

# FC2913 - ASSEMBLY and OPERATING MANUAL

Before starting to assemble the foam cutter, please read carefully the following:

If you find anything missing, please contact us immediately at [info@foamlinx.com](mailto:info@foamlinx.com) or call us at 408 838 0698

## Safety tips

- Always keep away from all moving parts.
- Never touch the hot wire, it may be hot and can cause electrical shock.
- Foam fumes are toxic – always work in a well ventilated area.

## Parts

Most parts are exclusively fabricated for FoamLinx including metal parts and electronics. We try our best to keep the price of our machine to a minimum. In order to accomplish this task we sometime use excess inventory parts – some motors may be used. All motors are fully tested prior to being packaged

## Warranty

FoamLinx provides 12 months warranty on electronics and motors and life time warranty on all mechanics

## Training

On-site training and assembly is available, for more information contact us at [info@foamlinx.com](mailto:info@foamlinx.com)

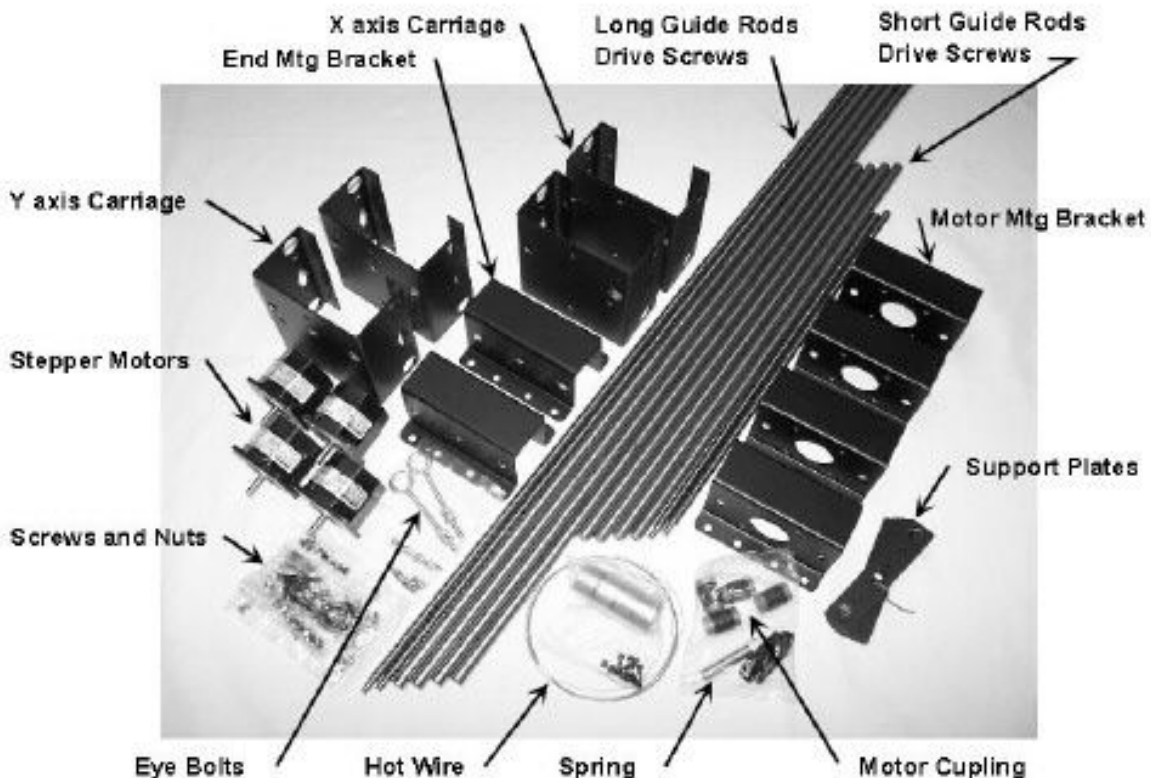
## Disclaimer

You accept all risks and responsibilities for losses, damages costs and other consequences resulting directly or indirectly from using the automatic foam cutter. FoamLinx is not responsible for any damage or injury caused by the foam cutter or its parts during the assembly or the operation of the foam cutter. FoamLinx designed the machine to be as safe as possible, as long as you follow the assembly, operations instructions and common sense.

