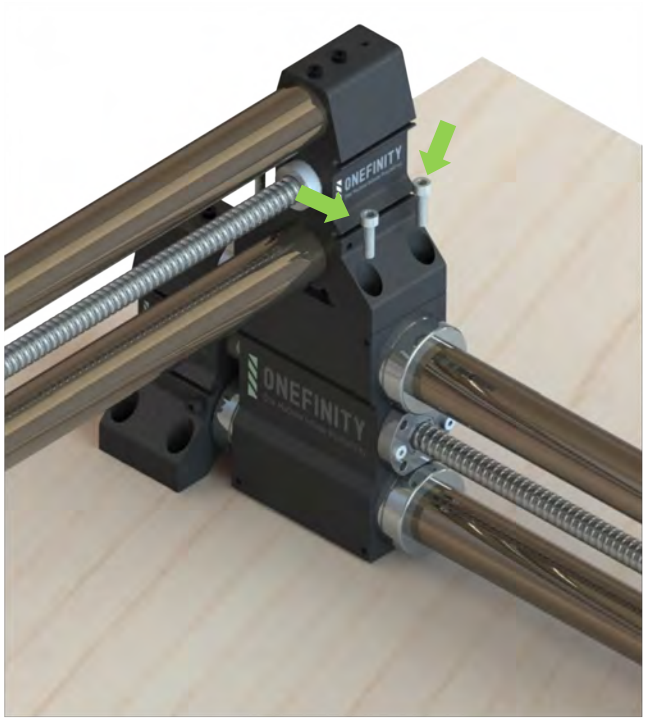




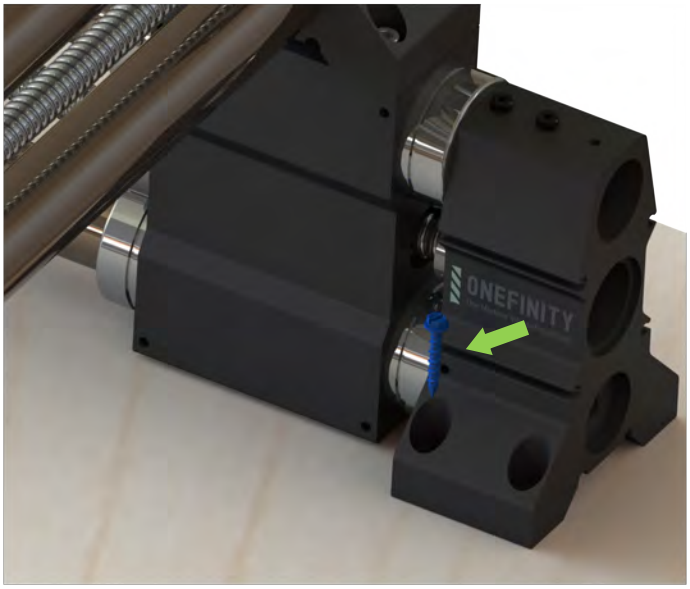
Step 5: Once you have ensured the Y-Axis Gantry Blocks and X-Axis Rails Ends are flush, fasten the front of the X-Rail to the Y-Axis using four (4) X-Rail Mounting Screws (Blue Arrows)



Step 6: Fasten the back of the X-Rail to the Y-Axis using the remaining four (4) X-Rail Mounting Screws (Green Arrows)

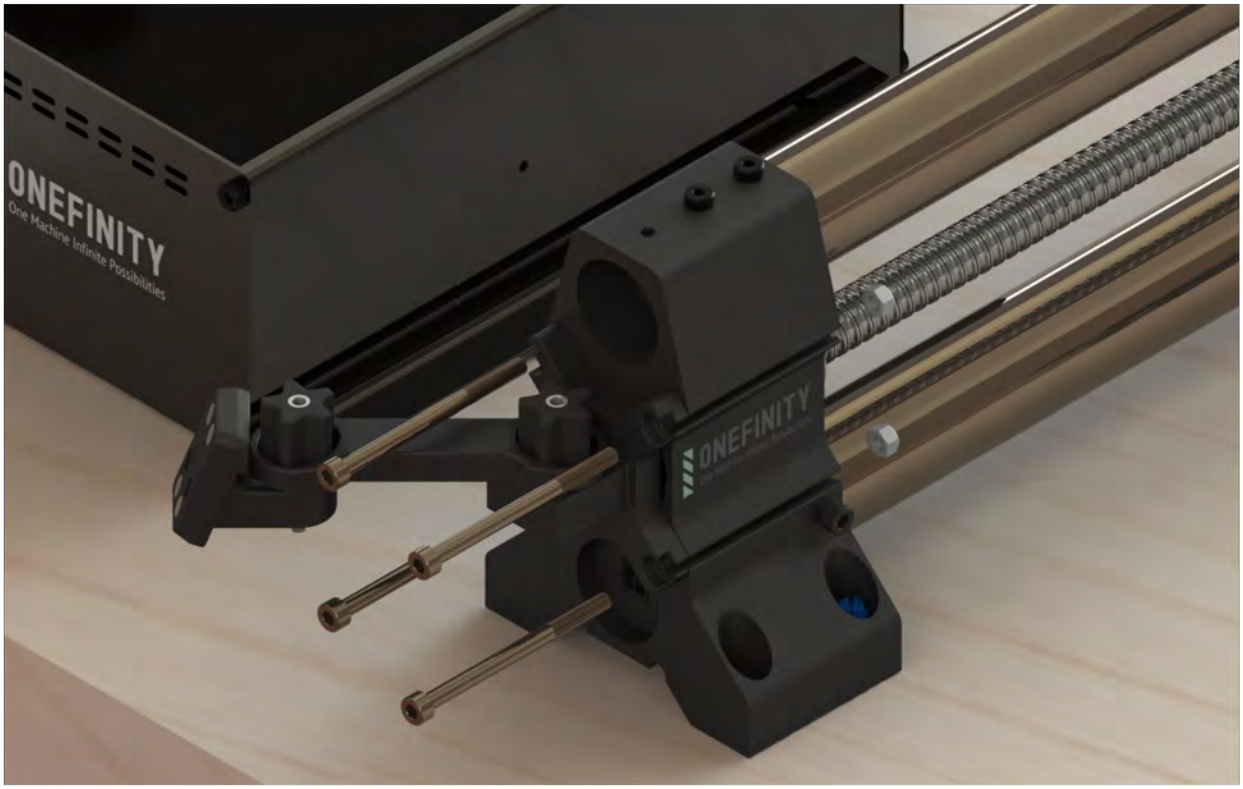


Step 7: Fasten the front of the Y-Rails to your table using only one (1) Y-Rail Mounting Screw per side (Green Arrow). You will use the remaining screws later.

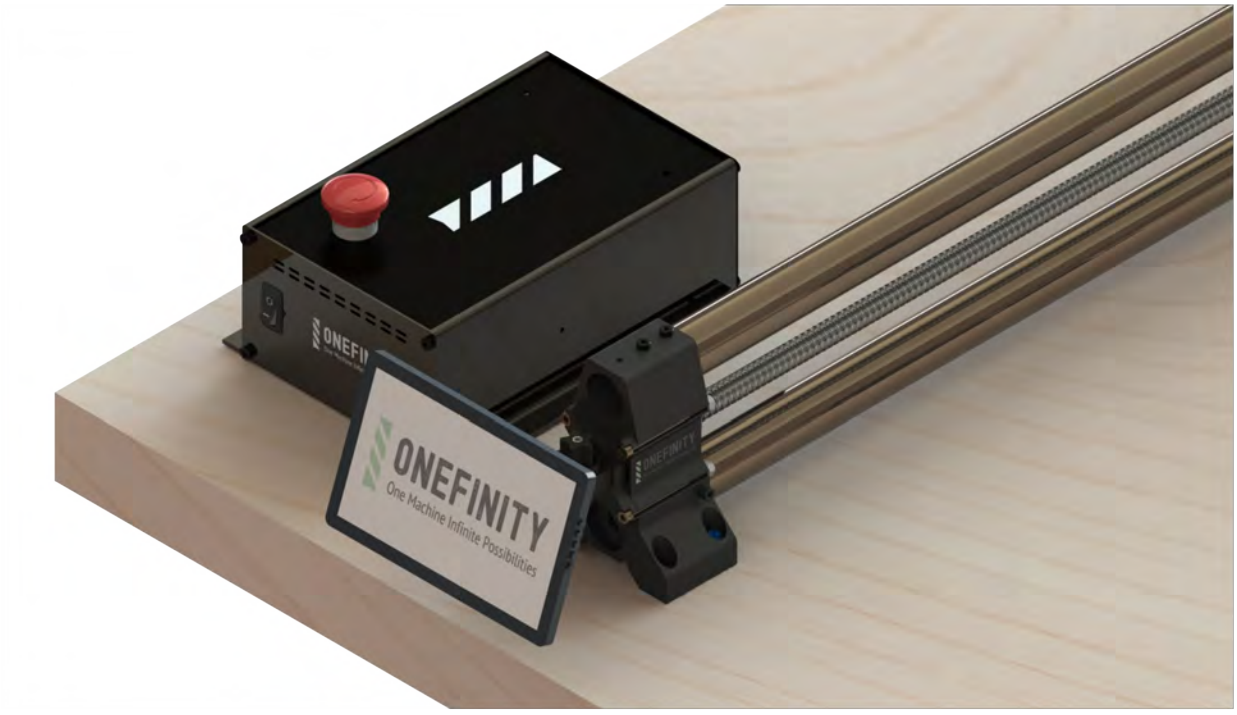


Step 8: Place the Controller beside the machine as shown below.

Step 9: Using the Display Mounting Hardware, mount the Display Mount to the front of the Rail End closest to the Controller.



Step 10: Attach Display to Display Mount.

