

Omio CNC Router Enclosure (Base) - User Guide (Rev 1)

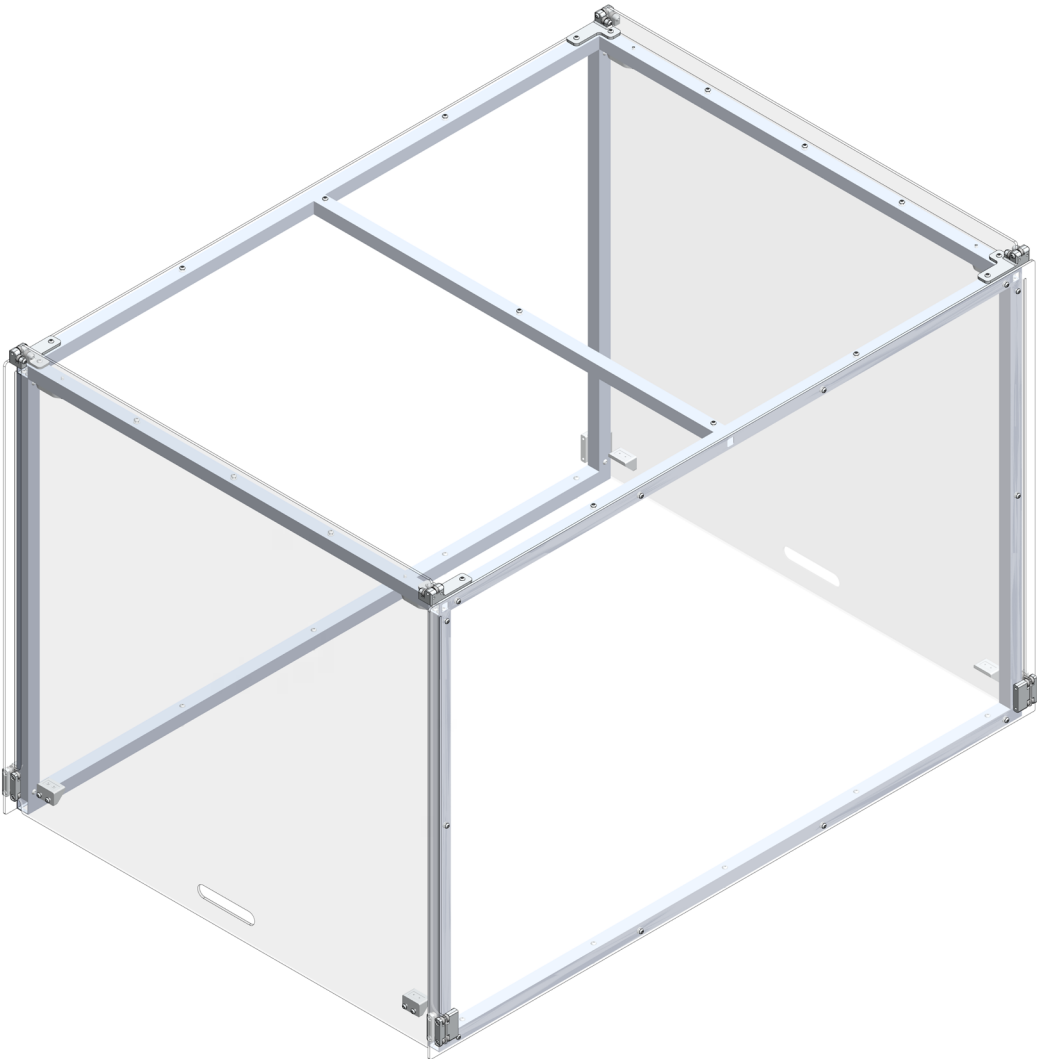




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What is the Omio CNC Router Enclosure?



The Omio CNC Router Enclosure was designed to contain the chips that are produced by the Omio CNC Router when cutting. This makes it much safer to be used in a shop or classroom environment. The Enclosure will also help reduce some of the noise that is made while the Omio CNC Router is being used. This Enclosure was designed to be used with the Omio CNC Router Stand (WCP-0342) and will bolt directly to it.

Features:

- Fully enclosed to reduce the mess produced by the machine and keep operators safe
- Door in front and back for ease of access to all parts of machine
- Magnetic door to hold door in the up position
- Sliding door to reduce overall footprint
- Bearings on door for smooth opening
- Bolts directly to Omio CNC Router Stand

