

# OPERATING INSTRUCTIONS

## 85120 Double Booth



<b>DENRAY MACHINE</b>	
(800) 766-8263	
<b>MODEL NUMBER</b>	3444B Super
<b>SERIAL NUMBER</b>	475389
<b>MOTOR HP</b> 3	<b>AMP</b> 15.0
<b>VOLTAGE</b>	220-1Ph / 60 Hz
<b>FAN TYPE</b>	18" Comfri Fan
<b>MFG DATE</b>	10/29/18
<b>FILTER NUMBER</b>	EO 5814
<b>TABLE NUMBER</b>	9017
<b>SWITCH TYPE</b>	A16S2 Overload TF42-29
<small>Light Bar--Spun Bond--HEPA Bank--Plastic Top ™ Vise ***2 Hp 18" Fan</small>	

**To find YOUR tables pertinent information please locate the table sticker on your table.**

\*Please note the image above is a "generic" table sticker for visual purposes only! The table sticker on your machine reflects how it left the manufacturer and does not reflect any after-market changes made by previous owners. If you have questions please call Denray Machine at (800) 766-8263.

## WARRANTY

This Machine is covered with a 12 month warranty. The warranty covers replacement parts, except filters and wooden top (if applicable). The only way Denray will cover the labor is the work must be done by Denray at Denray's Facility. The shipping must be provided by the customer (owner of the machine) both ways. You may contact the dealer you purchased the machine from, and discuss with them, the possibility of their assistance in helping to solve the problem in your facility. Denray assumes or accepts no responsibility more than the cost of the machine. In the case of repair Denray will determine either to fix or replace the product. Denray reserves the right to modify or change the design of this and any model of their machines, without changing or updating any previous manufactured machine. The warranty will not cover any damage done by fire or any other act of nature or if abuse or improper maintenance was or was not performed.

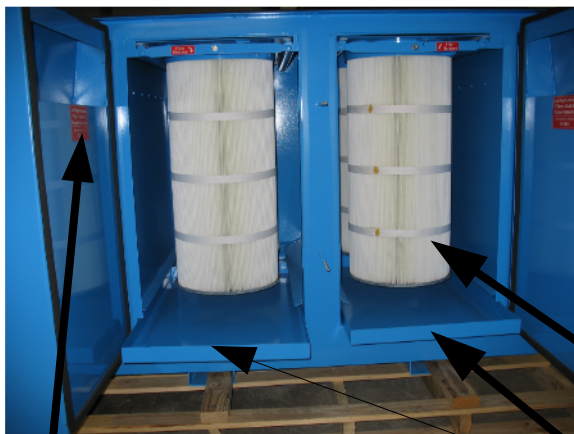
Never Allow Any Unauthorized or Untrained Person To Operate This Machine

Lockout and tagout any time maintenance is performed on this machine

## WARNING

NEVER GRIND OR SAND ANY ALUMINUM OR MAGNESIUM, OR ANY SPARK CREATING PRODUCT ON THIS MACHINE

Filters are the main need of maintenance, the cleaner the filters are kept the better the machine will perform. This machine is equipped with timers to clean the filters, every so many minutes a pulse of air will be released into one of the filters, and a few minutes later the other filter will be pulsed, the time is needed to refill the tank. The time between pulses are adjustable, refer to the electrical diagram. Warning if the time is reduced between pulses the filter may plug up reducing the machines performance. The filters can also be pulsed with the machine off, it may blow dust back into the work area, so caution should be used here, pulse the machine then turn machine on to pull dust back into the filters.



The filters will clean better with machine off, you may shut machine off and before it slows down to a complete stop, pulse the filter and allow the fan to prevent the dust from exiting the filter compartment. Filter replacement number is on the inside of the filter door. Be sure to replace with same type of filter or a filter made of polyester media.

Cartridge Filters 99.95% efficiency down to .5 micron

Filter replacement number Is on inside of this door. MUST replace with the proper fire retardant filter

Dust Drawer Clean regularly, as needed

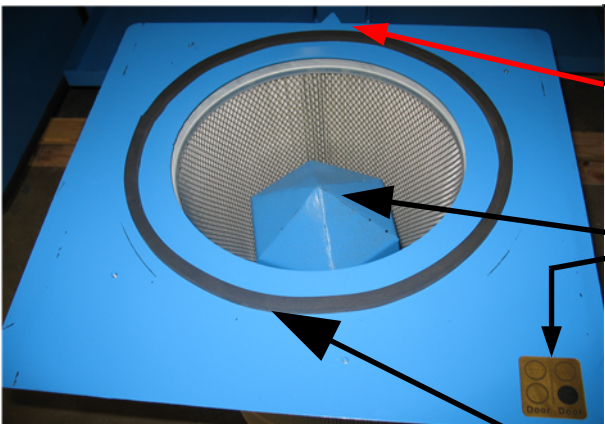
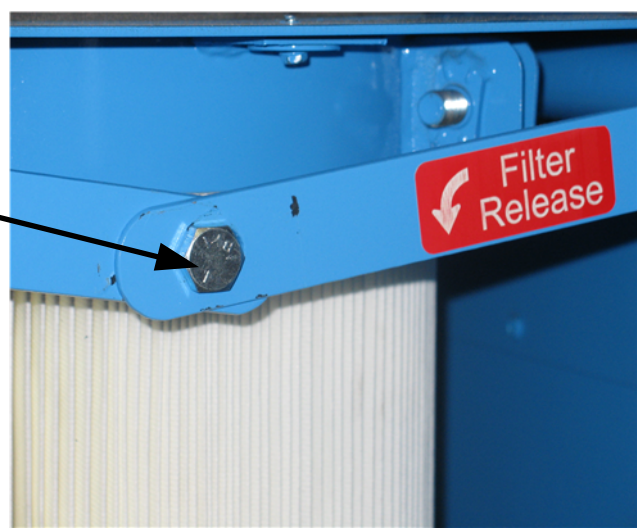
UMHW Plastic strips for ease of sliding the filters. Must be in place

Bolt that holds the band that secures the filter to the steel plate that slides in the filter unit. This makes removing filters from the plate very easy, Allowing filter deep cleaning a much easier task, thus allowing the filters to be cleaned better and easier.



**Never Open Any Door While Machine Is Running**

This bolt holds the levers that raise and lowers the filters. Once the machine is in place, remove the nut from this bolt, once the bolt is in the hole pull down on the levers to lock the bolt in place. looks like the picture

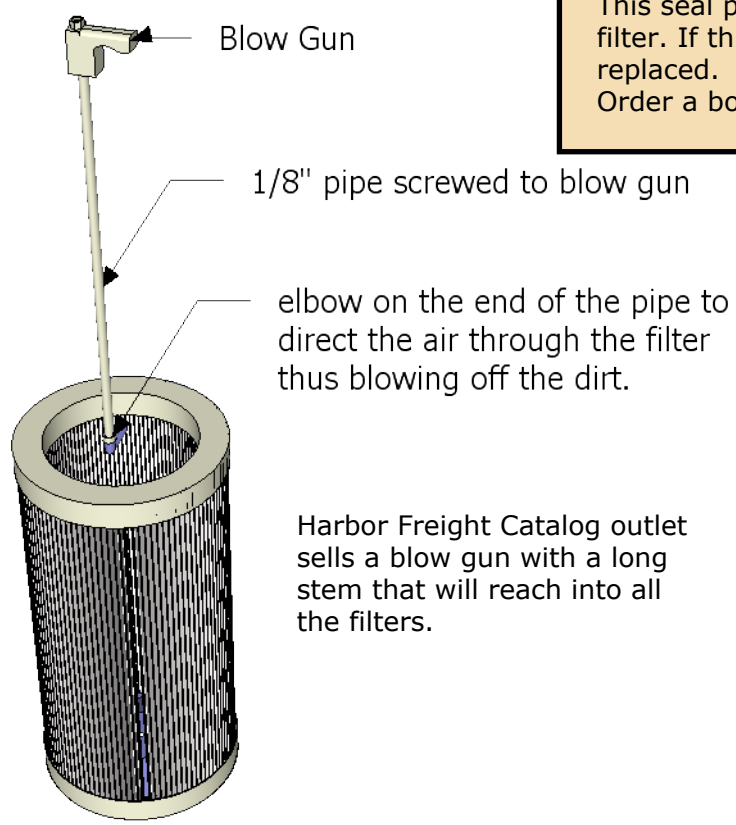


This Vee will align into the filter placed in first

The cone on the inside of the filters enhances the cleaning process. It is bolted into the bottom of the filter.

This shows the location of the four filters, the black circle shows this filter is the front right filter.

This seal needs to be inspected everytime the steel plate is removed. Look to see if any missing rubber, This seal prevents the dust from by passing the filter. If this seal is not intact it needs to be replaced. Order a booth filter plate seal



Harbor Freight Catalog outlet sells a blow gun with a long stem that will reach into all the filters.

Filter Cleaning is almost the only thing that has to be done to maintain these machines. No lubrication to maintain The cleaner the filters are kept the better the machine will perform. The dirtier the filters the harder it is to pull air through them.

