

ASSEMBLY INSTRUCTIONS FOR L&L JUPITER AUTOMATIC KILNS

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VIDEOS OF SELECT PROCESSES CAN BE FOUND ON YOUTUBE AT:

www.youtube.com/LLKilns

TOOLS NEED FOR THE JOB

You will need the following tools for the job:

- 1) Philip's head screw driver (medium size head)
- 2) Knife
- 3) Needle Nose pliers
- 4) Adjustable Wrench
- 5) Level
- 6) Safety Gloves

WHAT SHOULD YOU READ?

The information in these installation instructions is as complete as we can make it - which means that there is more than most people will need to read. Each heading is self-contained (for instance "Assembling the Stand") Most people will be able to figure out how to assemble their stand by looking at it - so only read this heading if you get stuck.

First of all be comfortable with where you are putting your new kiln. If you have any questions about that read the information about clearances, ventilation, etc. in the "Installation" section. Do that first so you don't have to redo your work.

If there is anything we feel you must read we will call it to your attention with one of these shaded boxes.

CAN YOU MOVE THE KILN WITHOUT DISASSEMBLING IT?

The kiln is shipped mostly disassembled (except for the hinge). It is possible to move the kiln without disassembling it. However, these kilns, particularly the JD2900s are very heavy and awkward to move. If you decide to move it without disassembling the sections first be absolutely certain you have at least two or three strong people who are familiar with proper lifting techniques. Serious back injury could result if such a heavy object is lifted improperly. See page 9 for details on how to do it - there are specific instructions depending on which model you have.

CAUTION: L&L stringently insists that *no Jupiter kilns with more than three rings* be moved without disassembly as they are very heavy and personal injury could result.

CAUTION: Do *NOT* attempt to disengage the spring hinge without first reading the detailed instructions as listed on pages 7-8.

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UNPACKING

Inspect for visible damage

The carton should arrive without visible damage. If the carton was damaged in transit, you should either refuse shipment or unpack the kiln in the drivers presence in order to file a damage report with the freight company.

Call our office immediately if there is a problem. SAVE ALL MATERIALS UNTIL YOU ARE SURE YOU WON'T NEED THEM. AT THE VERY LEAST NOTE DAMAGE ON THE BILL- OF-LADING - WITHOUT THIS YOU HAVE NO PROTECTION!

Below is a picture of how your kiln should arrive:



Unpack Instructions, Vent and Furniture Kit

1) Remove the two separate Furniture Kit and Vent-Sure vent system boxes, if ordered, from the top of the kiln carton.

2) If you ordered a Vent-Sure vent system you will find the following items inside the cardboard box:

- a) flexible ductwork
- b) bypass collection box
- c) galvanized 90 degree elbow
- d) vent motor with bracket that holds it to the wall

3) If you ordered the Furniture/Accessory kit you will find the following:

For a JD18:

- a) One 15-1/2" full round shelf
 - b) four 15-1/2" half shelves
 - c) six each 1/2", 1", 2", 4", 6" and 8" square posts
 - d) five pounds of Cone 10 kiln wash
 - e) a pair of temperature resistant gloves
- NOTE: Models with 3" Brick get 15" Diam. Shelves

For a JD18X:

- a) two 15-1/2" full round shelves
 - b) four 15-1/2" half shelves
 - c) six each 1/2", 1", 2", 4", 6" and 8" square posts
 - d) five pounds of Cone 10 kiln wash
 - e) a pair of temperature resistant gloves
- NOTE: Models with 3" Brick get 15" Diam. Shelves

For a JD23V:

- a) one 21" full round shelf
 - b) four 21" half shelves
 - c) six each 1/2", 1", 2", 4", 6" and 8" square posts
 - d) five pounds of Cone 10 kiln wash
 - e) a pair of temperature resistant gloves
- NOTE: Models with 3" Brick get 20" Diam. Shelves

For a JD230V:

- a) two 21" full round shelves
 - b) four 21" half shelves
 - c) six each 1/2", 1", 2", 4", 6" and 8" square posts
 - d) five pounds of Cone 10 kiln wash
 - e) a pair of temperature resistant gloves
- NOTE: Models with 3" Brick get 20" Diam. Shelves