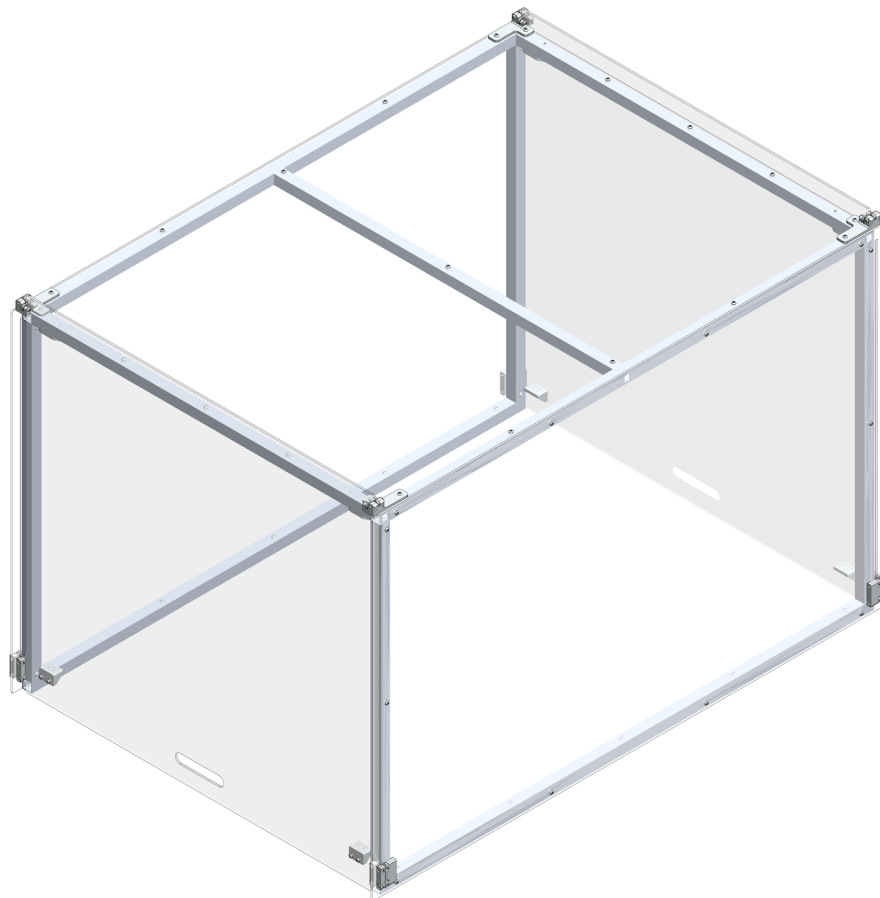


Recommended Tools

Picture	Name
	Dead Blow Hammer
	Allen Set



Omio CNC Router Enclosure Assembly Instructions



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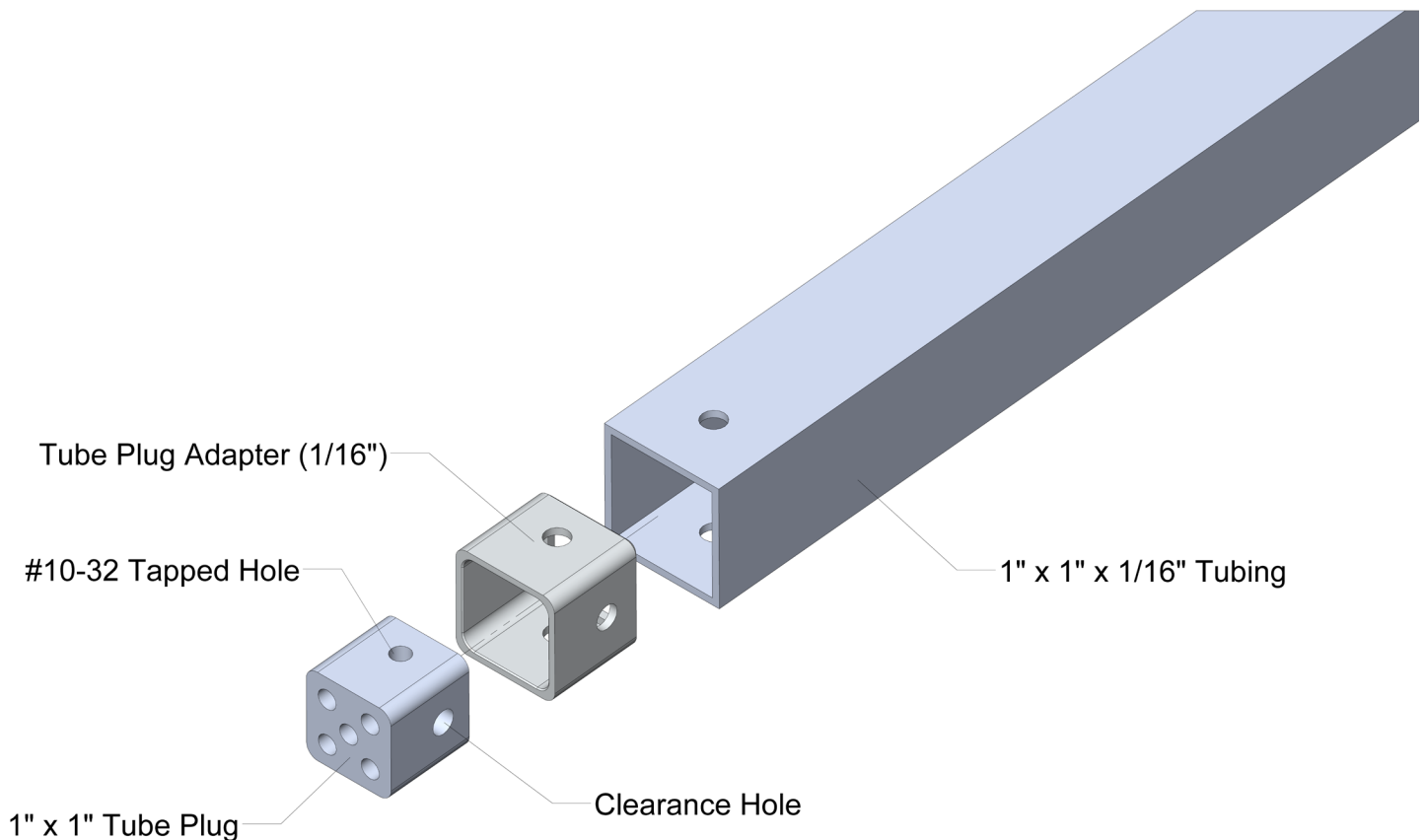


Step 1

Slide a 1" x 1" tube plug into the tube plug adapter. Then slide both into the tubing. Align the tapped holes on the sides of the tube plug with the clearance holes in the tubing. Install the two #10-32 x 3/8"L BHCS.

Repeat this step on all 1" x 1" x 1/16" tubing that has the same hole pattern on the ends. There will be five plugs and adapters in total that need to be installed.

Note: Some plugs may not be a slip fit and may need to be tapped in with a mallet. This is due to the inconsistency with the tubing.





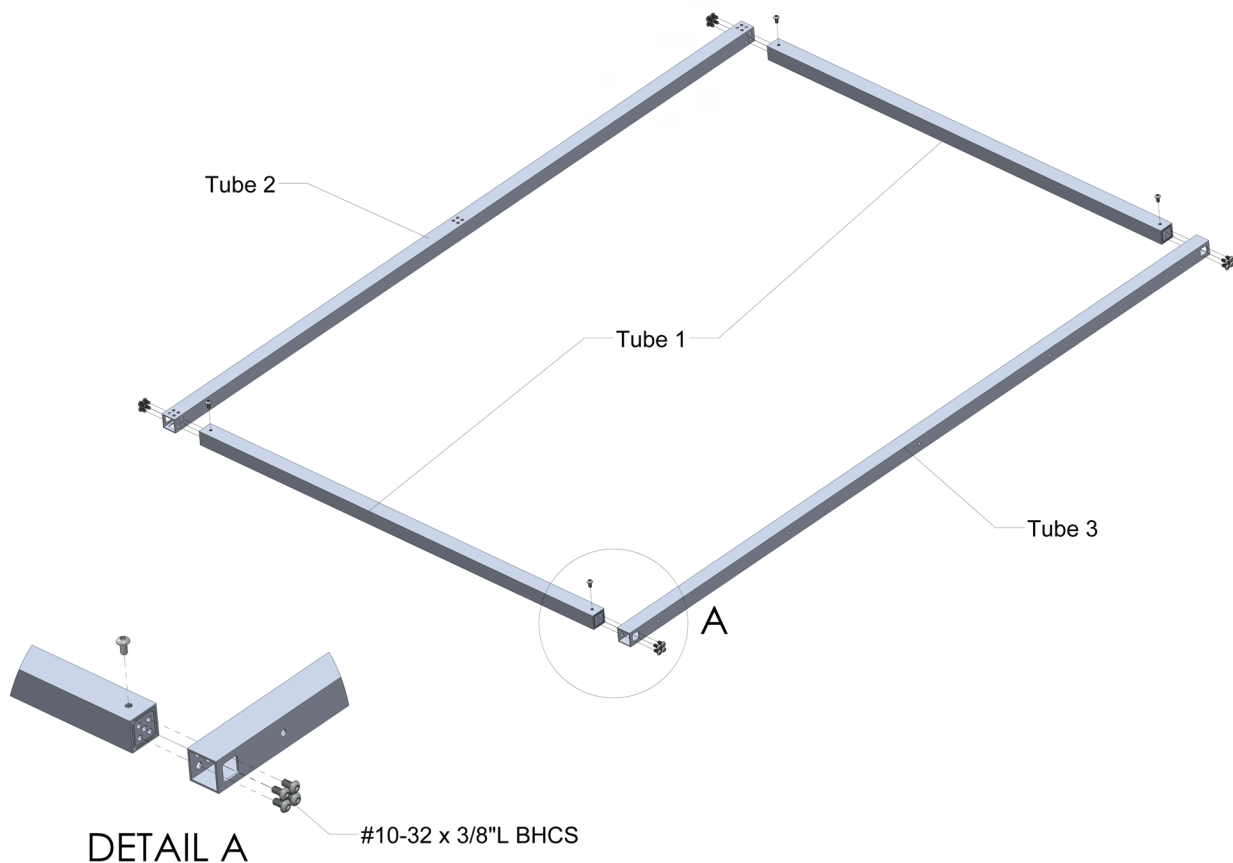
Step 2

Place tubing on a flat surface as shown below. All #10-32 rivnuts should be facing down.

