

OPERATING INSTRUCTIONS

85120 Booth



| DENRAY MACHINE | |
|---|---------------------------|
| (800) 766-8263 | |
| MODEL NUMBER | 3444B Super |
| SERIAL NUMBER | 475389 |
| MOTOR HP | 3 |
| AMP | 15.0 |
| VOLTAGE | 220-1Ph / 60 Hz |
| FAN TYPE | 18" Comfri Fan |
| MFG DATE | 10/29/18 |
| FILTER NUMBER | EO 5814 |
| TABLE NUMBER | 9017 |
| SWITCH TYPE | A16S2 Overload TF42-29 |
| <small>Light Bar--Spun Bond--HEPA Bank--Plastic Top 7" Vise ---- 0 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

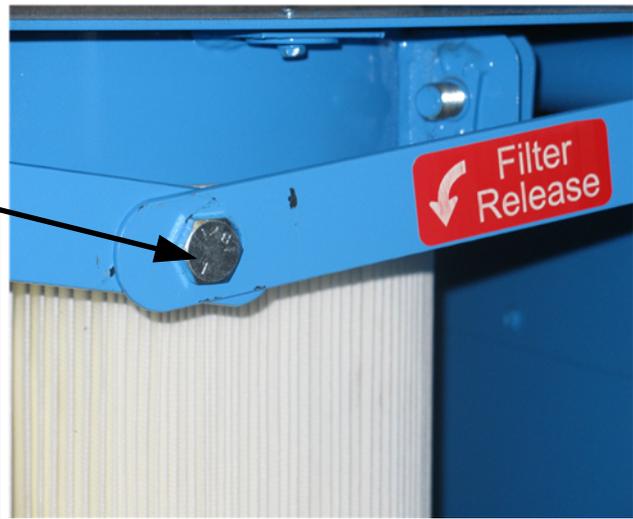
Dust Drawer Clean regularly, as needed

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

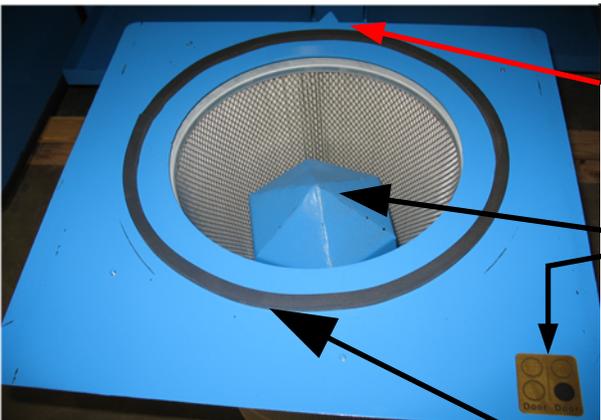
Bolt that holds the band that secures the filter to the steel plate that slides in the filter unit. This makes removing filters from the plate very easy, Allowing filter deep cleaning a much easier task, thus allowing the filters to be cleaned better and easier.



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

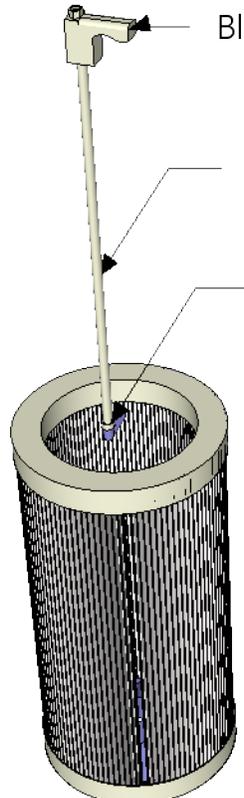


This Vee will align into the filter placed in first

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



Blow Gun

1/8" pipe screwed to blow gun

elbow on the end of the pipe to direct the air through the filter thus blowing off the dirt.

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

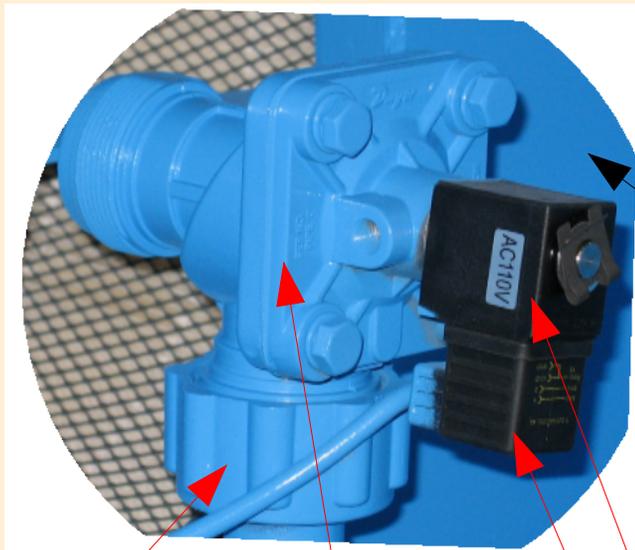
Closeup view of the valve

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

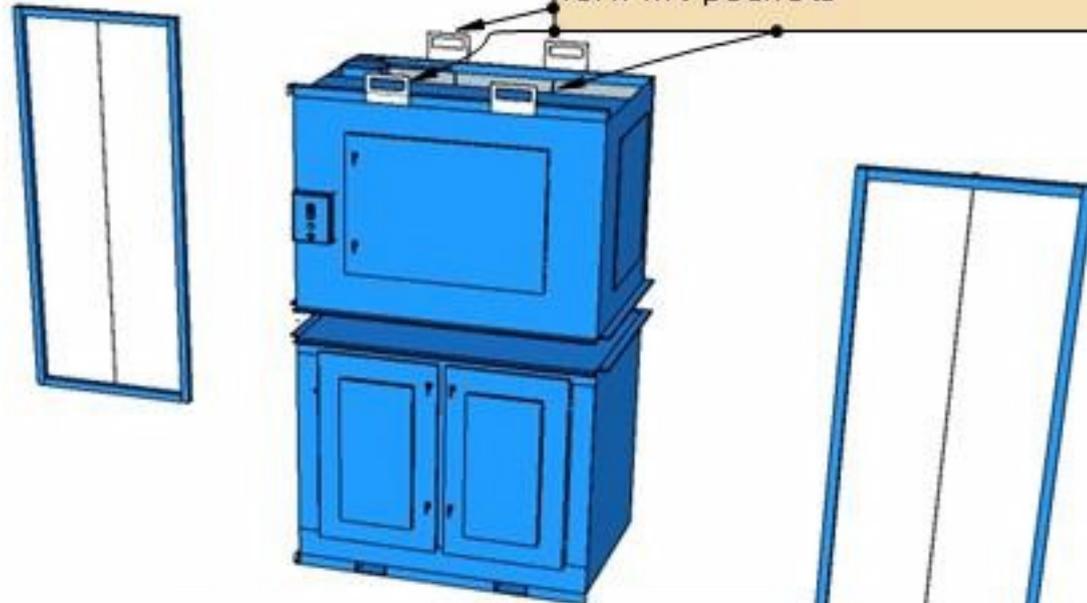
Compression nut that holds valve to the tank. Always apply a small amount of either grease or oil to the threads when reassembling to the tank.



