

ASSEMBLING YOUR L&L EASY-FIRE KILN

TABLE OF CONTENTS

TOOLS NEED FOR THE JOB	1
UNPACKING	2
Inspect for visible damage	2
Remove Top from Carton	2
Unpack Instructions, Vent and Furniture Kit	2
Unpacking the kiln	3
ASSEMBLING THE STAND	4
REMOVING THE LID	5
REMOVING THE HINGE	6
REMOVING THE CONTROL PANEL AND ELEMENT COVER AS ONE ASSEMBLY .	6
REMOVING THE CONTROL PANEL	8
REMOVING ELEMENT COVER BOX ...	9
LOCATING THE KILN	10
SETTING UP THE KILN	10
SETTING UP THE HINGE	12
REASSEMBLING THE CONTROL PANEL	15
If you removed the panel separate from the element cover box	15
REATTACHING CONTROL BOX	16

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 Goggles
- 7) Special Spring Hinge Tool (provided)

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 or think about. 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" tabbed 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 assembled (except for the stand and the disengaged hinge spring). It is possible to move the kiln without disassembling it. However, these kilns, particularly the e28S and e28T, 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 5 for details on how to do it - there are specific instructions depending on which model you have.

ASSEMBLING YOUR L&L EASY-FIRE KILN

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:



Remove Top from Carton

- 1) Remove the packing slip from the packing list enclosed envelope, as well as the kiln set up instructions from the large envelope that is on the side of the kiln carton.
- 2) Cut the banding around the kiln box and remove the top.
- 3) You are looking at the heavy duty top of the kiln stand. Remove it and set it off to the side.

Below is the first thing you will see when you open the box - the top of the stand:



Unpack Instructions, Vent and Furniture Kit

- 1) Remove the corrugated pad from the inside of the carton.
- 2) For all kilns you will find the following items:
 - a) spring hinge tool
 - b) instruction manual
 - c) stand legs with the mounting hardware
 - d) Training Video
- 3) If you ordered a Vent-Sure vent system you will find the following items inside the cardboard insert:
 - a) flexible ductwork
 - b) bypass collection box
 - c) galvanized 90 degree elbow
 - d) vent motor with bracket that holds it to the wall
- 4) If you ordered the Furniture/Accessory kit you will find the following:

For an e18S:

- 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) dark viewing glasses
- d) a pair of temperature resistant gloves

e18S-3:

- a) One 15" full round shelf
- b) four 15" half shelves
- c) six each 1/2", 1", 2", 4", 6" and 8" square posts
- d) five pounds of Cone 10 kiln wash
- e) dark viewing glasses

ASSEMBLING YOUR L&L EASY-FIRE KILN

- d) a pair of temperature resistant gloves

For an e18T:

- 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) dark viewing glasses
- d) a pair of temperature resistant gloves

For an e18T-3:

- a) two 15" full round shelf
- b) four 15" half shelves
- c) six each 1/2", 1", 2", 4", 6" and 8" square posts
- d) five pounds of Cone 10 kiln wash
- e) dark viewing glasses
- d) a pair of temperature resistant gloves

For an e23S:

- 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) dark viewing glasses
- d) a pair of temperature resistant gloves

For an e23S-3:

- a) One 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) dark viewing glasses
- d) a pair of temperature resistant gloves

For an e23T:

- 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) dark viewing glasses
- d) a pair of temperature resistant gloves

For an e23T-3:

- 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) dark viewing glasses
- d) a pair of temperature resistant gloves

For an e28S-3:

- 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) dark viewing glasses
- e) a pair of temperature resistant gloves

For an e28T-3:

- 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) dark viewing glasses
- e) a pair of temperature resistant gloves

Below is a picture of the cardboard insert with a shelf kit and Vent-Sure system enclosed. NOTE: Depending on where you bought your kiln your vent system and/or kiln furniture may arrive in separate boxes.



ASSEMBLING YOUR L&L EASY-FIRE 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.
- 3) Push the foam tubes away from the kiln.

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:



- 4) If you ordered a three section kiln, either the (e23T, e28T) your kiln floor will be on top, remove it now. 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 is part of the spring hinge mechanism which is assembled but not engaged for shipping.