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For a JD236V:

- a) three 21" full round shelf
 - b) four 21" half shelves
 - c) six each 1/2", 1", 2", 4", 6" and 8" square posts
 - d) five pounds of Cone 10 kiln wash
 - e) a pair of temperature resistant gloves
- NOTE: Models with 3" Brick get 20" Diam. Shelves

For a JD245V:

- a) four 21" full round shelf
 - b) four 21" half shelves
 - c) six each 1/2", 1", 2", 4", 6" and 8" square posts
 - d) five pounds of Cone 10 kiln wash
 - e) a pair of temperature resistant gloves
- NOTE: Models with 3" Brick get 20" Diam. Shelves

For a JD2918:

- a) two 21" full round shelves
 - b) four 21" half shelves
 - c) six each 1/2", 1", 2", 4", 6" and 8" square posts
 - d) five pounds of Cone 10 kiln wash
 - e) a pair of temperature resistant gloves
- NOTE: Models with 3" Brick get same size Shelves

For a JD2927:

- a) two 20" full round shelf
 - b) four 20" half shelves
 - c) six each 1/2", 1", 2", 4", 6" and 8" square posts
 - d) five pounds of Cone 10 kiln wash
 - e) a pair of temperature resistant gloves
- NOTE: Models with 3" Brick get same size Shelves

For a JD2936:

- a) six 26" half shelves
 - b) six each 1/2", 1", 2", 4", 6" and 8" square posts
 - c) five pounds of Cone 10 kiln wash
 - d) a pair of temperature resistant gloves
- NOTE: Models with 3" Brick get same size Shelves

For a JD2945:

- a) eight 26" half shelves
 - b) six each 1/2", 1", 2", 4", 6" and 8" square posts
 - c) five pounds of Cone 10 kiln wash
 - d) a pair of temperature resistant gloves
- NOTE: Models with 3" Brick get same size Shelves

Below is a picture of the cardboard box with a Vent-Sure system enclosed. NOTE: Depending on where you bought your kiln, your vent system and/or kiln furniture may arrive packed differently.



Below is how the cardboard box with a Furniture Kit enclosed will arrive.



Remove Top from Carton

- 1) Remove the packing slip from the packing list enclosed envelope.
- 2) Cut the banding around the kiln box and remove the top.

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3) You are looking at the heavy duty kiln stand containing a white box, the kiln manual, with the heavy duty kiln stand legs positioned around it. This will be slightly covered by the foam packaging tubes.

Below is the first thing you will see when you open the box - foam tubes securing the kiln:



Unpacking the kiln

- 1) With a screw driver pry off the staples holding the bottom box tray to the box sleeve.
- 2) Next remove the cardboard inset from the carton, and remove the carton sleeve from the skid.

Interior packaging with the inset removed:



3) Push the foam tubes away from the kiln body. If desired, these can be completely removed by using a knife to carefully cut the plastic tubing by the base of the kiln. There should be little to no foam there. Be careful not to scratch the kiln with your knife.

Removing foam tubes:



4) Carefully cut off the stretch wrap that is around the kiln. Be careful not to scratch the kiln with your knife.

Carefully cut off shrink wrap:



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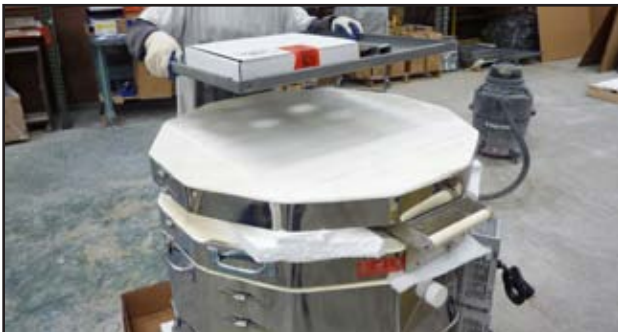
5) Remove the brown cardboard box that is packed against the kiln in one of the cartons corners. This contains the control panel for your Jupiter kiln, set it aside for now.