# Upside Down View

150 PSI pressure relief valve

Incoming Airline

Tank Moisture Drain

Air Tank

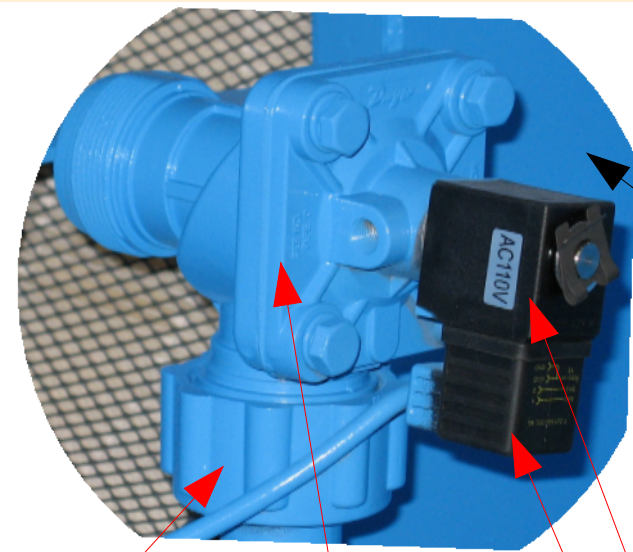
Closeup view of the valve

Valve to release air into the filters to clean them

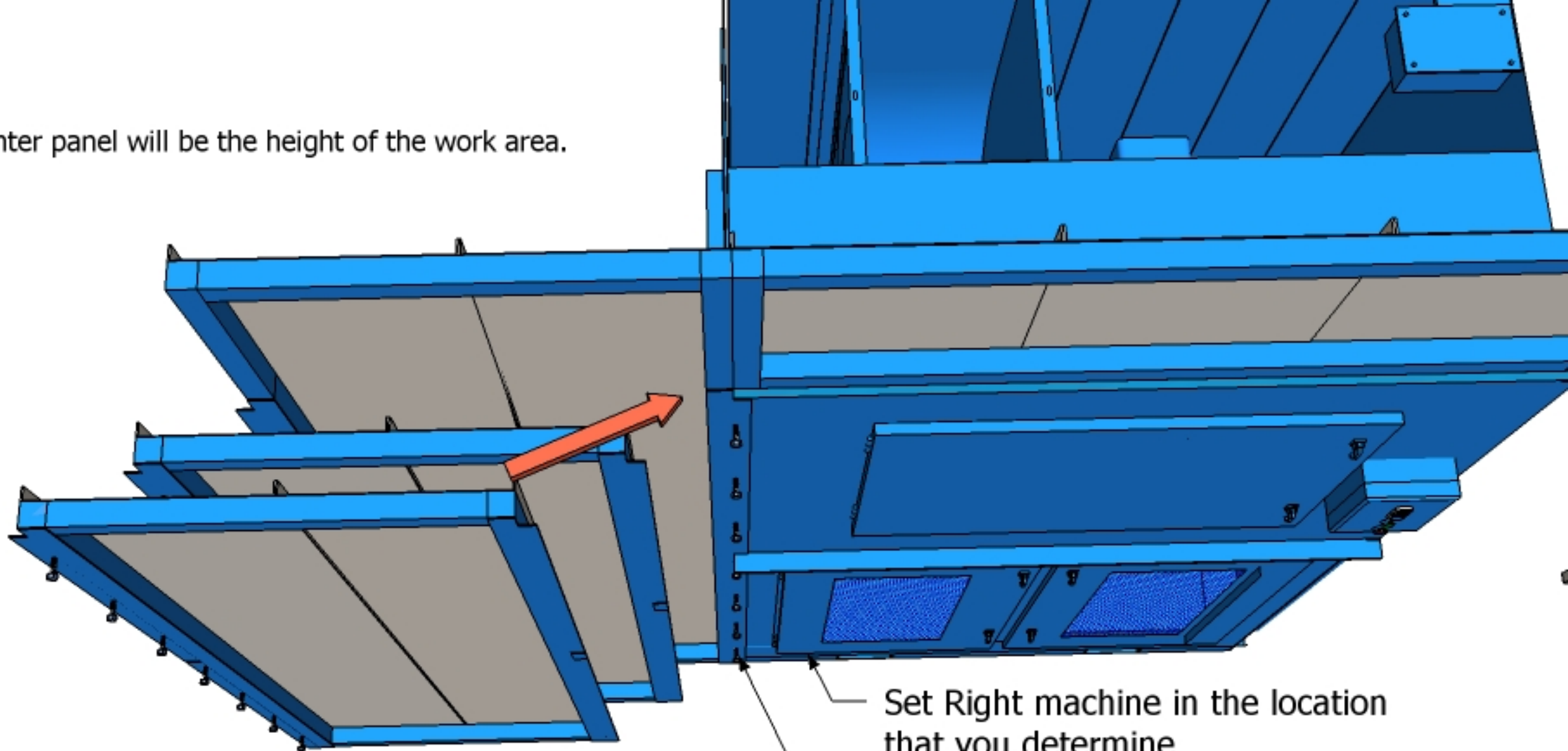
Solnoid to activate the valve 120 Volts

Electrical Plug that screws on the solnoid by one screw

Compression nut that holds valve to the tank. Always apply a small amount of either grease or oil to the threads when reassembling to the tank.

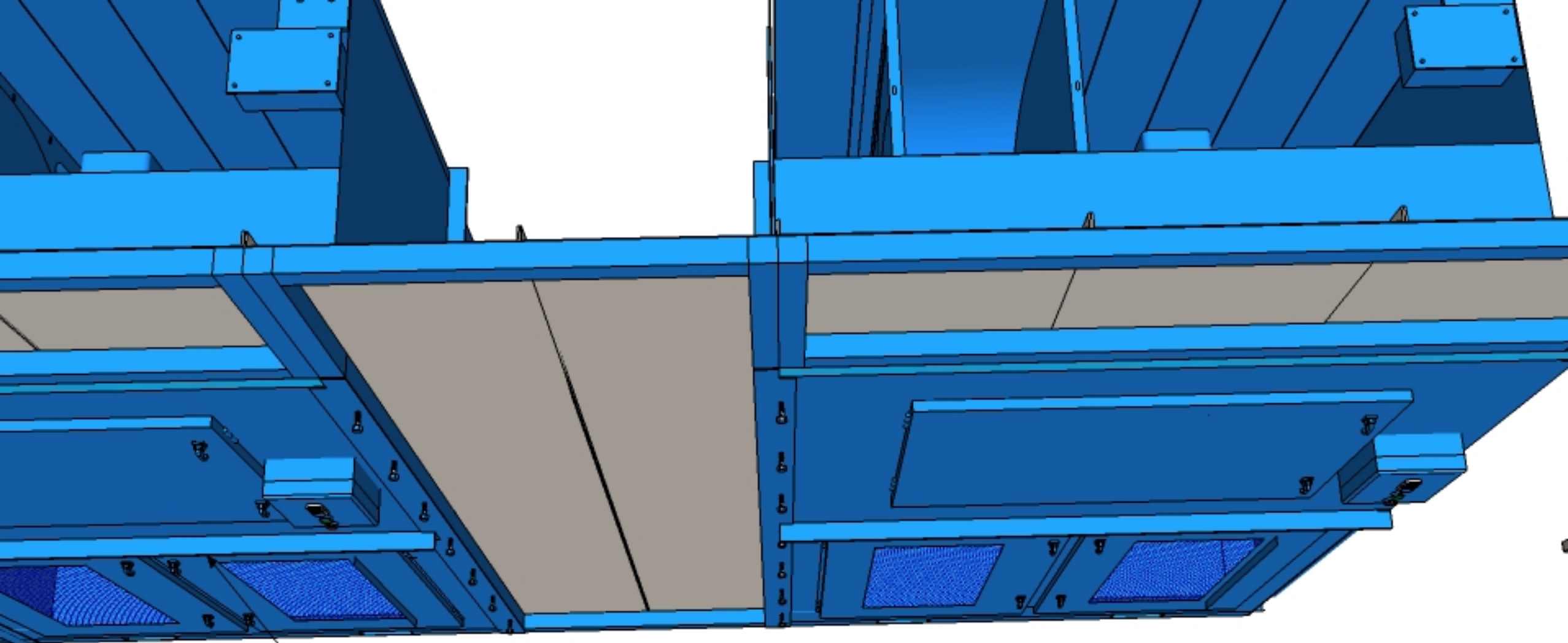


Center panel will be the height of the work area.

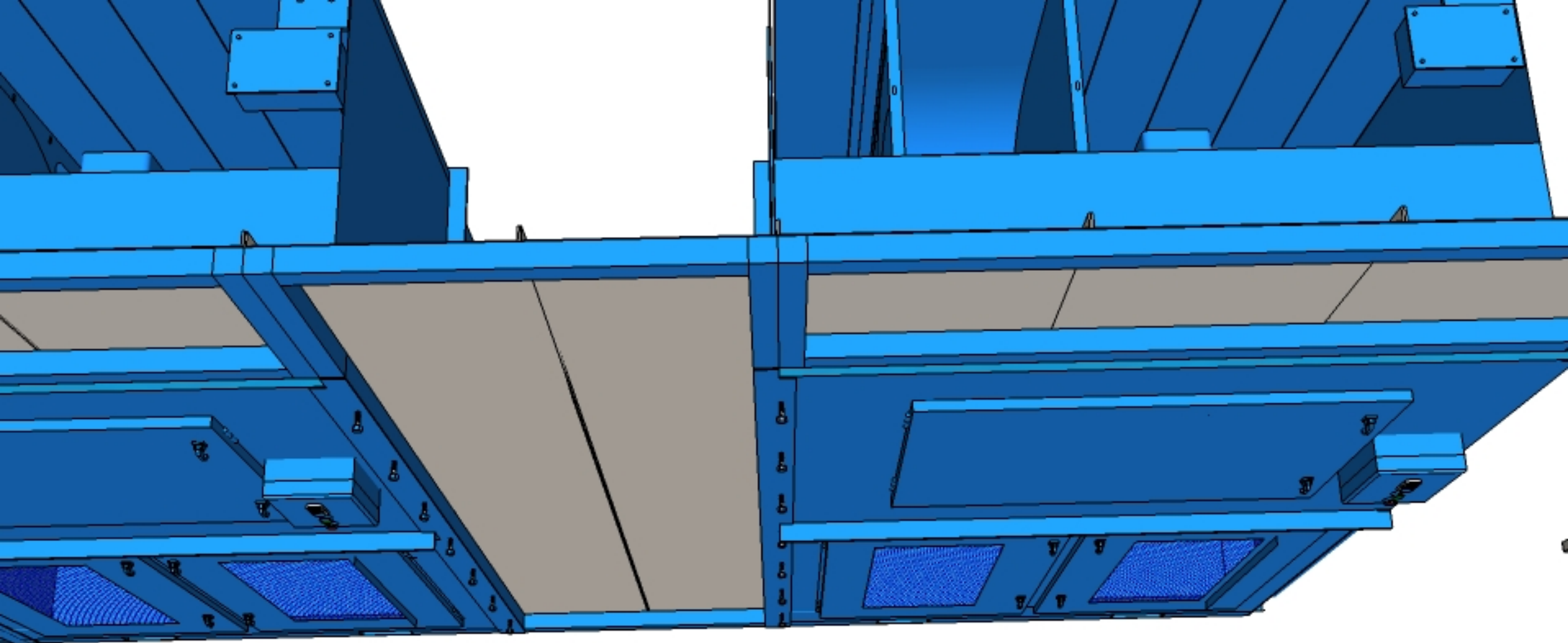


Set Right machine in the location that you determine

Screws to secure side panels to machine



Set the left Machine and loosely screw through the flanges into the left machine.