- 5) Notice that the spring on your spring hinge is not engaged.

ASSEMBLING THE STAND

Next, using the stand hardware and vent system hardware, assemble the vent system bypass collection box to the kiln stand. Then the flexible duct to the bypass collection box

- 1) Assembly the stand legs. **Make sure all the stand legs are tight.** Use a nut driver or an adjustable wrench to do this.

The legs get bolted to the stand with 1/4-20 bolts provided. They do not need nuts:



- 2) Attach the vent collection box (if you ordered the vent). If you did not order a vent then skip this.

The vent collection box fits over four studs on the bottom of the stand and gets fastened on with four 10-24 nuts :



ASSEMBLING YOUR L&L EASY-FIRE KILN

3) Attach the flexible vent tube to the outlet of the vent collection box. This takes some patience to get the flexible tube around the fitting.

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



4) Fit the rubber-plastic feet over the bottom of the legs. The stand is now fully assembled.

The fully assembled stand:



REMOVING THE LID

The next step is to remove the lid from the kiln. Remove the cotter pin, then the hinge pin, pull the bar out and remove the spring. Set them aside. Remove the lid from the kiln.

The hinge is shipped assembled (without the spring engaged). This way you can see how it all goes back together.



Now you can remove the top :



ASSEMBLING YOUR L&L EASY-FIRE KILN

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 an e18T, e23T or e28T (three-section 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 chest handles on the bottom kiln section and place the three connected sections on the floor slab.

Moving an e18S, e23S or e28S (two-section kiln): 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.

Go to step 10 on page 13.

REMOVING THE HINGE

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

DO NOT REMOVE 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:



NOTE ABOUT HANDLES: We have replaced the handles that you see in these photographs with heavier duty chest handles.

NOTE ABOUT e18S and e18T HINGES: These hinges are simple and are not shown here.

ASSEMBLING YOUR L&L EASY-FIRE KILN

REMOVING THE CONTROL PANEL AND ELEMENT COVER AS ONE ASSEMBLY

You have two choices. You can remove the Control Box and Element Cover Box as ONE assembly or you can first remove the Control Box from the Element Cover Box and then remove the Element Cover Box. The easiest method, in our opinion, is to remove the whole assembly. However, both methods are given.

1) Remove the two screws, that hold the outer portion of the control panel to the element terminal box.

Removing the two screws that hold the control panel on:



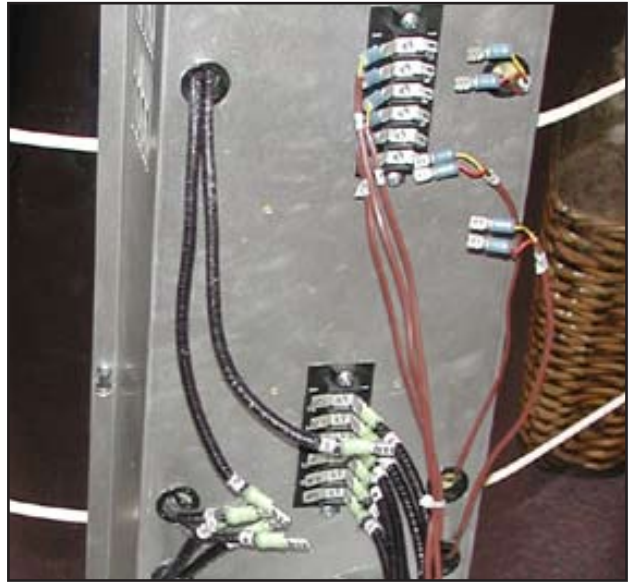
2) Hinge the dynatrol portion of the control panel down exposing the wire connection terminals.

The Control Panel Hinged down:



3) Remove the wires numbered 1 through 6 from the left side of the Power Terminal Strip and the right side of Thermocouple Terminal Strip.

Wires shown removed:



4) Loosen - but do not remove - the four or six screws that hold the Element Cover Box to the kiln.

