

# PO-2

## E n g l i s h   M a n u a l

pdq Ovens



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**FOR YOUR SAFETY, PLEASE  
OBSERVE THESE  
WARNINGS!**



Dangerous  
Electrical  
Voltage



Caution, refer to  
accompanying  
documents



Caution  
Hot Surface

PDQ Ovens are designed specifically for heating plastics for vacuum forming and have features that make it then inappropriate for other uses. The design is such that heating other materials may be dangerous, or may damage the oven. Protection provided by the equipment may be impaired if the unit is not used in a manner specified by the manufacturer.

Do not install or operate the PDQ Oven on or near flammable materials or gasses. Be sure to allow sufficient ventilation around oven surfaces. OTS Corp recommends 6" minimum.

**Cleaning:** We recommend cleaning your PDQ Oven with either glass cleaner for water based stains, or a solvent such as acetone or mineral spirits for oil based stains. When using solvents, be sure the oven is turned off and cool to the touch.

**Moving the oven:** The PDQ Oven is light enough to be moved by 2-4 people. Let the oven cool, disconnect the electrical power and remove the cart before moving the oven. It is always advisable to secure the oven to the floor for permanent use.

## Oven Setup

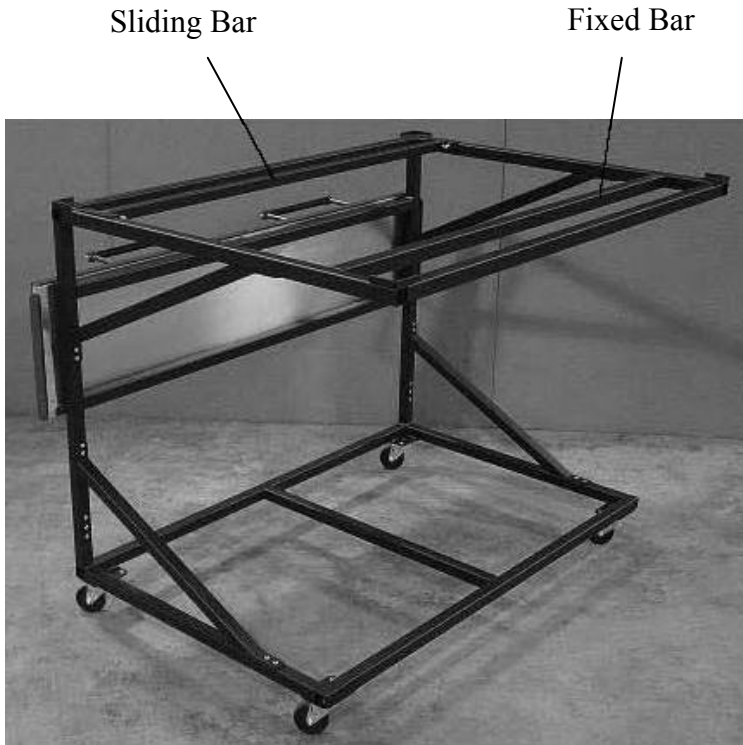
To save you freight cost and prevent damage to your new PDQ Oven, we have shipped it to you partially disassembled. These assembly instructions and diagrams should make setup fairly simple. You will require 2-4 people, a 7/16" wrench and a 1/8" and 5/32" hex wrench, along with the included hardware kit, to complete the setup.

1. Unband and unpack the oven.
2. Lifting the side of the oven opposite the control panel, insert the round section of the legs into the leg holes on the underside of the oven. (see drawing) Install the hex bolts through the hole in the leg support into the threaded hole on the underside of the oven and tighten the two set screws for each leg a 1/8" hex wrench. Lift the control panel side of the oven and repeat the process. *(Note that the angled supports on the legs run from front to back on the two front legs and side to side on the back legs.)*



## Oven Setup

3. Assemble the cart using the 1/4 - 20 button head screws provided as shown. The angle braces have small bumps on one end that matches up to corresponding bumps on the cart to aid in assembly.



4. The cart has a sliding bar to accommodate for different size bubble forming frames. Adjust the sliding bar so that your bubble forming frame rests on the fixed bar at the rear of the cart and the sliding bar. This will promote a more even heating of the plastic.