Install the five #10-32 x 3/8"L BHCS screws into each tubing plug in the locations shown below.

Repeat this step with the other set of tubing. There should be two identical assemblies after this step.

Note: Assembly for this step will be easier if all components are placed on a table so that there is access to the side holes.



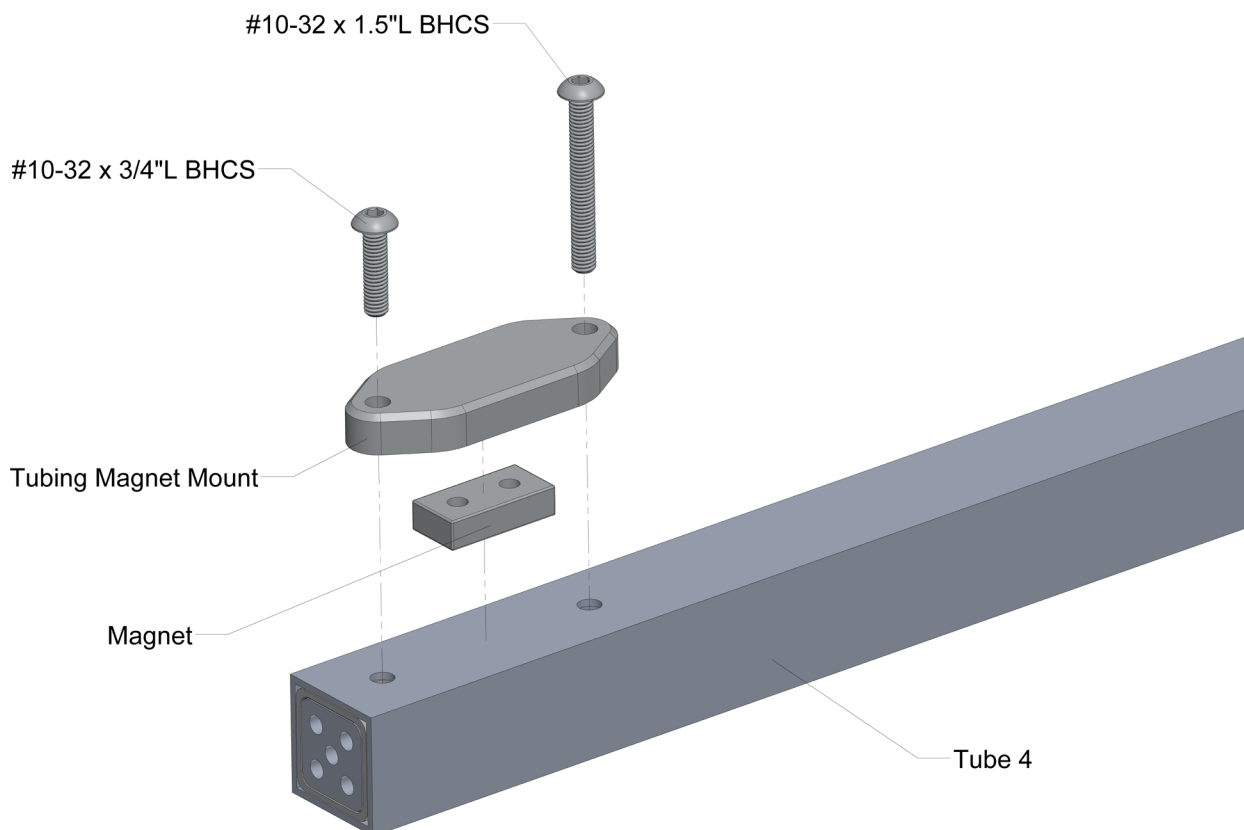


Step 3

Attach the magnet and magnet mount using the two #10-32 bolts as shown below. The 3/4"L bolt will thread into the tube plug but the 1.5"L bolt will thread into the Top Plastic Panel in a later step.

Repeat this step on the opposite end of this tube.

Repeat on the other Tube 4 as well. There should be two identical pieces after this step.

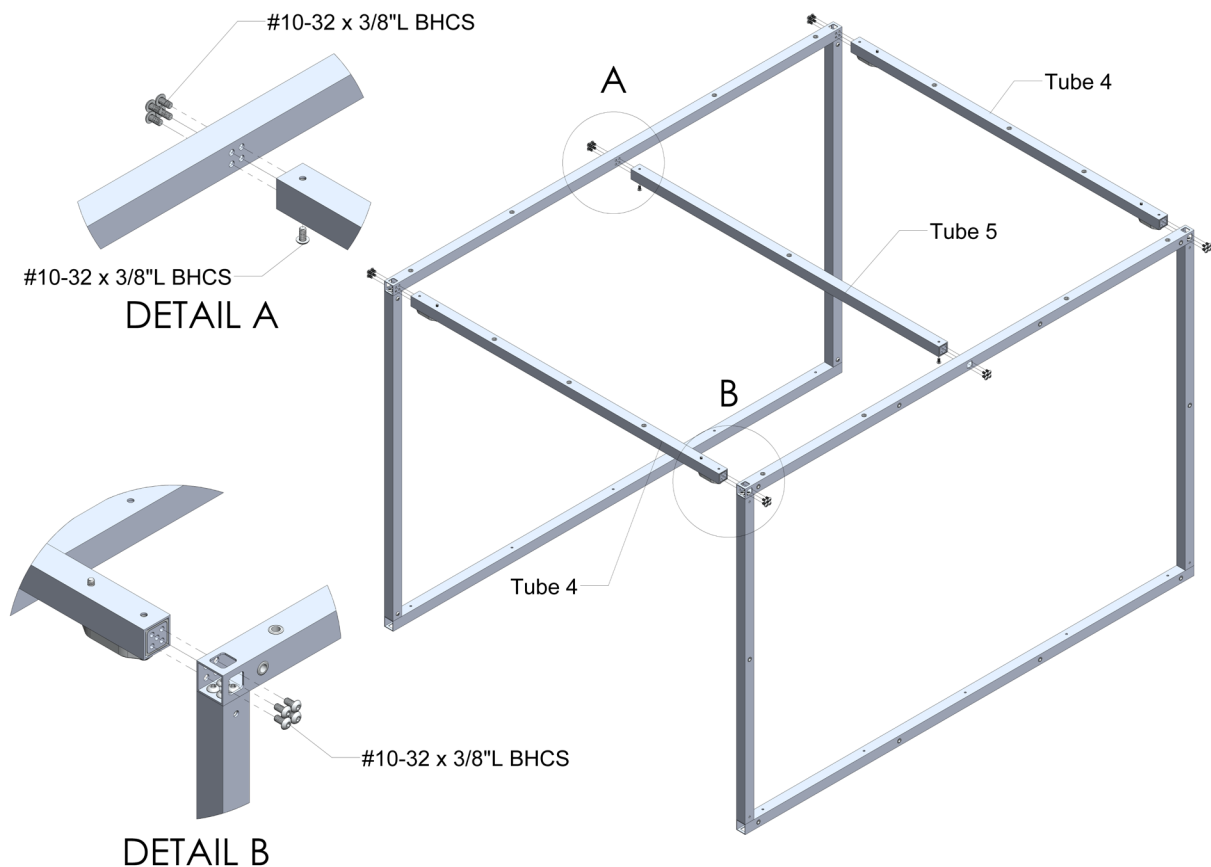




Step 4

Install the tubes as shown below using four #10-32 x 3/8"L bolts. Tube 5 will get an additional bolt on each end that will go on the bottom side of the tube and thread into the tube plug, shown in Detail A.