The tear-drop holes on the Element Cover Box will allow you to remove it without having to take the screws out:



5) Hold the whole assembly and gently lift up so that

ASSEMBLING YOUR L&L EASY-FIRE KILN

the large part of the tear-drop holes allows the head of the four of six screws to pass through. This will take a little juggling but it will come off.

He is holding the box from underneath:



Pushing the wires through the holes:



6) Now skip to the the section called “LOCATING THE KILN”.

REMOVING THE CONTROL PANEL

This is method number two.

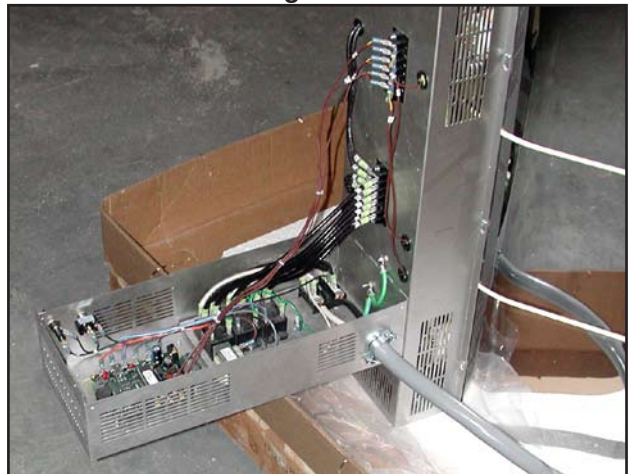
1) Remove the two screws, that hold the outer portion of the control panel to the element terminal box.

Removing the two screws that hold the control panel on:



2) Hinge the dynatrol portion of the control panel down exposing the wire connection terminals.

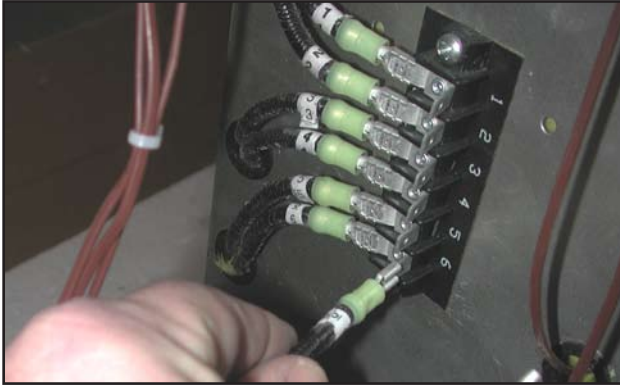
The Control Panel Hinged down:



3) Remove the wires numbered 1 through 6 from both sides of the Power Terminal Strip.

ASSEMBLING YOUR L&L EASY-FIRE KILN

Power Terminal Strip is shown :



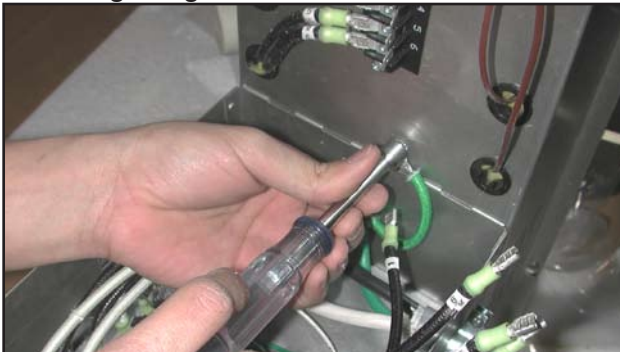
4) Remove wires numbers 1 through 6 from both sides of the Thermocouple Terminal Strip.

The Thermocouple Terminal Strip:



5) Remove the green ground that connects the front panel to the rear panel.

Removing the ground wire:



6) Tilt the control panel halfway back to its original position and gently pull the panel from the element box and set aside. It will take a combination of pulling slightly up and slightly out to disengage the control panel from the element terminal box.

Removing the panel:



REMOVING ELEMENT COVER BOX

If you prefer you can remove the box using the method shown on page 7 instead.

1) Remove the three screws on the right hand side of the element box and set them aside.

Removing the right hand screws :



2) Loosen the 3 screws on the left hand side of the element box but leave them in place. Loosen them to about a 1/2 inch.