## Electrical Connections



**All electrical connections must be performed by a certified electrician following all national and local codes and regulations.**

### External Circuit Breaker and Shut Off Required

208-240 volt single phase units must be hardwired to your electrical system utilizing an external circuit breaker and shut off mounted as close as possible to the oven.

380-400 volt 3 phase units are provided with a 16A-6h plug and 8' of VDE rated cord. The oven must be connected to an external circuit breaker and shut off mounted as close as possible to the oven.

### 208-240 Volt Single Phase

Oven Model	Actual Amperage	Recommended Circuit Breaker
PO-2	39 Amp	50 Amp

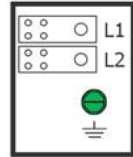
### 380-400 Volt Three Phase

Oven Model	Actual Amperage	Recommended Circuit Breaker
PO-2	15.4 Amp	Check Local and National Regulations

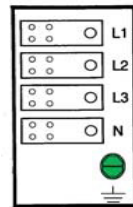
## Electrical Connections

### CAUTION: SHEETMETAL EDGES MAY BE SHARP

1. Remove the electrical panel (right side panel) by removing the 3 screws on the back and the 3 screws across the lower edge of the panel with a 1/8" hex wrench
2. Mark the main power supply entry point where indicated below.
3. Attach conduit to the oven at the main power supply entry point.
4. Connect the power wires to the terminal blocks and ground screw.
5. Reinstall the side panel. The oven is ready for use.

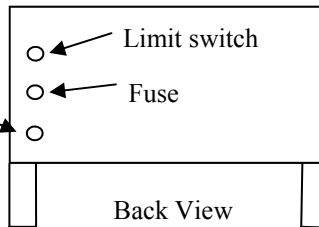


208-240V  
Single



380-400V  
Three

Main power supply entry point must be 2 1/2" from the bottom of the oven and inline with the limit switch and fuse.



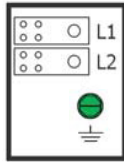
## Over Temperature Protection

The PDQ Ovens have a maximum temperature setting of 450°F or 243°C. In addition an over temperature shut off device (**Limit Switch**) is supplied that will turn the emitters off if the temperature exceeds 500°F or 260°C. A reset button is located on the back of the oven above the main power supply entry point. Unscrew the cap and push the button firmly if an over temperature situation occurs.

### Over Temperature Protection Device Check

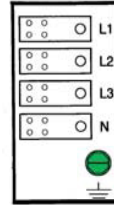
1. Disconnect electrical power and ensure the oven is cool to the touch.
2. Remove the devices' temperature probe (short copper bulb and capillary tube not the long chrome probe) from the mount on the inside of oven.
3. Insert probe into a handheld dry-well calibrator (ex. Hart Scientific 9100S) and heat the probe.
4. The device should trip between 500°F and 525°F.
5. Allow the probe to cool to room temperature and reinstall in mount.
6. Reset the device by pressing the reset button on the device.

## Electrical and Warning Labels



208-240  
volt  
1 phase

### Main Terminal Blocks



380-400  
volt  
3 phase



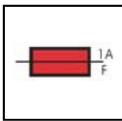
Dangerous  
Electrical  
Voltage



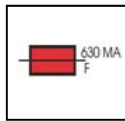
Caution, refer to  
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documents



Caution  
Hot Surface



1 Amp  
Fuse  
208-240V



630 MA  
Fuse  
380-400V



Fan Control



Main Switch  
Control



Oven Control



## Oven Controls Operation

### 380-400 Volt Ovens:



OFF      ON

The **MAIN SWITCH** is located on the control panel on the front of the oven. Rotate the knob to the ON position to enable oven use.

### 208-240 and 380-400 Volt Ovens:



OFF      ON

The **OVEN CONTROL SWITCH** is located on the control panel on the front of the oven. Rotate the knob to the **ON** position to enable oven use.

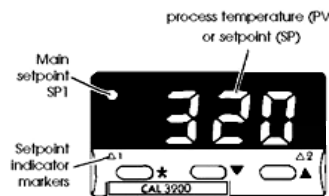


The **FAN CONTROL KNOB** is located on the control panel on the front of the oven. Rotate the knob all the way to the left to turn the fan OFF and gradually rotate the knob to the right until the desired fan speed is achieved.

The **TEMPERATURE CONTROLLER** is located on the control panel on the front of the oven. To set the temperature of the oven, press and hold the left hand (★) button and either increase the set point using the right hand (▲) button, or decrease the set point using the middle (▼) button.