Tube 4 is the assembly from Step 3 with the magnets facing down.

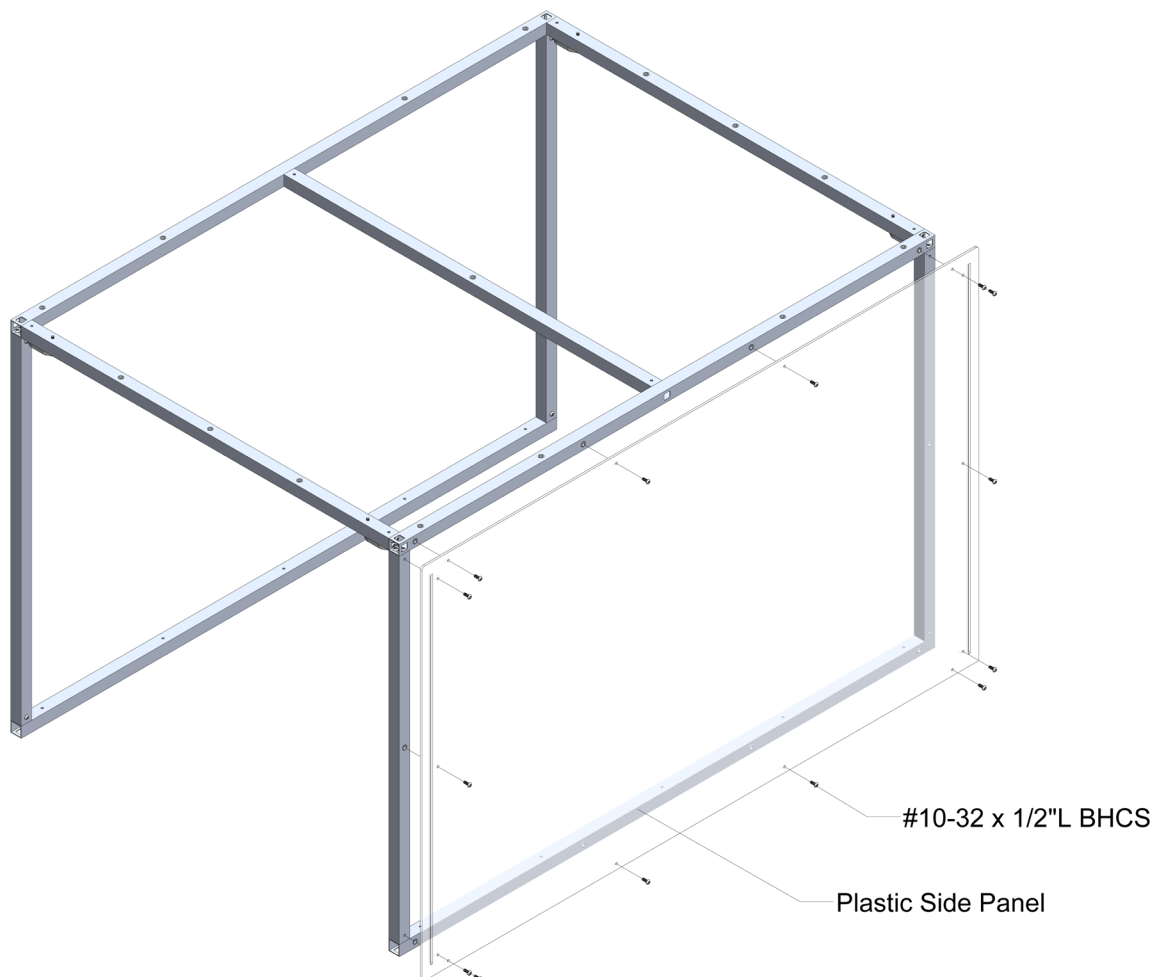




Step 5

Attach the Plastic Side Panel as shown using the #10-32 x 1/2" L bolts. The counter bores in the plastic panel need to face the rivnuts in the tubing.

Repeat this step for the opposite side of the enclosure.

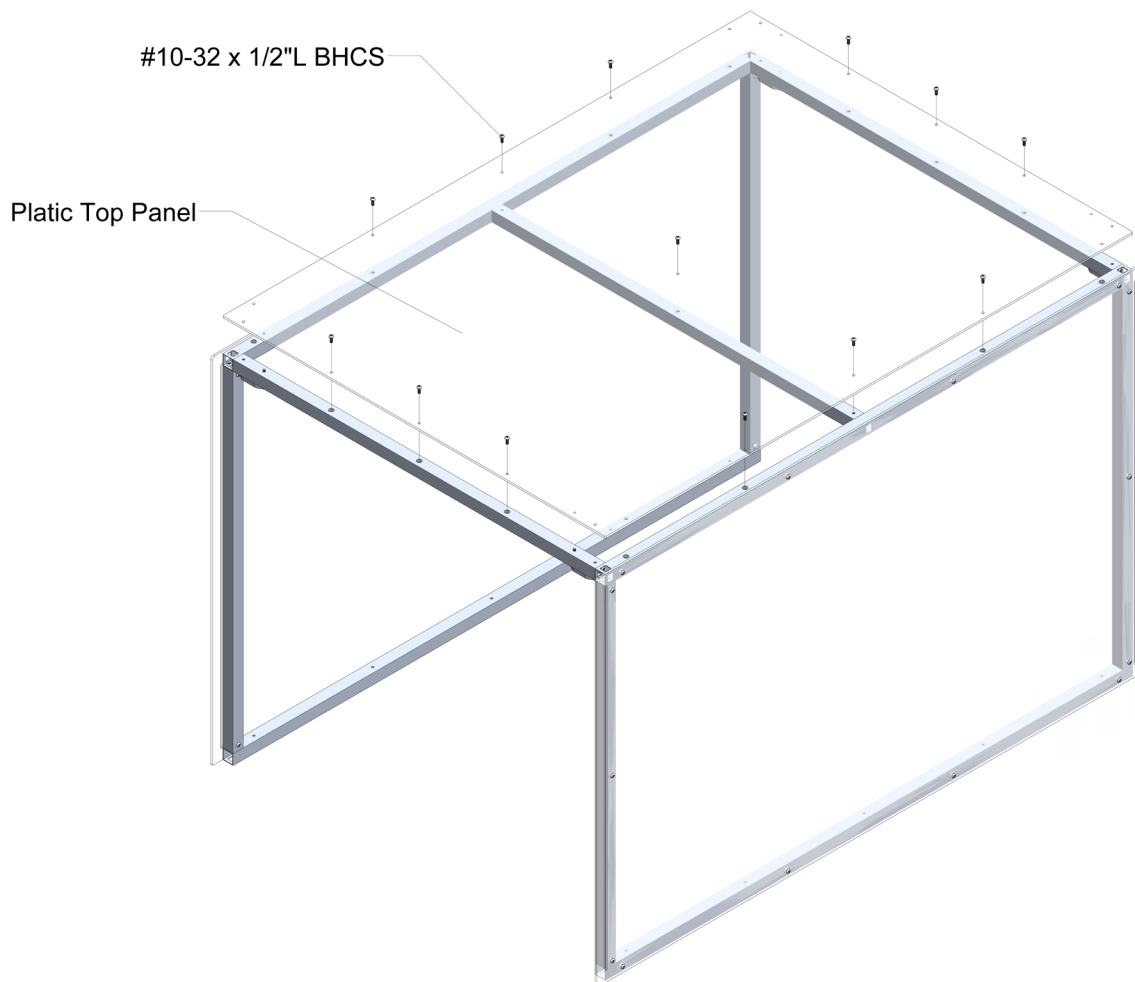




Step 6

Attach the Plastic Top Panel as shown using the #10-32 x 1/2"L bolts. The counter bores in the plastic panel need to face the rivnuts in the tubing.