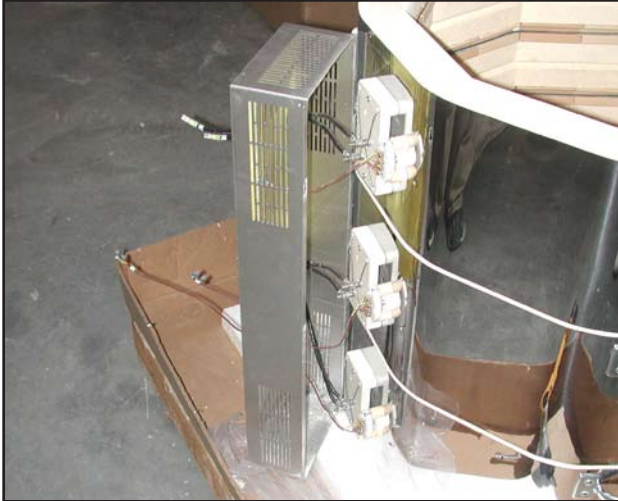
Loosen the left hand side



ASSEMBLING YOUR L&L EASY-FIRE KILN

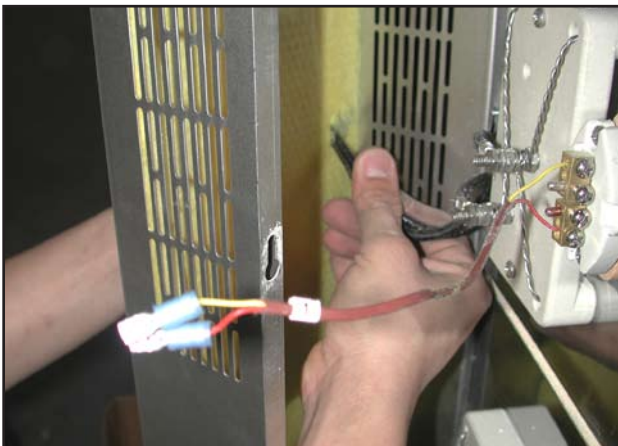
3) Gently push the right hand side of the element box away from the kiln sections. This will give you access to pull the element and thermocouple connection wires through the element box.

The Element Terminal Box swings over to the left side exposing the wires :



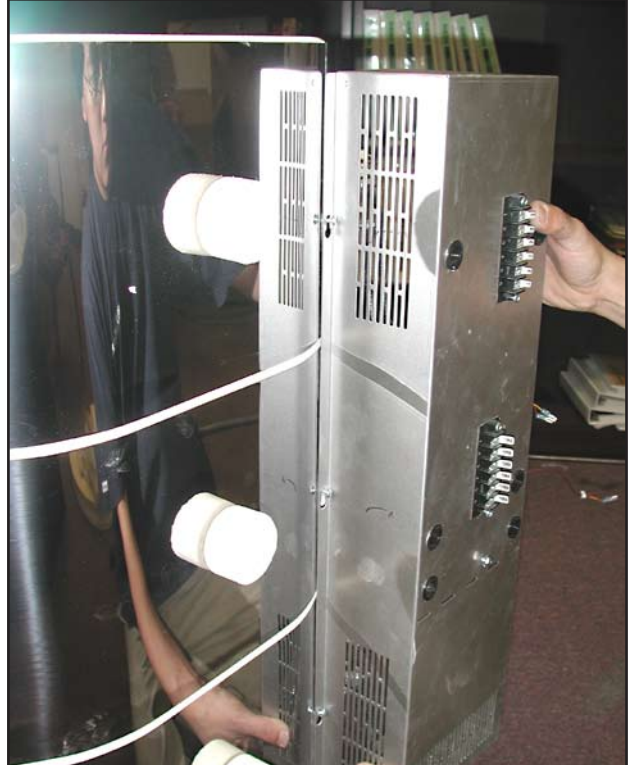
4) Pull the power and thermocouple wires out.

Pulling the wires out from the back of the terminal box:



5) Gently lift the element box up and remove from the kiln sections.