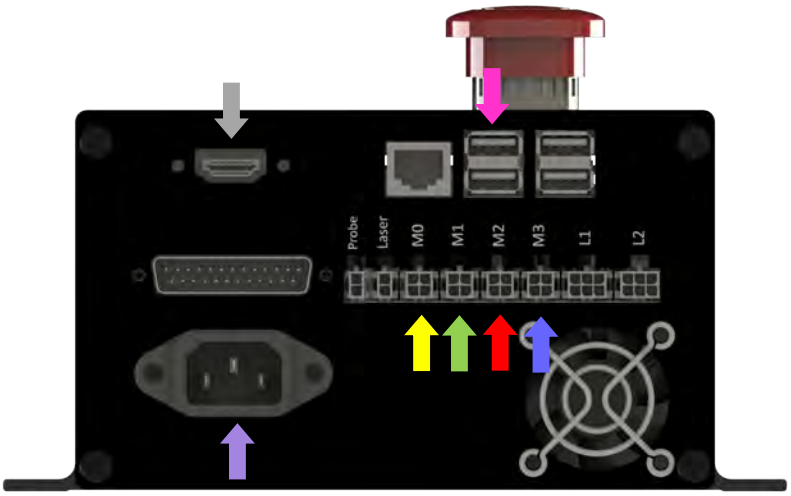


Assembly Instructions (Wiring)

Step 11: It's now time to wire up your machine. We'll start with the Y-Axis's. Plug connector labelled **M1** into the controller port labelled **M1** (Green Arrow). Plug connector labelled **Y1** into the front of the right Y-Rail (Green Arrow). Plug connector labelled **M2** into the controller port labelled **M2** (Red Arrow). Plug connector labelled **Y2** into the front of the left Y-Rail (Red Arrow).

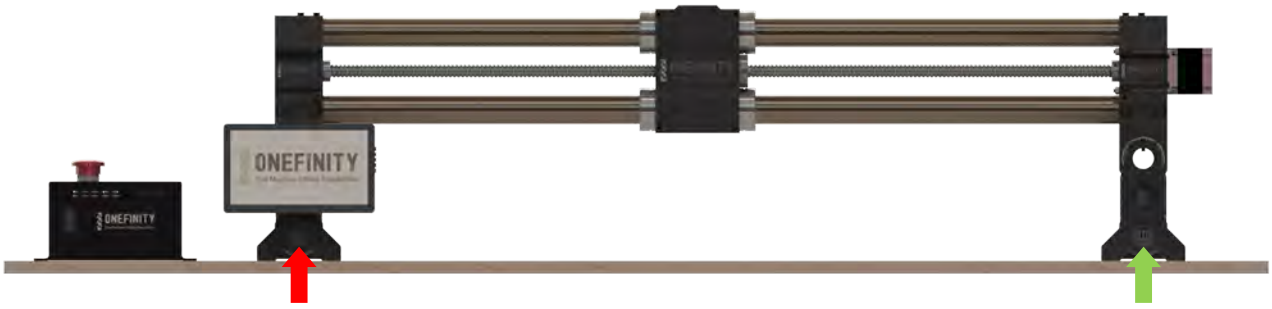
Connect the X-Rail by plugging connector labelled **MO** into the controller port labelled **MO** (Yellow Arrow). Plug connector labelled **X** into the side of the X-Rail (Yellow Arrow). Connect the Z-Axis by Plugging connector labelled **M3** into the controller port labelled **M3** (Blue Arrow). Plug connector labelled **Z** into the side of the X-Rail (Blue Arrow).

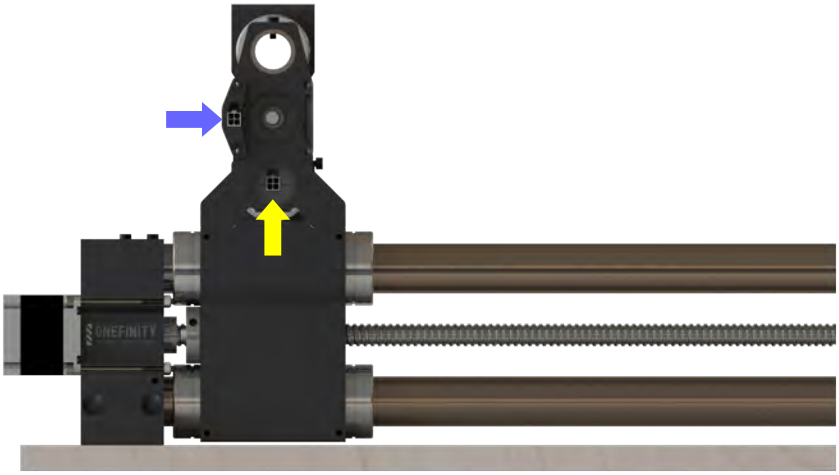
Please note: The small M connectors that plug into the back of the controller can be difficult to plug in. You may need to twist and wiggle them while pushing them in.

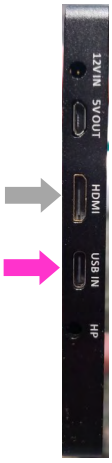


Plug one end of the power connector into the controller (Purple Arrow) and the other into a wall socket.

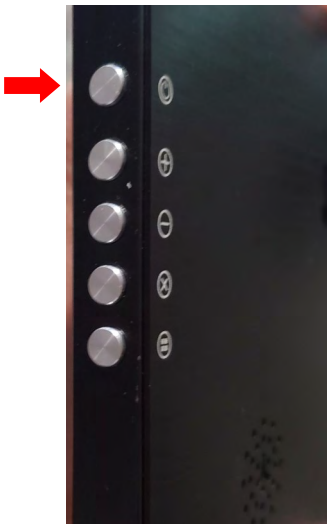
Connect the Touch Display using one of the USB ports (Pink Arrow) and the HDMI port (Grey Arrow) and connect the other ends to the Touch displays USB port (Pink Arrow) and HDMI port (Grey Arrow).