Step 1

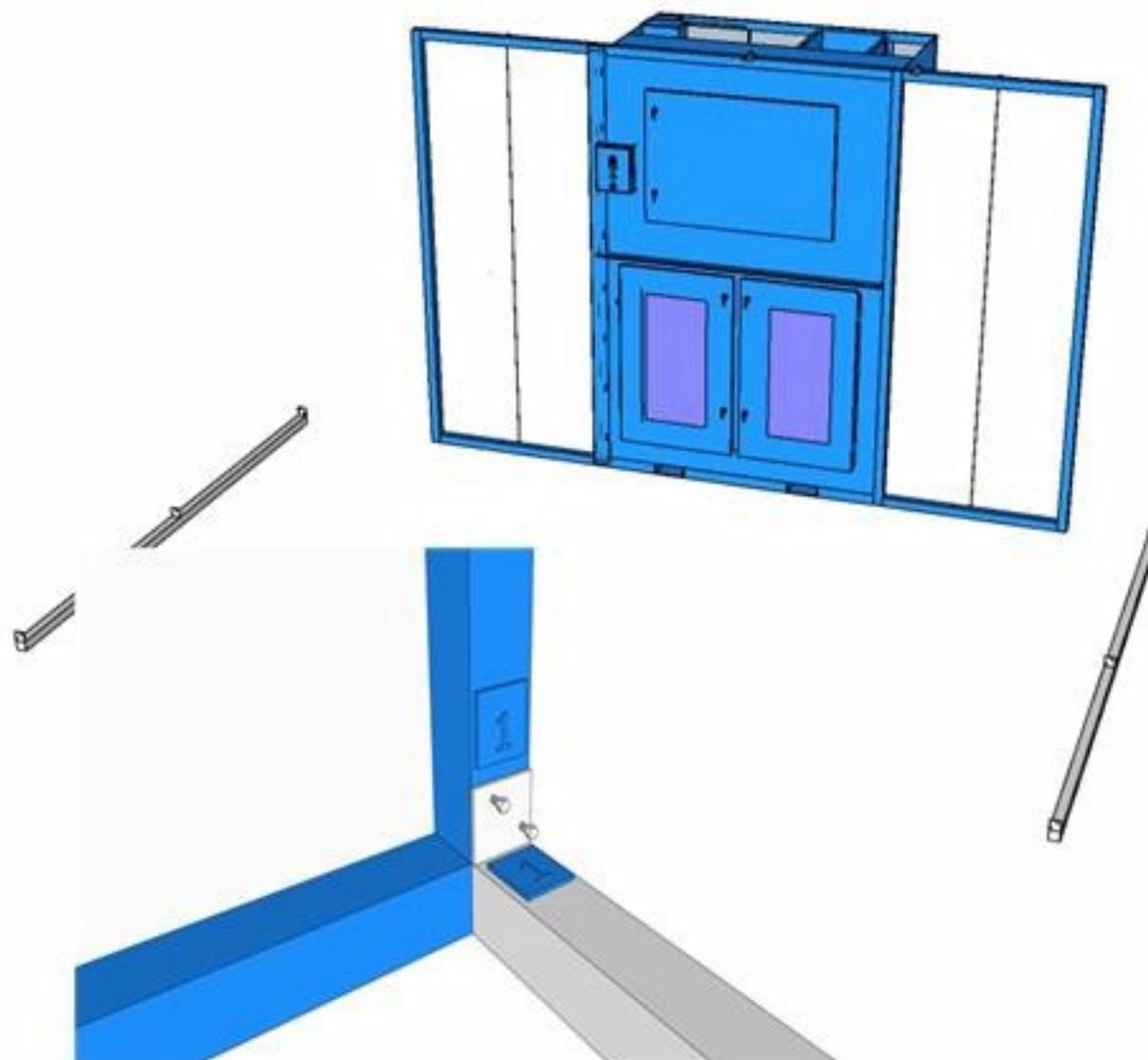
Locate The bottom filter unit where you want the unit to set. Using forklift, set the power/motor unit on top of the filter unit (Large phillips screwdriver or line up punches works good to align the two units up together) NEVER tighten a bolt until all bolts are in place, in the event the unit needs to be adjusted. These units have been preassembled at the factory.

After top has been set, Remove the fork lift pockets

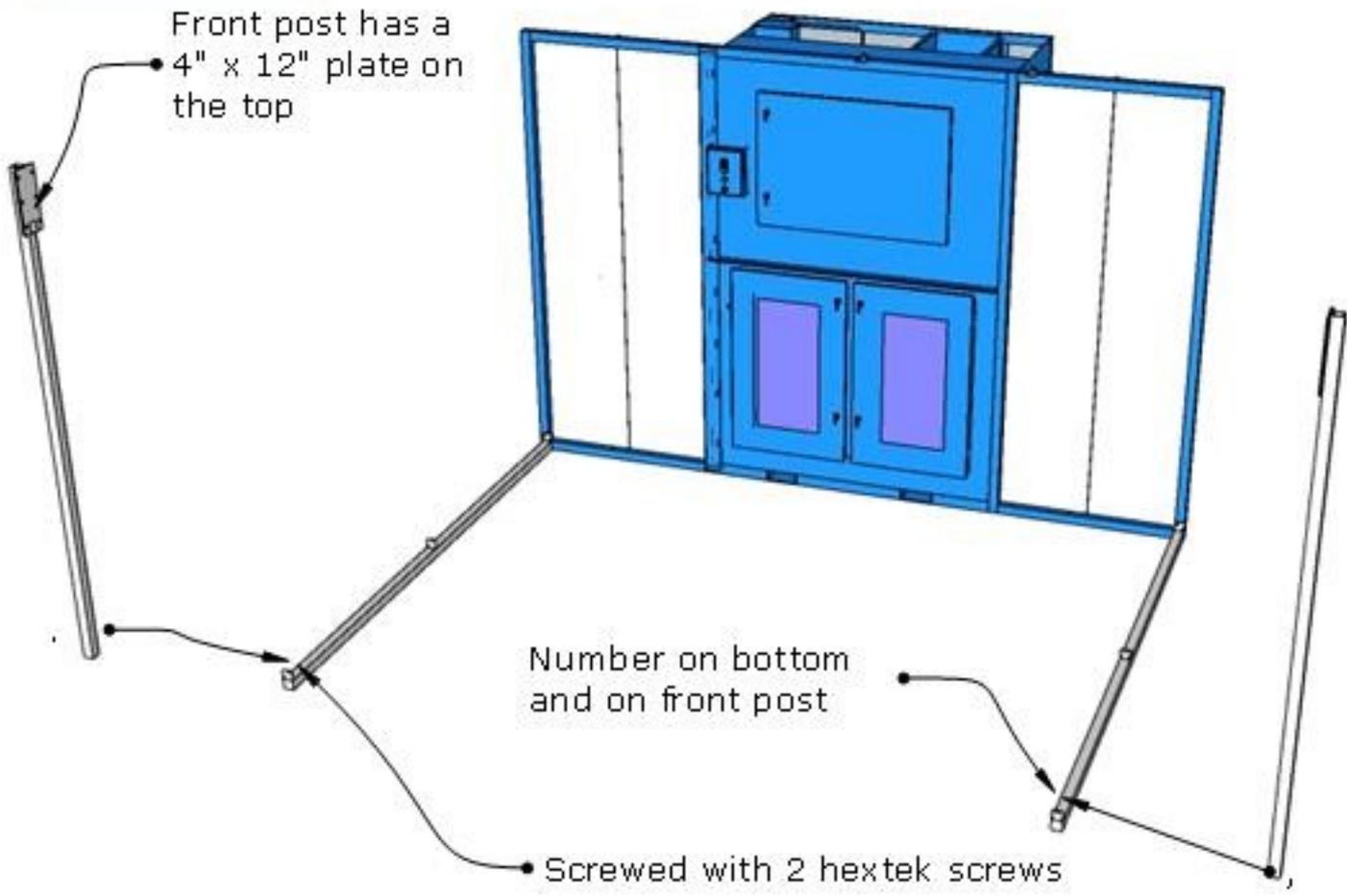


Step 2

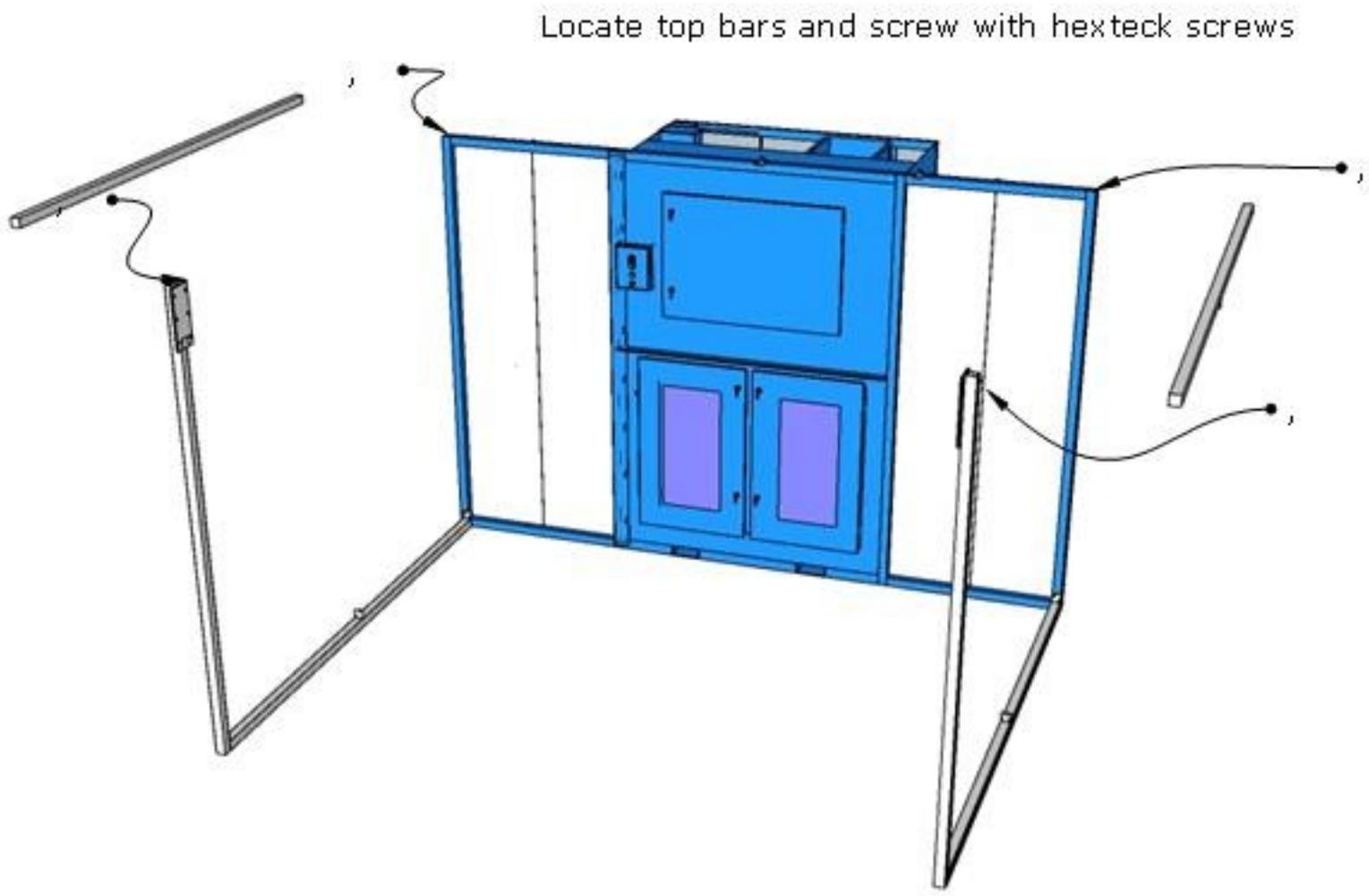
Frame on inside with sheet metal on the outside
Look for #1 on bottom right corner