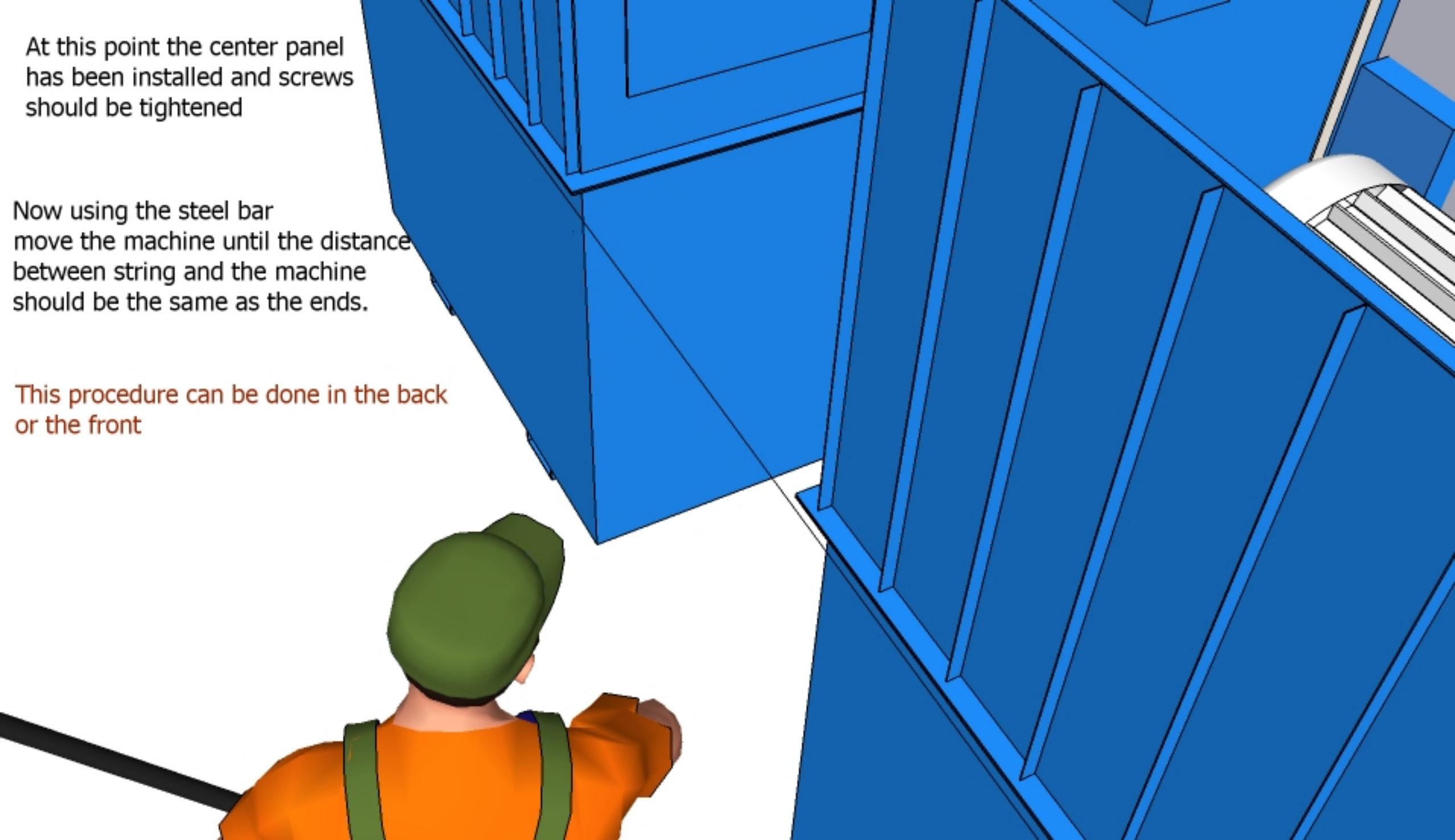


Now refer to the alignment pages to get machines in a straight alignment. Shims under one or more corners may be needed, in order to get all the alignments needed. This will allow for floors being uneven. After the machine is all together with screws loosely in place, be sure all screws are tightened.

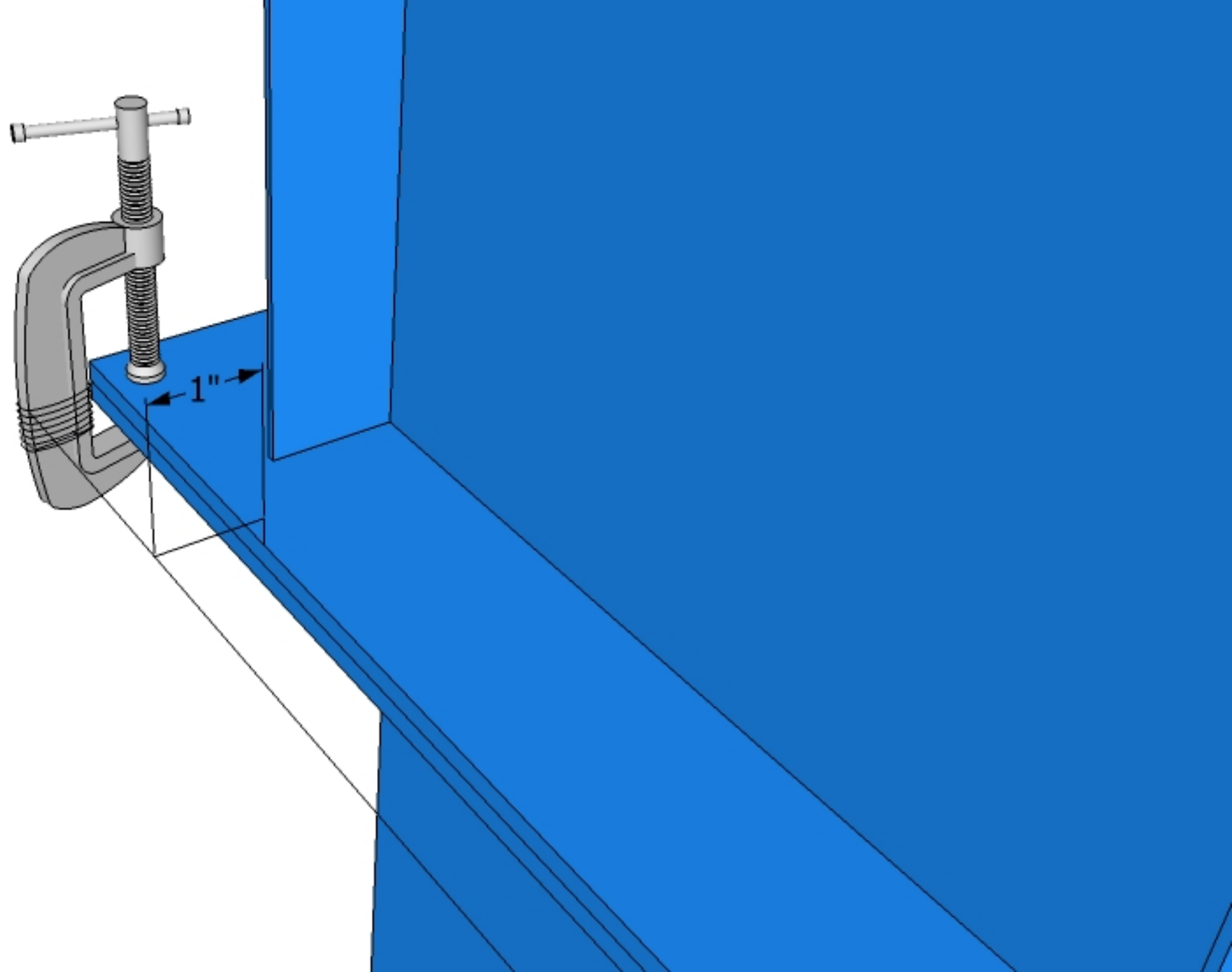
At this point the center panel has been installed and screws should be tightened

Now using the steel bar move the machine until the distance between string and the machine should be the same as the ends.

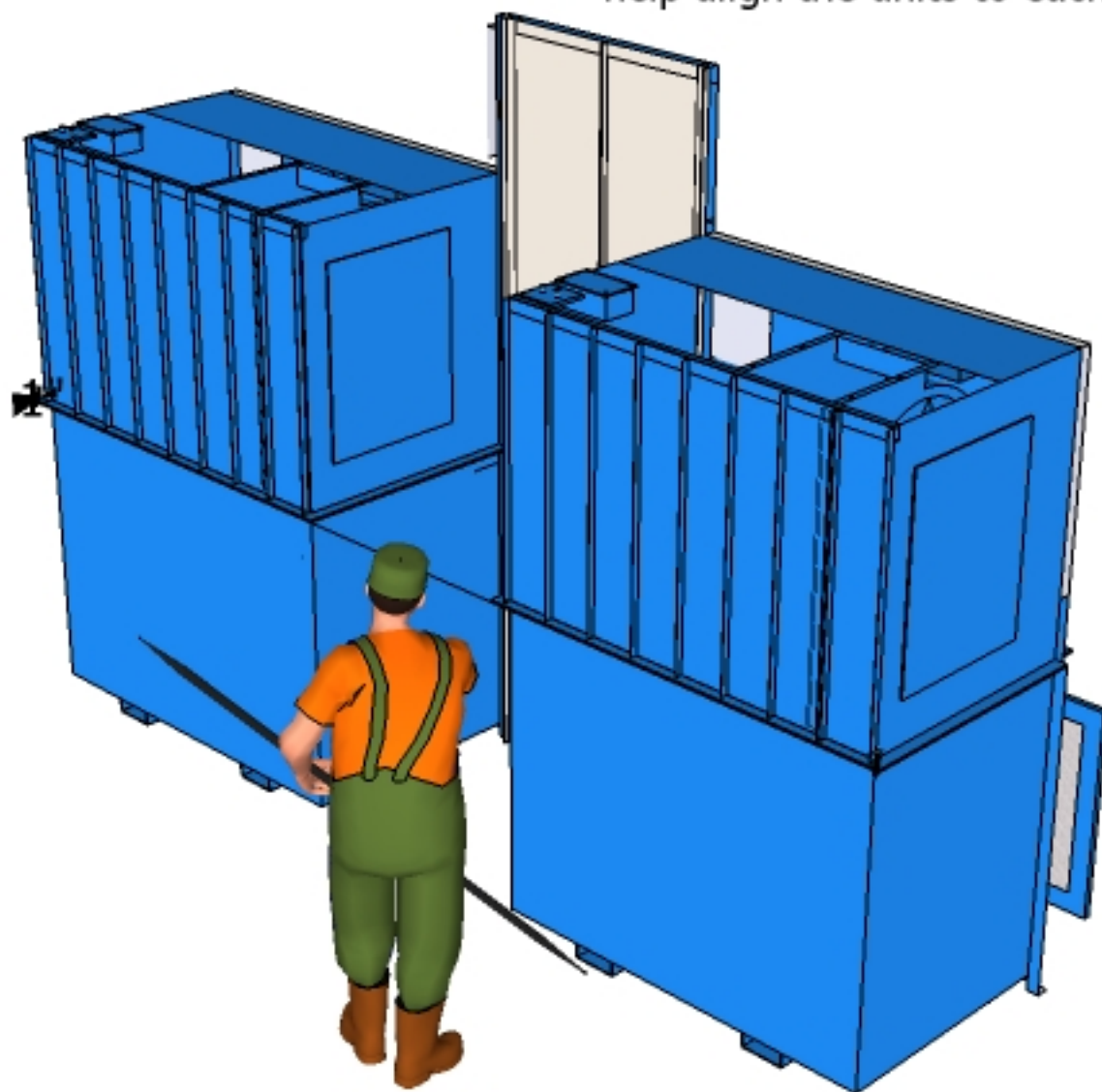
This procedure can be done in the back or the front