Thread the loose bolt from Step 3 into the Plastic Top Panel.

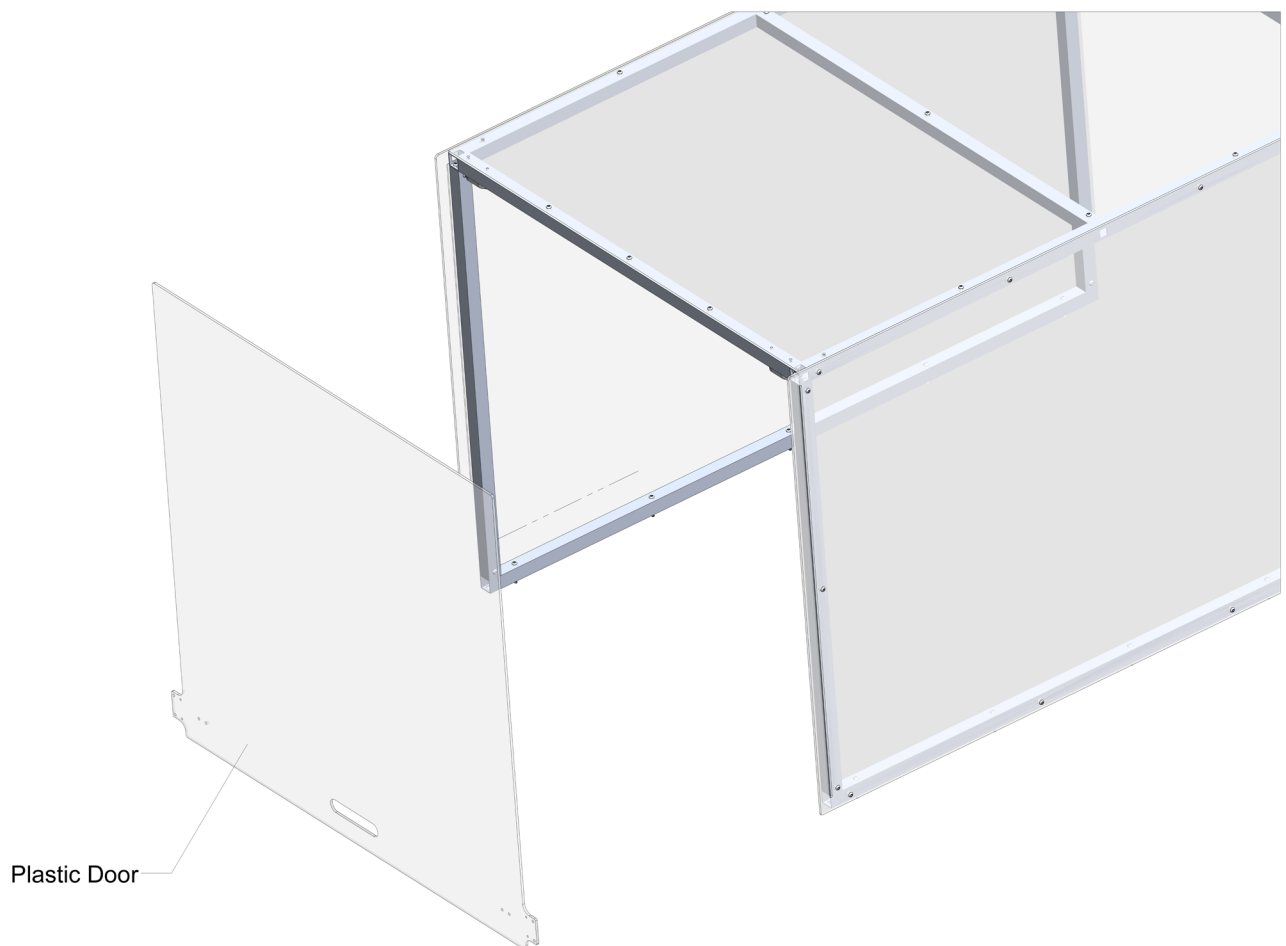




Step 7

Install the Plastic Door into the slots in the Plastic Side Panels. The front of the Side Panels can be flexed out a bit to get the door into place.

Repeat for the door on the other side.