## FC2913 PARTS LIST

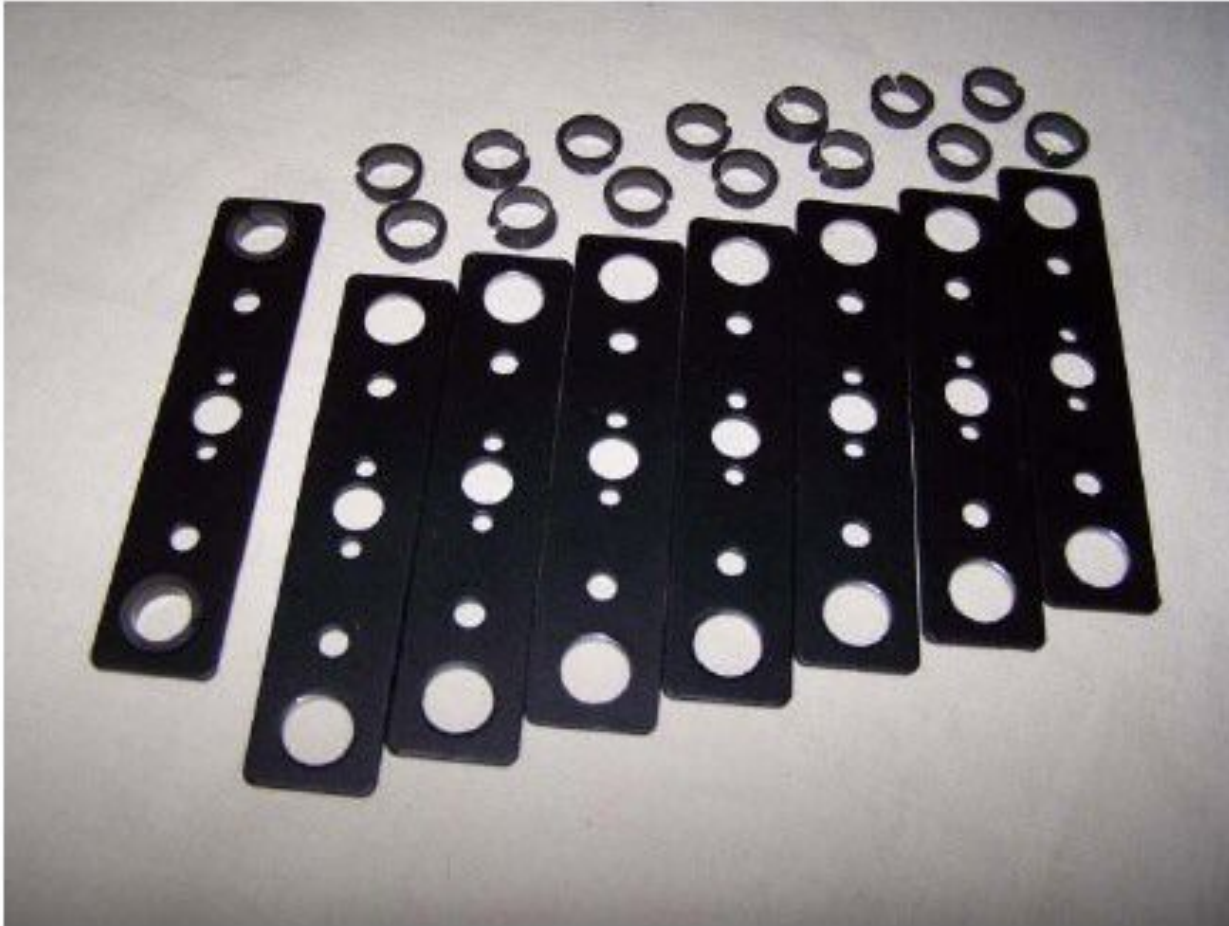
### Mechanical Parts

Quantity	Description
□ 8	Support Plates
□ 2	X Axis Carriage
□ 2	Y Axis Carriage
□ 4	Long X Axis Guide Rods
□ 2	Long X Axis Threaded Drive Screws
□ 4	Short Y Axis Guide Rods
□ 2	Short Y Axis Threaded Drive Screws
□ 2	End Mounting Bracket
□ 4	Motor Mount Bracket
□ 4	Lead Nuts
□ 4	Stepper Motors
□ 16	Teflon Bushings, Large
□ 4	Teflon Bushings, Small
□ 4	Motor Coupling
□ 2	Eye Hooks with 4 nuts
□ 2	Alligator Clips
□ 1	Spring
□ 1	Hot Wire
□ 8	8-32 Screws, Lead Nuts
□ 16	8-32 Screws / Nuts, Support Plates
□ 16	10-32 Screws / Nuts, Stepper Motors
□ 16	10-32 Screws / Washers, Guide Rods



**FC2913**  
**MECHANICAL ASSEMBLY**

Install 2 large Teflon Bushings into Support Plate, both from one side.  
Assemble 8 Support Plates.



Install the Lead Nut onto a Support Plate with 8-32 screws on the opposite side of  
Teflon Bushing large flange.  
Assemble 4 Support Plates.





- i Install 1 small Teflon Bushing into the face of the X Axis Carriage.  
Assemble 2 Carriages.  
(Note the X axis Carriages have an extra big holes in the center of the face.)



- i Install 1 small Teflon Bushing into the face of the End Mounting Bracket.  
Assemble 2 End Mounting Brackets.



- Install 1 Support Plate / Lead Nut and 1 Support Plate / no Lead Nut to the inside of an X Axis Carriage using 8-32 screws. Leave the screws loose for later alignment. Assemble the other X Axis Carriage in such a manner so that you make a mirror image of the first X Axis Carriage. Repeat this mirror image assembly for the Y Axis Carriages.



Prepare the Couplings by disassembling the rubber from the metal ends and epoxy back together. Also check the fit of the Coupling to the Threaded Drive Screw. File the reduced diameter of the Drive Screw to fit into the Coupling. Assemble the Motor Coupling to the shaft of a Stepper Motor. Tighten the setscrew to the flat on the Stepper Motor Shaft.  
Assemble 4 Motors.



Install a Stepper Motor to the outside of a Motor Mount Bracket using 10-32 screws. Locate the electrical connector opposite the flange of the Motor Mount Bracket.  
Assemble 4 Motor Mount Brackets.