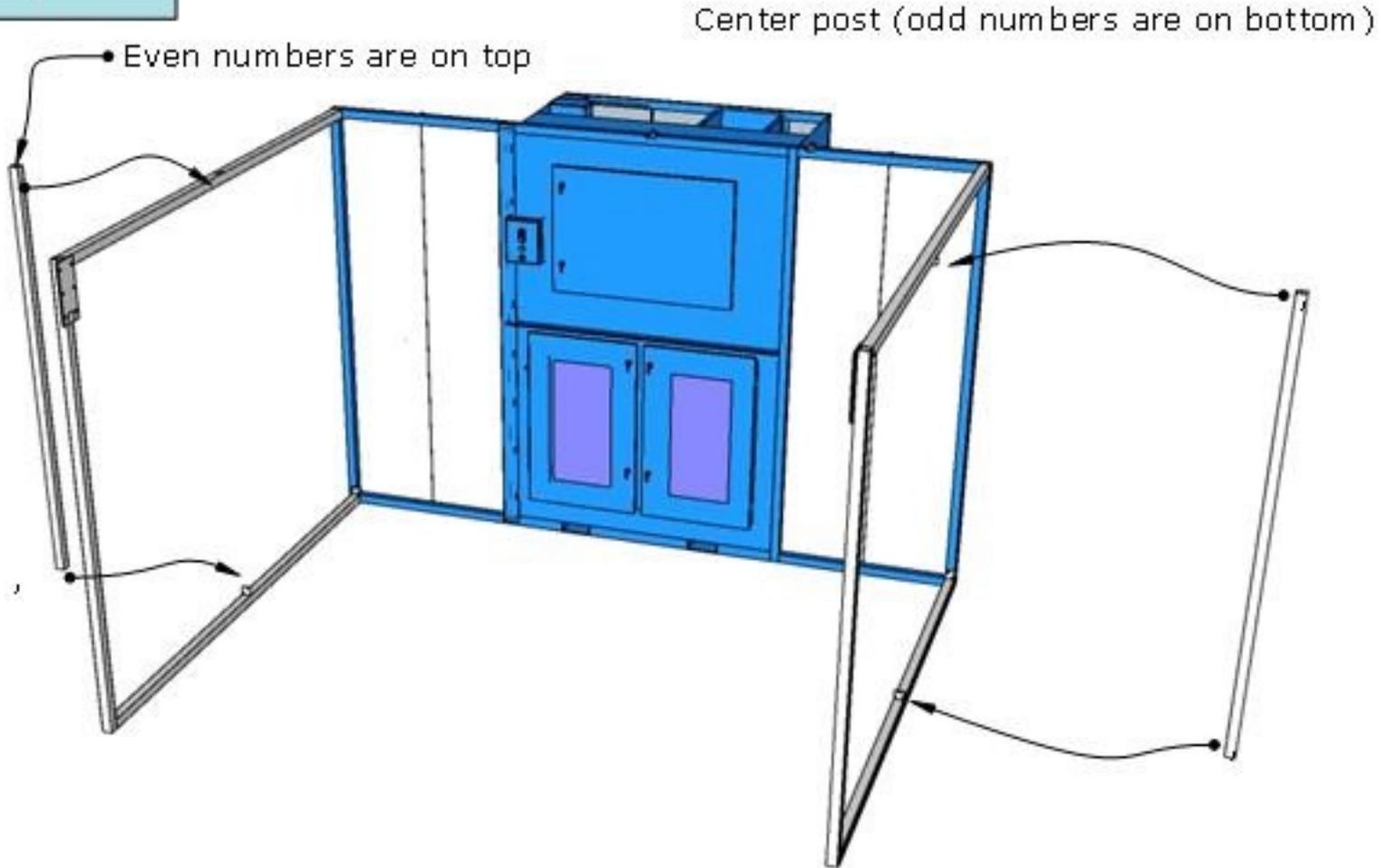
Step 3



Step 4

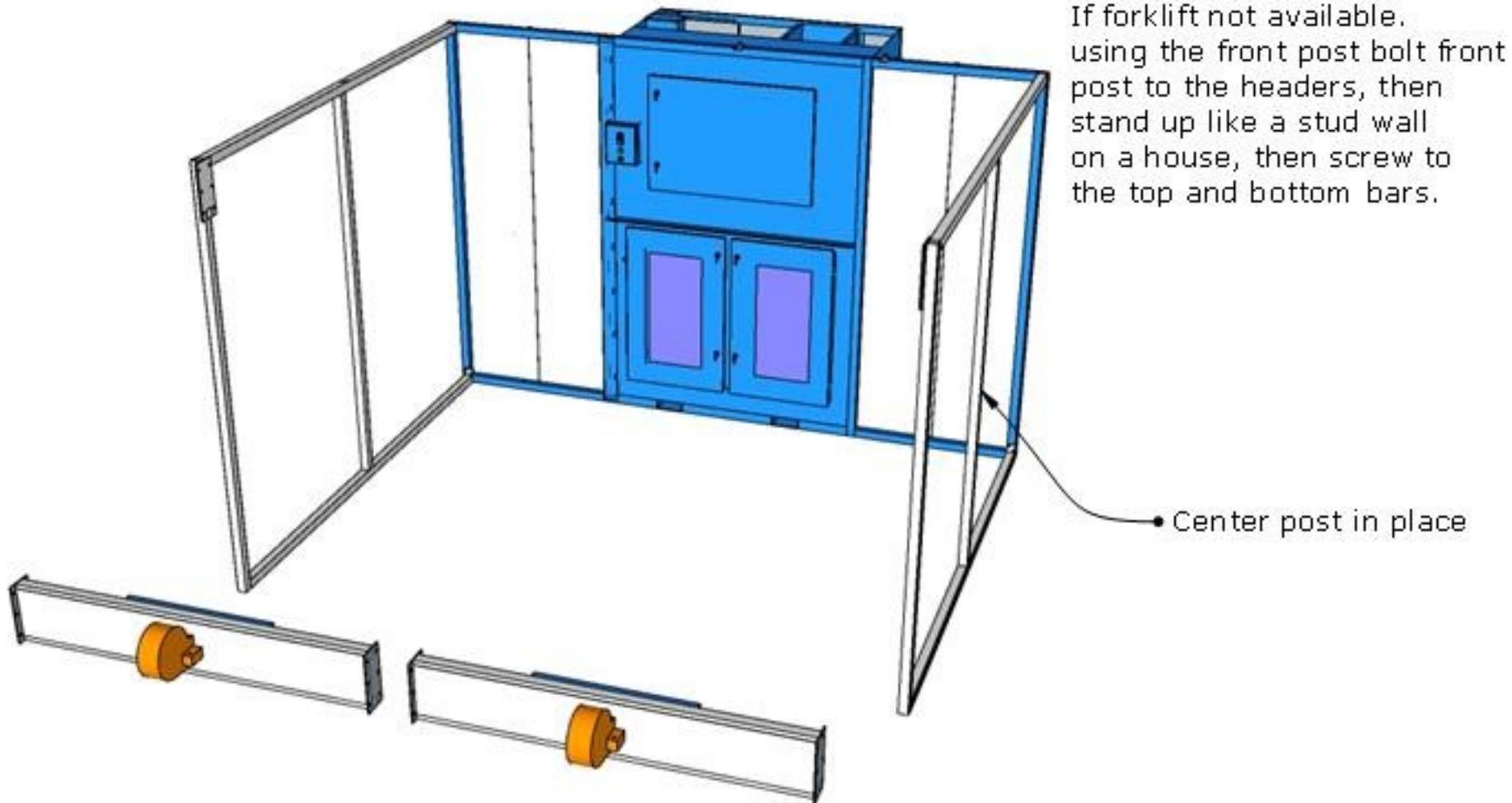


Step 5

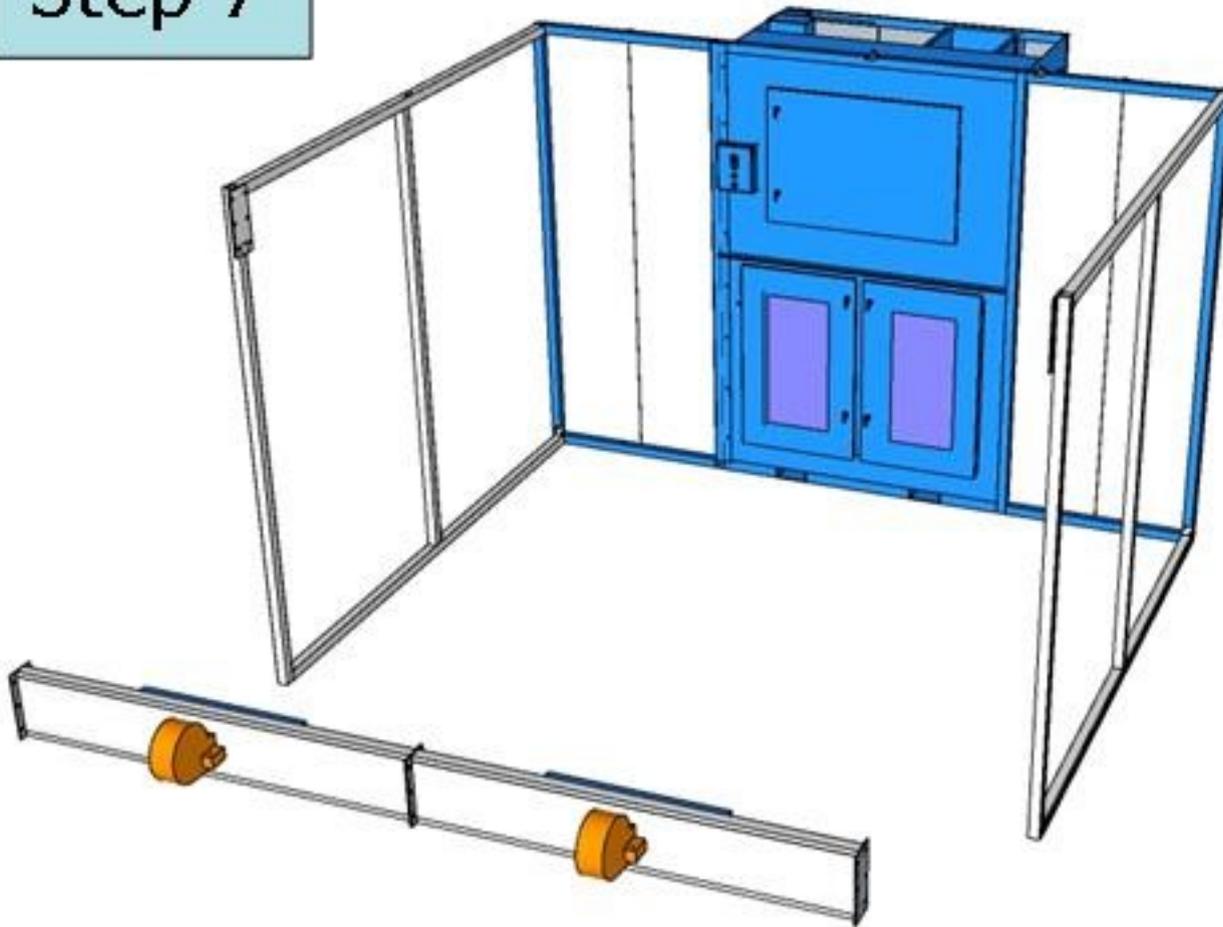


Step 6

Front headers Bolt together on the floor, and lift up with forklift



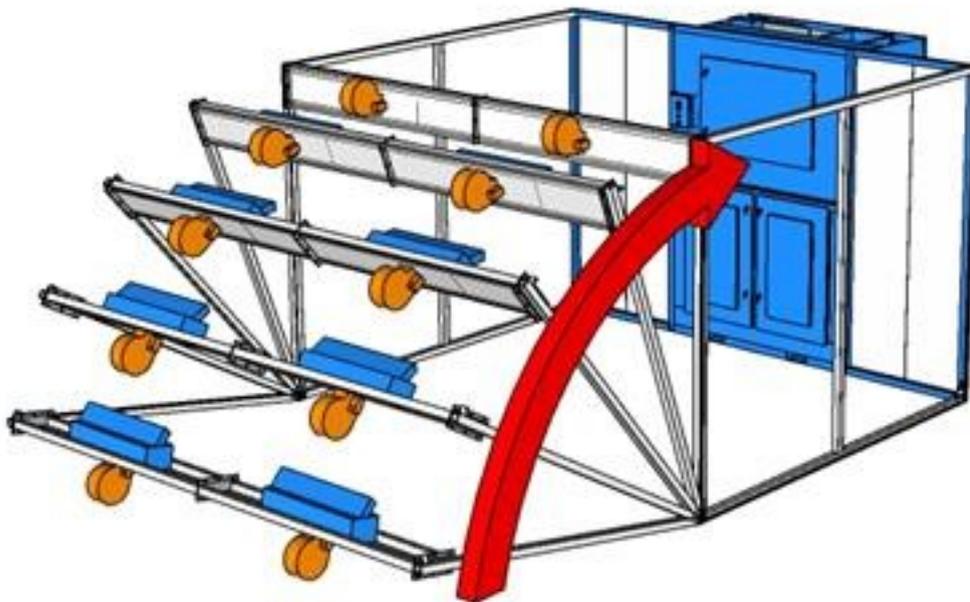