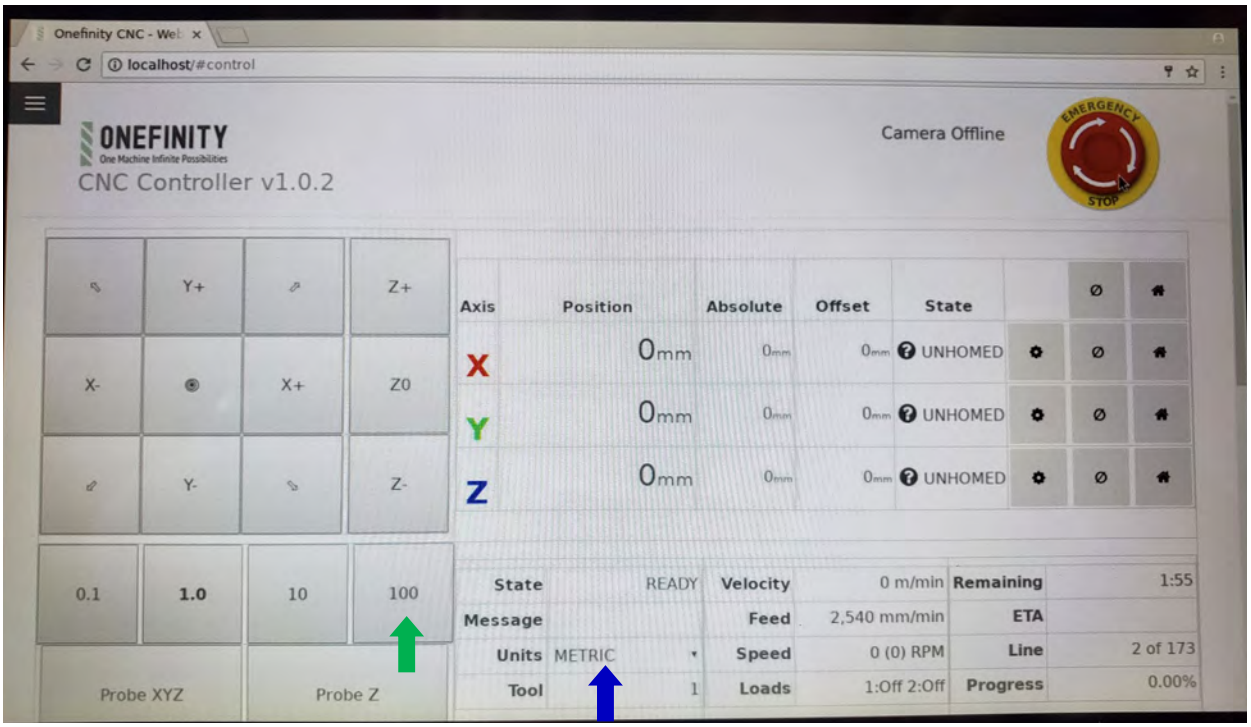




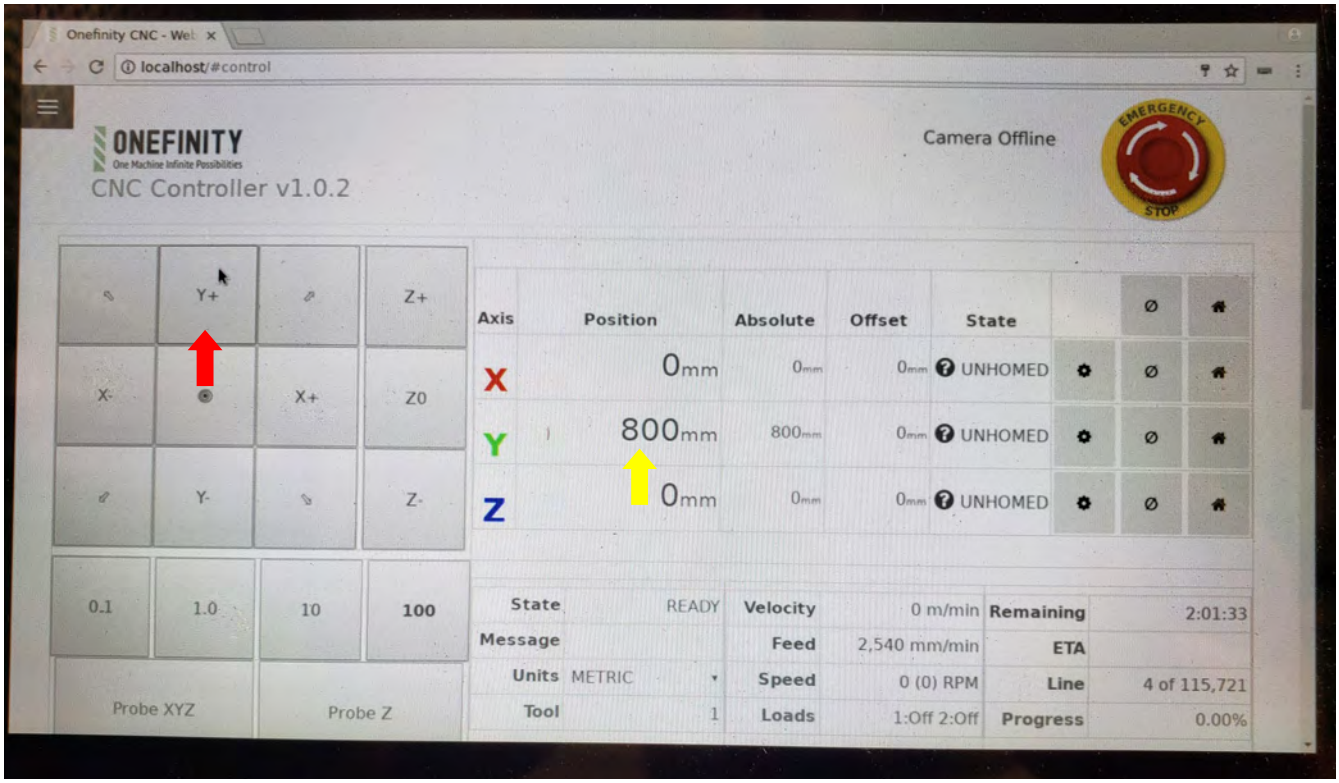
Step 12: It's now time to power up your machine. Start by twisting the Emergency Stop Button clockwise to release it to the "ON" position (Green Arrow). Next flip the switch to the ON position (Purple Arrow). Wait a few seconds for the Controller to start powering up then turn on the Touch Display by pushing the ON button (Red Arrow)



Step 13: We will now jog the Y-Axis so we can finish fastening the Y-Rails to the table. First ensure you are using metric units (Blue Arrow). If metric is not selected, tap the drop down arrow and select metric. Next, hit to 100 button (Green Arrow). This sets the Jogging distance to 100mm.

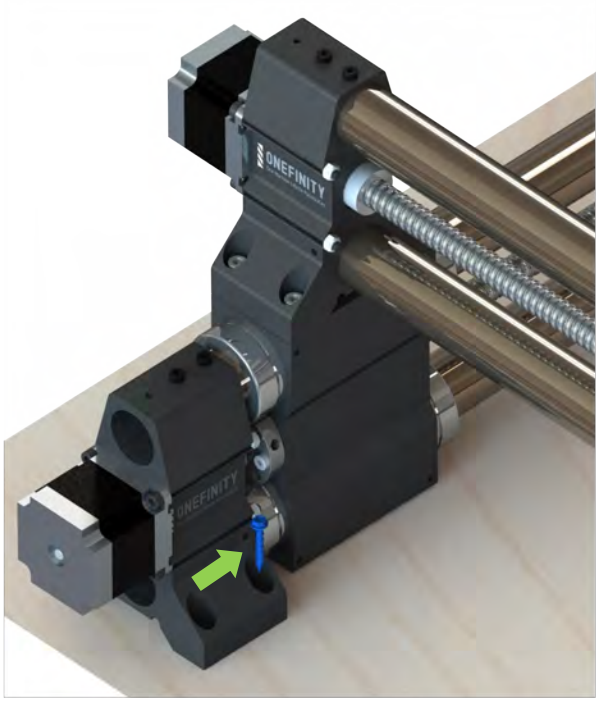


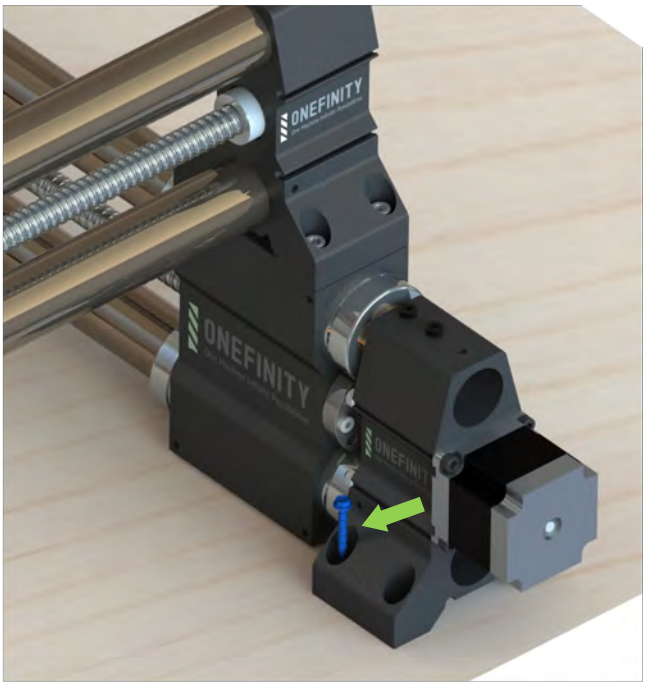
Step 14: Now Jog the Y-Axis until the X-Rail is all the way to the back of the machine. Do this by tapping the Y+ jog button (Red Arrow). Tap the Y+ button 8 times. Once you have finished jogging, your Y position should read 800mm (Yellow Arrow)



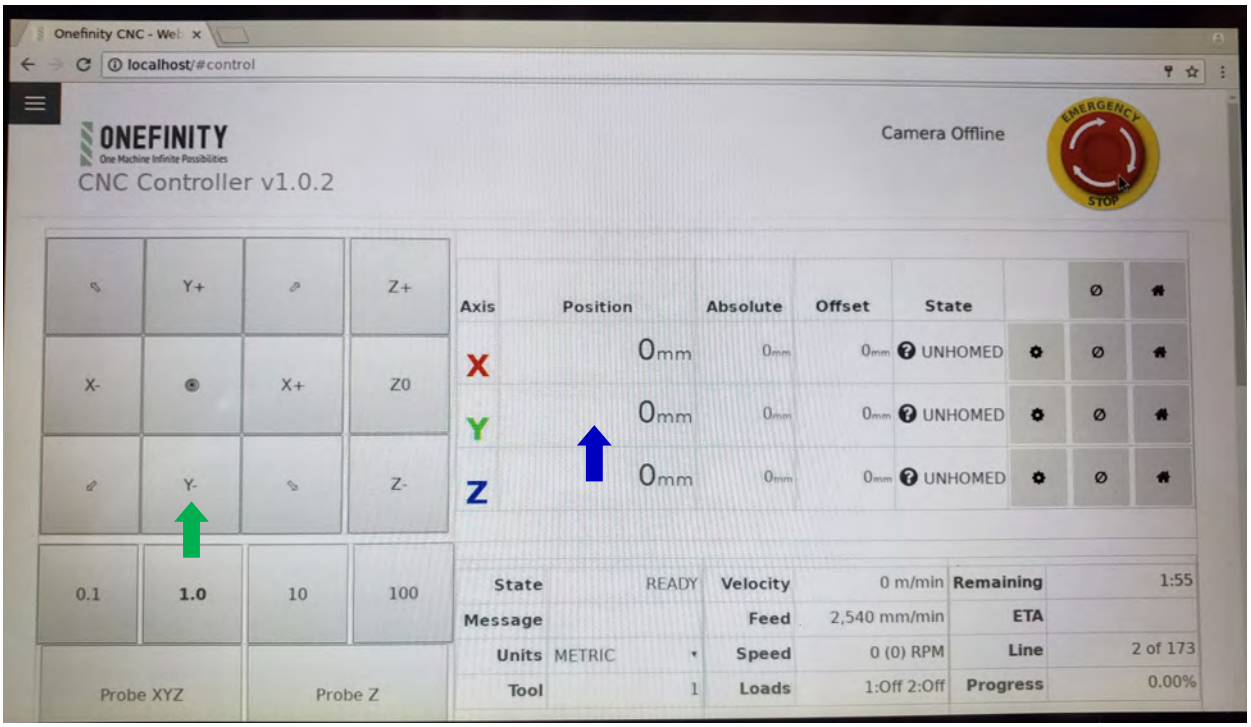
Step 15: After jogging, your machine should look like the picture below.

Step 16: After moving the X-Axis all the way to the back, fasten the back of the Y-Rails to your table using only one (1) Y-Rail Mounting Screw per side (Green Arrow).