Removing the Terminal Box form the kiln:



6) You are now ready to set up the kiln.

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 the INSTALLATION Section of this manual. Read now if you are uncertain about any of these issues. **DON'T PROCEED UNTIL YOU ARE COMFORTABLE WITH THE LOCATION**

2) Place bottom floor section of kiln on the steel 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.

ASSEMBLING YOUR L&L EASY-FIRE KILN

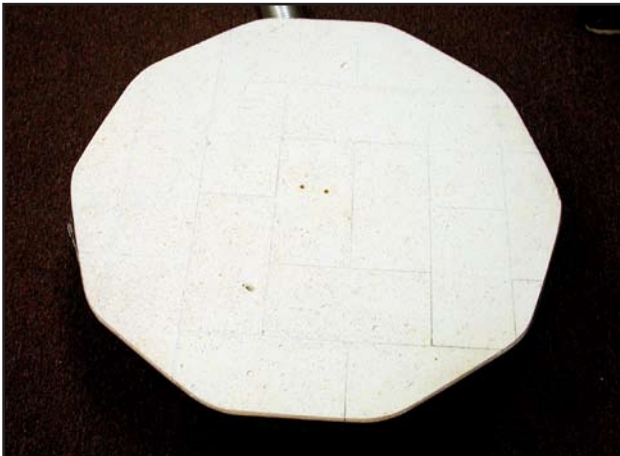
SETTING UP THE KILN

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



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 brick is oriented to the square 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.

5) Place the kiln section with the #5 & #6 on the thermocouple wire on top of the kiln stand (this will not exist for an e23S or e28S so skip to the next step if you have one of those kilns).



ASSEMBLING YOUR L&L EASY-FIRE KILN

6) Place the kiln section with the #4 & #3 on the thermocouple lead wire on next.



7) Place the kiln section with the #1 & #2 on the TC wire on the top ring of the stack.



8) You are now ready to reattach the hinge.

SETTING UP THE HINGE

1) Notice that on the back of the kiln that the mounting screws for the hinge line up.



2) Take the large ring hinge piece and drop it onto the screws on the kiln sections. If the screws on the kiln don't perfectly line up with the holes in the large hinge piece gently maneuver the hinge piece until you have all the screw heads into the keyhole slots on the large hinge piece. **Let the piece drop to the top of the slot and rest but do not tighten the screws at this time.**



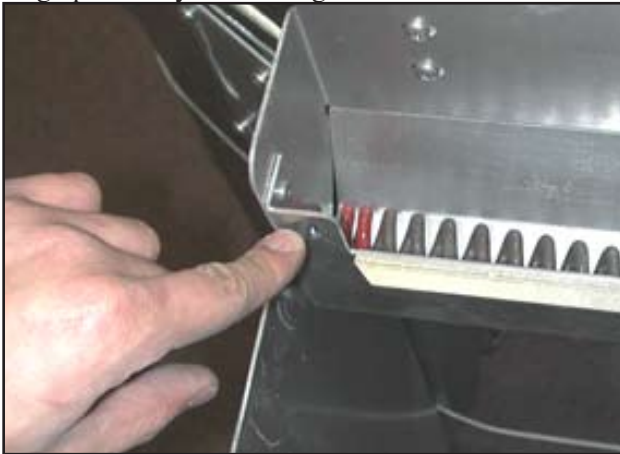
3) Place the kiln door with the hinge top hinge piece attached inside the large hinge piece on top of the kiln.

ASSEMBLING YOUR L&L EASY-FIRE KILN



4) Get together your spring, hinge rod, hinge cotter pins and hinge spring tool (that is the long 1/2" diameter metal rod with the machined slot in the end).

5) Next you are going to take the spring and put it inside the lid hinge piece making sure that the short end of the spring is in the hole to the left of the hinge piece as your looking at it.



6) Place the hinge bar through the large hinge piece, through the spring and out the other end of the large hinge piece. Insert the cotter pins into the holes in each end of the hinge bar.



It is critical that the hinge bar sits in the bottom of the slot. This allows the lid to raise and lower as the kiln body expands with the heat. Otherwise the kiln lid could be damaged during firing.