Step 7



Placing the Headers with positive air fans in place

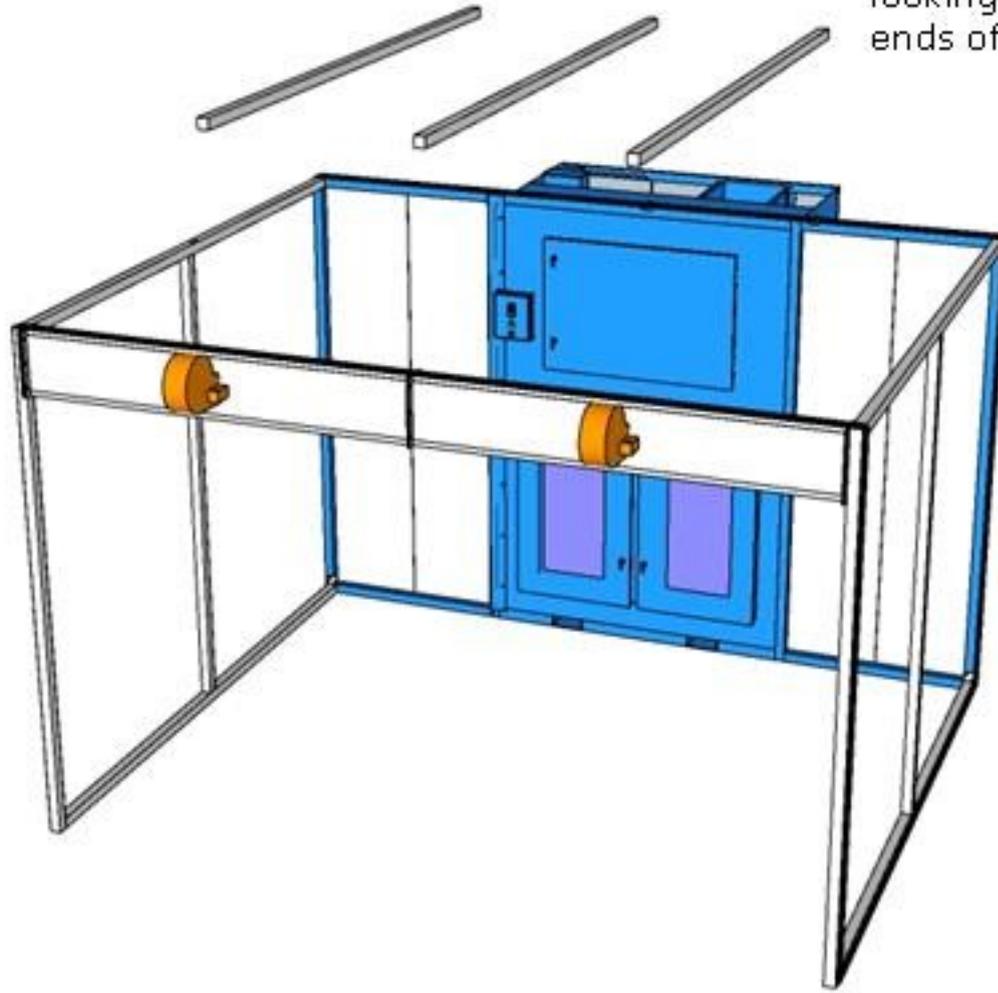
Step 8

Bolt the headers together then bolt to the post, Top bolt on the inside can not be used, because it will hit the tube.