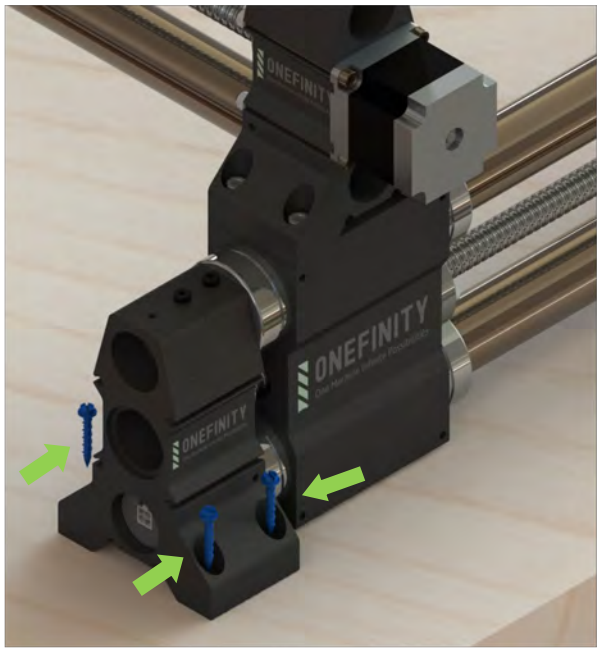




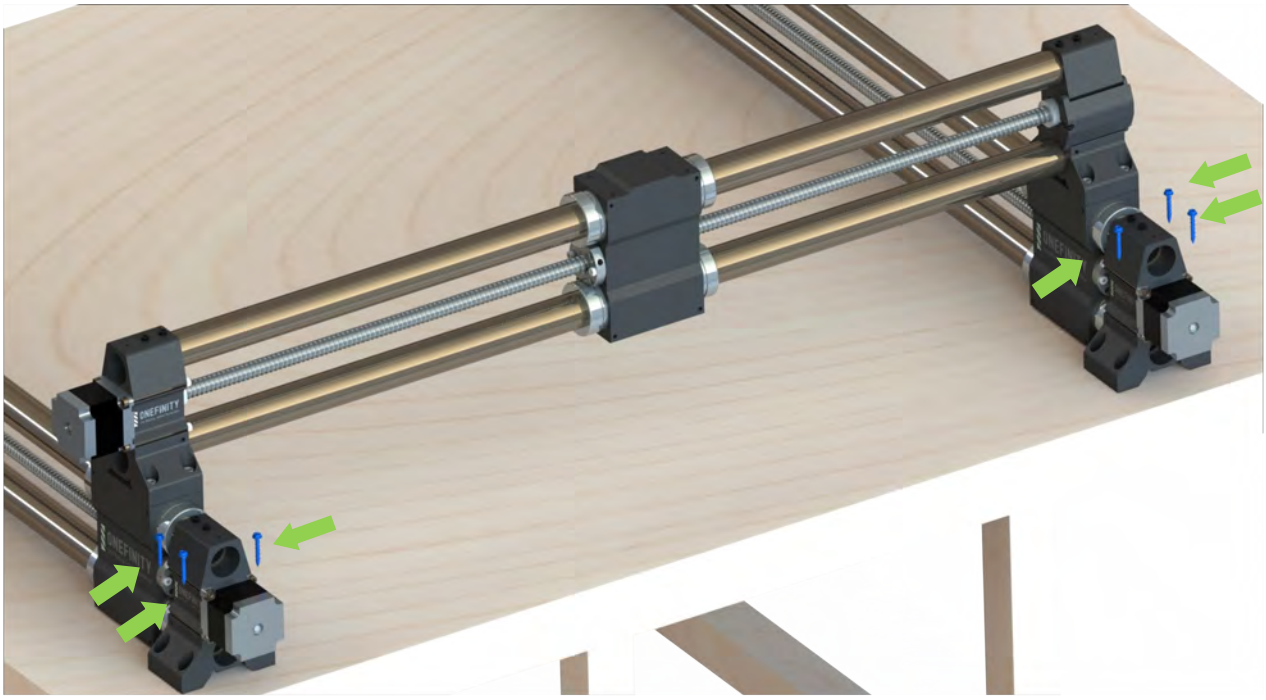
Step 17: We will now jog the Y-Axis to bring the X-Rail back to the front of the machine. Tap the Y– button (Green Arrow) 8 times. When finished the Y position should read Omm (Blue Arrow)



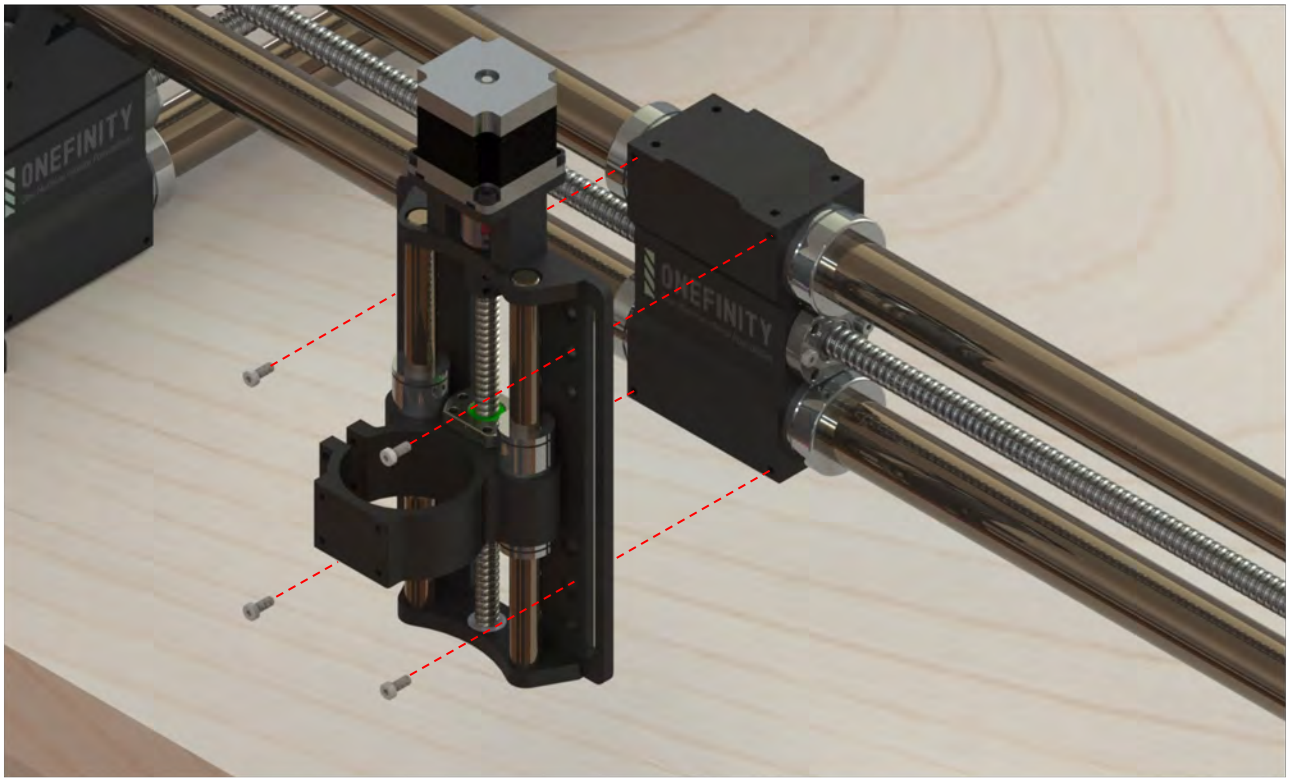
Step 18: With the X-Rail all the way to the front again, finish fastening the Y-Rails to the table using another three (3) Y-Rail Mounting screws per side (Green Arrow).



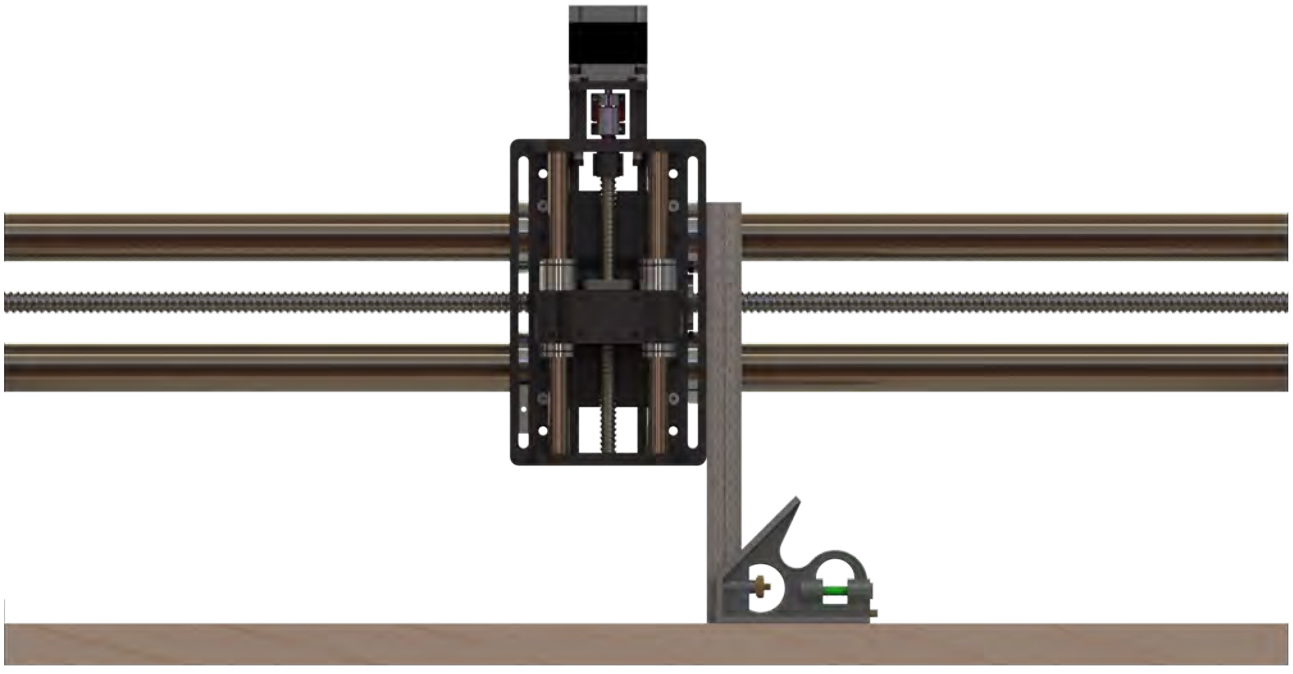
Step 19: Repeat steps 14 and 15 to jog the Y-Axis until the X-Rail is to the back of the machine again. Finish fastening the Y-Rails to the table using the remaining three (3) Y-Rail Mounting Screws per side (Green Arrows).



Step 20: Attach the Z-Slider to the X-Axis Gantry Block using the four (4) Z-Slider Mounting Screws. Do not tighten them all the way just yet, you'll do that in the next step. To gain access to the mounting holes you may need to manually turn the ball screw to raise and/or lower the spindle mount. **Note:** In the event you have the Stiffy attached, ensure you do not use the holes in the Stiffy Block to attached the Z-Slider.