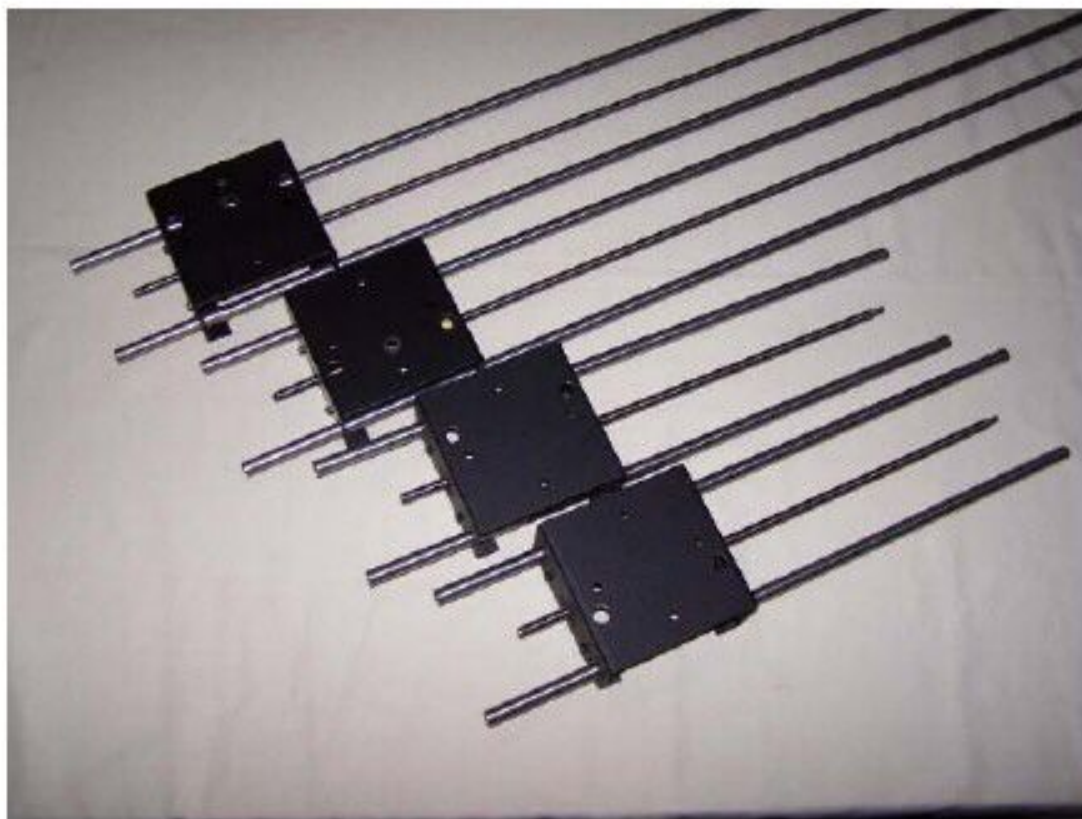




Thread the Long Drive Screw, non reduced diameter, into the Lead Nut and through the X Axis Carriage so that 3" protrudes out of the carriage. Slide the Long Guide Rods through the X Axis Carriage so that 4" protrudes out of the carriage.

Assemble 2 X Axis Carriages.

Assemble 2 Y Axis Carriages, Short Drive Screw and Short Guide Rod.



Slide a Motor Mount Bracket onto the Guide Rods of an X Axis Assembly. (End with the reduced diameter Drive Screw.) Attach with 10-32 screws and washers but do not tighten the screws. Tighten the Motor Coupling screw securely to the Drive Screw reduced diameter. The holes/Guide Rods are a tight fit – use a brass hammer.

Assemble 2 X Axis Motor Mount Brackets, Assemble 2 Y Axis Motor Mount Brackets.