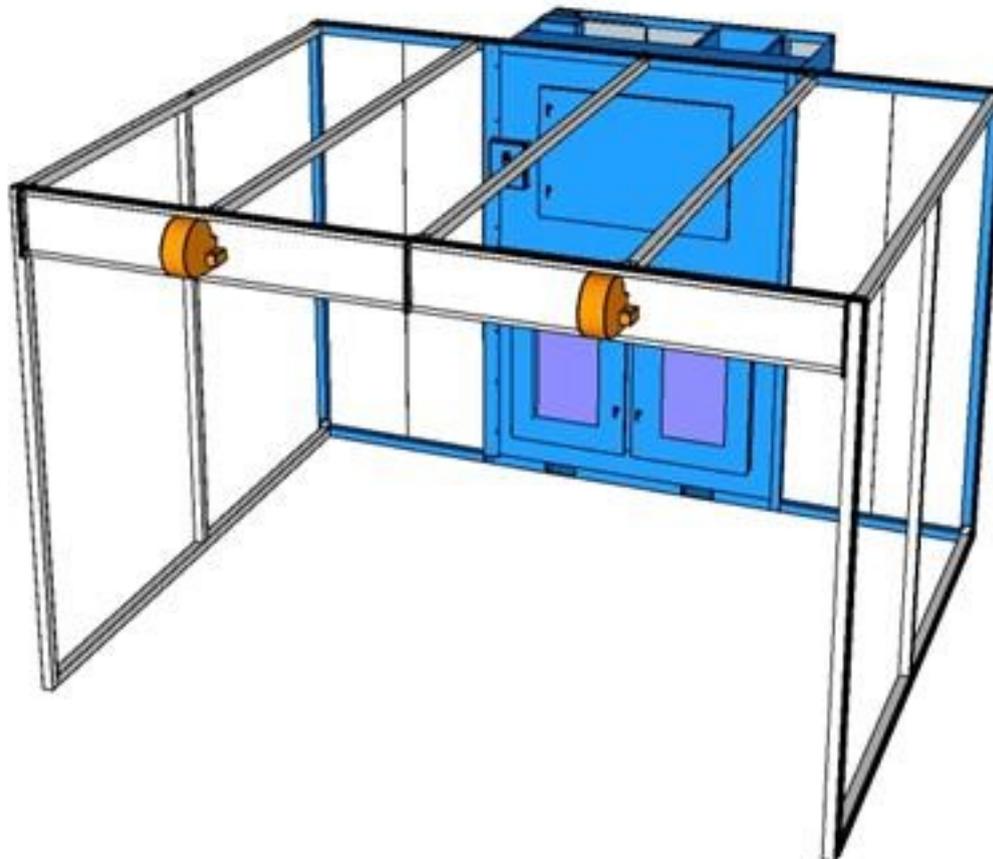
Step 9

Locate the bars that fit overhead looking for EVEN numbers at the ends of the bars.



Step 10

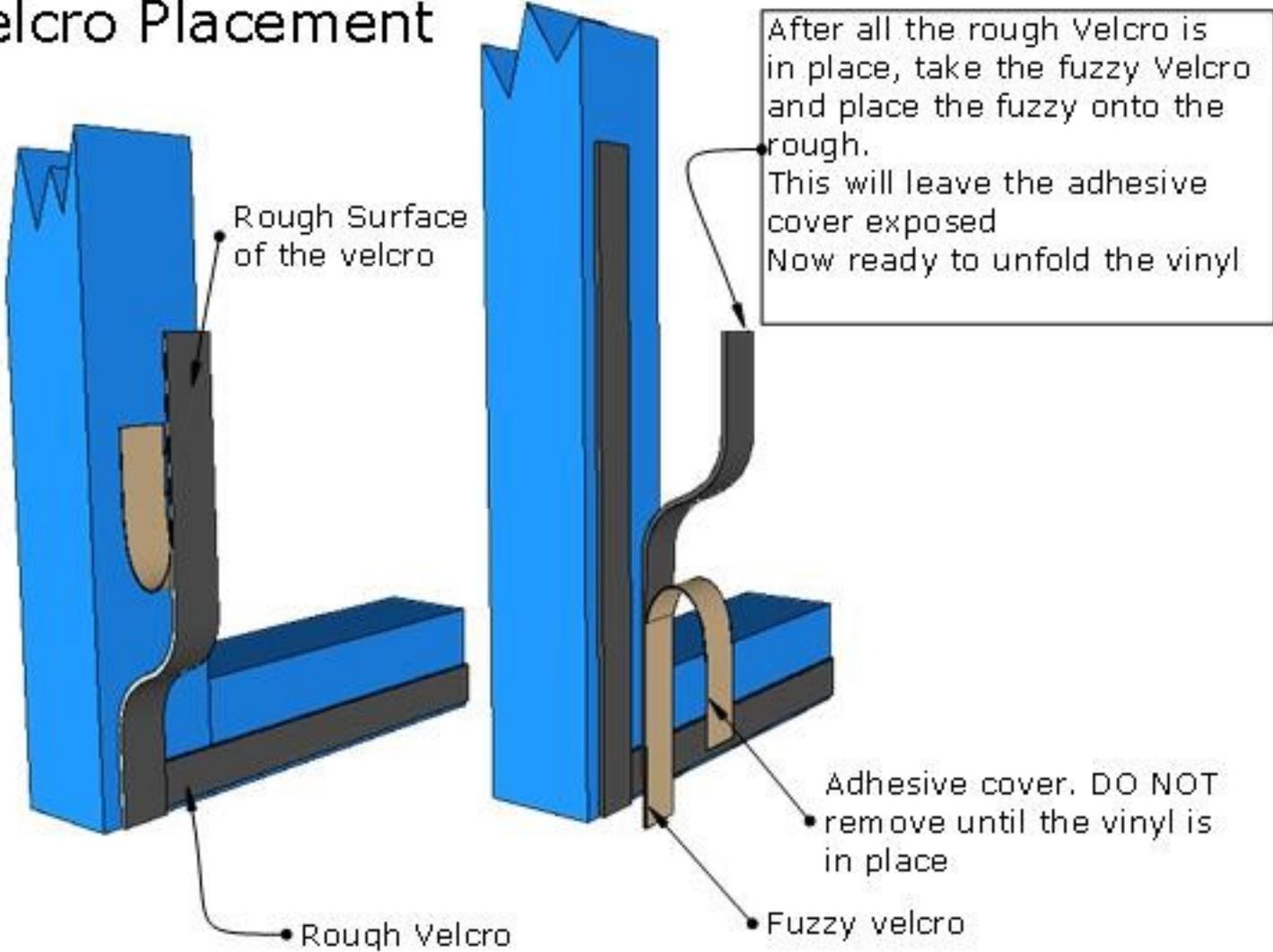
After the bars have been located, place on top of the front and back and screw into permanent location.



Step 11

Velcro Placement

Peel off the adhesive and place it on the tube between 1/4-1/2" from edge
 The Velcro will only go on the following tubes
 Bottom Tubes
 Front vertical tubes
 Back vertical tubes
 Front Top
 Back top