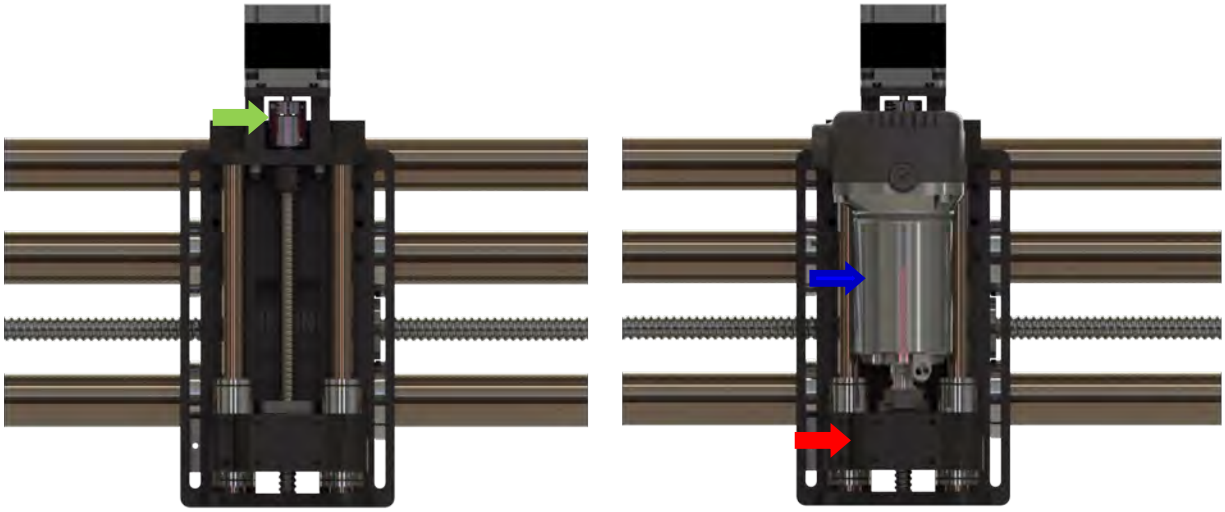


Step 21: Square the Z-Slider to your table then tighten the Z-Slider Mounting Screws. Next, plug the Z-Sliders stepper motor into the Curly Cable. **Congratulations, you have finished assembling your new Onefinity CNC Machine!**

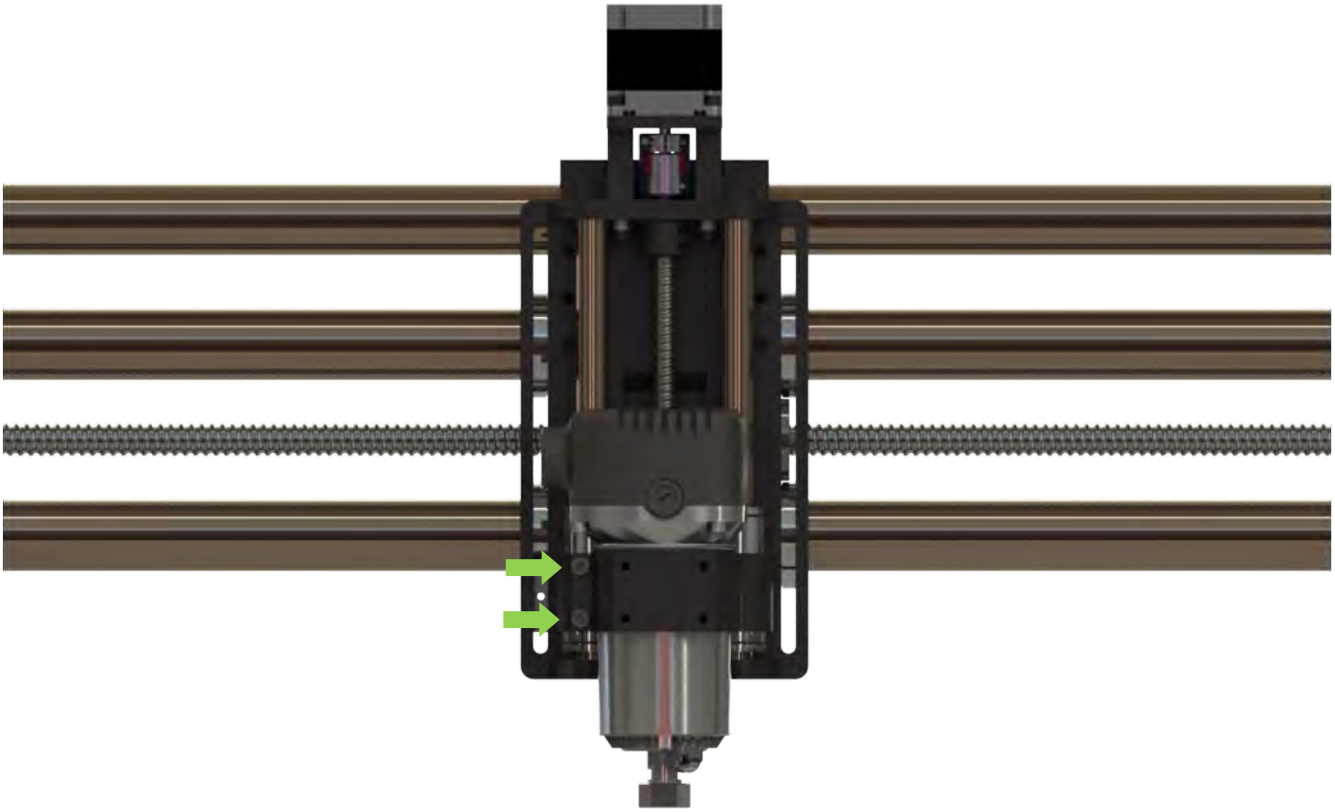


Spindle/Router Installation

Step 1: Manually lower the Spindle Mount until it's roughly 1/4" from bottoming out. Do this by rotating the Stepper Motor Coupler (Green Arrow). Insert the Router (Blue Arrow) into the Spindle Mount (Red Arrow)



Step 2: Slide the Router all the way down in the Spindle Mount. Tighten the Spindle Mount Screws (Green Arrows)



Wasteboard

A wasteboard is a disposable work surface that will be mounted atop your Onefinity's permanent table. Having a wasteboard is an important part of a CNC and makes using the Onefinity more enjoyable as leveling and workholding becomes easier. The wasteboard is typically MDF and protects the table from damage as well as being an expendable surface. From time to time your wasteboard will need to be surfaced. That means using a spoilboard cutter to clean up any gouges or cuts and make the board flat and parallel to X and Y axis travel. The unique design of the Onefinity allows you to create/use any style Wasteboard you desire.

Note: The minimum recommended wasteboard thickness is 3/4". This allows you to achieve maximum Z-Travel while still having a thick enough surface to attach/clamp your work piece. This thickness will also give you the opportunity to perform several surfacing operations before needing to be replaced.

Note: For maximum stiffness it is recommended that you build up your wasteboard to a thickness of 2-1/2"- 3". This will still give you approximately 3" of gantry clearance while reducing the moment force on the Router, Z-Slider and X-Rail parts. When building up your wasteboard to this thickness please ensure you use the Z-Sliders top mounting holes.

Maintenance

To ensure your Onefinity CNC machine lasts for many years it is important that regular maintenance be performed. For step-by-step instructional videos please visit our Youtube page at: https://www.youtube.com/onefinitycnc. **Note:** It is highly recommended that you view our maintenance video prior to performing maintenance on your Onefinity CNC.

Note: Before performing maintenance work on your Onefinity CNC machine please ensure that the Router/Spindle is unplugged. All maintenance works must only be performed by someone with knowledge and experience with the Onefinity CNC. Improper maintenance may result in damage to your machine and void your warranty.

After every carve/project:
Vacuum up all dust and chips.

After every 2-3 hours of operation:
Vacuum up all dust and chips. Use compressed air to blow off dust and debris from the Rails and Ball screws.

Every 1-4 weeks (Duration will depend on use, heavily used machines should perform this maintenance step regularly):
Apply 3 in one oil into the oil ports of the Ball Screws (Green Arrows). Jog the machine to it's X,Y and Z limits while applying oil to the oil ports in a few different locations. Wipe off any excess oil using a lint free cloth. Note: Cover your waste board with cloths or paper towels as the oil may drip.

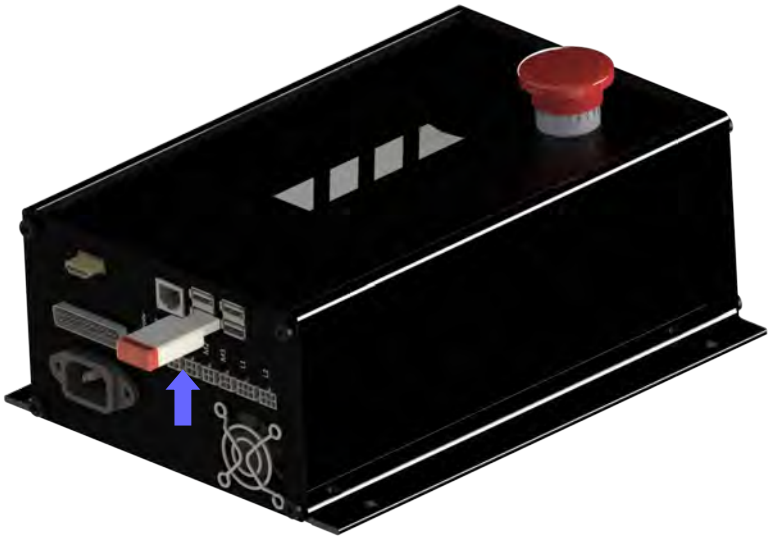
Please note: All parts of the machine and controller can be purchased individually as spare parts. Please contact us directly at info@onefinitycnc.com or call us a 1 888 717 4242 to get replacement parts. Please keep your machine data at hand when ordering spare parts.