8) Raise the large ring hinge piece up until the hinge bar sits in the **bottom of the slot**. While holding the large ring hinge piece in place tighten the screws.



ASSEMBLING YOUR L&L EASY-FIRE KILN

CAUTION: There is a great deal of tension created by the torsion spring. Use extreme caution when installing it. **Wear safety goggles.** Use the special tool provided as directed. The use of a tool that does not grab the end of the spring to allow you to control it may result in serious bodily injury. Call L&L if you do not have this tool. We will provide it at cost for an old kiln.

9) Next you are going to attach the other end of the spring in through the slot on the right hand side of the ring hinge piece (on the right side as you stand behind the kiln). This will require two people. Have one person raise the lid into the upright position and hold it there while the second person places the slotted end of the spring tool through the top of the large hinge piece and onto the spring.



10) Push the spring down as far as you can.



11) Continue to hold the lid upright.

12) Insert the hinge tool down into the body of the hinge as shown and grab the spring with the notched end. Using the hinge bar as a fulcrum push the end of the spring into the first slot.

Put the hinge tool into the body of the hinge:



Top view:



You can also push the spring into place from the back through the provided hole if you have room to work behind the kiln.

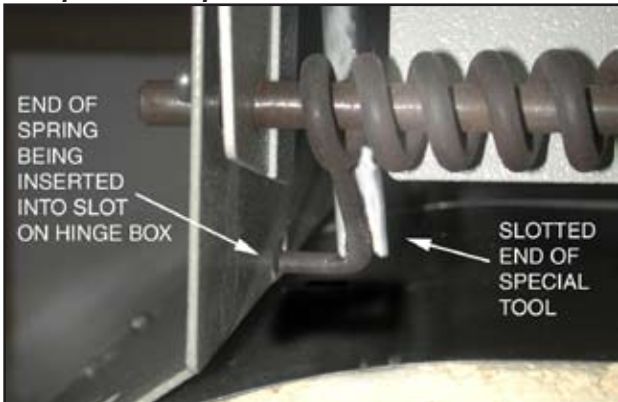


ASSEMBLING YOUR L&L EASY-FIRE KILN

13) Push the spring into one of the two slotted holes on the side of the large hinge piece. The slot closest to the kiln will put more tension on the spring. (Note - it is hard to get the spring into this slot when working from above).



Below is a view from the top looking down into the hinge box. NOTE: When removing the hinge - use the reverse procedure and be sure to use the special tool provided.

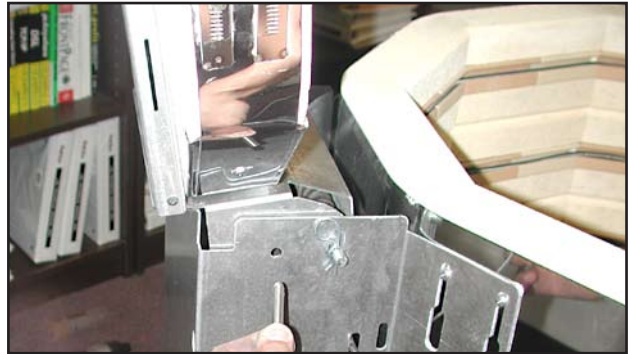


13) The hinge is now operational.

14) Raise and lower the hinge a few times.

15) Double check to make sure that each end of the spring is through the appropriate hole in the ring hinge piece.

16) Open the lid to the full open position and insert the safety pin to keep the lid locked in the up position.



17) You are now ready to reassemble the panel onto the kiln.

REASSEMBLING THE CONTROL PANEL

1) Take the Control Box and Element Cover Box Assembly and place it on the screws on the **left** hand side of the element connection terminals (facing from the front).