#### Routine adjustments

- ★ View set point
- ★▲ Increase set point
- ★▼ Decrease set point



## Operating Suggestions

### Flat Plastic:

1. Preheat the oven and tray/cart to the desired cooking temperature.
2. Place the plastic in the center of the cooking tray and roll the tray/cart into the oven.
3. Your new PDQ Oven will work best if set at 400°F or 204°C for plastics such as Polypropylene, Copolymer and Polyethylene. Special plastics may require a different setting.
4. Plastics less than 1/8" or 3mm cook best when utilizing a "cool tray" or by removing the tray/cart from the oven and allowing it to cool to room temperature before placing the plastic on the tray and sliding it into the oven.
5. Colored plastics generally will require 2-3 minutes longer to cook than the same thickness natural color plastics.



**The Teflon sheeting on the tray is a durable nonstick material. However, it is not indestructible. It is wise to exercise care when using it. For example, avoid sliding hard objects across the surface. As with other materials, the surface will degrade over time.**

### Bubble Forming:

1. Remove the tray from the cart. Pre position the sliding bar the proper distance from the fixed bar to properly support the bubble forming frame. Roll the cart into the oven.
2. Heat the oven to the desired cooking temperature. Normally between 375°F and 440°F or 190°C and 225°C
3. Select the appropriate size bubble forming frame and insert the plastic into the frame.
4. Position the bubble forming frame and plastic on the cart and roll the cart into the oven.

### Oven Fan:

1. The fan circulates the heated air in the oven. The fan does not draw external air into the oven or exhaust heated air out of the oven.
2. The fan is variable speed and is controlled by the fan control knob on the front of the oven.
3. The oven operator shall determine the fan usage based on cooking requirements and preferences.

## Infrared Emitters



Remove the 3 screws  
securing each light guard.

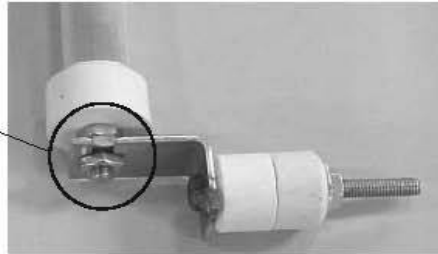
### **CAUTION: INFRARED EMITTERS ARE FRAGILE. HANDLE WITH CARE**

Insert the threaded ends of the emitter into the L-Brackets in the light panel. Holding the ceramic at the end of the emitter, so as not to disconnect it from the glass portion of the emitter, tighten the nuts at each end against the L-Bracket. Each emitter and two L-Bracket assembly is intended to “float” to allow for emitter expansion and contraction.

Reinstall the light guards.

#### **Note:**

Ensure a tight  
connection here.  
A loose connection  
will cause arcing  
and damage to the  
L-bracket and emitter.