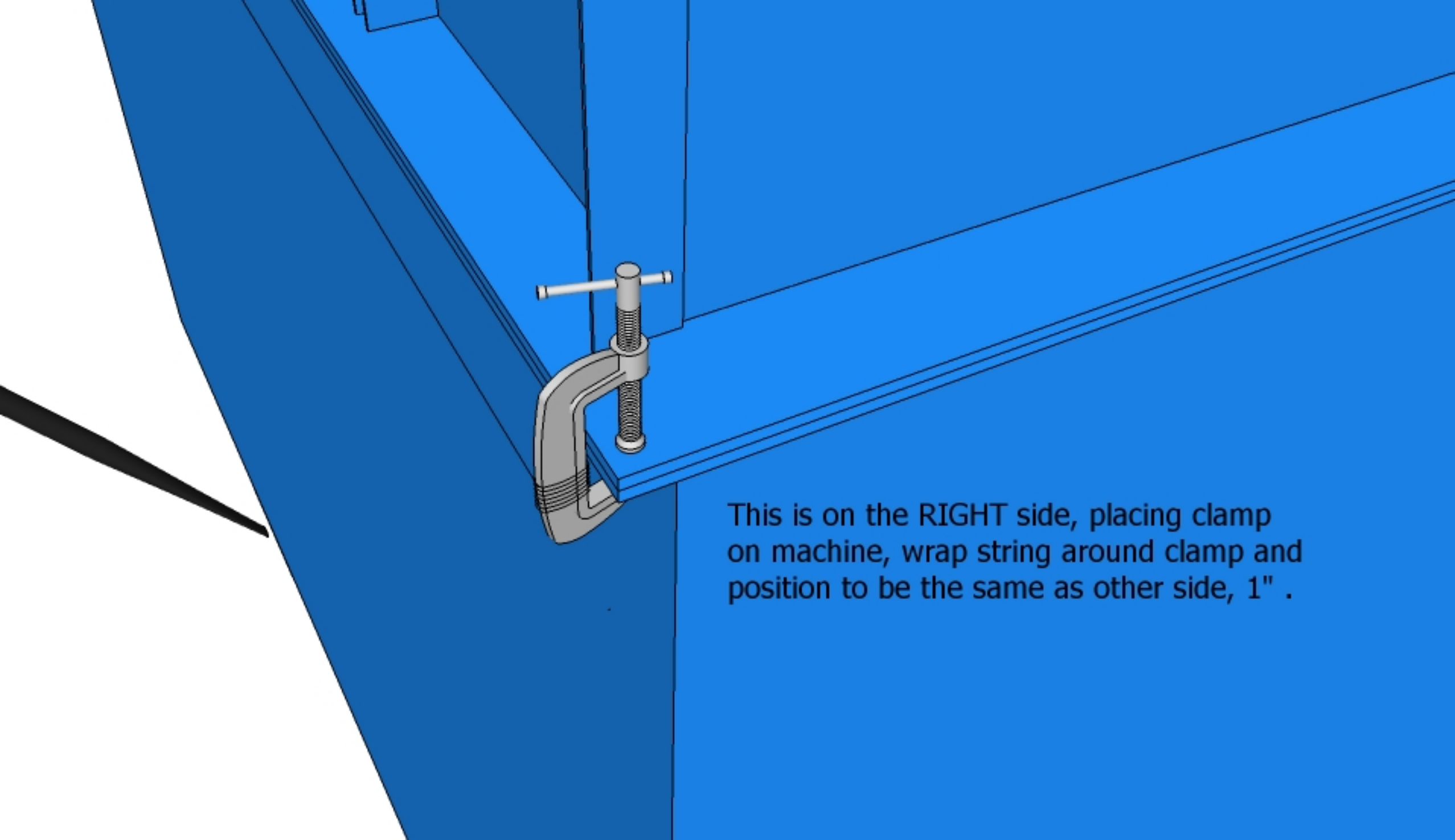






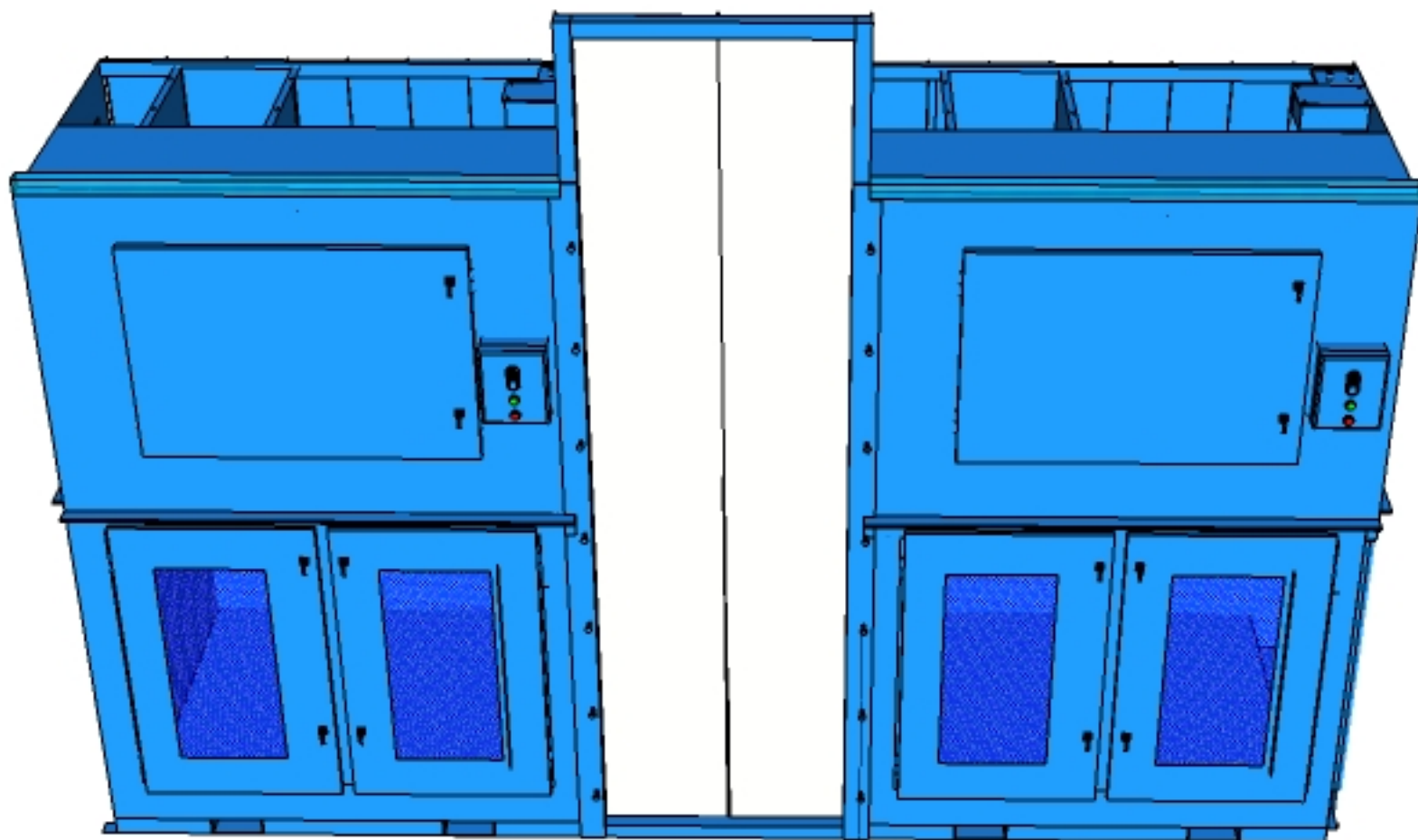
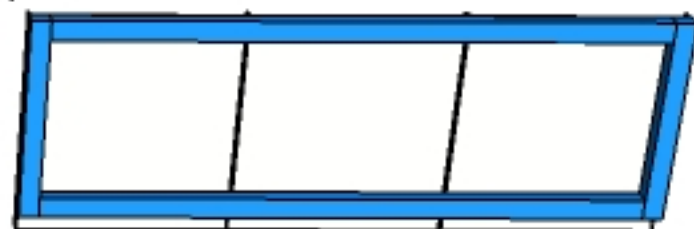
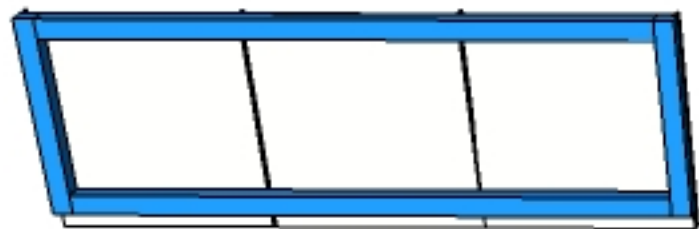
Using a Rock bar or a long steel bar as a lever will assist in moving the power units easily to help align the units to each other.