Loading a Program

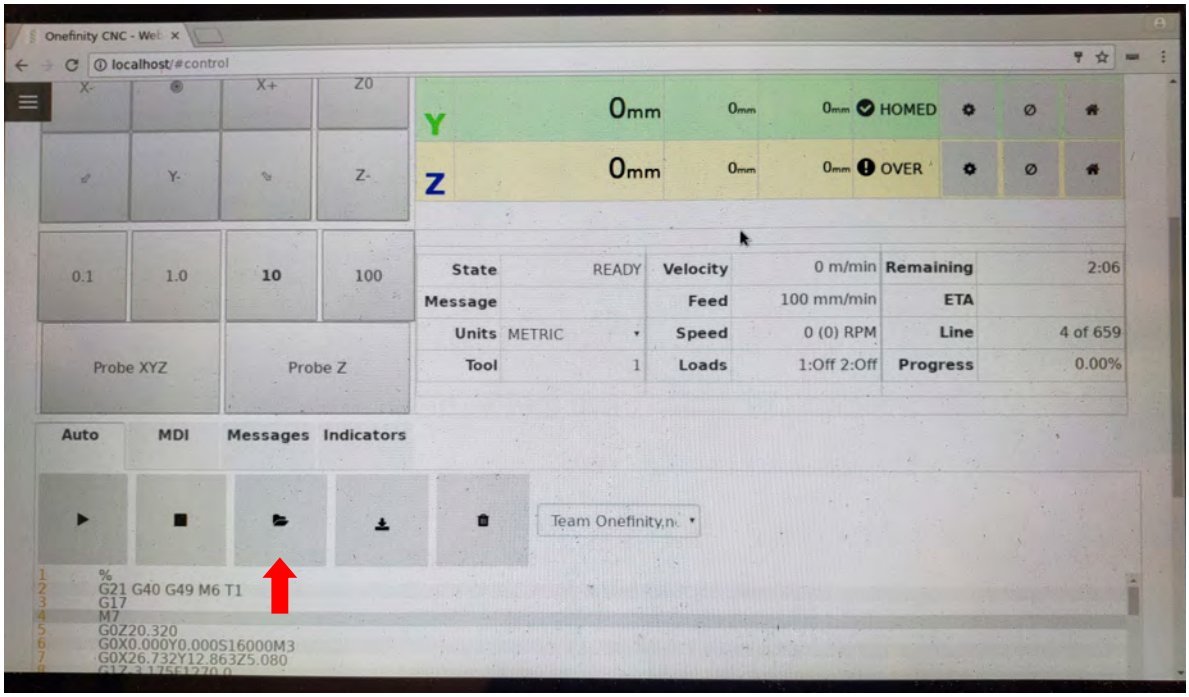
There are a couple ways to load a program into your Onefinity CNC controller. One is via WIFI and the other is via USB. To learn how to connect your Onefinity to your WIFI network please visit the Buildbotics website at www.buildbotics.com. To load a file via USB please follow the steps below.

Step 1: Load your program onto the USB drive you plan on using.

Step 2. Plug your USB stick into one of the USB slots in the back of the controller. (Blue Arrow)

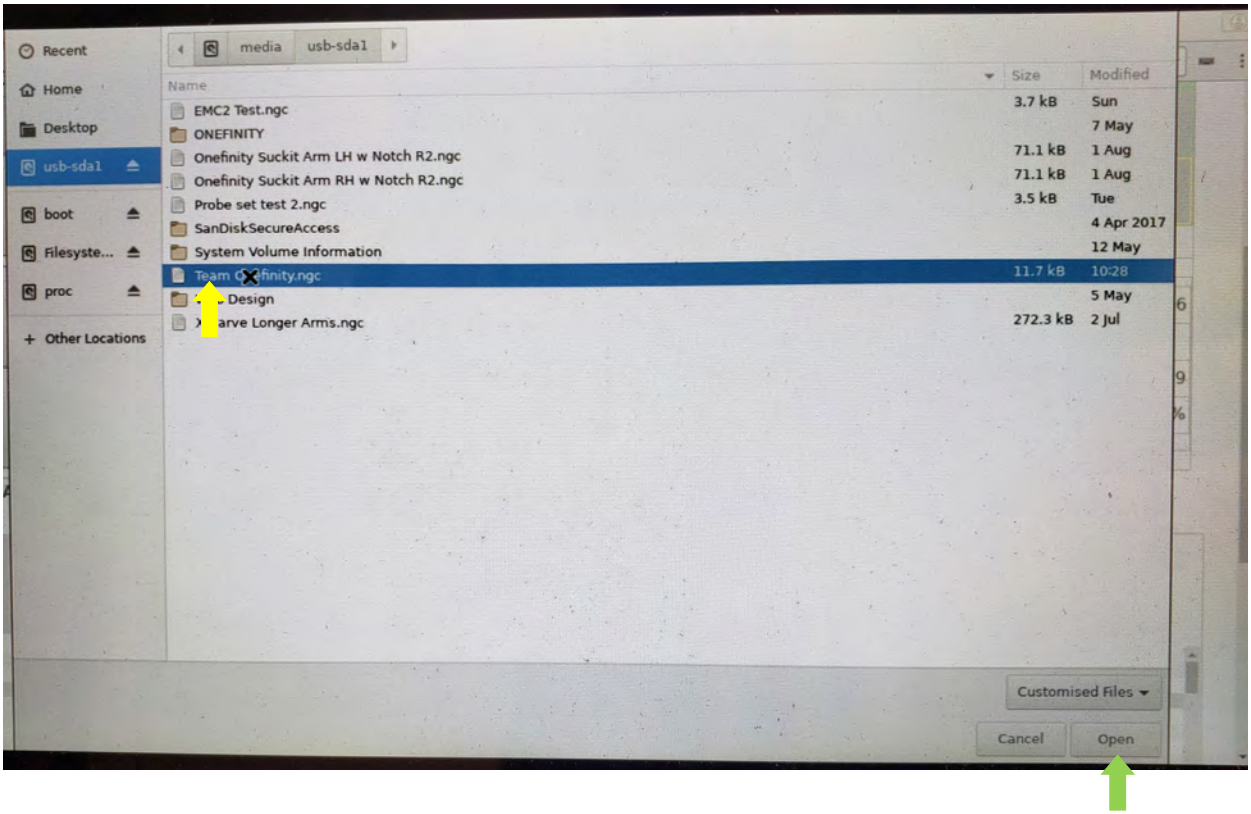


Step 3. Press the File button (Red Arrow) to open the file explorer. **Note:** it is located below the Probing buttons on the main page. You will need to scroll down to find it.

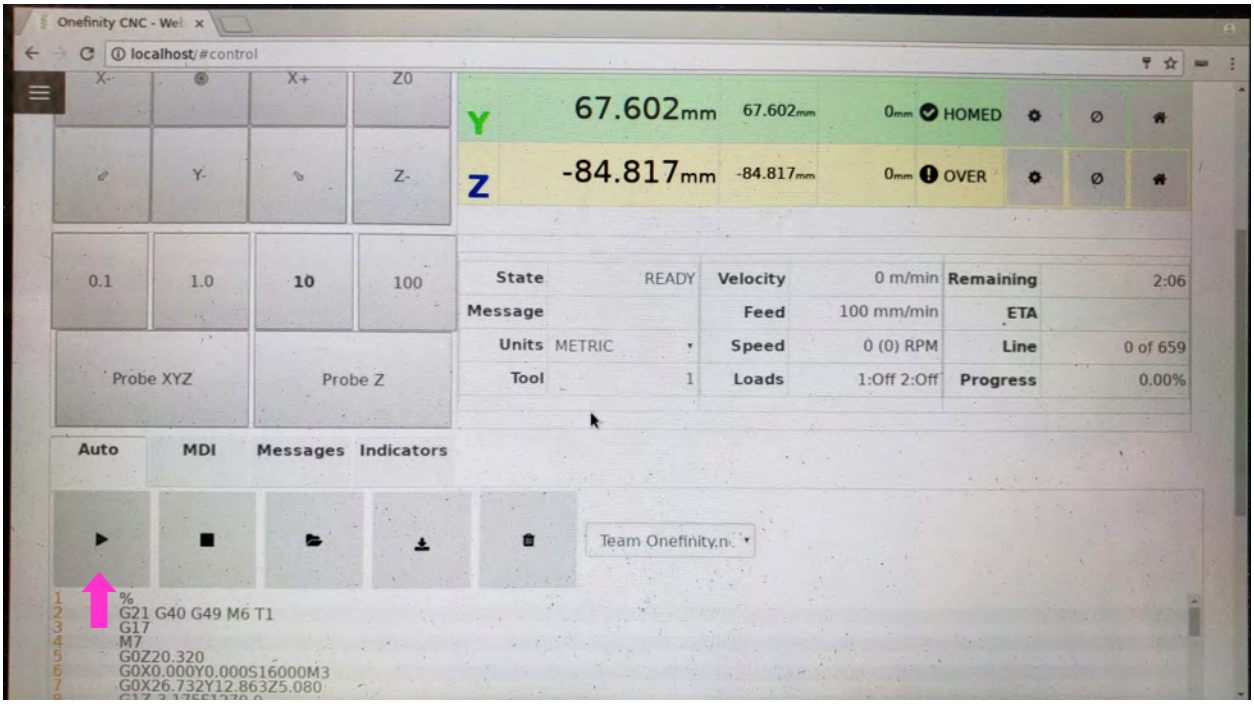


Loading a Program

Step 4. Once the files explorer is open, click on the file you would like to load. The selected file will highlight in blue (Yellow Arrow). Once you have selected the file you would like to run click Open (Green Arrow).



Step 5 . Once the file is loaded click the play button (Pink Arrow) to start your program.



Adjusting Stall Homing

Your Onefinity comes with the revolutionary Stall Homing feature. This feature allows you to home your Onefinity without the use of delicate, easily broken switches. It also means that you will no longer have to deal with the hassle of wiring. The stall homing works by monitoring the current and voltage of the stepper motors. Once the set current and voltage is met, the axis will be homed. Because each machine and their motors are not exactly the same due to tolerances, we have given the ability to adjust the settings if you find the stall homing is not working properly.

Step 1: Click on the fly-out menu button (Yellow Arrow)

Step 2. Click on the Motor (Axis) that you would like to adjust.