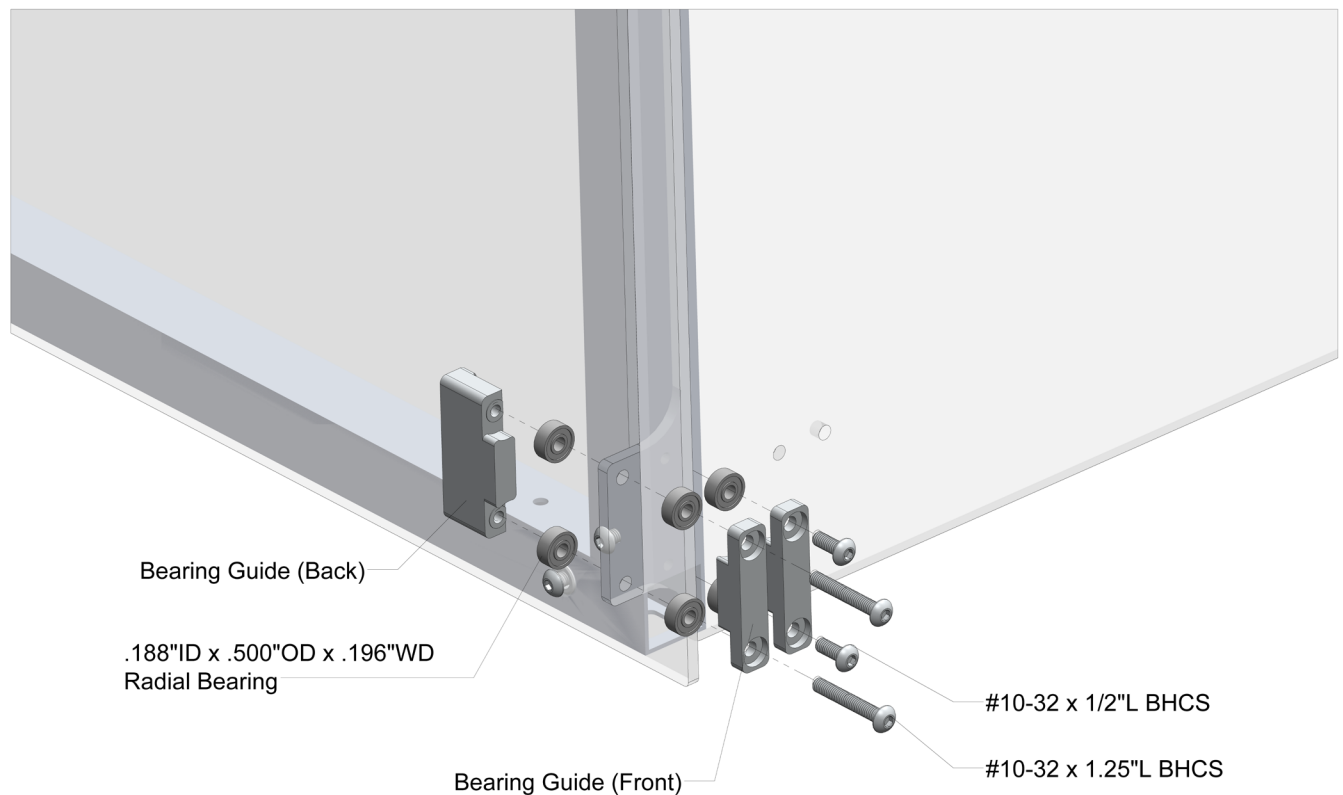


Step 8

Install the 3D printed bearing guides and bearing in the locations shown below. Do not over tighten the bolts as this will cause the bearings to bind. Tighten enough so that the 3D printed parts are tight against the plastic.

Repeat this for all four corners of the Omio CNC Router Enclosure.

Note: The threads of the bolts will need to be sanded down a bit for them to fit into the bearings. This can be accomplished with a hand drill and some sandpaper.



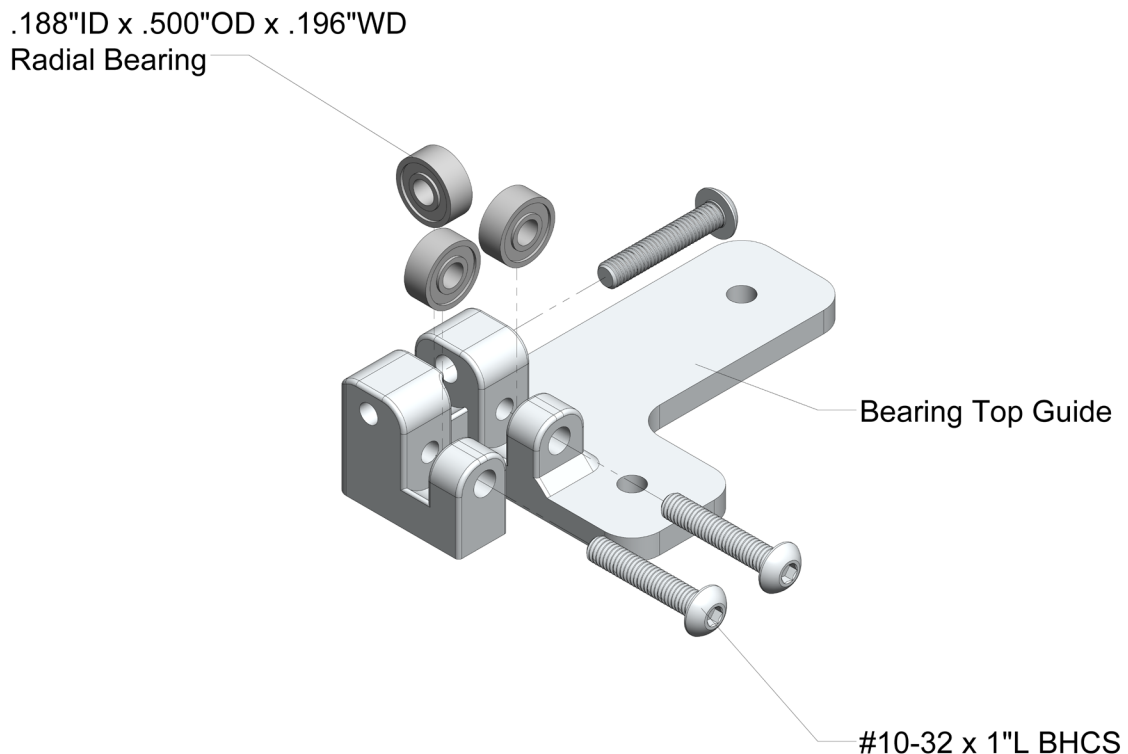


Step 9

Install the three bolts and bearings into the Bearing Top Guide, as shown below.

Repeat this step for all four Bearing Top Guides (both versions).

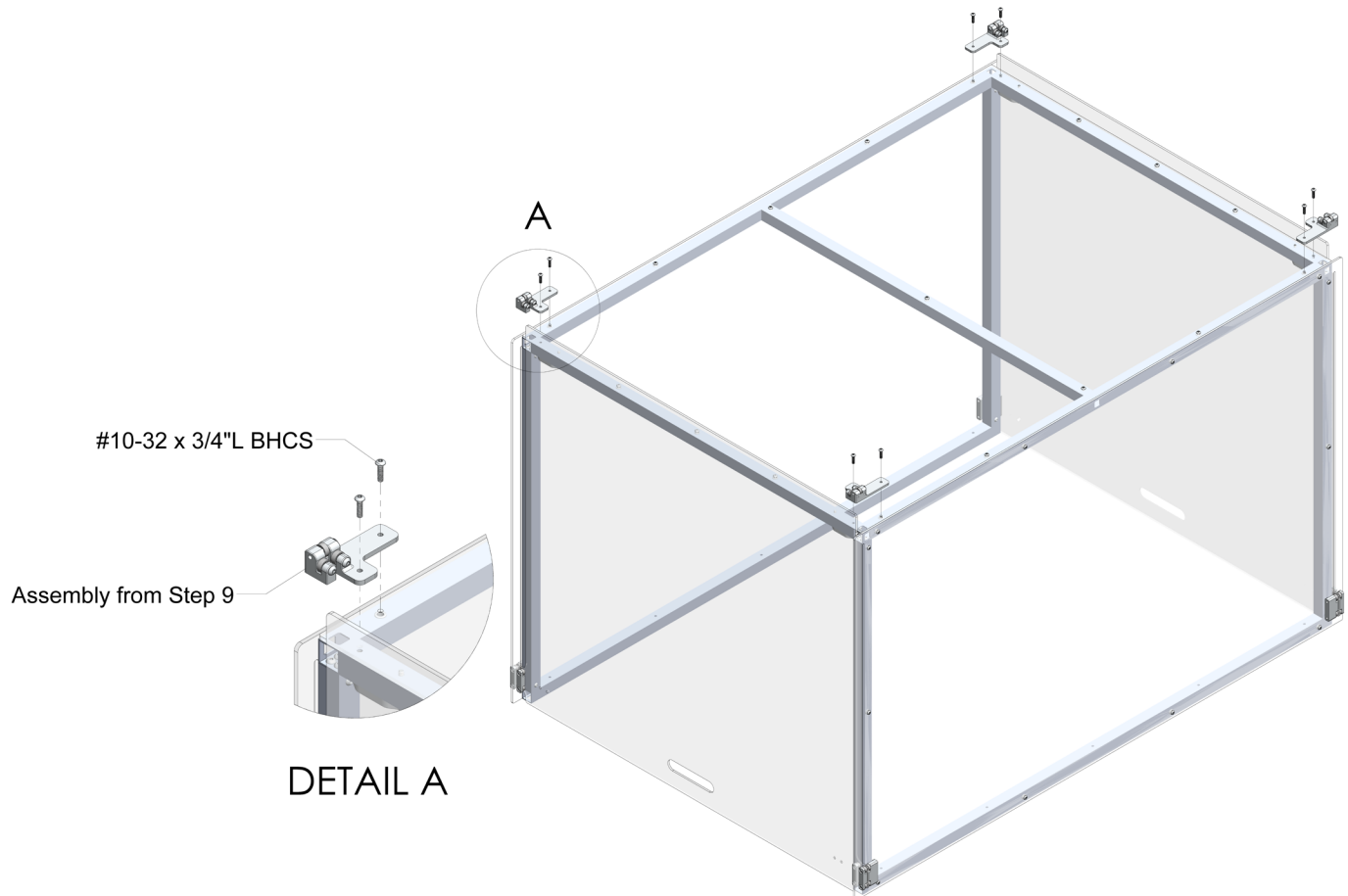
Note: The threads of the bolts will need to be sanded down a bit for them to fit into the bearings. This can be accomplished with a hand drill and some sandpaper.