The packed control panel:



6) Remove the kiln stand base from the top of the kiln. The kiln manual, in a white cardboard box, surrounded by the four kiln stand legs should be resting within the edges of the kiln stand base.

Removing the kiln stand:



7.a) If you ordered a three, or more, section kiln, your kiln floor will be on top, remove it now.

Removing the kiln base:



7.b) If you ordered a two-section kiln, the floor of the kiln will not be on the top, it will be on the bottom of the kiln as it helps secure the spring hinge bracket which is assembled for shipping.

The base as attached to the hinge bracket:



8) Notice that the spring on your spring hinge *IS* engaged.

NOTE ABOUT JD1800 SERIES KILNS: These kilns employ simple hinges, thus the kiln base will always be packed on top.

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ASSEMBLING THE STAND

Next, using the enclosed stand hardware, assemble the kiln stand. If ordered, also use the vent system components and hardware to finish assembly of the kiln stand.

1) Assemble the stand legs. **Make sure all the stand legs are tight.** Use a nut driver or an adjustable wrench to do this. NOTE: If you did not order a vent then your stand is completely assembled after this step.

Each leg gets bolted to the stand with two 1/4-20 bolts provided. They do not need nuts:



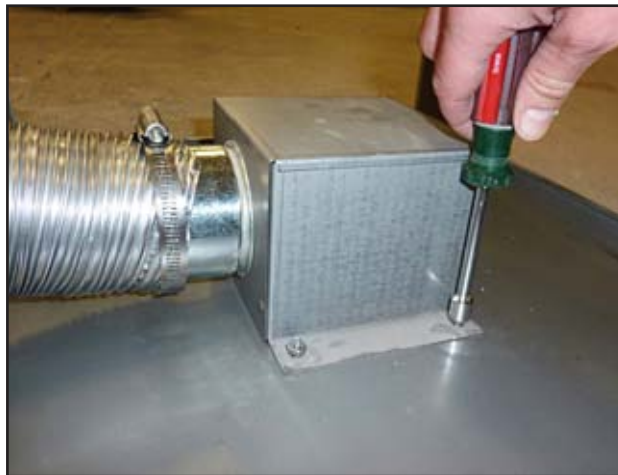
2) Attach the flexible vent tube to the outlet of the vent collection box. It takes some patience to get the flexible tube around the fitting. Tighten the Breeze clamp to secure the duct to the outlet.

Installing the flexible duct onto the Bypass Collection Box of the Vent-Sure Vent System:

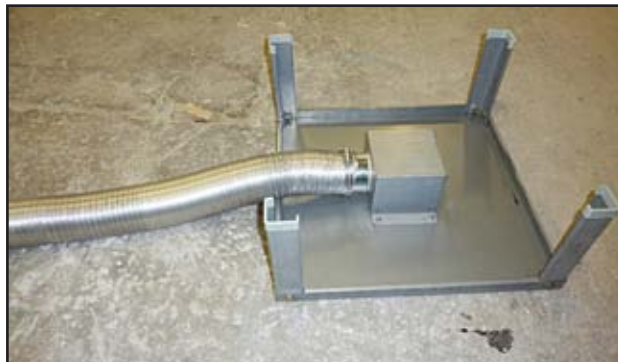


3) Attach the bypass collection box using the studs that are secured to the bottom of the stand and the supplied mounting hardware, four 10-24 nuts and lock washers.

The Bypass Collection Box fits over four studs on the bottom of the stand:



The fully assembled stand:



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DISENGAGING THE SPRING-HINGE AND REMOVING THE LID

The next step is to remove the lid from the kiln which can only be done once the spring hinge has been disengaged.

The hinge is shipped assembled (with the spring engaged). This way you can see how it all goes back together:



1) Unclasp the latch underneath the lid handle and open the kiln lid to its fullest extent.

The kiln with the lid opened:



2) Remove one of the cotter pins from the top-most hinge bar that only goes through the lid bracket.

Removing a cotter pin from the top-most bar:



3) Slide out the top-most hinge bar, set this aside with the cotter pin that you already removed.

Removing the top-most bar:



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4) Carefully close the lid of the kiln. **NOTE:** By removing the top-most hinge bar the springs have been disengaged and the full weight of the lid will now be present.