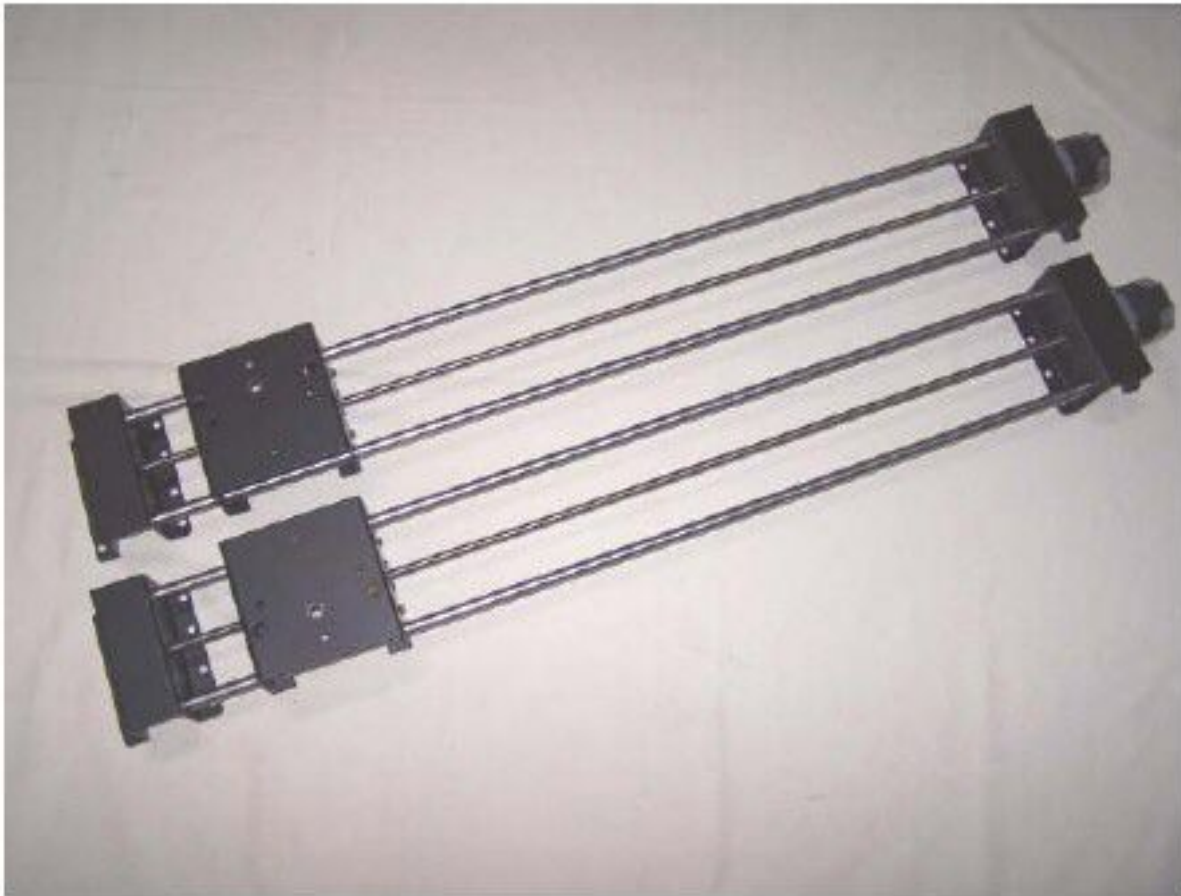


Slide an End Mounting Bracket onto the end of the Guide Rods of an X Axis Assembly. Attach with 10-32 screws and washers but do not tighten the screws. Assemble 2 X Axis End Mounting Brackets.





Set an X Axis assembly on the flat surface of a table. Tighten ONLY the Guide Rod Screws. The Support Plate Screws will be tightened AFTER you have run the machine to its extreme several times. Adjust 2 X Axis Assemblies.



Position an X Axis Assembly and a Y Axis Assembly on their sides. Slide the Guide Rods and Drive Screw of the Y Axis Assembly into the holes of the X Axis Carriage. Attach with 10-32 screws and washers and tighten. Tighten screws of 2 X Axis Assemblies.



Position the XY Towers at each end of a table about 5 feet apart with the face of the Y Carriage facing each other. Secure with customer supplied bolts and nuts. (An alternative way is to mount each XY Tower to a board with bolts and nuts. The towers then can be positioned apart as desired and secured with clamps – and repositioned easily as a setup dictates.)

Connect the 4 multi-conductor cables to the 4 Motors. Connect so that the purple wire is on the left side of the connector when facing the motor and with the connector at the top.

Connect the parallel port cable to the computer.

- Note: At this point you want to set up the software to run the machine – go to SOFTWARE SETUP. Once the software is running the machine you will want to run both the X and Y axis to their extremes several times. Apply some lubrication onto the Screw and Rods.

## FINAL ADJUSTMENTS

- Now is the time to tighten the Support Plate screws. You may need to lift the Y Tower some if it is dragging on the X axis Screw as you tighten the screws. Run both axis to their extremes. If there is any binding then loosen the screws and try again. Once you get a smooth run from end to end then firmly tighten the screws.
- Mount an Eye Bolt into any one of the 4 small holes in the face of the Y Carriage. Repeat with the opposite Carriage using the corresponding hole.
- Attach the Hot Wire to the left Eye Bolt by wrapping and twisting to secure. Attach the Spring to the opposite Eye Bolt and loop the Hot Wire through the opposite loop end of the Spring. Pull the Hot Wire to extend the Spring and secure by looping and twisting the Hot Wire.