Step 10

Install the assemblies from the previous step onto the assembly from Step 8 in the locations shown. Use two #10-32 x 3/4" L BHCS to attach the Bearing Top Guides in each location.



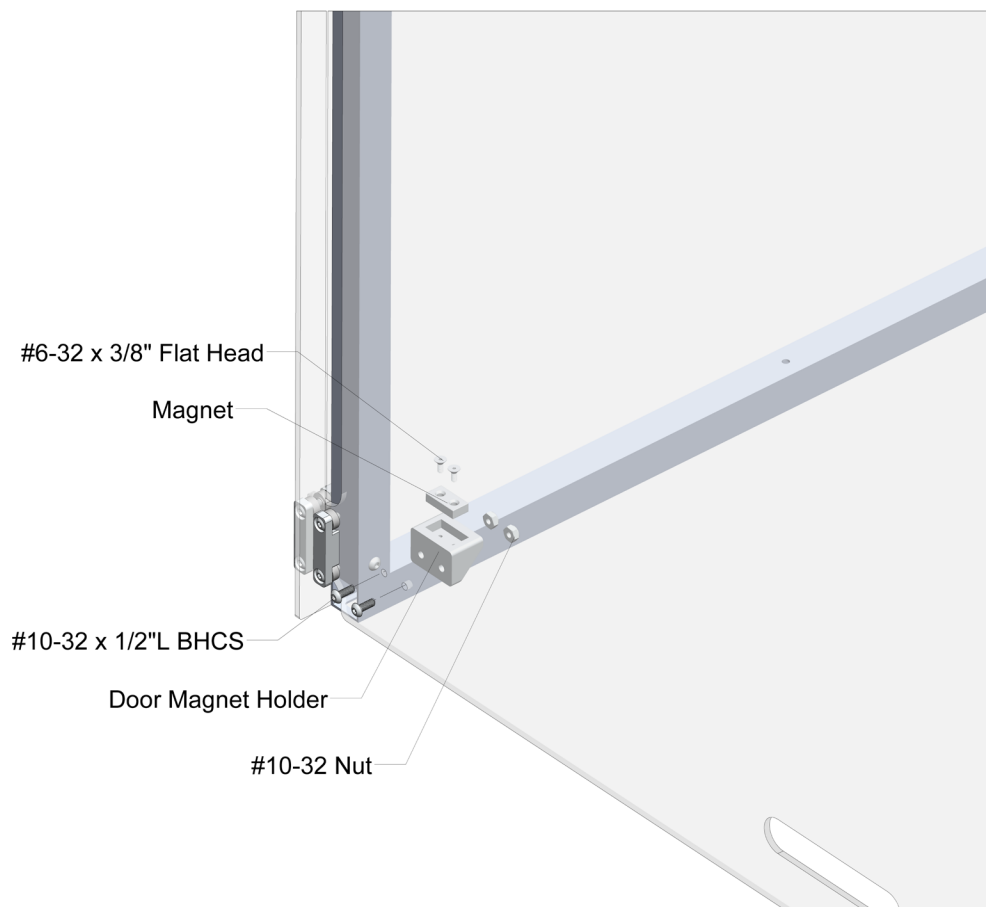


Step 11

Install the magnet into the Door Magnet Holder using the two #6-32 flat head bolts prior to installing the Door Magnet Holder to the door. Repeat for all four magnets and Holders.

Use two #10-32 x 1/2" L BHCS and nuts to attach the Door Magnet Holder to the Plastic Door. Repeat for all four Door Magnet Holders.

Note: Be sure to check the polarity of the magnets before installing them. This magnet and the one installed in Step 3 need to attract each other. Check that the door is held up and that there is no gap between the magnets. If there is, then one magnet may need to be flipped.





Step 12

Cut the rubber trim to the desired length to cover the bottom edge of the door. It is recommended to leave 1/4"- 1/2" gap at the end of the door uncovered so that the rubber does not rub on the side panels. Press the rubber trim onto the bottom edge of the door.

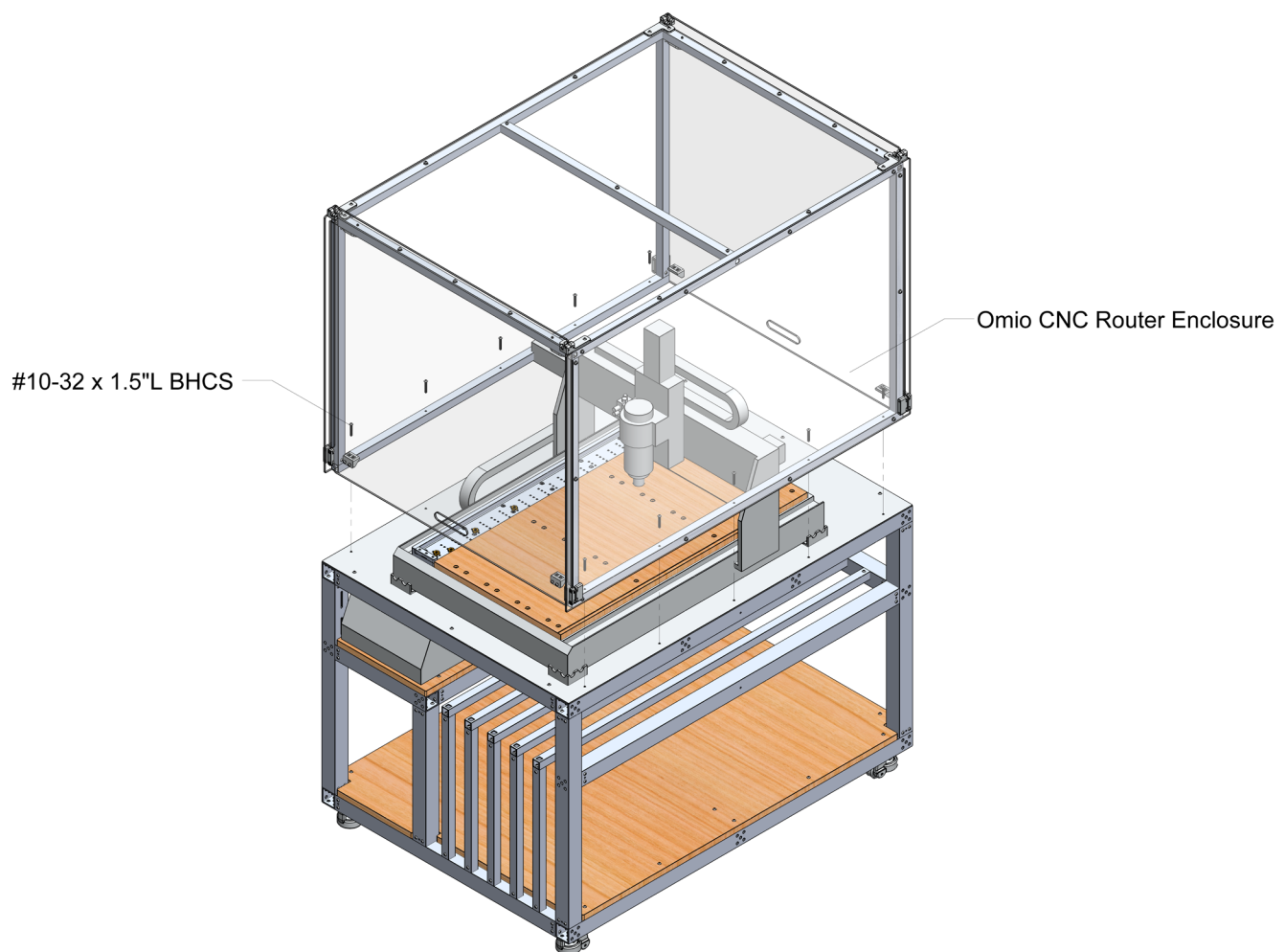
Repeat this process for the other door.