The closed lid without the top-most hinge bar:



5) Remove one of the cotter pins from the middle hinge bar. This is the one that runs through the springs.

Removing a cotter pin from the middle bar:



6) Grasp both of the springs with one hand and carefully slide out the middle hinge bar. The springs will be freed once the bar has been removed. Set this all aside, along with the cotter pin that you already removed.

Removing the middle bar and springs:



7) Your lid is now free of the kiln rings and can carefully be removed.

Lifting the lid off of the kiln body:



NOTE ABOUT JD1800 SERIES HINGES:
These standard hinges are simple and are shown on page 14

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MOVING THE KILN WITHOUT DISASSEMBLING IT

SEE THE CAUTION NOTE ON PAGE 1 OF THESE INSTRUCTIONS. THIS TAKES TWO OR THREE STRONG PEOPLE TO DO.

Moving a Three Section Jupiter Kiln with Spring Hinge (Also a JD1800 Series Kiln):

1) Remove the lid because this is easy and removes much of the weight. 2) Prepare the stand and place the floor slab on the stand. 3) Pick the the kiln up by the handles on the bottom kiln section and place the connected sections on the floor slab.

Moving a Two Section Jupiter Kiln with Spring Hinge:

1) Remove the lid because this is easy and removes much of the weight. 2) Prepare the stand. 3) Pick up the kiln by the front chest handle attached to the kiln floor and by the hinge. 4) Place the entire unit on the prepared kiln stand. NOTE: It is important to lift the two-section kilns up by the handle on the floor slab because the hinge is attached to the floor slab in the back of the kiln. You will damage the floor slab if you do not follow this procedure.

CAUTION: L&L stringently insists that *no Jupiter kilns with more than three rings* be moved without disassembly as they are very heavy and personal injury could result.

Go to "LOCATING THE KILN" on page 14.

REMOVING THE HINGE

1) Loosen the screws of the large hinge piece that holds the three rings together (or the two rings and bottom).

WE RECOMMEND NOT REMOVING SCREWS. The teardrop holes will allow you to remove the hinge piece without taking the screws out. If you take the screws out it increases the chance of stripping a screw. Even though there are plenty of screws to take the load it is best to avoid stripping them.

2) Gently pull the ring hinge piece up and away from the kiln

Pulling the hinge piece up and away from the kiln. It should slide up easily. If not check all the screws because it only takes one screw that is not loose enough to prevent the hinge piece from sliding up:



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LOCATING THE KILN

1) Place the stand on the floor in the desired location. This should be set so that the outside stainless steel surface of the kiln will be at least 12" to 18" from any combustible wall. Floor must be nonflammable.

Information concerning clearances, ventilation and electrical requirements is detailed in *jupiter-install.pdf*. Read now if you are uncertain about any of these issues. **DON'T PROCEED UNTIL YOU ARE COMFORTABLE WITH THE LOCATION THAT YOU SELECT.** You don't want to do this job twice.

2) Place bottom floor section of kiln on the stand, making certain it is centered properly.

3) Note that the kiln bottom is packed on top of the kiln so it is easily removed first without moving the kiln.

SETTING UP THE KILN

1) Place the stand in your desired location making sure to face the flexible duct work toward the wall that the kiln will be vented through.

The stand in position on the floor:



2) You're now going to build the kiln from the bottom up.

3) Place the bottom of the kiln on the kiln stand, make sure the holes for the vent line up with the large 3" hole on the kiln stand. Center the bottom brick on the stand. It is not critical how the polygonal corners are oriented to the square stand.

The kiln base positioned on the stand:



4) **LEVEL THE KILN NOW!** Do this before proceeding because at this point it is easy to put a level on the flat bottom. Use metal shims under the legs to accomplish the leveling. We suggest using a carpenter's level for this job. Make sure that the base will not wobble.

WHY IS LEVELING SO IMPORTANT?

If the stand and the bottom are not level your kiln shelves will not be level and loading will be difficult. Kiln shelves loaded with ceramic ware are like a house of cards to begin with - don't make it any harder!