Motor 0 = X-Axis
Motor 1= Y-Axis
Motor 2=Y-Axis (Slave)
Motor 3= Z-Axis

Step 3. Start by first lowering the "stall-current" by 0.1 and trying to home the axis again

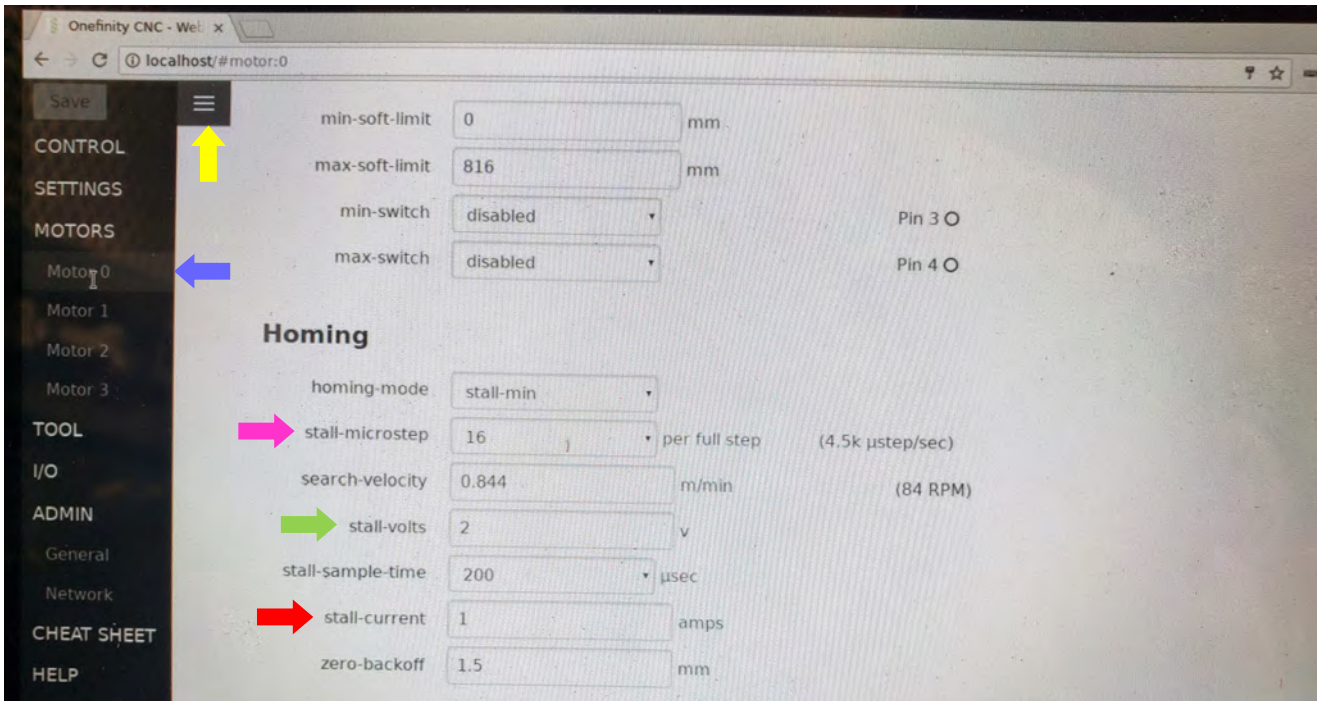
Step 4: Continue lowering the "stall-current" by 0.1 until you are satisfied or until you get to 0.7 amps.

Step 5. If you get to 0.7 amps and homing is still not working, reset the "stall –current" to 1 amp and start adjusting the "stall-Volts" by 0.1. (Green Arrow). Adjust the "Stall-Volts" until you get to 1.2 volts.

Step 5 . Keep adjusting "stall-current" and "stall-volts", trying different combinations until you get your Stall Homing working. A range of somewhere between 1 to 0.7 amps and 2 to 1.2 volts should work.

Step 6: If after adjusting the "stall-current" and "stall-volts" your homing is still not homing properly, change the "stall-microstep" to 8 (Pink Arrow) and repeat steps 3-5.

Step 7: If you are still experiencing homing issues after performing the above steps please contact us.



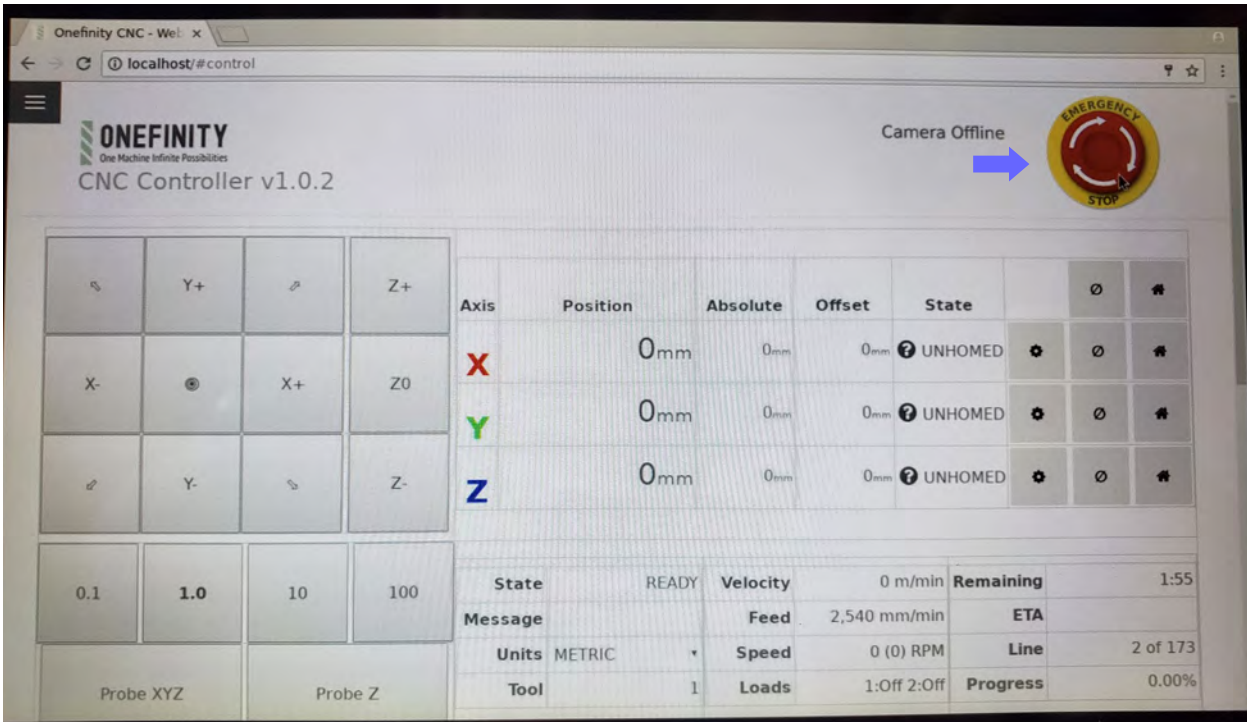
Reset Button (Soft E-Stop)

The motion control software that comes with your Onefinity is equipped with a Reset Button/ Soft E-Stop (Blue Arrow). This Reset Button is very useful in certain circumstances and stops motion of your machine when hit. Clicking the Reset Button (Soft E-Stop) disables all motors and causes all position and homing information to be lost. The yellow ring turns orange when the "emergency stop" is clicked the first time. Clicking it again attempts to clear the "emergency stop". If the "emergency stop" clears, the outer ring changes back to yellow.

Instances when you may want to use the Reset Button (Soft E-Stop):

1. While homing, you notice it is not working as expected, hit the Rest Button (Soft E-Stop), start the homing sequence again.
2. While probing, the magnet was not attached or not attached properly to the router collet, or you get an error while probing, hit the Rest Button (Soft E-Stop), ensure the probe is connected properly and start the probing sequence again.
3. You get an error while trying to run a program.
4. The software becomes unresponsive.
5. You want to reset what you are doing and start over.

This is just an small sample list, there are other instances when Rest Button (Soft E-Stop) will be useful.



Touch Probe Fine Tuning

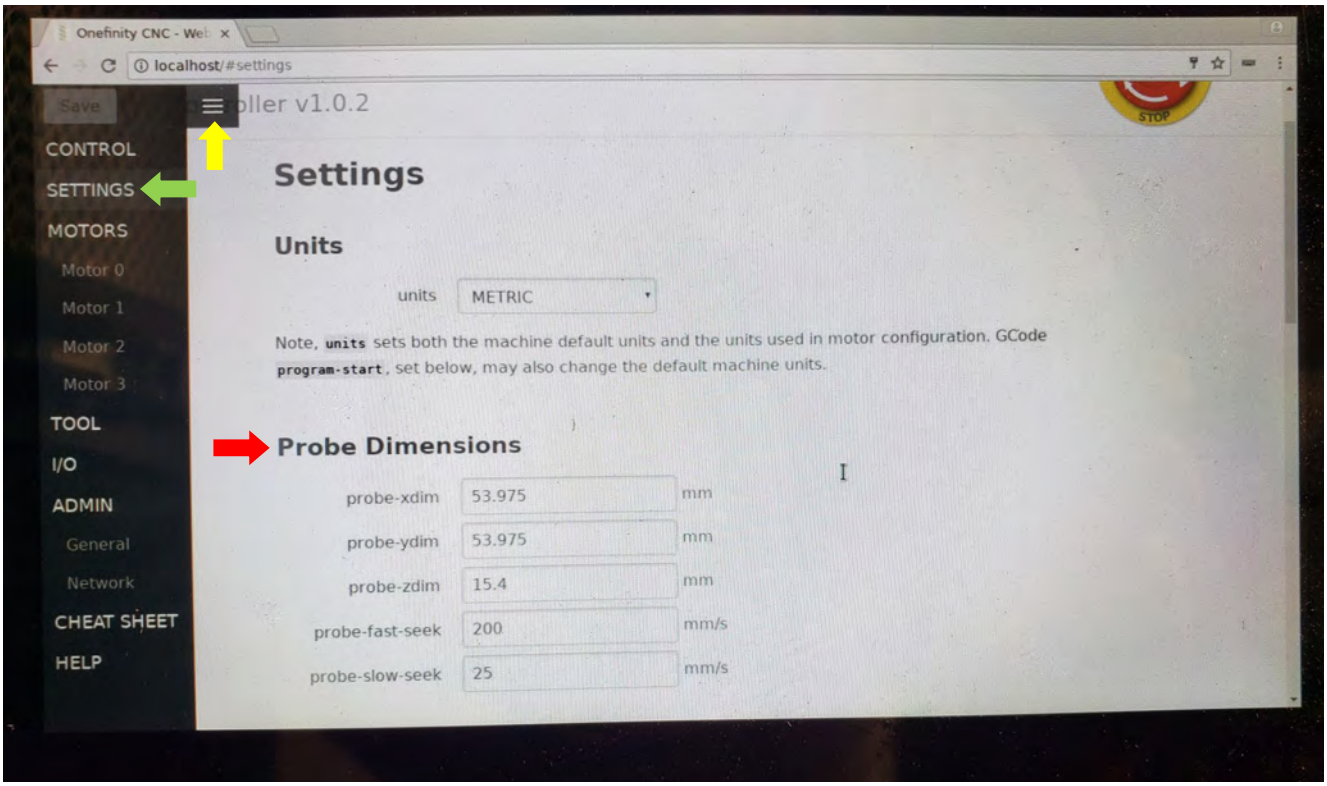
If you purchased a touch probe from Onefinity it will be preprogrammed. Some users my feel the need to adjust the accuracy due to manufacturing tolerances or providing their own probe. To adjust the settings so your probe works with the Onefinity, please follow the steps below.