Installing Router Enclosure

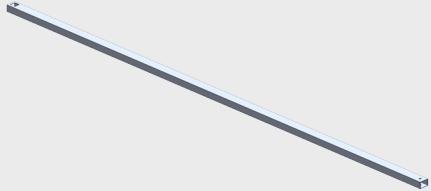
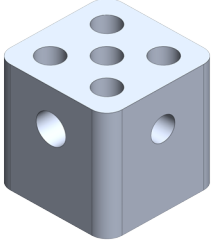
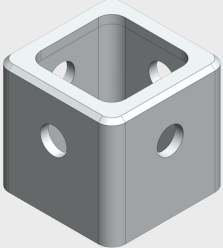

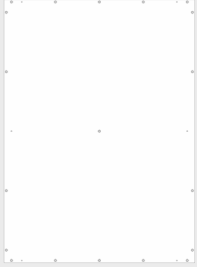
Attach the Omio CNC Router Enclosure to the Omio CNC Router Stand using the ten #10-32 x 1.5"L BHCS. Get all bolts started before fully tightening them.

Note: If the Enclosure is not being installed on the Omio CNC Router Stand, the same holes can be used to attach whatever the surface may be.



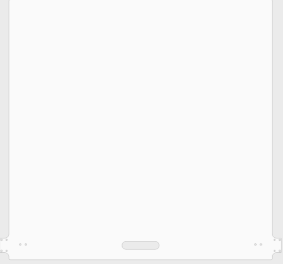
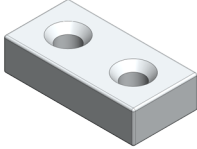
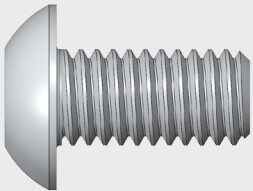
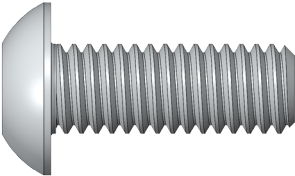
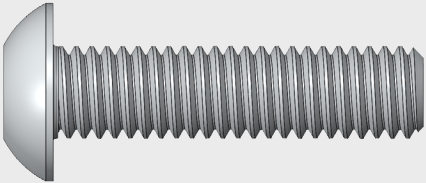


Kit Contents

Picture	Name	QTY	Kit
	1" x 1" x .06" Tubing	11	Base Kit
	1" x 1" Tube Plugs	14	Base Kit
	1" x 1" Tube Plug Sleeves	14	Base Kit
	Plastic Side Panel	2	Base Kit
	Plastic Top Panel	1	Base Kit

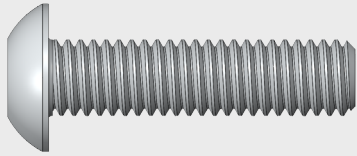
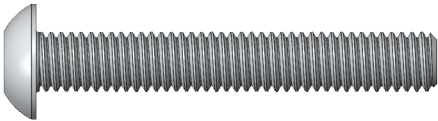
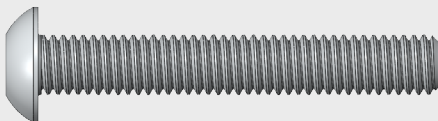
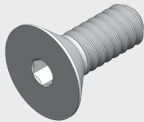
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Picture	Name	QTY	Kit
	Plastic Door	2	Base Kit
	Magnets	8	Base Kit
	#10-32 x 3/8" L BHCS	66	Base Kit
	#10-32 x 1/2" L BHCS	57	Base Kit
	#10-32 x 3/4" L BHCS	12	Base Kit

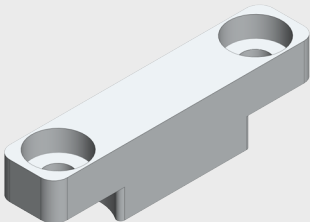
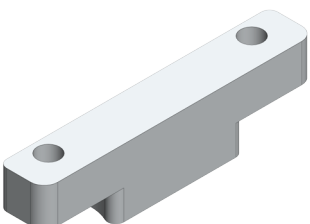
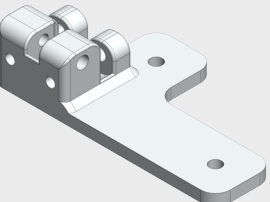
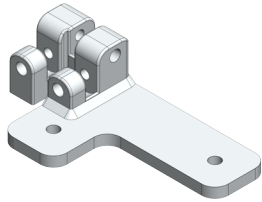
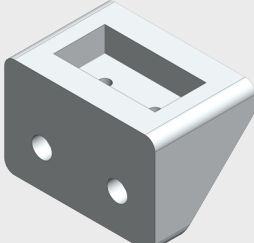
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Picture	Name	QTY	Kit
	#10-32 x 1"L BHCS	12	Base Kit
	#10-32 x 1.25"L BHCS	8	Base Kit
	#10-32 x 1.5"L BHCS	14	Base Kit
	Rubber Trim	6 ft	Base Kit
	#6-32 x 3/8" Flat Head Bolts	8	Base Kit

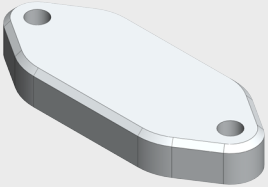
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Picture	Name	QTY	Kit
	Bearing Guide Front	8	Base Kit
	Bearing Guide Back	4	Base Kit
	Bearing Top Guide	2	Base Kit
	Bearing Top Guide (Mirrored)	2	Base Kit
	Door Magnet Holder	4	Base Kit

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Picture	Name	QTY	Kit
	Tubing Magnet Holder	4	Base Kit
	0.188" ID x 0.500" OD x 0.196" WD (Radial Bearing)	36	Base Kit



Revision Table

Revision Date	Revision #	Description
5/4/21	1.0	First revision created.