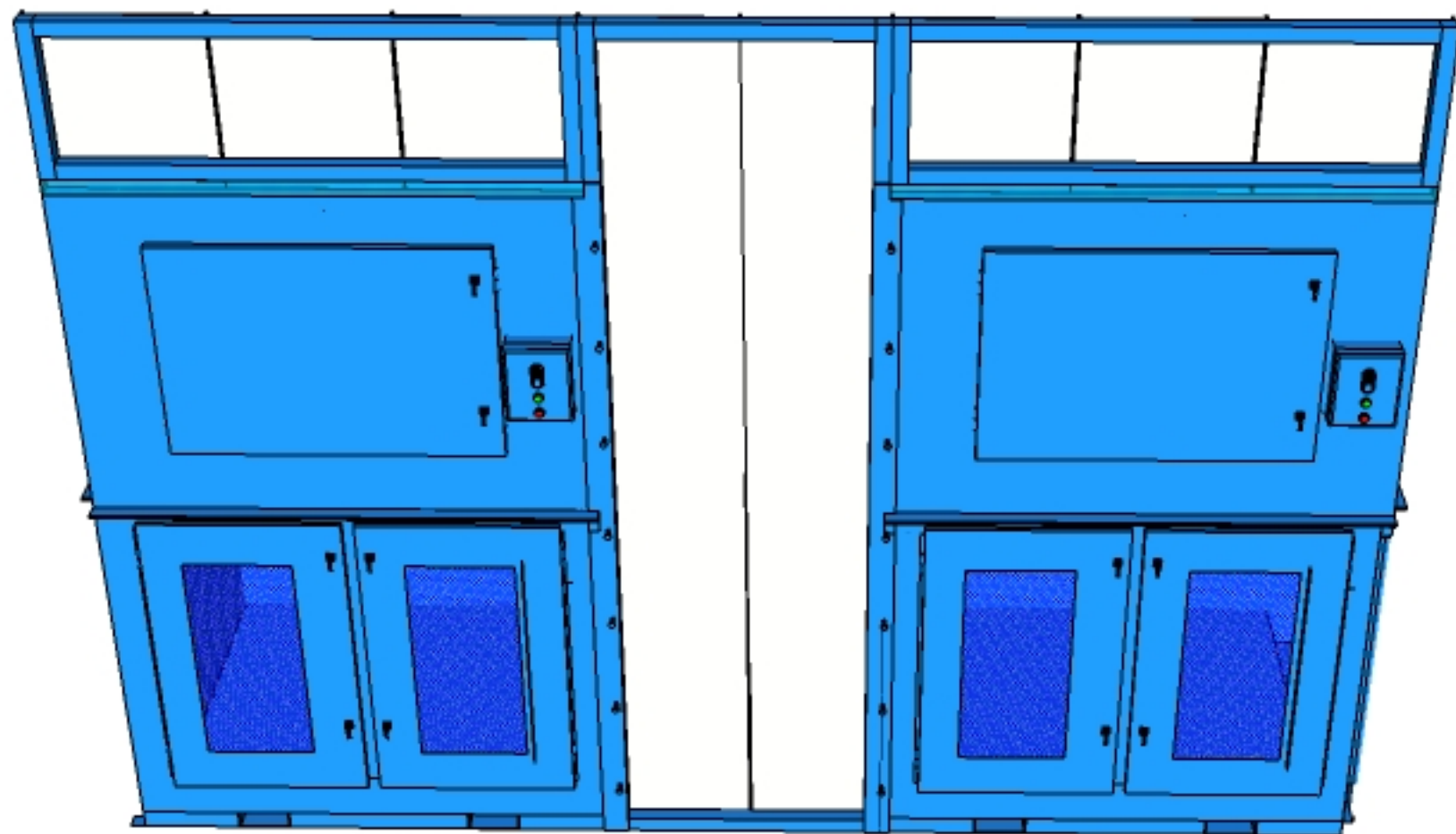


This is on the RIGHT side, placing clamp on machine, wrap string around clamp and position to be the same as other side, 1" .

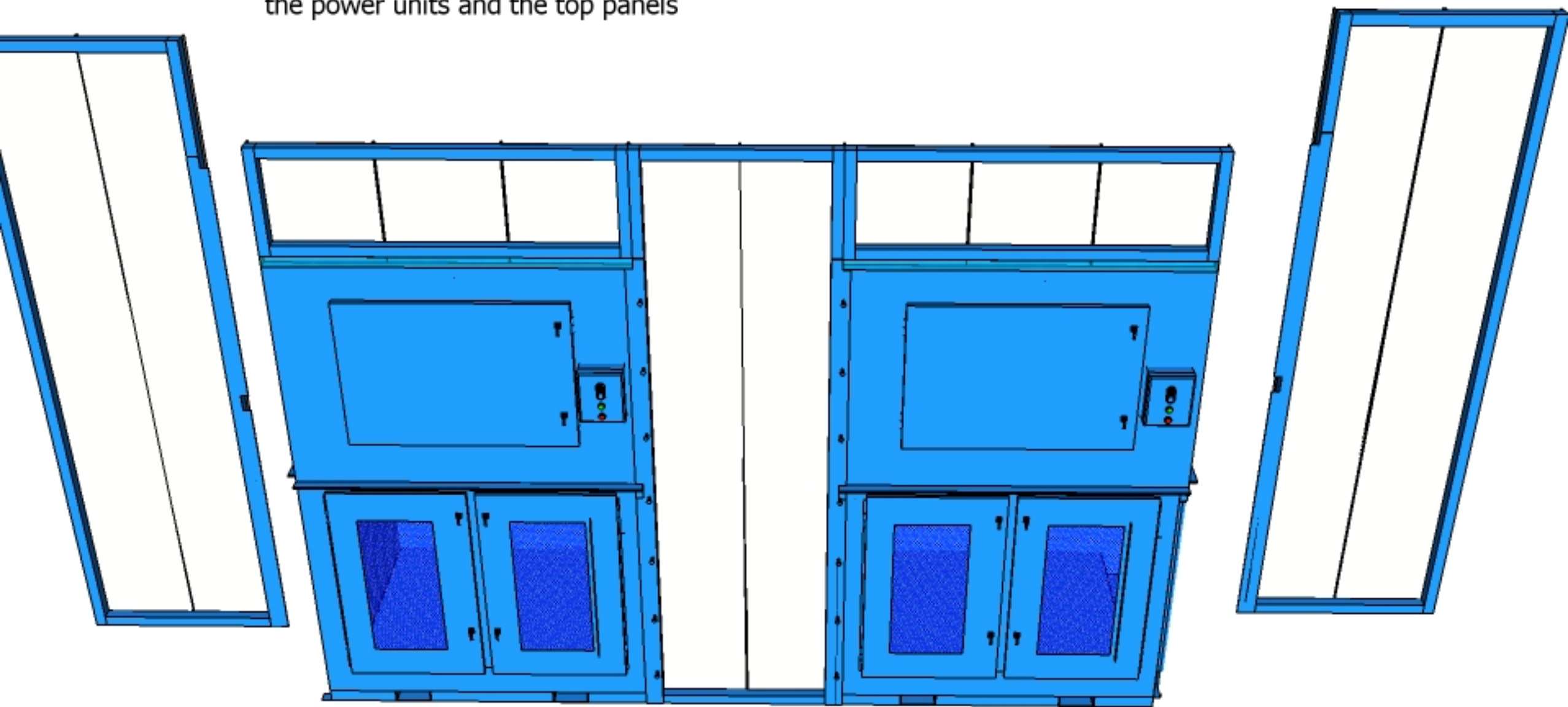
Set Top panels on the unit and place loosely  
the screw in the back bracket to hold in place



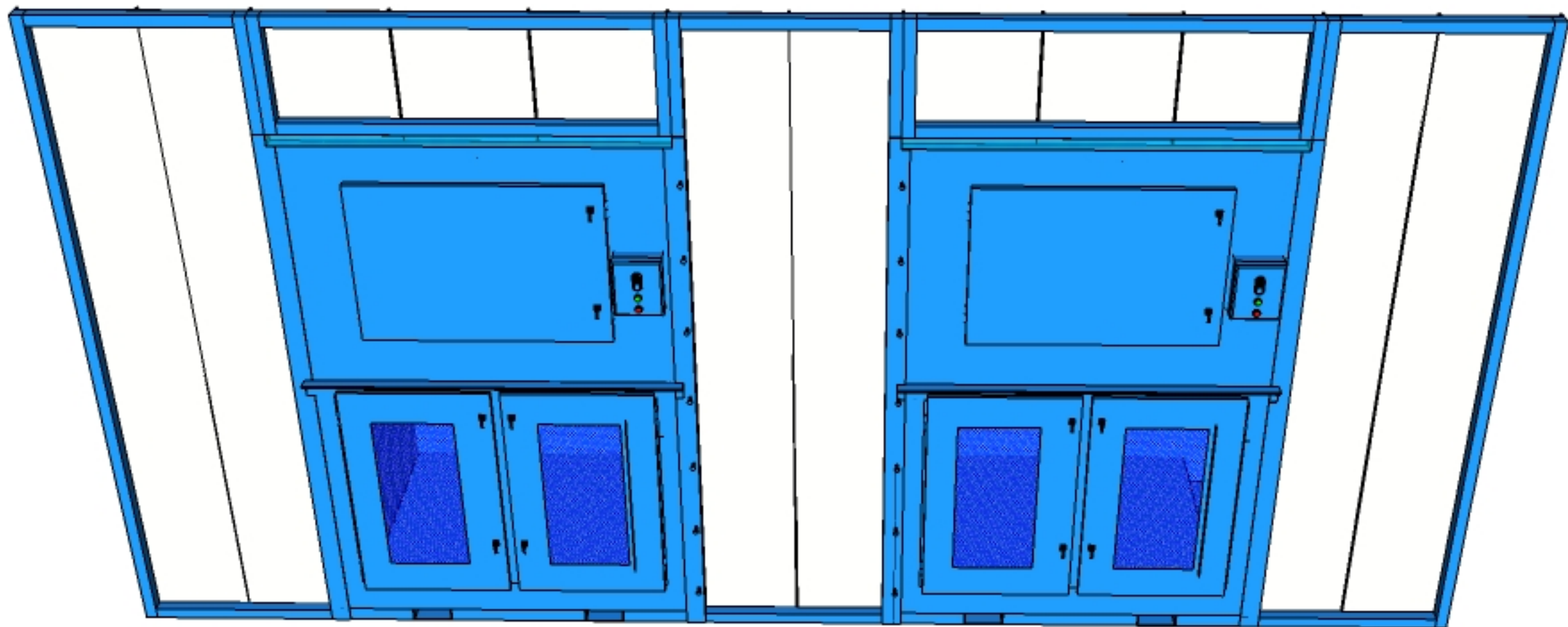
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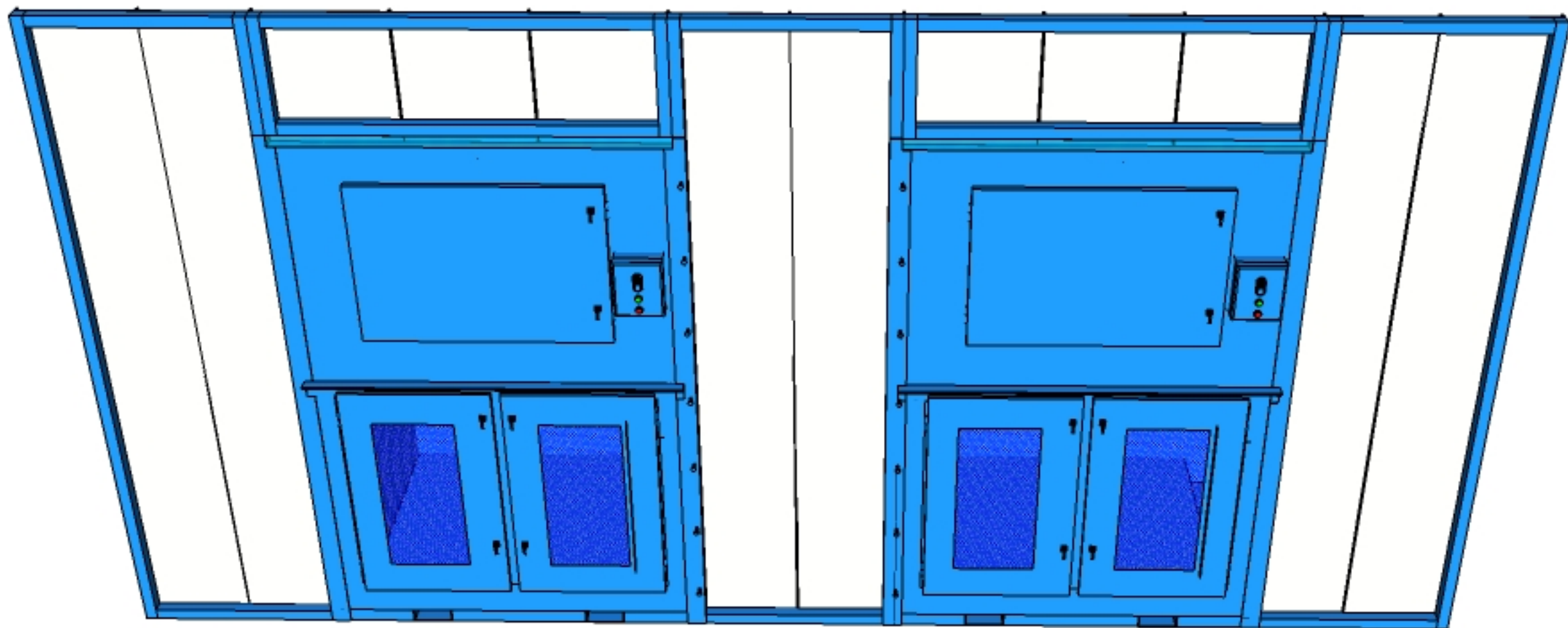
Now set the end panels and screw loosely to the left and right side of the power units and the top panels