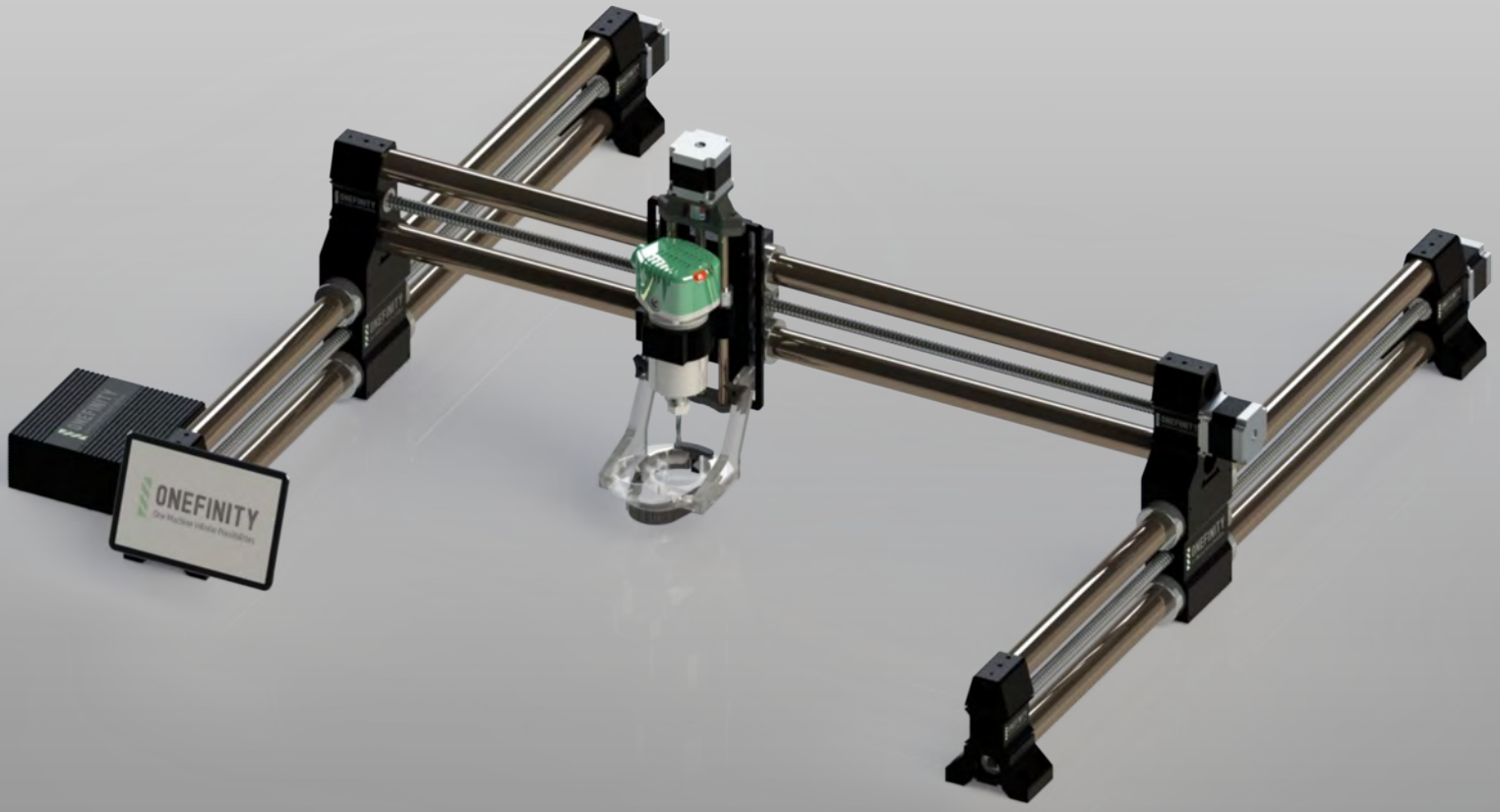
Step 1: Click on the fly-out menu button (Yellow Arrow)

Step 2: Click on Settings (Green Arrow)

Step 2. In the Probe dimensions area (Red Arrow), adjust the setting to match the dimensions of your probe.

Step 3. You can also adjust the "seek speed" while probing. To do so, change the values in the "Probe-fast-seek" and "Probe-slow-seek".





ONEFINITY 12-MONTH LIMITED WARRANTY

PLEASE SEE REVERSE SIDE FOR DE-
TAILS

ONEFINITY
One Machine Infinite Possibilities

IMPORTANT! SAVE THE ORIGINAL SHIPPING MATERIALS FOR WARRANTY REPAIR

Onefinity warrants this product to be free from defects in workmanship and materials, under normal use and conditions, for a period of one (12) months from the original shipping date. Shipping and handling fees are to be paid for by the customer. Onefinity agrees, at its option during the warranty period, to repair any defect in material or workmanship or to furnish a repaired or refurbished product of equal value in exchange without charge (except for a fee for shipping, handling, packing, return postage, and insurance which will be incurred by the customer). Such repair or replacement is subject to verification of the defect or malfunction and proof of purchase as confirmed by showing the model number on original dated sales receipt.

WARRANTY LIMITATIONS This warranty does not include:

* Any condition resulting from other than ordinary residential wear or any use for which the product was not intended, such asuse in rental or contract trade or commercial use
* Any condition resulting from incorrect or inadequate maintenance or care
* Damage resulting from misuse, abuse, negligence, accidents or shipping damage
* Dissatisfaction due to buyer's remorse
* Normal wear and tear
* Damages incurred during transportation
* Damages incurred during assembly or maintenance
* Damage that is determined to be from repairs made or attempted by anyone other than qualified technicians

Without limiting the generality of the foregoing, this warranty will be void and no warranty coverage will be provided if you do any of the following: install any firmware in the machine which is not specifically issued or authorized by Onefinity; make any change or modification to the electronics or computer components of the machine; attach any peripheries or accessories to the electronics or computer components of the machine which have not been specifically issued or authorized by Onefinity; use or attempt to use the machine and/or its electronics or computer components to control or move any device or object which is not specifically issued or authorized by Onefinity.

To obtain warranty service, first email Onefinity at support@onefinitycnc.com and include your order number, contact info along with a brief explanation of the issue you are having. Once your email is received a Onefinity team member will contact you by telephone to conduct a warranty diagnosis. You may be required to provide pictures and/or video of the claimed defect. If Onefinity determines that your machine qualifies for warranty repair, then, at Onefinity's option, Onefinity will either ship to you a replacement part for you to install or require you to return the machine to Onefinity for warranty service. Onefinity also may require you to return the machine if Onefinity cannot determine from the warranty diagnosis whether your machine qualifies for warranty repair. In this case, you also must provide a credit card to cover shipping charges in the event your machine does not qualify for warranty repair. Your card will not be charged if your machine does qualify for warranty repair. If return of your machine is required, Onefinity will provide you with a prepaid shipping label and accept responsibility for damage during shipping only if you package the returned machine exactly as it was shipped to you using all of the original shipping materials. If you no longer have the original materials then you are solely responsible for the cost of shipping the machine to Onefinity. If you do not package the machine exactly as it was shipped to you using the original materials, then you will be solely responsible for any damage during shipping. For all valid warranty repairs, Onefinity will pay for return shipping to you. If your machine does not qualify for warranty repair, then the credit card you provided will be charged the cost of shipping to and from Onefinity.

ACCEPTANCE OF THE EXCLUSIVE REPAIR AND REPLACEMENT REMEDIES DESCRIBED HEREIN IS A CONDITION OF THE CONTRACT FOR THE PURCHASE OF EVERY ONEFINITY CNC MACHINE. IF YOU DO NOT AGREE TO THIS CONDITION, YOU SHOULD NOT PURCHASE THE PRODUCT. IN NO EVENT SHALL ONEFINITY BE LIABLE FOR ANY INCIDENTAL, SPECIAL, CONSEQUENTIAL OR PUNITIVE DAMAGES, OR FOR ANY COSTS, ATTORNEY FEES, EXPENSES, LOSSES OR DELAYS ALLEGED TO BE AS A CONSEQUENCE OF ANY DAMAGE TO, FAILURE OF, OR DEFECT IN ANY PRODUCT INCLUDING, BUT NOT LIMITED TO, ANY CLAIMS FOR LOSS OF PROFITS. SOME STATES AND PROVINCES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU. THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER EXPRESS WARRANTIES, WRITTEN OR ORAL. TO THE EXTENT PERMITTED BY LAW, ONEFINITY DISCLAIMS ANY IMPLIED WARRANTIES, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE; TO THE EXTENT SUCH DISCLAIMER IS NOT PERMITTED BY LAW, SUCH IMPLIED WARRANTIES ARE LIMITED TO THE DURATION OF THE APPLICABLE EXPRESS WARRANTY AS DESCRIBED ABOVE. SOME STATES AND PROVINCES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU, THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE AND PROVINCE TO PROVINCE.

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