Also - an uneven floor will quickly become a cracked floor. There should be equal support under each leg of the stand so the floor does not rock back and forth.

Be patient about doing this right as you are assembling the kiln. Once you have put the kiln sections on the bottom of the kiln you will not feel like taking it off - so it is important to have this base be level to start with.

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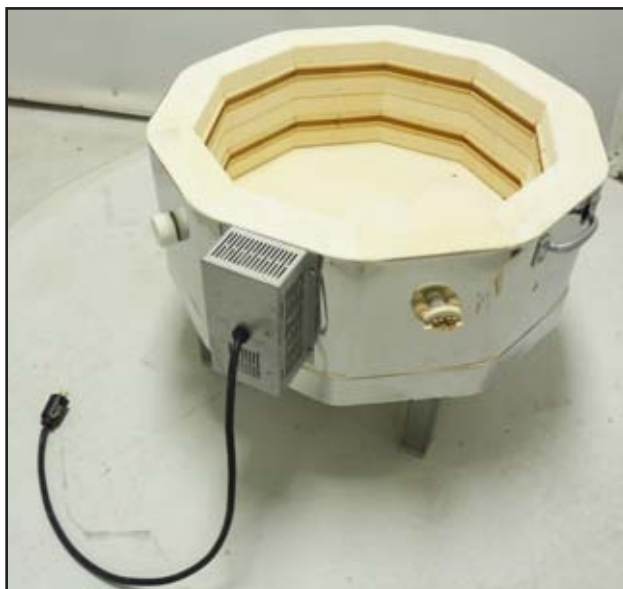
5) Notice that each of the kiln sections above have numbered power cords (referred to as Element Box Jumper Cords). The top kiln section will always be the one with "1" on its cord. Conversely, the bottom kiln section will always be the one with the highest numbered cord, "3" for a three section, "4" for a four section, etc.

Top-most element jumper cord:



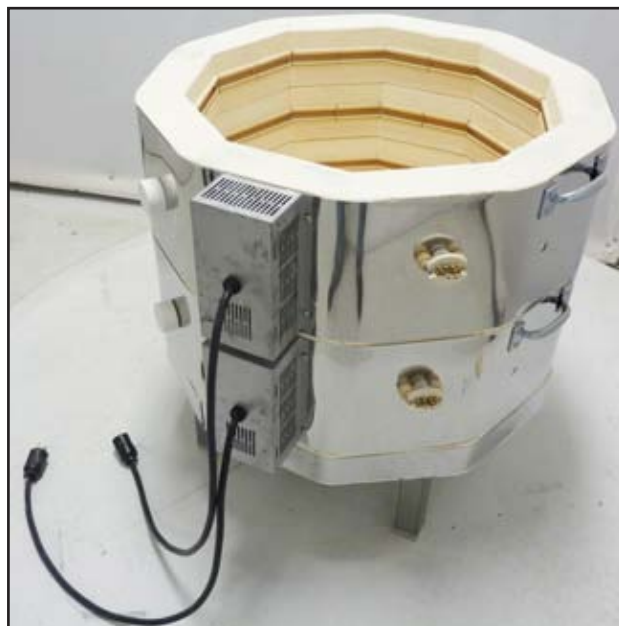
6) Place the kiln section with the highest number on the element jumper cord on top of the kiln stand. A JD230V is shown being assembled, this is number "3" for the JD230V.

Positioning the bottom ring on the base:



7) Place the kiln section with next lowest number on the element jumper cord on top of the previously placed ring, this is number "2" for the JD230V.

Positioning the middle ring:



8) Place the kiln section with the next lowest number on the element jumper cord on top of the stack. This is number "1" for the JD230V.

Positioning the top ring:



9) You are now ready to reattach the hinge.

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SETTING UP THE HINGE

1) Notice that on the back of the kiln that the mounting screws for the hinge line up. There should be 20 total, 10 on each side.

The mounting screws lined up:



2) Reattach the Kiln Bracket to the back of the kiln by dropping it onto the screws on the kiln sections. If the screws on the kiln don't perfectly line up with the holes in the bracket, gently maneuver the bracket until you have all the screw heads into the keyhole slots. Let the bracket drop so that the top of the slots rest against the screws. **Do not tighten the screws at this time.**

The slots resting on the loose screws:



3) Set the Lid onto the top ring of the kiln, making sure the lid flange fits around the outside of the kiln bracket.