Step 12

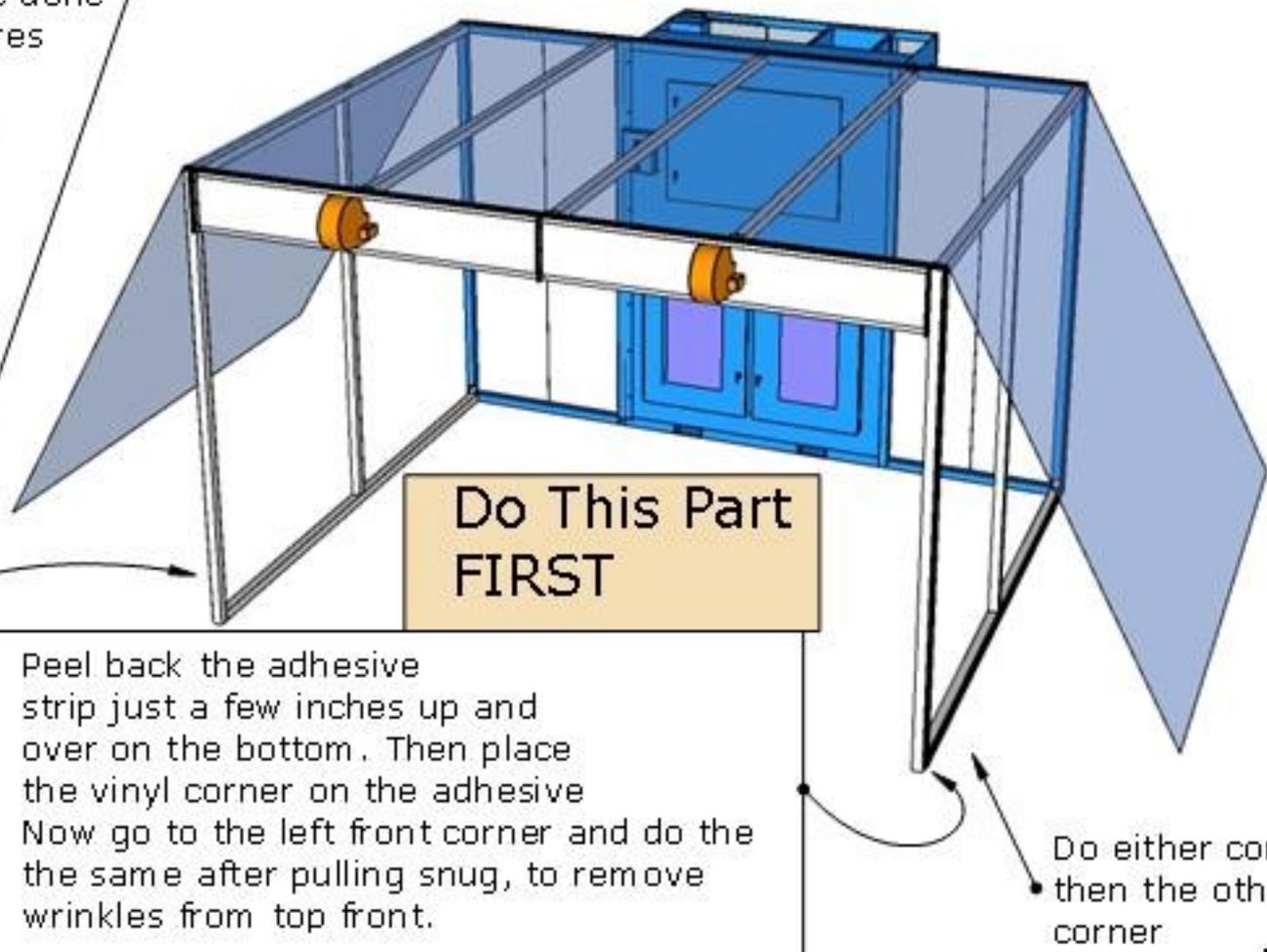
Do This Part Second

After front corners are done
 Do the same procedures on the back corners.
 Now go back to front and start peeling the adhesive off and sticking the vinyl to the 2nd Velcro layer.
 Do this all across the front.
 Then going to the back, PULLING all the wrinkles out, and sticking to the velcro

Place the vinyl on top of cage, then unfold/unroll it.
 The unrolling part may be easier to do if a couple boards like 2x4's were laid up on top before trying to unfold.
 If you are thinking about laying out on a floor and unfolding then placing on top, Think about it real hard, we have moved machines requiring us to do different things with the vinyl, we find out unrolling from the top is the easiest. The boards helps prevent the roll from falling in between the tubes holding the top.

Do This Part FIRST

Peel back the adhesive strip just a few inches up and over on the bottom. Then place the vinyl corner on the adhesive
 Now go to the left front corner and do the the same after pulling snug, to remove wrinkles from top front.

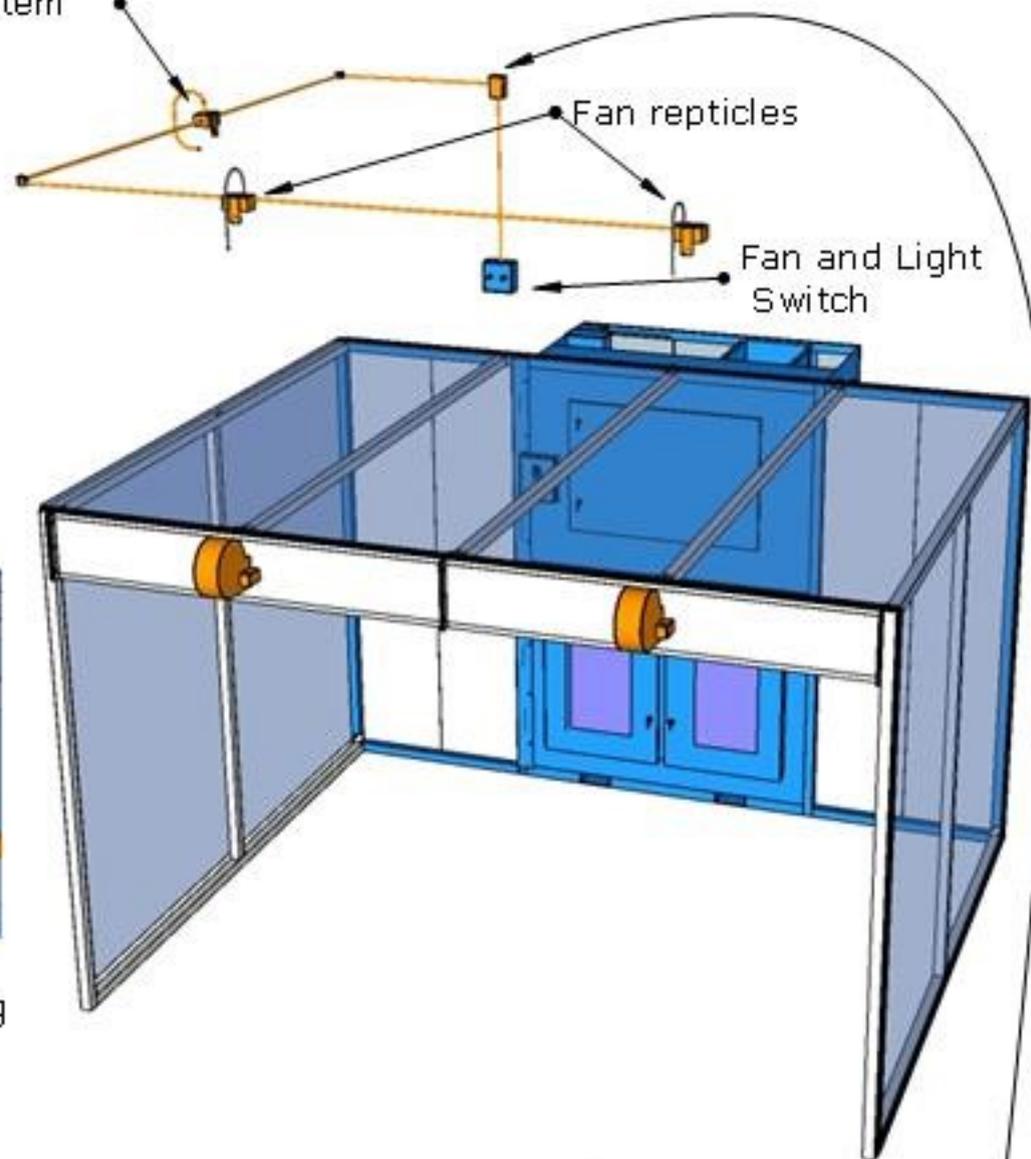
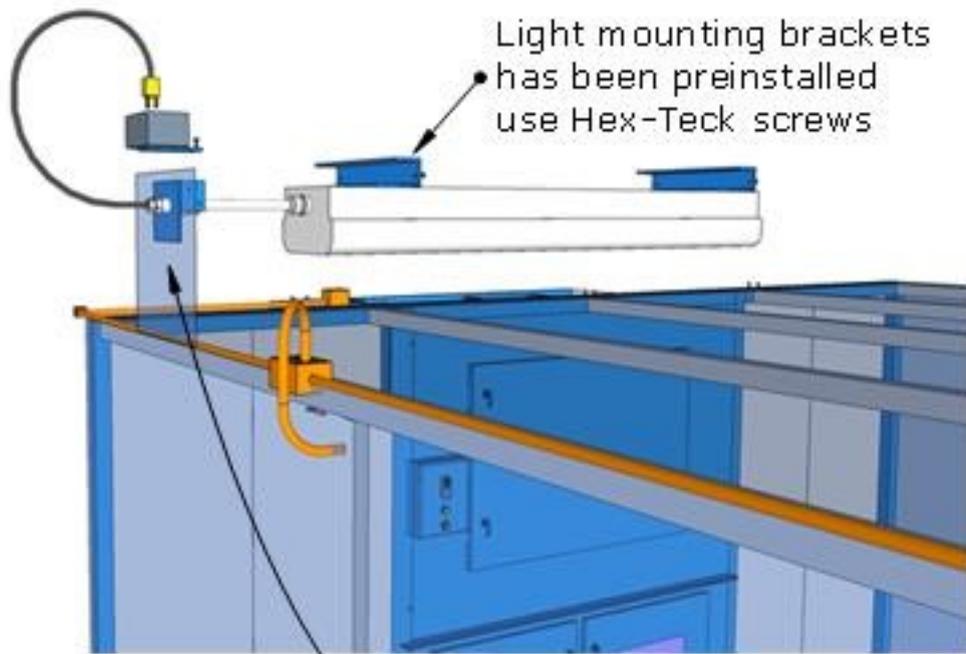