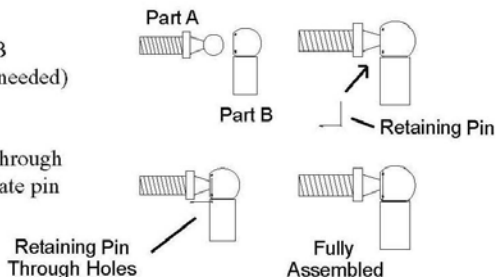
### **PDQ door shock clip assembly:**

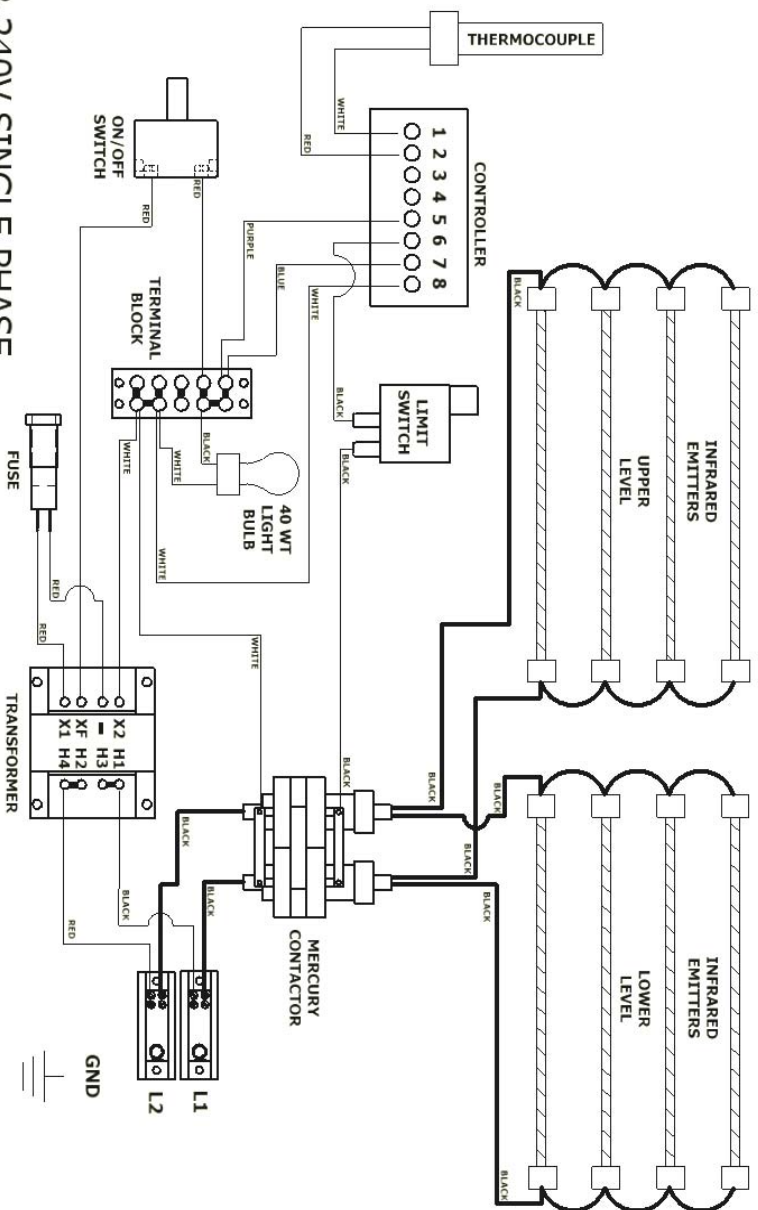
#### **Step #1**

Insert part A into part B  
(a gentle force may be needed)