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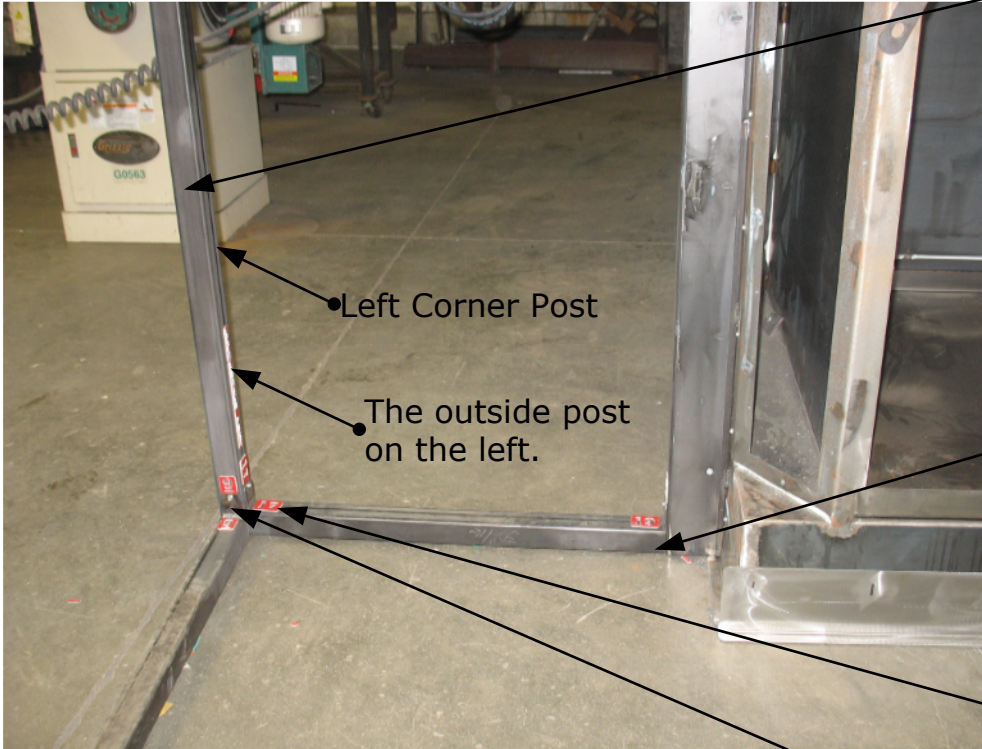
Now refer to installation instruction for the remainder of booth





The right and left corner post are the first post you need to locate

Locate these post first the numbers on the bottom will tell you the short piece on the floor, the number on the right side will indicate which post on the left side of the left power unit



Left Corner Post

The outside post on the left.

This number will be on the bottom of the left

Numbers to locate the parts in the proper place. All ODD numbers are on the floor Even numbers are on top.



The number on the bottom of the post on the right side of the right power unit. will match the number on the short tube

Right corner post the very outside post on the right

Odd number to tell which tube for the floor



If your floor does not lay good and flat, caulking will need to be placed between the floor tube and the flooring. This will prevent dust being blown under the tube when compressed air is being used to blow items off

5 - 1/2" bolts each end

6-1/2" Center bolts

Positive air fan Right side

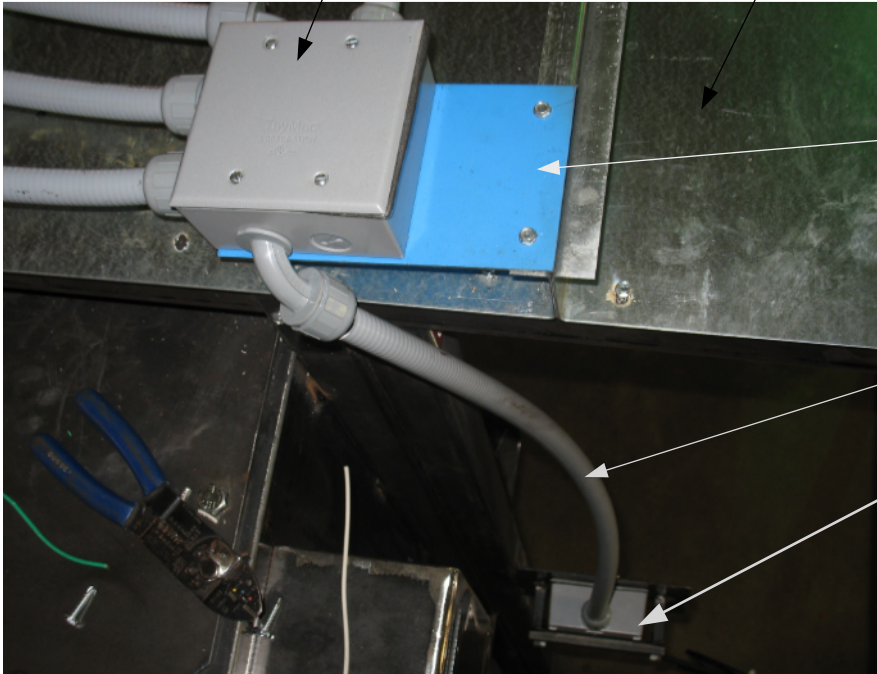
Top Header



Bolt the left and right front header are to bolted together on the floor and lifted in place by a forklift. If your front is three piece you will have left and right POSI Air and the other is the center. Tighten the center bolts up before lifting in place. Locate all the bolts on the ends before tightening any of them.

Junction Box that separates all wiring for fans and lights.

On Top of Ceiling looking down beside the left power unit on the outside



This box is secured to the panels by 2 screws.

Conduit to switch box.

Top of switch box

Fan Switch

This switch box is held in place by this bar squeezing the box to the plate.

Place velcro around this plate, so the vinyl will be secured to this plate. Put the vinyl on before the switch box is secured in place. You will have to cut out the vinyl around the post that bolts to cross bar.



this the top trim, it will be a flat steel part with slots cut in it for screws to hold in place.



Knob that holds doors shut.

Dust drawers

Base Trim, 3 piece  
two sides one on the front.



## VELCRO Ins.

Top side in front and back

Velcro the following tubes

Back side on the sides not  
over the power unit

outside of front tube, on sides only

Backside tube

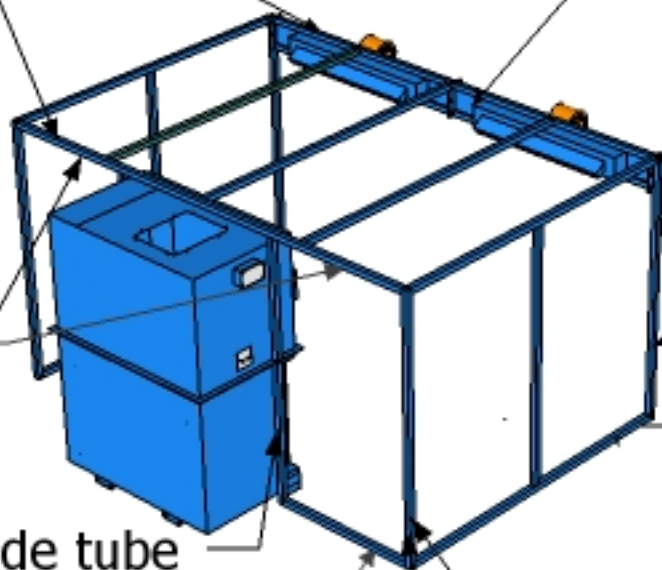
outside  
bottom tube

Backside bottom tube

outside left corner

Backside left corner

The rough side of the velcro is to be installed to the tubes. then the fuzzy part of the velcro will be placed to the rough side LEAVING the tape over the adhesive, install vinyl and pull tight, Start pulling off the tape and pushing the vinyl to the bottom tube, starting in the front corner and work yourself towards the back. Go to other side and pull all wrinkles out, BUT do not pull real tight, and start same process on the bottom tube on other side. Then do the verticle tubes, trying to keep it wrinkle free, starting at the top working your way down.





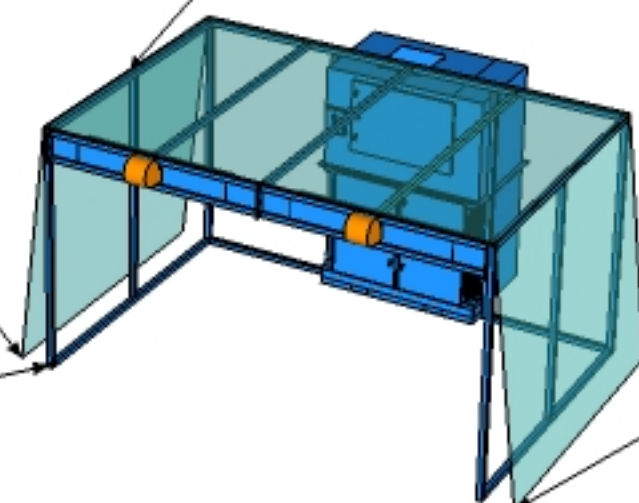
1 Pull the adhesive strips off the bottom on one side first

4.. Going to the back and repeat step three

After the Velcro is installed and all Vinyl installation is finished, then take a #10 Hex-teck screw and washer all along the OUTSIDE every 12-14" apart, to hold the vinyl and velcro in place.