Electrical component parts

Step 13

Through the vinyl system

The light through the vinyl application

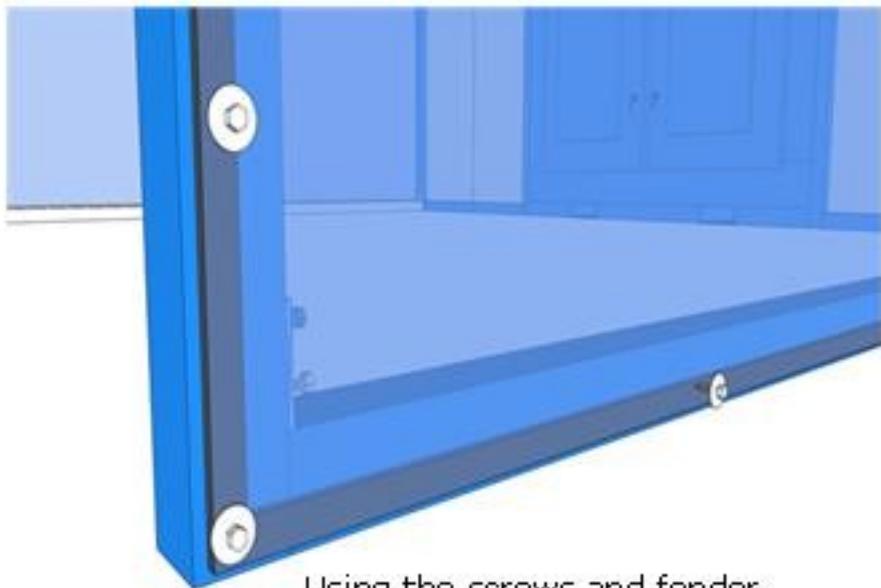


Step 14

A slit will have to be cut big enough for the plug in to go through

Cord for lights and fan connect to the machine here

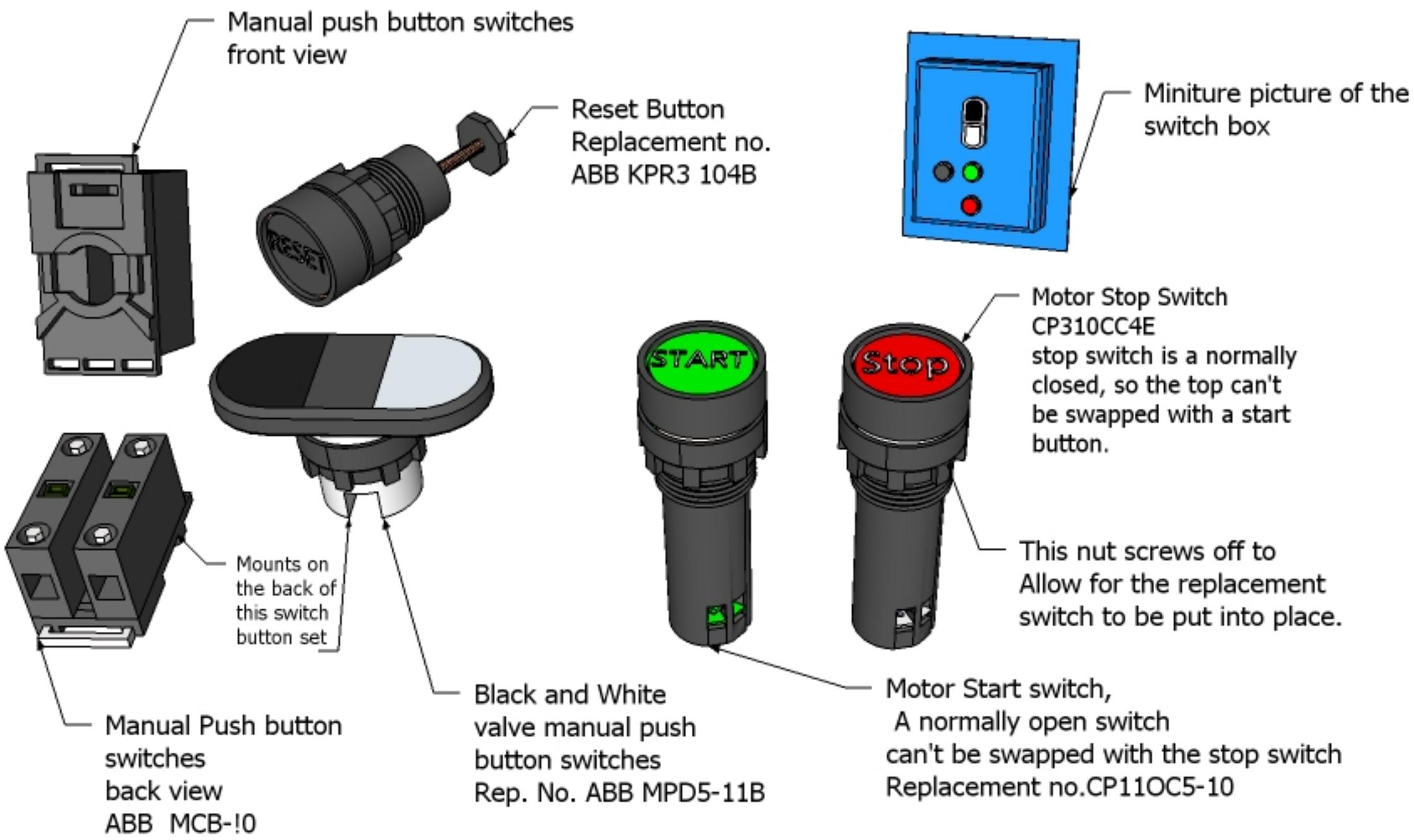
Cord coming from this box ties into box in the top of the machine, Cord grip in side of machine for cord to go through the wall.



Using the screws and fender washers, Place the screws to secure the vinyl and Velcro together, Temperature changes makes the vinyl shrink and swell, causing Velcro to come loose. Place screws randomly, about every 16"

Fork Pocket Spring covers

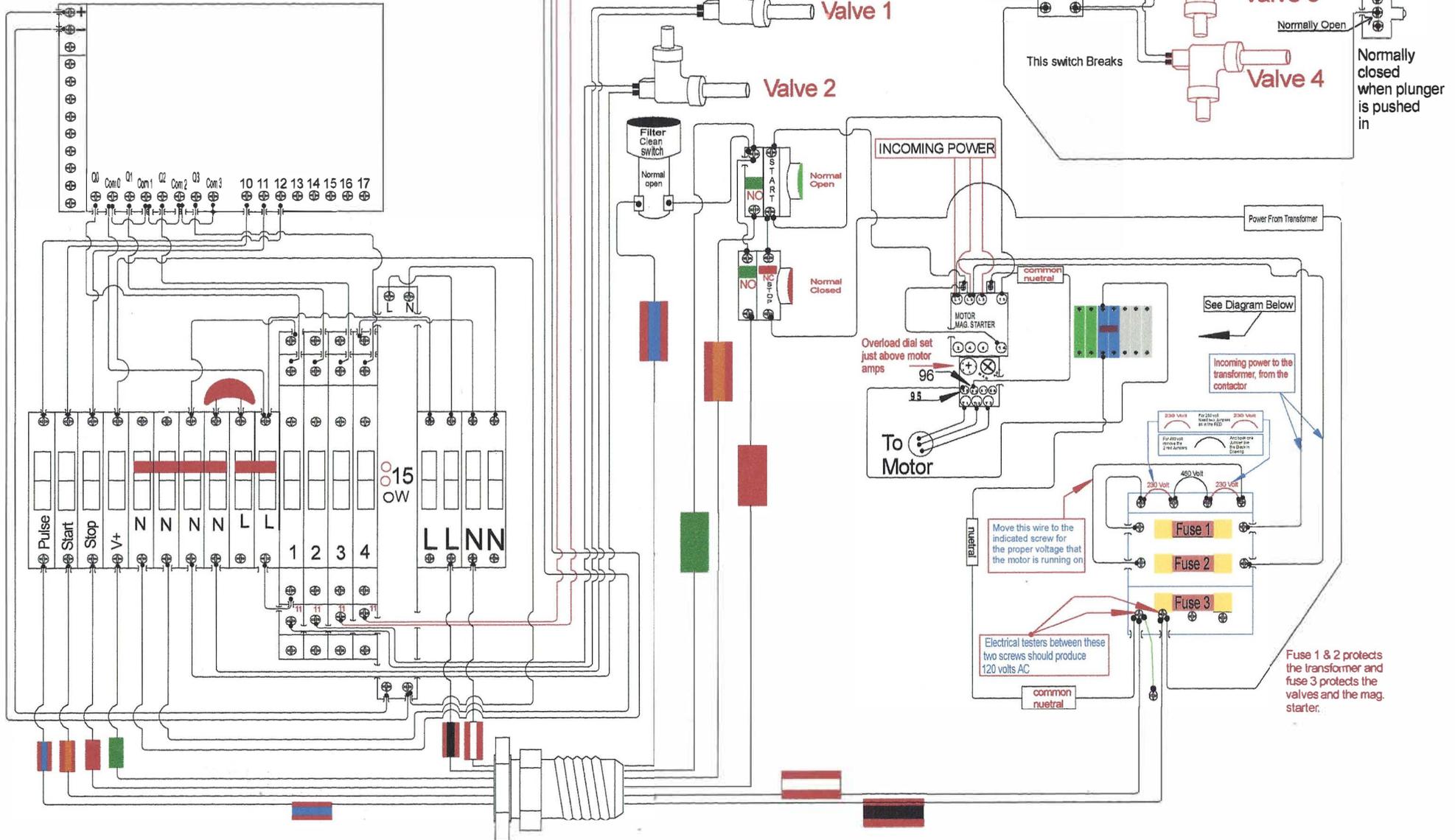




85120 Booth Power unit Electrical HMI Timer Inside The Machine

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.