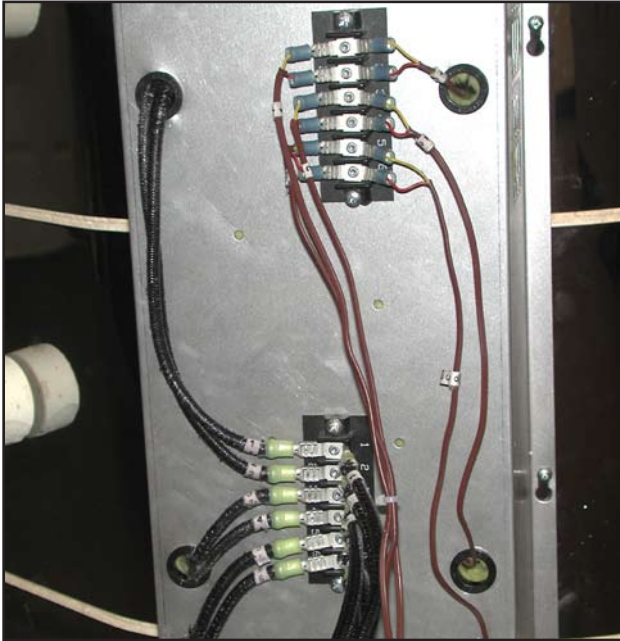
2) Push the whole assembly off to the side left side slightly so you can access the wires and push them through the holes.



ASSEMBLING YOUR L&L EASY-FIRE KILN

3) Push the Element Cover Box up against the kiln and position it over the screws through the large part of the tear-drop holes. Tighten the screws.

4) Attach all the wires to their proper place on the terminal boards.



5) Close the Control box and screw in the two screws that hold it in place at the top of the Element Cover Box.

If you removed the panel separate from the element cover box

1) Take the element terminal box and place it on the screws on the **left** hand side of the element connection terminals (facing from the front).

2) Gently push the right side of the element cover box open enough to allow access to feed the element and thermocouple connection wires through the same holes that you previously removed them from.

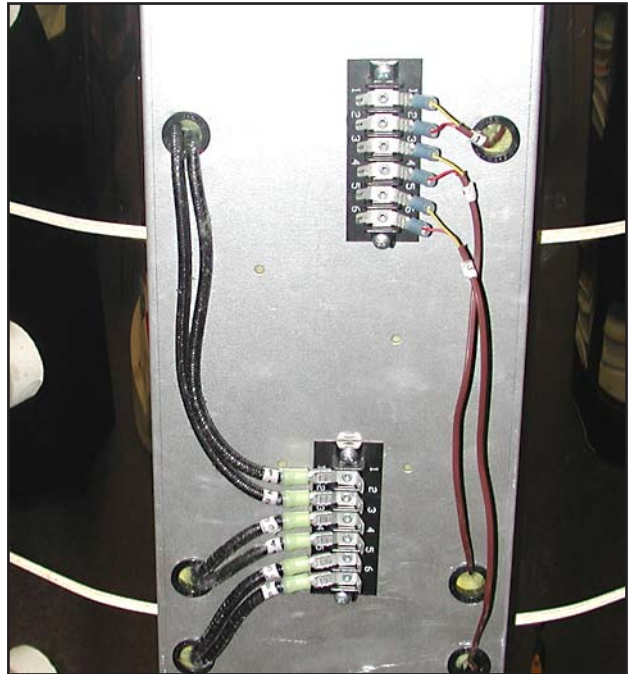
3) Take the 3 screws that you removed from the right side of the element cover box and replace and tighten them.

Below:



4) Next tighten the 3 screws on the left hand side of the element cover box.

5) Reconnect the wires to the appropriate numbered terminals.



6) You are now ready to reattach the hinge portion of the dynatrol panel.

ASSEMBLING YOUR L&L EASY-FIRE KILN

REATTACHING CONTROL BOX

- 1) Place the tabs on the control panel box back in to the appropriate slots on the element cover box.
- 2) Reattach the ground wire to the ground lug from the control box to the element cover box.
- 3) Reattach all power wires to the appropriate numbered terminals.
- 4) Reattach the thermocouple wires to the appropriate numbered terminals making sure yellow goes with yellow and red goes to red. Make sure to push the slip on terminals all the way onto the tabs on the connection terminals.
- 5) Raise the panel and replace the two screws at the top and tighten making sure to keep the thermocouple lead wires and the power connect wires from getting pinched in the panel.
- 6) Your kiln is now fully assembled and ready to operate.