3.. Start in the front and pull the adhesive strip off the bottom and stick the vinyl to the velcro. Work your way up, across the top and down the other side.

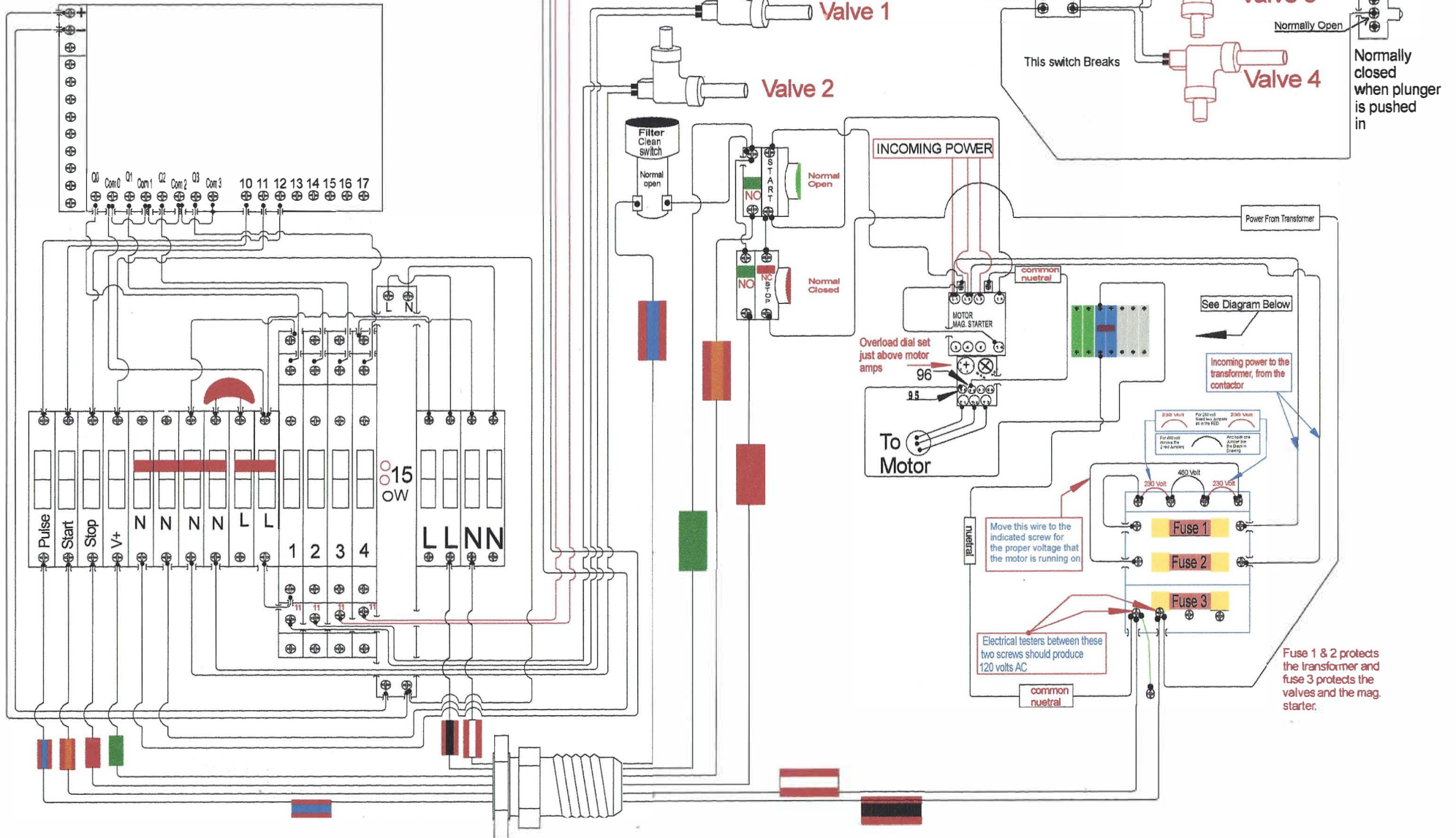
2 Go to other side and pull tight and remove the adhesive in the front and start sticking the vinyl to the velcro and work your way to the back, trying to keep out wrinkles.



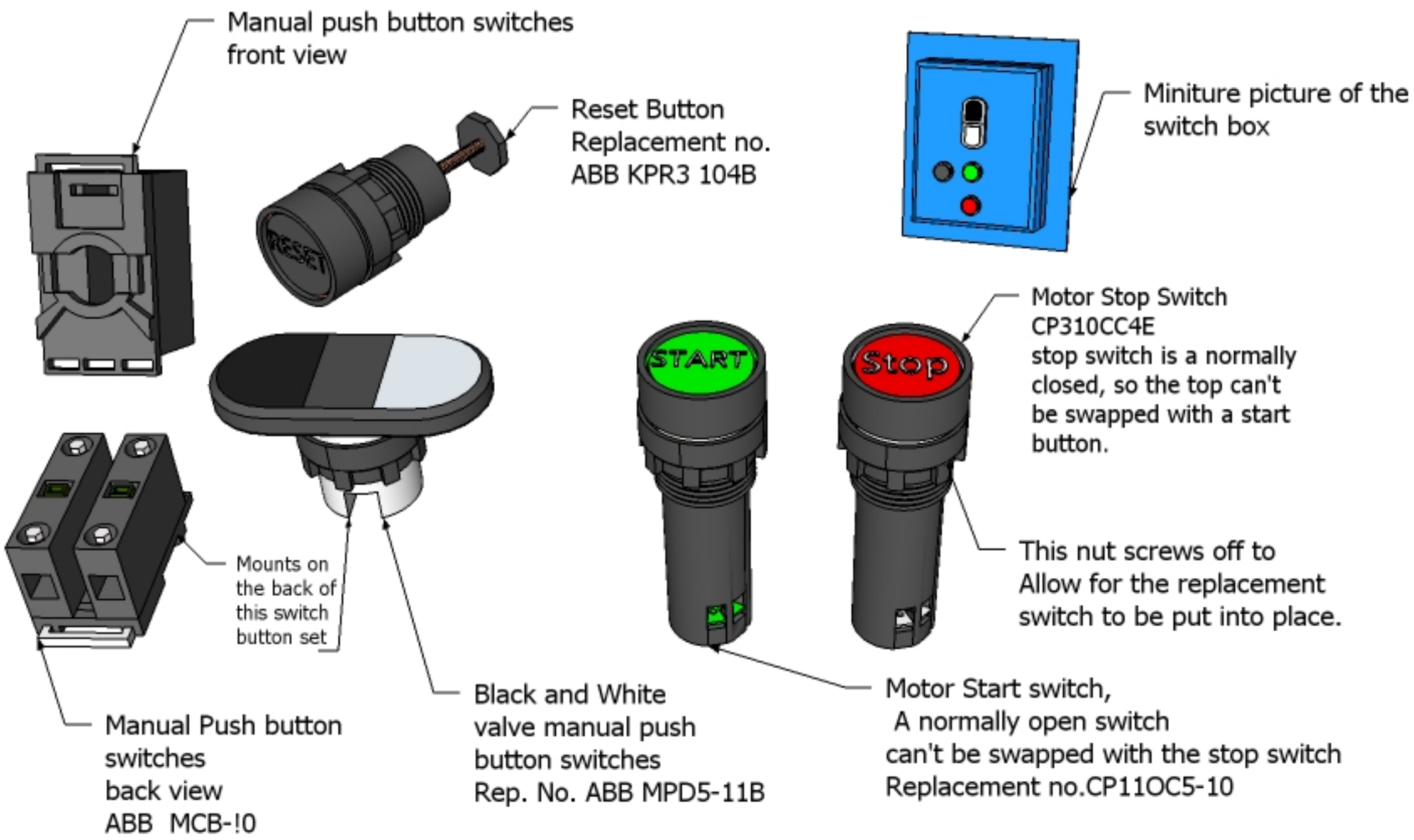
# 85120 Booth Power unit Electrical HMI Timer Inside The Machine

# Power Box on the Unit

Valve 3&4 in 2nd machine







# Complete Switch And Two

## Step 5

One screw on the start switch should read 120 volt, and with the start button pushed in the other should read 120 volt if not, replace the start switch.

For advanced Techs, if you think the start switch is bad, remove one wire from a start switch screw and check continuity with the start switch pushed in. Power must be off in this test.

## Step 4

With one tester probe on the stud on the door the other on the stop button, both screws should read 120 volts. If one does and the other does not, bad stop switch.

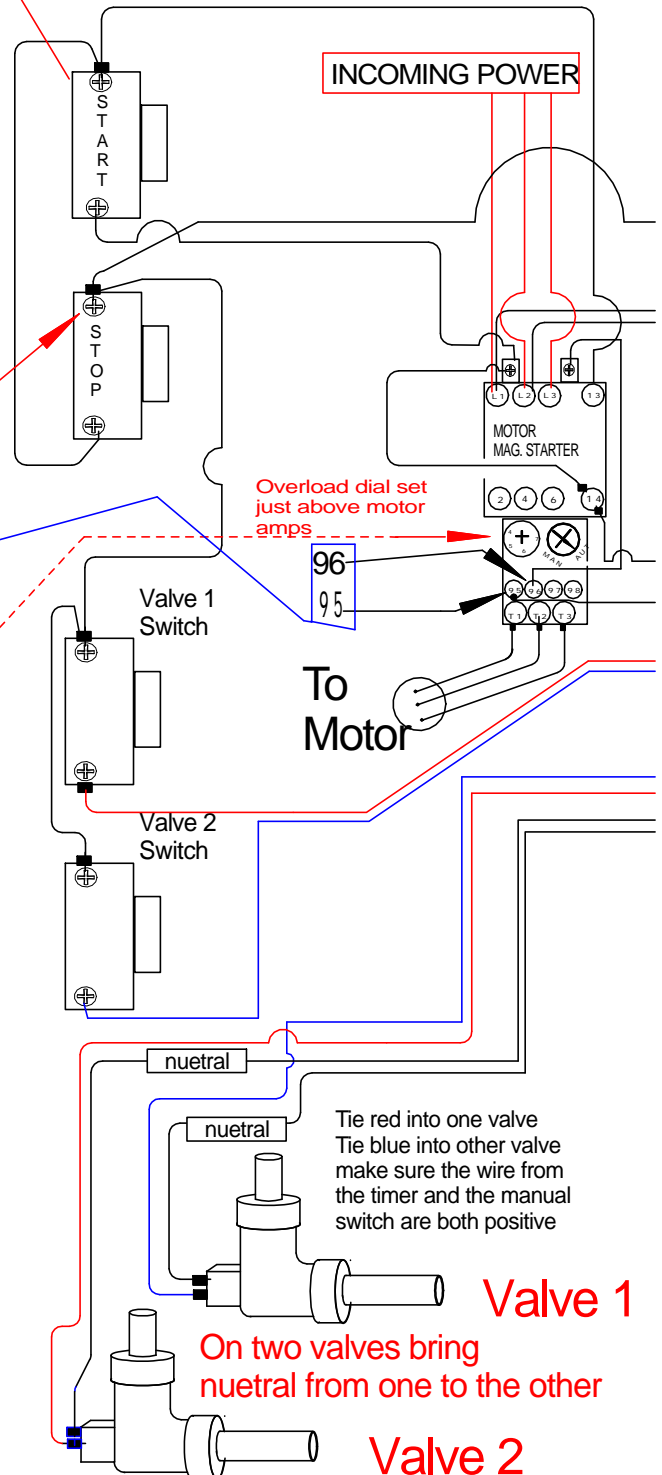
## Step 6

If 95&96 is working correctly, continuity flows through them. In the case of an OVERLOAD it opens thus preventing continuity, thus shutting down the motor. If all the switches check out, place all the wires on 95 and 96 at the bottom of the overload, into one of the two it does not matter which one. If the starter works now, you have bad overload.