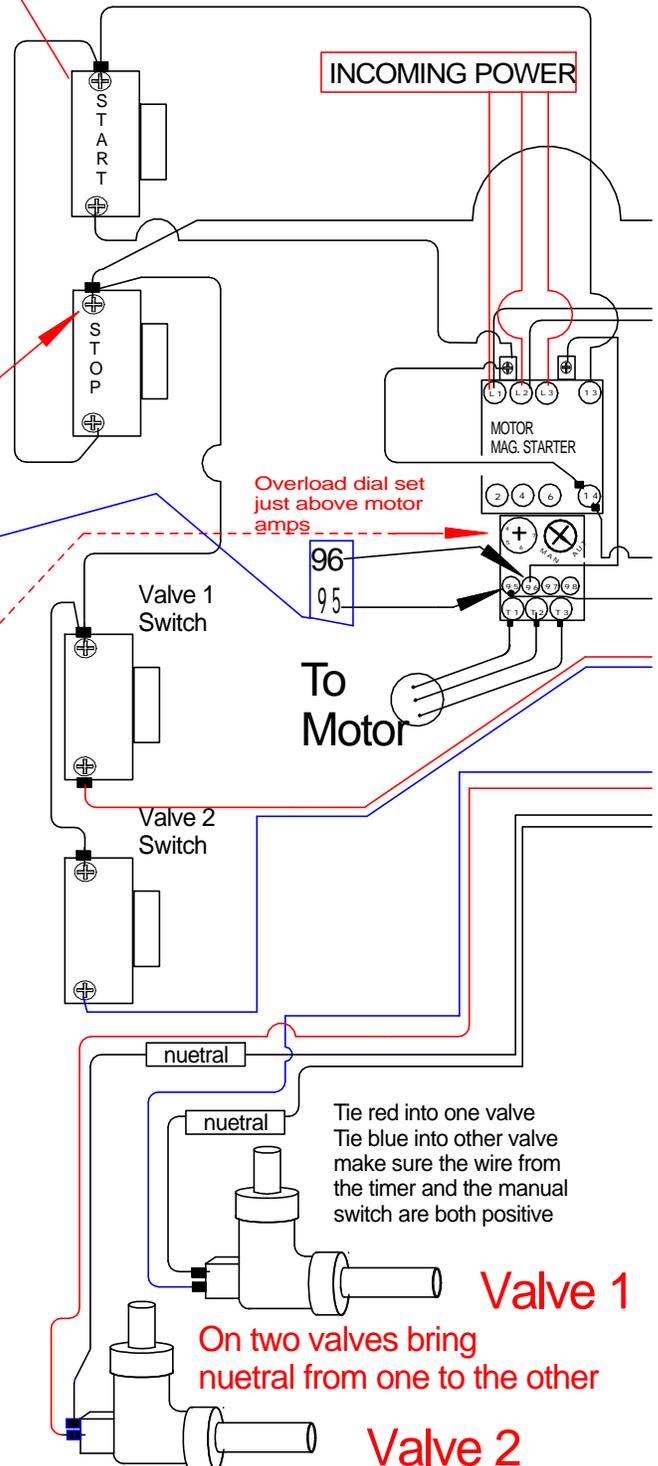
Step 6

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 up 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.



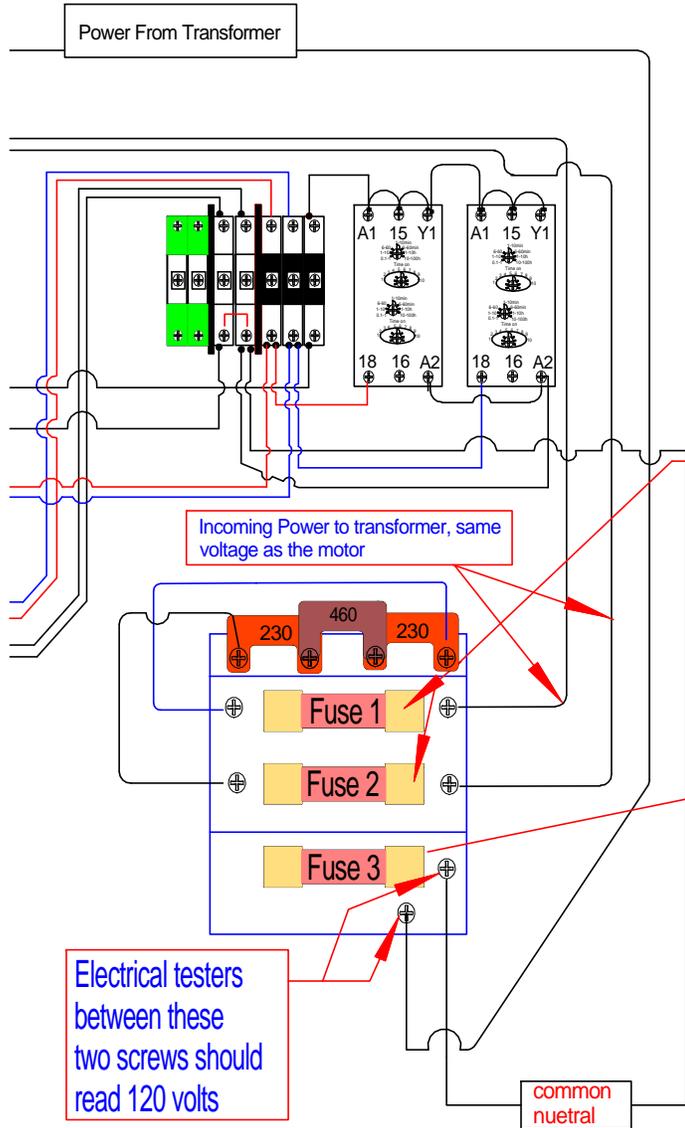
General settings

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

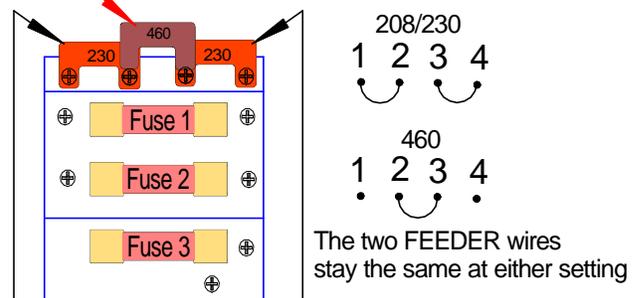
Step 2
If the two top fuses read proper voltage on incoming side check the going out side, see if they read the same. If they do procede to step three.
If you do not read the same, one fuse must be blown, change with proper type and size of Fuse

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

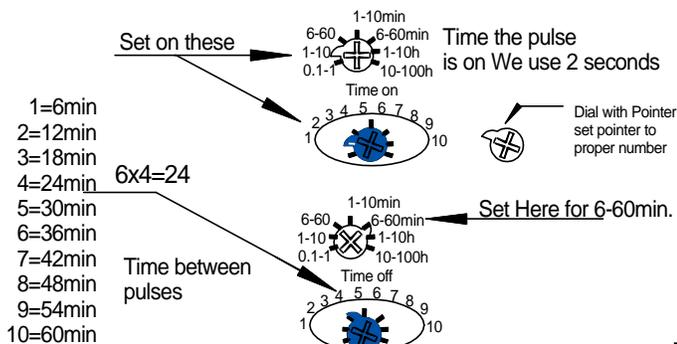
Step 3
Check this fuse to see if you have 120 volt from this fuse
There is a small stud bolt on the inside of the power box door. Place your tester probe to that stud and the other to this fuse, a good fuse will read 120 volt on both ends of the fuse. If both sides do not read 120 volt change the fuse.

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 | |

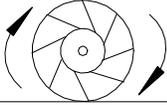
TROUBLE SHOOTING

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 blowed 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 See Drawing 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. |