The lid as ready for hinge installation:



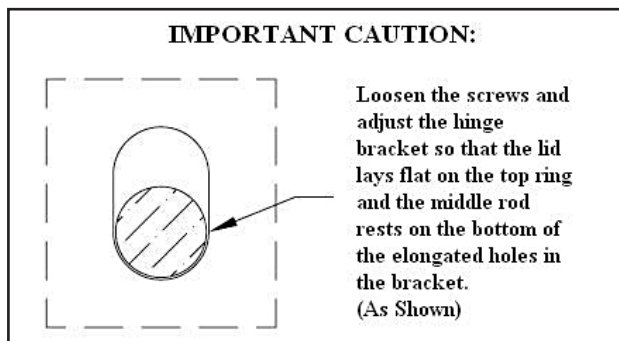
4) Slide one of the 3 metal rods through the middle set of holes. You will notice that the holes on the kiln bracket are elongated circles.

Slidding in the middle rod:



4) Adjust the height of the bracket by sliding it upwards until the metal rod you inserted in the middle set of holes rests on the bottom ends of the elongated circular holes.

Positioning the hinge bracket:



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5) Tighten each of the 20 screws to secure the Hinge Bracket in this position.

CAUTION: It is critical that the hinge bar sits in the bottom of the slot. This is to allow the lid to rise and lower slightly as the kiln heats and expands without putting stress on the lids connection points and potentially damaging the lid.

6) Remove the middle metal rod. Hold the two hinge springs on the inside of the hinge bracket chamber and slip the rod back through the holes and through the center of the springs. Ensure that the outer spring ends are sitting on either end of the back of the bracket.

Installing the middle rod and springs:



7.a) If you left the bottom metal rod in the kiln bracket ensure that the inner spring ends rest against the inside face of the rod, closest to the kiln body.

7.b) Take the second metal rod and run it through the bottom set of holes on the kiln bracket. Make sure that the inner spring ends stay towards the kiln. This will create tension when the spring is loaded.

Installing the bottom-most rod:



8.) Once the two metal rods are set in place, set the Cotter Pins in place at each end of the rods.

Setting the cotter pins:



9) Carefully raise the lid until the top set of holes passes below the spring ends that are resting on the back of the bracket. Once this occurs, slide the third and final metal rod through the holes on the lid flange.

Installing the top-most rod:



ASSEMBLY INSTRUCTIONS FOR L&L JUPITER AUTOMATIC KILNS

10) Once the metal rod is set in place, set the Cotter Pins in place at each end of the rod.

The properly installed spring hinge open:



11) You will see that when the lid is lowered, this metal rod will catch the spring ends and the weight of the lid will be reduced as the lid is now properly installed.

The properly installed spring hinge closed:



OPTIONS:

There is another set of holes on the Kiln Bracket if you find that the tension provided from the original configuration is insufficient. Simply try the second set of holes in the same manner as in step 5.

WARNING:

Only use one of the two sets of hole configurations. Never use both

ADJUSTING THE STANDARD HINGE

1) The standard hinge is a very simple system that employs a hinge bar, brackets for the top ring and lid, and support chains between the lid and top ring.

2) To take apart the hinge simply pull out one of the cotter pins, remove the hinge bar, and unscrew the screws that hold the support chains in place.

Closed lid with a standard hinge:



3) If the brackets are ever adjusted you must ensure that the hinge rod rests on the bottom ends of the elongated circular holes. Move the ring bracket up or down to achieve this result.

Positioning the hinge bracket:



CAUTION: A Screw Hook is included with the standard hinge. This should be secured in a stationary position behind the kiln and be used in conjunction with the chain on the lid handle to prevent the lid from falling when open.

ASSEMBLY INSTRUCTIONS FOR L&L JUPITER AUTOMATIC KILNS

ASSEMBLING THE CONTROL PANEL

1) Notice the slots just off the front edges of the Element Connection Boxes. In some of these slots there will be screws. These screws have been positioned in the slots with which you should hang your control panel.