## Step 7

If 6 did not kick the starter in, it is the contactor

Motor Runs a few moments and stops  
Turn the dial on the overload about 2 amps, move up in 2 amps at a time only. Check the motor amps on the SERIAL TAG, make sure of the proper voltage, make sure you never advance the amp setting on the overload dial more than 20% of what is noted on the tag. If more is needed then the overload will need to be replaced.



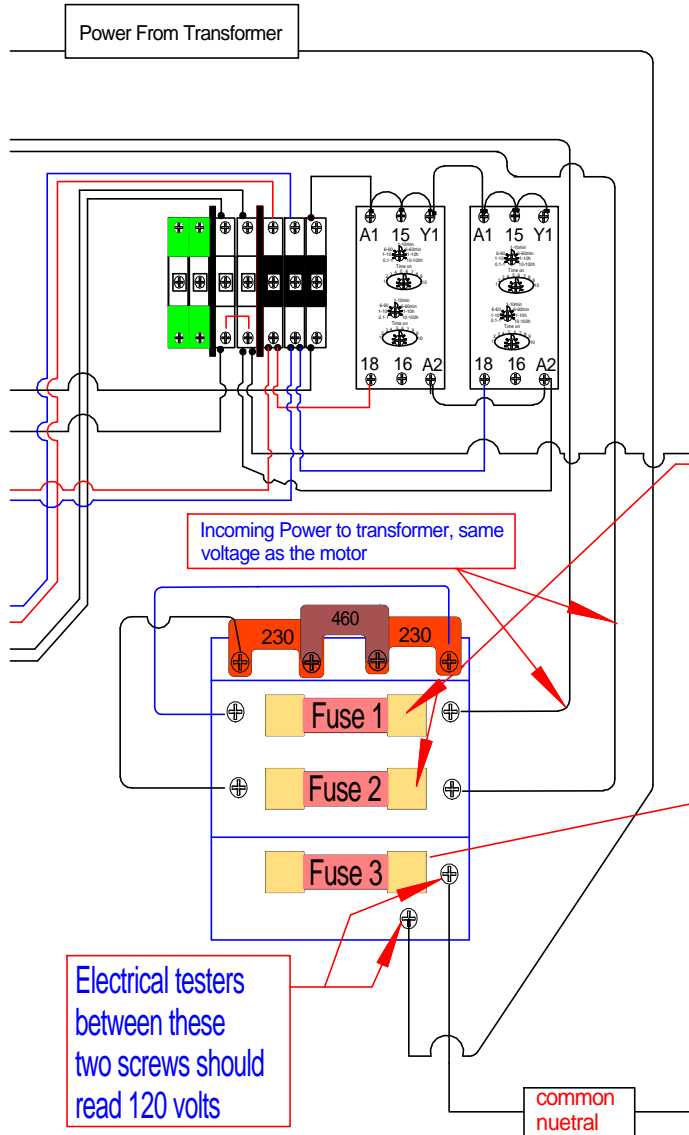
### General settings

Wood tables 24 minutes  
Grind tables 18 minutes  
Weld smoke tables 12 minutes

# Combo With 2 Timers Valves

Revised edition  
Sep 1 2010

## Optional Timers



# Trouble Shooting electrical

**Step 1**  
Make sure RESET button is activated properly.

Make sure you have power coming into both fuses. It should read your line power coming in to your motor. ex(230/460 Three phase)  
Tester placed on incoming side of both fuses should read your voltage, if not check wiring at top of mag starter

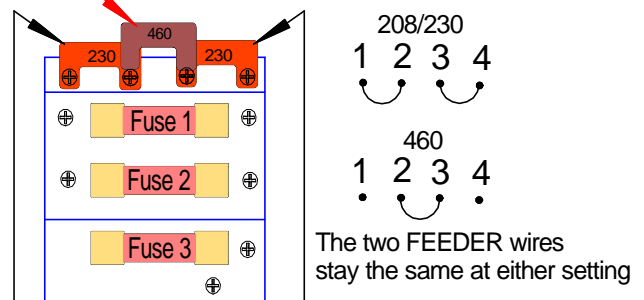
**Step 2**  
If the two top fuses read proper voltage on incoming side check the going out side, see if they read the same. If they do procede to step three.  
If you do not read the same, one fuse must be blown, change with proper type and size of Fuse

You may have older transformer and may be set up a little different, still needs to read 120 volts on the third fuse.

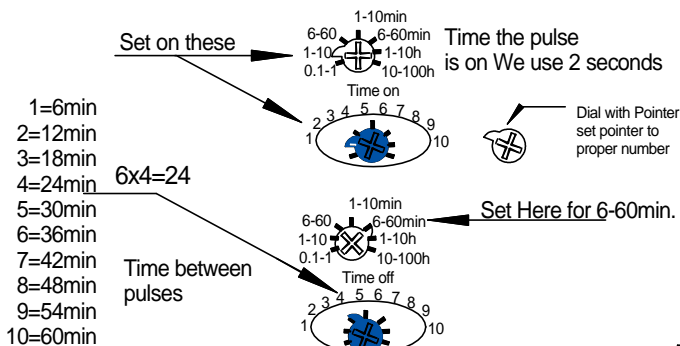
**Step 3**  
Check this fuse to see if you have 120 volt from this fuse  
There is a small stud bolt on the inside of the power box door. Place your tester probe to that stud and the other to this fuse, a good fuse will read 120 volt on both ends of the fuse. If both sides do not read 120 volt change the fuse.

## Voltage Change "TRANSFORMER"

460 Volt use the center bridge only



For 208/230 place the bridges or wire on the screws with the ORANGE bridges



# TROUBLE SHOOTING

All the below solutions are meant to be done only by a qualified technician

1	Motor not running	Look to see if L1- L2 -L3 wires are in and secured and proper voltage is there	Check if wires at bottom of mag starter to the motor are in bottom and secured.
2	The above checks OK	In center of the contactor is a rectangle post that is hooked to coil below. With screwdriver push in and see if motor will run. If motor will run something is wrong with the push buttons, That activates the starter.	
3	Motor runs when center post is held in, but not by the switches	Make sure every wire is secured on starter if still no results call Denray for further assistance	
4	If center post is held in and nothing happens hook power leads to motor leads at bottom of mag starter if motor runs the problem is the starter.	Call factory for switch replacement	
5	If on switch closes mag starter and motor does not run.	FIRST take tester and check see if there is the proper voltage at bottom of starter	
6	If proper voltage is at bottom of starter	Check to see wiring at motor is properly hooked together	
7	Mag starter works and motor only hums	Check for proper voltage check all wire connections to be tight check wiring diagram and motor leads to be correct	
8	Motor runs for a few minutes and shuts off	Turn the amp dial on overload to increase the number. Increase only 1 amp at a time Never increase more than 2 amps above motor full load amps	
9	Filter Cleaning valve will not pulse	Check the three 1 amp fuses on top of the transformer in the switch box.	
10	Fuses OK	Check wiring in front of and behind the fuses	
11	Fuses and wiring checks out OK	With it being quiet activate the switch and listen to hear a clicking sound from the valve or valves.	
12	You hear it clicking	Make sure air is hooked up to tank	
13	Air is hooked up and it still clicks	Call Denray Replace valve	

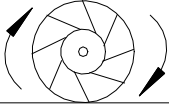
# TROUBLE SHOOTING

All the below solutions are meant to be done only by a qualified technician

14	Machines with timers Timer not working	Check fuses:: Check wiring between mag starter and timer. Any loose connection, secure the connection
15	Green light on timer does not work	See above Bad timer needs replacement
16	Filters need to be cleaned more often	Turn dial on timer to a lesser number set at factory at approx. every 20 minutes.
17	Lots of dirt remaining on filters after being cleaned	Decrease time between cleanings. Check air pressure going into machine. Keep between 100-140 psi
18	Filter never completely cleans all dirt off	Not supposed to:: Machine designed to operate at 30% filter blockage. The cleaner a filter is the better the machine will perform.
19	Loss of suction on top of table	Dirty filters :: Refer to above
20	Excessive exhaust air on the floor	Any air that is sucked into the table top must come out in exhaust somewhere. Look into adding Muffler to machine
21	Dirt packed in top 1/3 of filters	Rotate filters two times a week 1/4 turn
22	Inside of filters are rusty colored	Blowing water from air tank inside of filter. Drain air tank more often ( daily if possible) Installation of a dryer or water trap may be necessary
23	Filters will not come clean	Pull filters out of machine and take blow gun and from inside blowing out give filters a deep cleaning
24	How often do I need to do the above	Some companies do it daily and some weekly and some monthly. You must determine that for yourself
25	Moisture blown in filters will make filters harder to clean	Refer to 22
26	Are filters washable?	Spun-bond filters in the grind tables can be washed only a couple times and must let thoroughly dry. Filter cleaning service companies may be available in your area.

# TROUBLE SHOOTING

All the below solutions are meant to be done only by a qualified technician

27	Fan making a loud roar	Fan rotation backwards, on three phase, switch wires on L1 and L2
28	Lack of proper suction	Fan running backwards will produce 2/3rds less suction check fan rotation <b>See Drawing</b> Fan Rotation 
29	Machine vibration on direct drive systems	All fans are factory balanced from fan company, fans checked and rebalanced at table MFG, if table has vibration, fan weights may need to be moved to another blade.