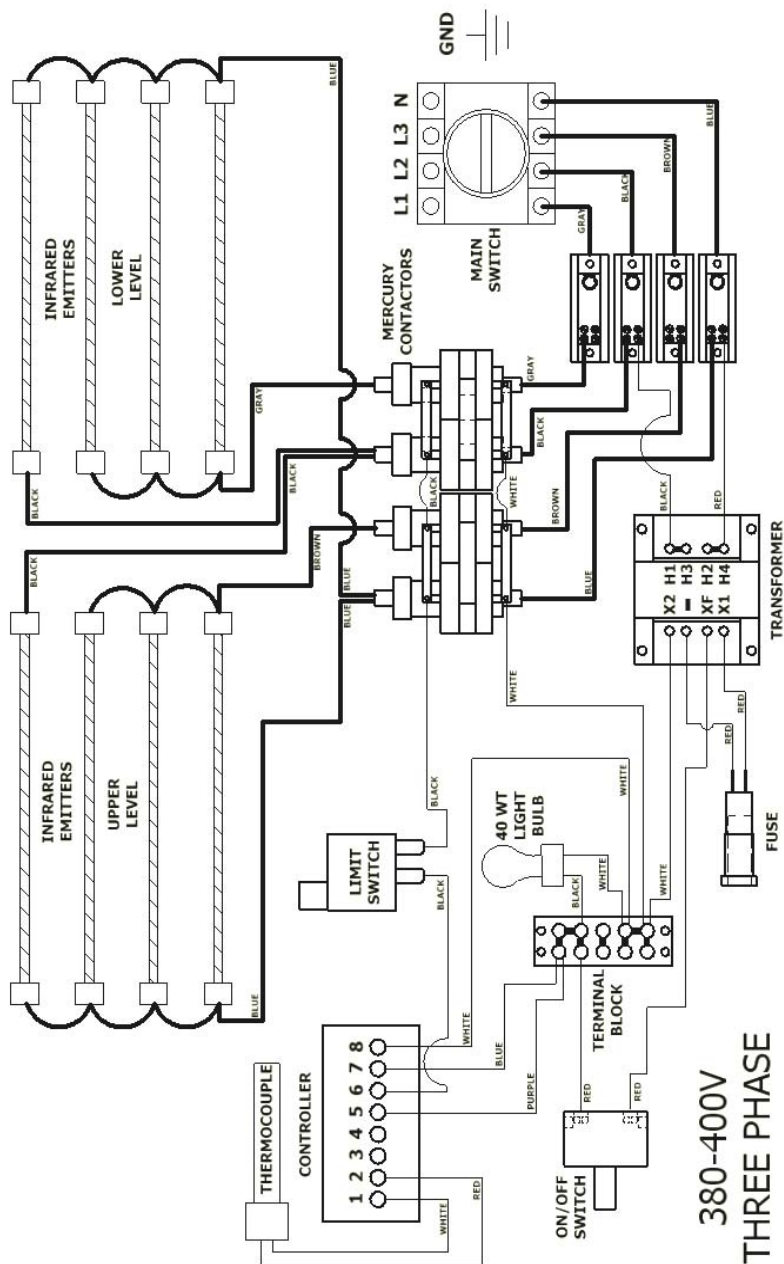
#### **Step #2**

Slide retaining pin up through  
holes in part B, and rotate pin  
around neck of part B





208-240V SINGLE PHASE



## PDQ OVEN 1 YEAR LIMITED WARRANTY

OTS Corporation ("Seller") warrants to the original purchaser ("Purchaser") that the PDQ Oven manufactured by Seller is free from defects in material and workmanship under normal use and service, but only if it has been properly installed and operated. Seller's obligation under this warranty shall be limited to the repair or exchange of any part or parts which may prove defective under normal use and service within one (1) year from the date of purchase by Purchaser. Any such defective parts must be returned to Seller's factory at Weaverville, North Carolina not later than one (1) year after purchase of the PDQ Oven. Parts not manufactured by Seller will carry only the warranty of their manufacturer. Transportation charges or duties shall be borne by Purchaser. Labor to replace the defective part will be by local, licensed electrician, obtained by the Purchaser with Seller approval, and shall be paid by Seller. The foregoing shall be the limit of Seller's liability for any breach of warranty within thirty (30) days after discovery thereof, but within the one (1) year guarantee period, otherwise, such claims shall be deemed waived. No allowance will be granted for any repairs or alterations made by Purchaser without Seller's prior written consent.

Seller does not warrant its PDQ Oven to meet the requirements of any safety code of any state, municipality, or other jurisdiction, and Purchaser assumes all risk and liability whatsoever resulting from the use thereof, whether used singly or in combination with other machines or apparatus.

This warranty shall not apply to any PDQ Oven or parts thereof, which has been repaired or altered, without Seller's written consent, or which has been damaged as a result of misuse, negligence, or accident, or which has not been operated in accordance with Seller's printed instructions, or has been operated under conditions more severe than, or otherwise exceeding, those set forth in any specifications.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR USE, FOR A PARTICULAR PURPOSE, AND OF ALL OTHER OBLIGATIONS OR LIABILITIES ON THE PART OF THE SELLER. SELLER NEITHER ASSUMES NOR AUTHORIZES ANY OTHER PERSON TO ASSUME ANY OTHER LIABILITY IN CONNECTION WITH THE SALE OF THE PDQ OVEN. SELLER MAKES NO WARRANTY WHATSOEVER WITH RESPECT TO ACCESSORIES OR PARTS NOT SUPPLIED BY SELLER.

Seller shall not be liable for any loss or damage resulting, directly or indirectly, from the use or loss of use of the PDQ Oven. Without limiting the generality of the foregoing, this exclusion from liability embraces the Purchaser's expenses for down time or for making up down time, damages for which the Purchaser may be liable to other parties, damages to property, and injury or death of any persons. Seller neither assumes nor authorizes any person to assume for it, any other liability in connection with the sale or use of the PDQ Oven, and there are no oral agreements or warranties in connection therewith.

The warranty hereinabove set forth shall not be deemed to cover infrared tubes, for which Seller shall have no responsibility or liability whatsoever.

Under no circumstances shall the liability of Seller exceed the purchase price paid by Purchaser. Some states do not allow limitations on the length of any warranty or the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to the Purchaser.

For Your Records:

Serial No. \_\_\_\_\_ Model No. \_\_\_\_\_

Date Purchased: \_\_\_\_\_



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