The proper mounting slots:



2) Remove these Mounting Screws and position the control with it's mounting holes over the slots from which the screws were removed. Replace the screws.

Feeding the wires back through the holes:



3) Uncoil the yellow Thermocouple Lead Wires, if you haven't already, and locate the numbers indicated on them, as with the Element Jumper Cords. The wire labeled with "1" pertains to the top-most Thermocouple whereas the wire labeled "2" pertains to the next lowest,

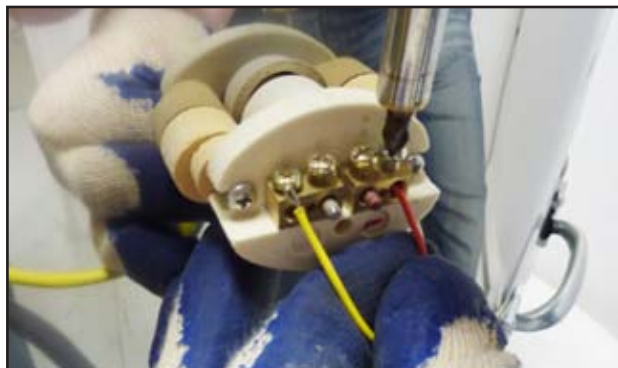
there are three per kiln at most. It is very important that these are installed properly.

Top-most thermocouple lead wire:



4) Take the Thermocouple Lead Wire labelled "3" and locate the bottom-most Thermocouple. Now simply place the red wire into the negative slot, marked (-), tighten the screw to hold it down, then place the yellow wire into the positive slot, marked (+), and tighten the screw to hold it down. The negative symbol has been highlighted in red to correspond to the red wire for added ease of installation.

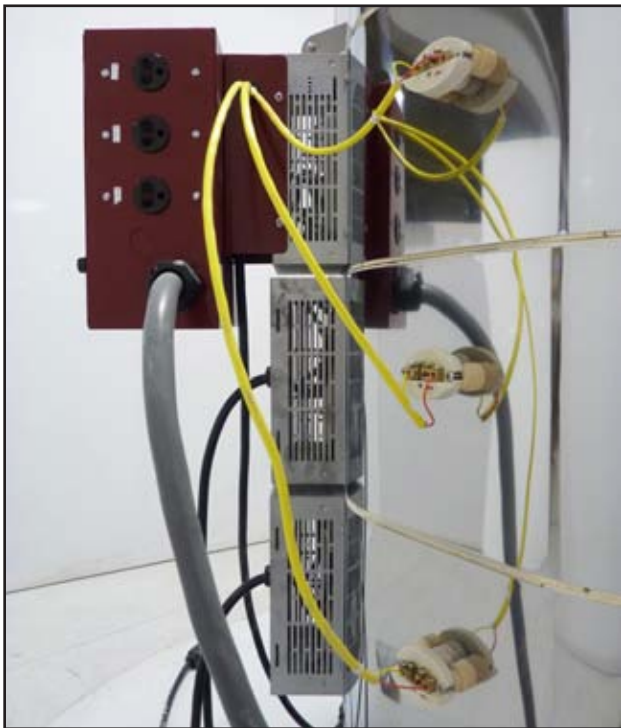
Thermocouple lead wire properly installed:



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5) Repeat this process with the Thermocouple Lead Wire labelled "2", and then with the Lead Wire labelled "1". Once completed the kiln should look similar to the below picture, a JD230V is shown.

All thermocouple lead wires installed:



CAUTION: Ensure that the Lead Wires are not touching the kiln body. If these wires burn the control will not function properly..

6) Relocate the Element Jumper Cord labelled "1". Plug this into the top-most receptacle on the right side of the Control Panel, this should also be labelled "1".

Element jumper cord properly installed:



7) Repeat this process with each higher numbered Jumper Cord until they are all plugged into their respective receptacles. A JD230V is shown.

All element jumper cords installed:



8) Your Jupiter kiln is now fully assembled and ready to operate. A JD230V is shown

The completely assembled kiln:

