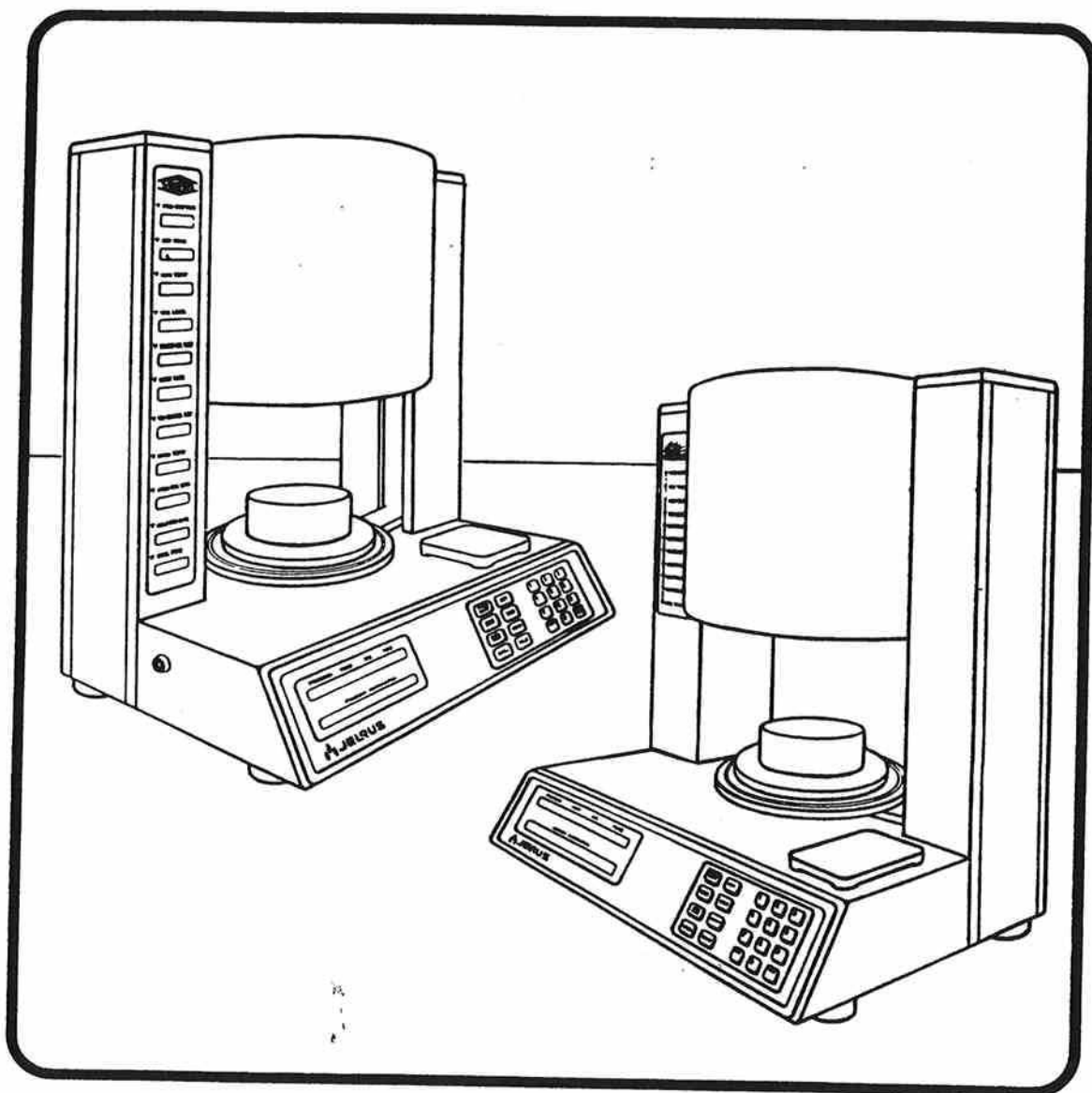


# VISTA™/WIZARD™

PORCELAIN FURNACE



## MANUAL

 **JELRUS**  
INTERNATIONAL

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### **VISTA/WIZARD™ SPECIFICATIONS**

Electrical: 100V 50/60 Hz - 1700W  
115V 50/60 Hz - 1700W  
220V 50/60 Hz - 2150W  
240V 50/60 Hz - 2350W

Muffle: 3.5 in. (8.9 cm) diameter

Dimensions: 15" W x 14 1/4" D x 19" H  
(38.1 cm W x 36.2 cm D x 48.3 cm H)

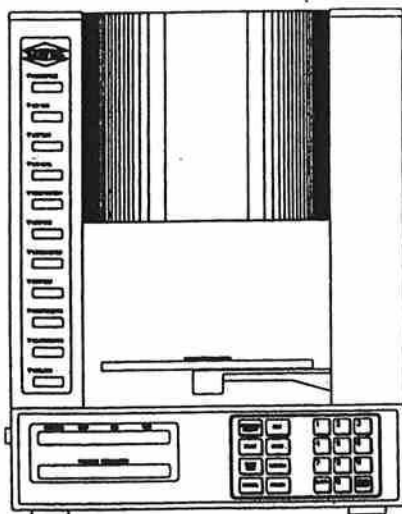
Requires external vacuum pump that can achieve  
26.5 in. (67.3 cm) of Hg in 60 seconds.

# ***INSTALLATION***

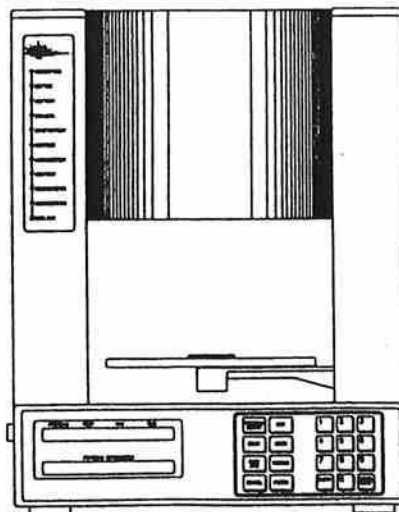
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1. Remove all packing material from around the furnace.
2. Position the furnace in an area which permits comfortable operation. Make sure it is at least 2 inches (5cm) from any combustible surface.
3. Connect the vacuum pump hose from the vacuum pump to the vacuum hose connector on the rear panel of the furnace.
4. Plug the vacuum pump line cord into the vacuum pump receptacle on the rear panel of the furnace. The current rating of the pump must be less than 4.5 Amps.
5. For 100V/115V units, plug the power cord into the wall receptacle. For 220V/240V units, plug one end of the power cord into the line voltage receptacle on the rear panel of the furnace and the other end into the wall receptacle. A separate 15 Amp circuit is recommended for all voltages. Wait 5-10 seconds before turning on the power switch.
6. Press POWER switch ON. Furnace door will open automatically. Place firing block onto furnace door.
7. Run AUTOMATIC MUFFLE CONDITIONING PROGRAM #400 (see p. 9) two times. Run AUTOMATIC VACUUM CALIBRATION PROGRAM #900 (see p. 10) to calibrate your vacuum pump to your new **VISTA/WIZARD**.
8. Your new Jelrus **VISTA/WIZARD** has been temperature calibrated. It is not necessary to re-calibrate the muffle before use. If you wish to re-calibrate, see TEMPERATURE CALIBRATION, p. 14.
9. Your furnace is now ready for operation.

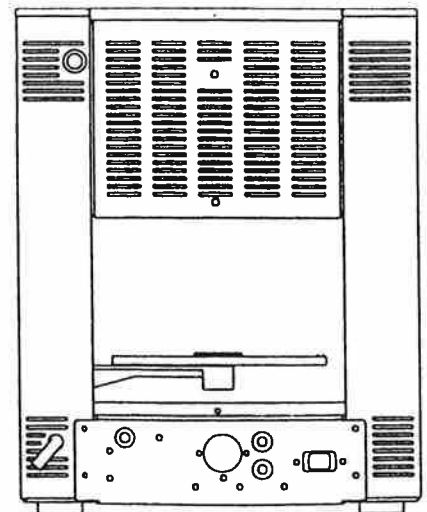
**VISTA (FRONT VIEW)**



**WIZARD (FRONT VIEW)**



**VISTA/WIZARD (BACK VIEW)**



# FRONT PANEL

Your new **VISTA/WIZARD** Porcelain Furnace brings the power of the modern microcomputer to the dental laboratory. It will remember 100 different programs and perform each of them accurately at your command. In addition, the **VISTA** clearly displays all program information all the time. The **WIZARD** displays programs sequentially when the ENTER/REVIEW key is pressed. Your new **VISTA/WIZARD** is also user programmable. You select all the program variables for each of the open programs # 0-99.

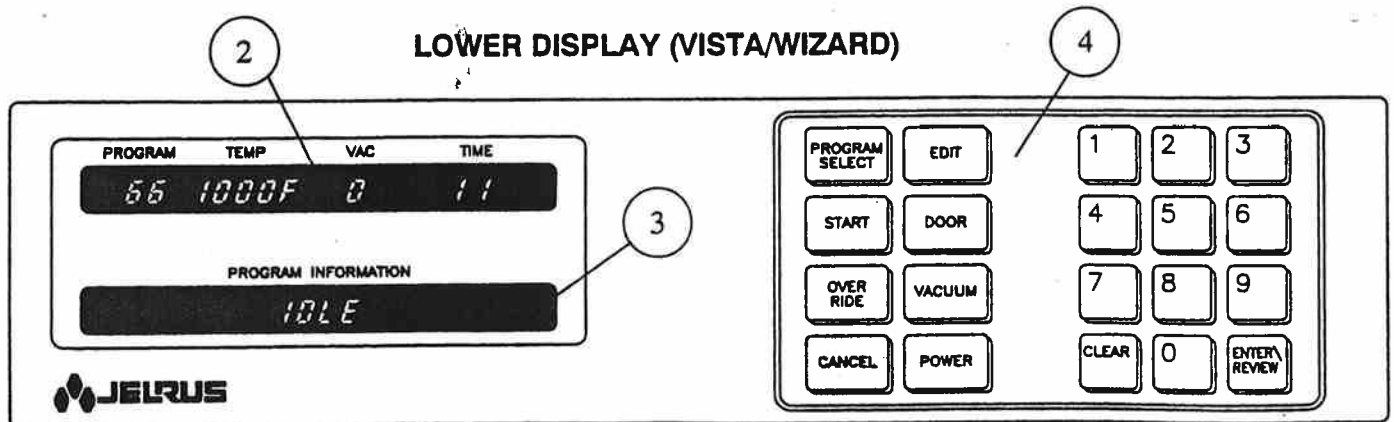
<u>PARAMETER</u>	<u>RANGE*</u>	<u>DEFINITION</u>
<b>PRE-DRY TIME</b>	0 to 30 min.	Selected amount of time platform completes movement from fully open position to fully closed position.
<b>DRY TIME</b>	0 to 30 min.	Selected amount of time during which door remains closed, and muffle is maintained at constant temperature. If the <b>START VAC TEMP</b> is at least 1 degree higher than the <b>LOW TEMP</b> then the <b>DRY TIME</b> <i>will be without vacuum</i> . After the <b>DRY TIME</b> is complete the temperature will rise to the <b>START VAC TEMP</b> and the vacuum pump will turn on. If the <b>START VAC TEMP</b> is the same as the <b>LOW TEMP</b> then the <b>DRY TIME</b> <i>will be done with vacuum</i> . After the <b>DRY TIME</b> is complete, the furnace will heat to the <b>VAC RELEASE TEMP</b> and <b>HIGH TEMP</b> .
<b>LOW TEMP</b>	100° to 2150°F (38° to 1176°C)	Temperature at which cycle starts. If <b>LOW TEMP</b> is selected to be less than 1000°F (538°C), the furnace will idle at selected <b>LOW TEMP</b> . If <b>LOW TEMP</b> is selected to be above 1000°F, the furnace will idle at 1000°F and heat to the <b>LOW TEMP</b> prior to commencing <b>PRE-DRY</b> cycle.
<b>VAC LEVEL</b>	0 10 to 29 in. Hg (25 to 73 cm Hg) 1 2	Vacuum at which work is required to be fired. There are three options:  OFF = No vacuum. User selected value.  FULL = the maximum value attainable by the vacuum pump. (If the option to not use vacuum has been selected, <b>START VAC TEMP</b> , <b>VAC RELEASE TEMP</b> and <b>HOLD TIME W/VAC</b> will not be displayed and the program will not execute these steps.) <b>We recommend FULL vacuum for all programs requiring vacuum.</b>  HIGH = Maximum vacuum is achieved and the pump stays on the entire time.
<b>START VAC TEMP</b>	This value cannot be less than <b>LOW TEMP</b> and must be less than <b>VAC RELEASE TEMP</b> .	Temperature at which vacuum will turn on. If selected value of <b>START VAC TEMP</b> is equal to <b>LOW TEMP</b> , vacuum starts as soon as door is closed.
<b>HEAT RATE</b>	40° to 400 °F/min. (22° to 222°C/min.)	Rate at which muffle temperature increases with time.
<b>VAC RELEASE TEMP</b>	<b>VAC RELEASE TEMP</b> must be greater than <b>START VAC TEMP</b> and not greater than <b>HIGH TEMP</b> .	Vacuum release temperature can be programmed to release vacuum before <b>HIGH TEMP</b> , at <b>HIGH TEMP</b> , or after holding at <b>HIGH TEMP</b> for up to 30 minutes.
<b>HIGH TEMP</b>	100° to 2200°F (38° to 1204°C)	Maximum temperature to which work must be heated during processing cycle.
<b>HOLD TIME W/VAC</b>	0 to 30 min.	Amount of time vacuum will be held at <b>HIGH TEMP</b> . When this time elapses, vacuum will be released.
<b>HOLD TIME NO VAC</b>	0 to 30 min.	Amount of time furnace will maintain <b>HIGH TEMP</b> after vacuum is released.
<b>COOL TEMP</b>	Any TEMP equal to or below <b>HIGH TEMP</b> (MIN. 100°F/38°C)	Temperature furnace will cool down to before door opens. Default temperature is <b>HIGH TEMP</b> .
<b>COOL TIME</b>	0 to 30 min.	Selected amount of time in which platform completes movement from fully closed position to fully open position.

\*NOTE: Attempts to enter a value outside of acceptable limits will result in an **INVALID ENTRY** message on the Lower Display.

# FRONT PANELS



- 1A. VISTA VISION DATA DISPLAY
- 1B. WIZARD PROGRAM SEQUENCE
- 2. STATUS DISPLAY
- 3. PROGRAM INFORMATION
- 4. KEYPAD



## **PROGRAM SELECT:**

Selects program numbers. Press PROGRAM SELECT, enter program number and press ENTER/REVIEW. The "VISTA-VISION" display will continuously show all programmed parameters. If INVALID PROGRAM NO appears on the lower display, press CLEAR and re-enter the correct program number.

## **EDIT:**

Allows the user to enter or modify program information. Press EDIT to begin editing. Press ENTER/REVIEW to select the parameter to be changed. Enter the new number, press ENTER/REVIEW and then EDIT to exit the EDIT mode. The "VISTA-VISION" display will continuously show all revised programmed parameters. The EDIT key may be used while the program is running. See page 13.

## **START:**

Press START to begin the program.

## **DOOR:**

To raise or lower the door press DOOR. Pressing DOOR a second time will stop the door. Press DOOR again to continue in the original direction.

## **OVERRIDE:**

Allows the user to re-enter the work into a hot muffle prior to completing the program. See page 8.

## **VACUUM:**

Press VACUUM to raise the door and start the vacuum pump. Pressing VACUUM a second time will stop the vacuum pump. Press DOOR or CANCEL to release the vacuum and open the door.

## **CANCEL:**

Press CANCEL to end a program or lower the door.

## **POWER:**

Turns power ON and OFF.

## **NUMBERS:**

0 - 9; Used for entering program information.

## **CLEAR:**

Press CLEAR to correct a keyboard entry.

## **ENTER/REVIEW:**

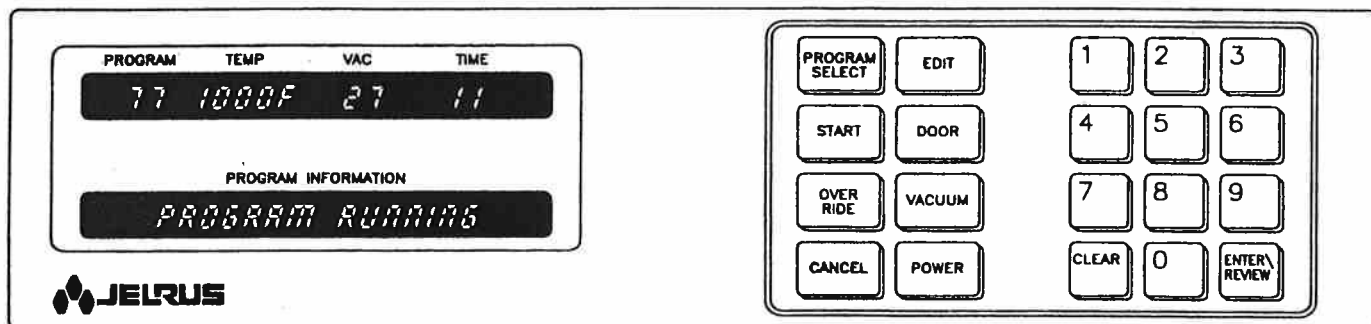
Used to enter numeric data, move through each step of the EDIT mode and review the programmed data on the lower display. The "VISTA-VISION" display will continuously show all programmed parameters.

## **SELECTING AND STARTING A PROGRAM**

To run a program or to change a program, it is necessary to select that program number and have it displayed on the PROGRAM # display.

**NOTE:** If you make an error when using the Keypad, press CLEAR and then enter the correct data.

1. Once the furnace has been turned on press PROGRAM SELECT, then the program number, and then ENTER/REVIEW.
2. This program number will now be on the PROGRAM # display.
3. To start a program press START.
4. To edit a program press EDIT; to get out of EDIT mode press EDIT again.
5. To stop a program while it is in progress press CANCEL.



**NOTES:** All programs must run from the beginning. If a program is started, the door will not begin to close until the temperature in the muffle is equal to LOW TEMP. This delay will occur if the temperature in the muffle is either below or above LOW TEMP.

At the end of a program, the lower display will show "PROGRAM COMPLETE". Press any key to clear the display.

A volume control (located at the rear of the furnace) allows you to adjust the audible tones to a comfortable level or completely off.

## **USING OVERRIDE**

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**OVERRIDE** is a feature which allows you to reintroduce your work into the hot muffle for one minute at the same value of **HIGH TEMP** or at a higher value of **HIGH TEMP**. Vacuum is not needed during **OVERRIDE**.

### **WHEN OVERRIDE CAN BE ACTIVATED:**

Initially, **OVERRIDE** can only be activated during **COOL TIME**, when the message "COOLING" is on the lower display. Once the program is completed, **OVERRIDE** cannot be activated. If it is desired to reintroduce the work after this cycle's completion, a new cycle would have to be initiated.

### **HOW TO ACTIVATE OVERRIDE:**

Each **OVERRIDE** cycle is 1 minute in duration. Press the **OVERRIDE** button to initiate an **OVERRIDE** cycle. At this point, "OVERRIDE" and the **HIGH TEMP** are displayed on the lower display and the unit reintroduces your work into the hot muffle for an additional minute of **HOLD TIME**.

To increase **HIGH TEMP** press **OVERRIDE** again. Every time you press the **OVERRIDE** button again **HIGH TEMP** will increase by one degree\*. Your work will return into the hot muffle for one additional minute starting from the moment the **OVERRIDE** button was last pressed.

At the end of the one minute **OVERRIDE** cycle the programmed **COOL TIME** cycle begins. You may repeat this process as many times as you wish - each additional **OVERRIDE** will begin at the originally programmed **HIGH TEMP** and last for 1 minute.

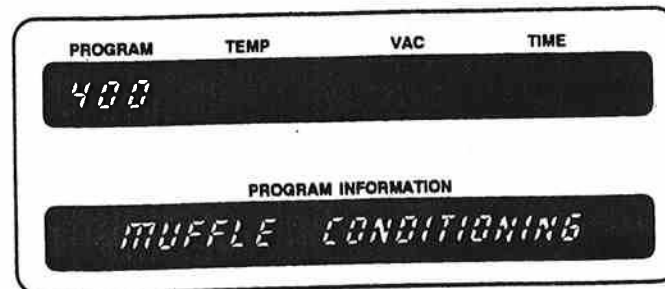
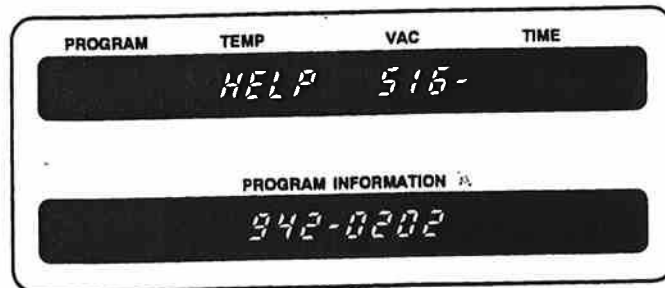
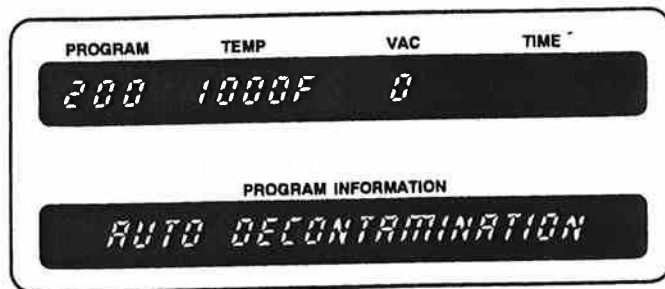
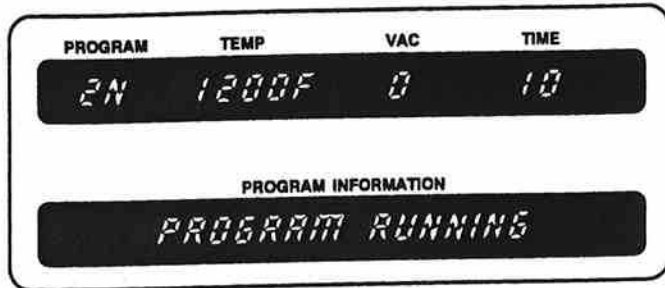
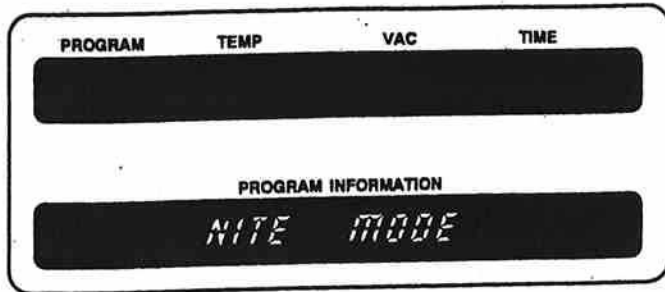
### **HOW TO CANCEL OVERRIDE:**

To cancel **OVERRIDE** at any time, press the **CANCEL** button. "PROGRAM CANCELED" will be displayed and the furnace door will open at maximum speed.

\* The original stored value for **HIGH TEMP** in your program is not affected.



# SPECIAL PROGRAMS



## NITE MODE

### Program # 100

A program which keeps the door closed and maintains muffle temperature at 250°F (121°C). Simply press PROGRAM SELECT, enter PROGRAM "100", and press ENTER/REVIEW. The door will close and display will only show the words NITE MODE. Press CANCEL to get out of NITE mode.

## AUTOMATIC NIGHT MODE

(Upon completion of Programs # 1-99)

When 100 is added to the program number, the VISTA\WIZARD will complete the program, cool down to a safe, low temperature, then close the door and go into NITE MODE automatically.

Example: Program number 2 plus 100 = Program 102. This program will display 2N and automatically go into NITE MODE upon completion of the program and the furnace cools down to 250°F(121°C).

## AUTOMATIC DECONTAMINATION

### Program # 200

Simply place Jelrus Pur-I-Fire™ decontamination pellets into their tray and place onto the firing block. Press PROGRAM SELECT, enter PROGRAM "200", and press ENTER/REVIEW. Press START and the VISTA\WIZARD does the rest - automatically. (See Page 17)

## HELP

### Program # 300

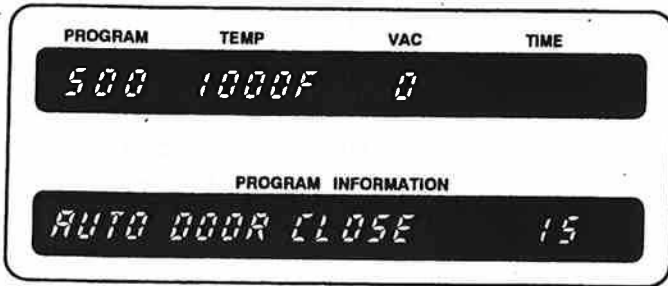
Program # 301 and up for 100V, 220 and 240V furnaces.

## AUTOMATIC MUFFLE CONDITIONING

### Program # 400

Press PROGRAM SELECT, enter PROGRAM "400", and press ENTER/REVIEW. The Program Information Display will now display "MUFFLE CONDITIONING". Press START and the program will automatically begin.

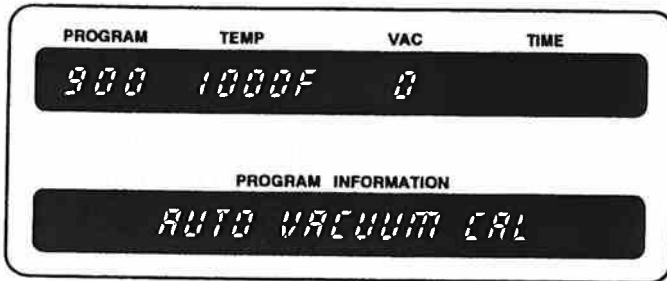
# SPECIAL PROGRAMS



## AUTOMATIC DOOR CLOSE PROGRAM

### Program # 500

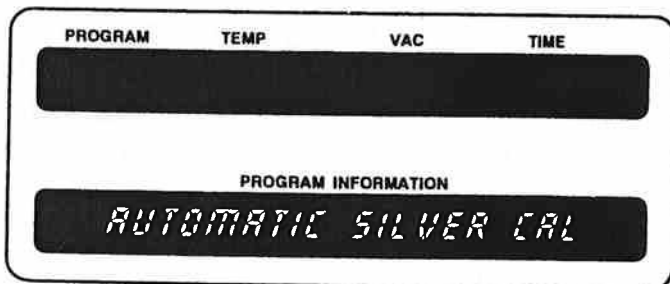
Press PROGRAM SELECT, enter program "500" and press ENTER/REVIEW. The Program Information Display will now display "AUTO DOOR CLOSE 15". Press '0' for NO or '1' through '30' for the time in minutes, then press ENTER/REVIEW. The door will automatically close after the entered number of minutes of no activity.



## AUTOMATIC VACUUM CALIBRATION

### Program # 900

Press PROGRAM SELECT, enter program "900" and press ENTER/REVIEW. The Program Information Display will now display "AUTO VACUUM CAL". Press START and the program will automatically begin. The VISTA-VISION display will be blank. This program takes approximately 2 minutes to run.



## AUTOMATIC TEMPERATURE CALIBRATION

(Automatic Silver wire calibration)

See Page 14 for instructions.

Degrees Fahrenheit / In. Vac.  
Degrees Celsius/ Cm. Vac.

## ENGLISH OR METRIC UNITS

### Program # 912

### Program # 913

Press PROGRAM SELECT, enter program "912" or "913" and press ENTER/REVIEW. The **VISTA/WIZARD** will automatically switch operating modes.

## **ENTERING INFORMATION: PROGRAMS #0 - 99**

**VISTA:** The Vista porcelain furnace features "VISTA-VISION". While in the EDIT mode (entering information) a red status light will be illuminated next to the individual parameter which can be changed. This red light will move to the next parameter after you put in the new desired parameter and press ENTER/REVIEW. While you are running a program, the red status light will flash next to the parameters which are currently being attained during that program. Once these parameters have been attained, the flashing will stop and the red light will become constant to each of these parameters. You can change information (EDIT) while running a program provided you have not already reached the next parameter. See page 13.

**WIZARD:** The Wizard porcelain furnace displays all information on the lower front panel display. While in the EDIT MODE (entering information) the bottom display window will show each individual parameter, one at a time, by pressing the ENTER/REVIEW button. Information pertaining to a particular parameter can be changed while it is being displayed. When a program is running the following program information will appear on the lower display: DRYING-PROGRAM RUNNING-HOLDING-COOLING-PROGRAM COMPLETE. You can change information (EDIT) while running a program provided you have not already reached the next parameter.

**NOTES:** a. If you make an error when using the Keypad, press CLEAR button then press the correct values.  
b. Time is expressed in minutes and seconds. For example, one minute is entered as '1 0 0' which is 1 minute and 00 seconds.

1. Push the PROGRAM SELECT button, then the program number desired, and finally the ENTER/REVIEW button. The program number will appear on the display. If no entry is detected within 5 seconds, the display will return to the IDLE mode.
2. Push the EDIT button on the keypad. The word EDIT will flash on the "TIME" display. In the EDIT mode any or all of the program information can be changed.
3. The lower display will show all the values, one at a time, in that particular program. The "VISTA-VISION" display will continuously show all program parameters. Each time you press ENTER/REVIEW the next parameter in that program will appear on the display. Initially the display will read PRE-DRY TIME.
4. **PRE-DRY TIME.** The message PRE-DRY TIME will appear on the display. If you wish to change the value displayed, enter the value desired by depressing the proper numbers on the Keypad. After the proper value is displayed, press ENTER/REVIEW on the keypad.
5. **DRY TIME.** The message DRY TIME will appear on the display. If you wish to change the value displayed, enter the value desired by depressing the proper numbers on the Keypad. After the proper value is displayed, press ENTER/REVIEW on the keypad. If the START VAC TEMP is at least 1 degree higher than the LOW TEMP then the DRY TIME *will be without vacuum*. After the DRY TIME is complete the temperature will rise to the START VAC TEMP and the vacuum pump will turn on. If the START VAC TEMP is the same as the LOW TEMP, then the DRY TIME *will be done with vacuum*. After the DRY TIME is complete, the furnace will heat to the VAC RELEASE TEMP and HIGH TEMP.
6. **LOW TEMP.** Now enter the desired LOW TEMP. After pressing the ENTER/REVIEW button, the message VACUUM LEVEL will appear on the display.

## **ENTERING INFORMATION: PROGRAMS #0 - 99**

7. The **VAC LEVEL** will be displayed as one of the following:
- HIGH** - Maximum vacuum is achieved and pump stays on entire time.
  - FULL** - Maximum vacuum achieved and pump turns off.
  - OFF** - no vacuum desired.
  - PARTIAL VACUUM** - 10 to 29 in. Hg (25-73 cm Hg) if a vacuum level less than full is desired.  
*(We suggest you use FULL for all programs requiring vacuum.)*

To select the desired vacuum level:

- For High Vacuum, press 2 on Keypad, then **ENTER/REVIEW**.
- For Full Vacuum, press 1 on Keypad, then **ENTER/REVIEW**.
- For No Vacuum, press 0 on the Keypad, then **ENTER/REVIEW**.
- For Partial vacuum, press the digits for the numerical value of the vacuum you desire between 10 in. and 29 in. Hg (25 and 73 cm Hg), then **ENTER/REVIEW**.  
*(We suggest you select a vacuum level only if you want less than FULL vacuum.)*

**EXAMPLE:** To select a "partial vacuum" of 15 in. Hg, press the digits 1 and 5. When the desired number is shown on the Program Information display, press the **ENTER/REVIEW** button. When using any program with vacuum, we recommend **FULL** vacuum.

8. **START VAC TEMP.** The message **START VAC TEMP** will now appear. The **VISTA/WIZARD** will skip the vacuum start temperature (**START VAC TEMP**) and go to the Heat Rate Parameter (**HEAT RATE**) if you have selected to run a program without vacuum (**VAC LEVEL OFF**) displayed.

Your **VISTA/WIZARD** has a feature which enables you to start your program without vacuum and have vacuum come on later at a temperature of your choice. If you desire the vacuum to start as soon as the door closes at **LOW TEMP**, enter the same value for **START VAC TEMP** as you have entered for **LOW TEMP**.

If you desire to start the vacuum at a temperature higher than the **LOW TEMP**, enter this higher value for **VAC START TEMP**. After pressing **ENTER/REVIEW**, the message **HEAT RATE** will now appear.

9. **HEAT RATE.** Your **VISTA/WIZARD** can be programmed to operate at any heat rate from 40 to 400°/F min.(22 to 222°C/min.). Enter the **HEAT RATE** desired on the keypad. After pressing **ENTER/REVIEW** the message **VACUUM RELEASE** will appear.
10. **VAC RELEASE TEMP.** The vacuum can be released below **HIGH TEMP**, at **HIGH TEMP**, or after holding at **HIGH TEMP**. After pressing **ENTER/REVIEW**, the message **HIGH TEMP** will appear.
11. **HIGH TEMP.** Enter on the keypad any value equal to or greater than the **VACUUM RELEASE TEMP** selected in step 10, up to a value of 2200°F (1204 Deg.C). Press **ENTER/REVIEW**.
12. **HOLD TIME W/VAC.** When you have selected the **HIGH TEMP** equal to the **VAC RELEASE TEMP**, the message **HOLD W/VACUUM** will appear after you press the **ENTER/REVIEW** button. Enter the time, from 0 to 30 minutes, you want to have the furnace execute **HOLD TIME W/VAC** at **HIGH TEMP** before releasing vacuum.

## **ENTERING INFORMATION INTO PROGRAMS #0 - 99**

13. **HOLD TIME NO VAC.** If you have selected a **VACUUM RELEASE TEMP** lower than the **HIGH TEMP**, the furnace cannot execute **HOLD TIME W/VAC** at **HIGH TEMP** since the vacuum has already been released. The **VISTA/WIZARD** computer knows this and the status light will skip over this setting right to the **HOLD TIME NO VAC** (hold time without vacuum). Enter the time desired, from 0 to 30 minutes, to input **HOLD TIME NO VAC** at **HIGH TEMP**.
14. **COOL TEMP.** Enter the desired **COOL TEMP**, between 100° F (38 ° C) and the **HIGH TEMP** on the Keypad. Press **ENTER/REVIEW**.
15. **COOL TIME.** Enter the desired **COOL TIME**, between 0 and 30 minutes, on the Keypad. Press **ENTER/REVIEW**. The message **PRE-DRY TIME** will appear. You have now completed entering the information into this program, and the furnace is now at item 4 of this section of instructions (see page 10).

### **GENERAL:**

You may review your entire program by pressing the **ENTER/REVIEW** button. Continue to press this button to review each individual firing parameter from **PRE-DRY TIME** through **COOL TIME**.

To leave the **EDIT** mode and put the **VISTA/WIZARD** into the **IDLE** mode, press **EDIT**. The **PROGRAM INFORMATION** window will display the word **IDLE**. The **VISTA/WIZARD** is programmed to **IDLE** at 1000°F (538°C). If you have selected a **LOW TEMP** below 1000°F, the **VISTA/WIZARD** will idle at your selected **LOW TEMP**.

### **EDITING WHILE PROGRAM IS RUNNING:**

After a program has started, you may **EDIT** all programmed information (except **LOW TEMP**) if you have not yet reached that parameter. After pressing **EDIT**, if no other key is pressed, the **EDIT** mode will turn off in 5 seconds.

When changing **VACUUM** parameters during **PRE-DRY TIME**, the **START VAC TEMP** will be initially set to **LOW TEMP**. When changing parameters during **DRY TIME**, the **START VAC TEMP** will be initially set to 1 degree higher than **LOW TEMP**.

**HEAT RATE** may not be changed after the **DRY TIME** mode is completed and heating has begun.

During the program, pressing the **ENTER/REVIEW** key will display the modified program. After the program is completed, the modified parameters return to the original programmed numbers. The "**VISTA-VISION**" display will continuously show all programmed parameters.

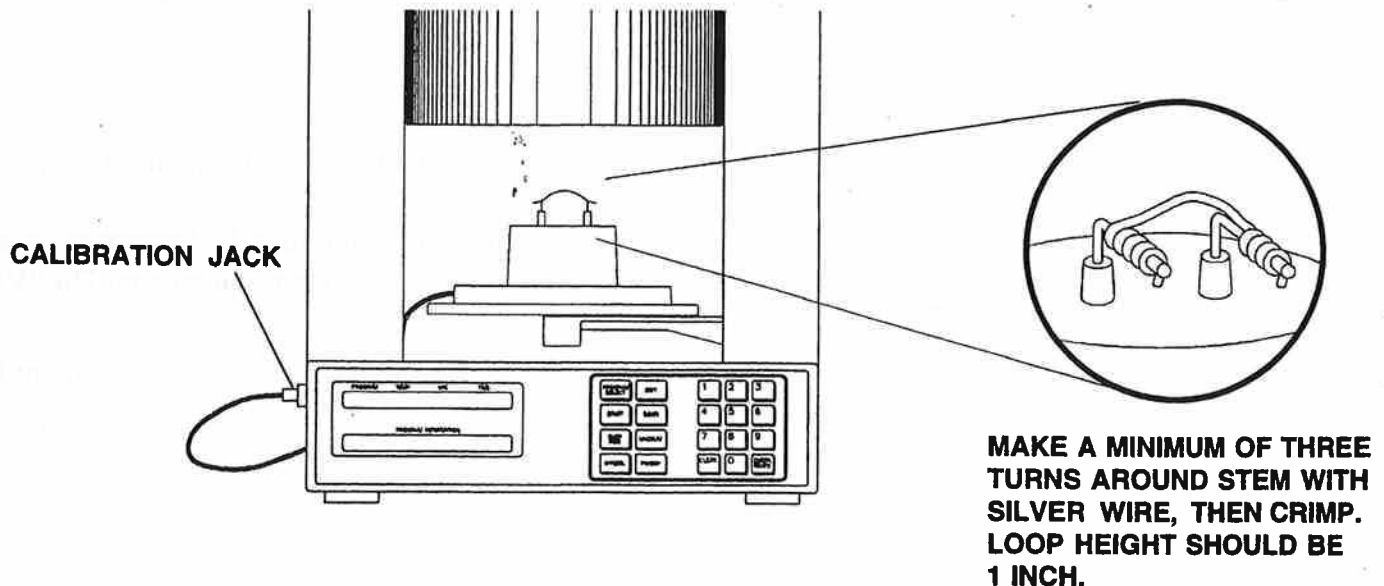
**NOTE:** When in the **EDIT** mode, the program will not change to the next phase of the program until **EDIT** is pressed or 5 seconds have past after the last key was pressed.

# TEMPERATURE CALIBRATION

Your **VISTA/WIZARD** has been factory calibrated. It is not necessary to re-calibrate unless you suspect a temperature related problem. Best results are obtained by running program #400 one or two times prior to performing temperature calibration.

1. Clean the calibrating instrument electrodes with sandpaper or emery cloth each time prior to using, then bridge them with the pure silver wire\* as shown. Wrap the wire tightly around each electrode at least three times. Crimp in place. Leave a small loop of wire between the electrodes. **DO NOT STRETCH** the wire between the electrodes. The loop height should be 1 inch for the calibration to be accurate.
2. Remove the door insulating platform and replace it with the calibration instrument. Guide the wires from the calibration instrument out toward the front of the furnace.
3. Insert the plug from the calibration instrument into the Calibration Jack. Make sure the plug is completely inserted. Observe that the display reads "AUTOMATIC SILVER CAL". If the silver wire is not making good contact "CHECK SILVER WIRE" will be displayed on the lower display. Correct the problem and press the **CLEAR** button.
4. Press the **START** button. The display will read "SILVER CAL RUNNING". When the low temperature (1300°F/704°C) has been achieved the door will close automatically and the furnace will execute the Calibration Program. There is a 20 minute heat soak at 1300°F before the temperature rise begins. At 1760°F (960°C) the silver wire will melt. The **VISTA/WIZARD** will automatically adjust the temperature to 1760°F(960°C). A tone will sound to let you know that this has taken place. The lower display will show "SILVER CAL COMPLETE".
5. After a short time the door will open. Verify that the silver wire has melted. Remove the calibration instrument plug from the Calibration Jack.
6. Use tongs to remove the calibration instrument and replace it with the regular firing block.

\*NOTE: Additional silver wire is available - Reorder #28383



# DIAGNOSTIC MESSAGES

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<u>MESSAGE</u>	<u>CAUSE</u>	<u>COMMENTS</u>
1. INVALID ENTRY	Number entered is outside of allowable limits. OR Two or more parameters are in conflict.	Press CLEAR and enter new number.  Press CLEAR and enter new parameter.
2. INVALID PROGRAM NO	Program number entered is outside of allowable limits.	Press CLEAR and enter new program number.
3. CHECK VACUUM	Low or no vacuum.	Press CLEAR. Check pump, hoses, and connections. Pump must achieve selected vacuum within one minute.
4. CHECK DOOR	Debris on gasket, obstruction or door sensor difficulty.	When detecting an obstruction the door will automatically reverse and go to the opposite end of travel. A warning tone will sound. Press CLEAR.
5. DO SILVER CAL	Temperature calibration has drifted.	Press CLEAR. Perform silver wire calibration.
6. CHECKSILVERWIRE	Silver wire is not properly attached to calibration brick.	Check silver wire and crimp onto calibration block. Press CLEAR.
7. DO VACUUM CAL	Vacuum calibration has drifted.	Press CLEAR. Run program 900 - Automatic Vacuum Calibration.

# DIAGNOSTIC MESSAGES

<u>MESSAGE</u>	<u>CAUSE</u>	<u>COMMENTS</u>
8. POWER FAIL	Power Failure.	Can occur during PROGRAM RUNNING. Press CLEAR.
9. CHECK SET VALUES	Incorrect program parameters.	Determine which parameter is improper and re-program or press CLEAR and try again.
10. OPEN THERMOCOUPLE	Open Thermocouple.	Check the wires at the Thermocouple and TB1 on the Main Board. If wires are OK, Thermocouple needs to be replaced. Press CLEAR.
11. TEMPERATURE PROBLEM	Muffle temperature exceeds 2250°F (1232°C).	Press CLEAR. If problem persists, replace Power Supply Assembly and/or Main Board.
	or	
	Thermocouple leads reversed.	Connect leads as follows: BLK wire to RED terminal on main board, BLK wire to RED painted post on thermocouple. Press CLEAR.
	or	
	Thermocouple leads shorted.	Remove the shorted condition. Press CLEAR.
12. MUFFLE GOOD		Initiated by Muffle Test Program 930.
MUFFLE OPEN	Faulty Muffle.	Initiated by Muffle Test Program 930. Check connections, replace Muffle if necessary.
13. TRIAC GOOD		Initiated by Program 931. Press CLEAR.
TRIAC OPEN	Defective Triac or Triac Circuit.	Initiated by Program 931. Press CLEAR. Replace Power Supply Assembly.
TRIAC SHORTED	Defective Triac or Triac Circuit.	Initiated by Program 931. Press CLEAR. Replace Power Supply Assembly.

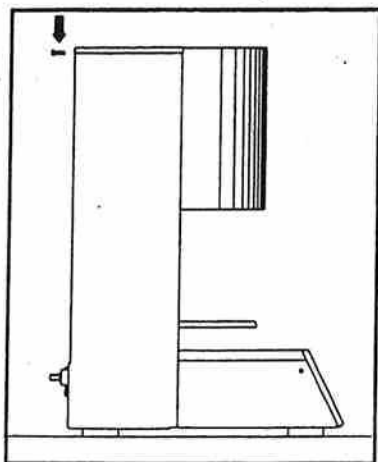


## **AUTOMATIC DECONTAMINATION**

It is good practice to decontaminate your furnace at least twice a month. Even if you do not use silver/palladium alloys, contamination can take place simply from the use of steel tweezers or tongs. We recommend the use of Pur-I-Fire™ Decontaminant (Jelrus Order #7102).

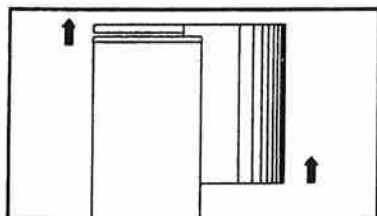
1. Place a single layer of Pur-I-Fire™ pellets on the ceramic tray provided. Place the ceramic tray on the firing block.
2. Select program number 200.
3. Press the **START** button. When the **LOW TEMP** is reached, the door will close and the **VISTA/WIZARD** will automatically perform the proper decontamination program. This will take about 20 to 25 minutes.
4. When the door opens, remove the tray and discard the used Pur-I-fire™ pellets. Save the tray for reuse.

**Notes:** It may be necessary to decontaminate an excessively contaminated muffle and/or door brick more than once.

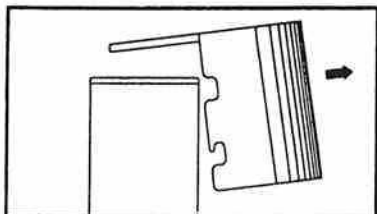


## TO ACCESS THE MUFFLE:

1. Open door.
2. SHUT OFF POWER - DISCONNECT PLUG.
3. Remove screw from rear panel.



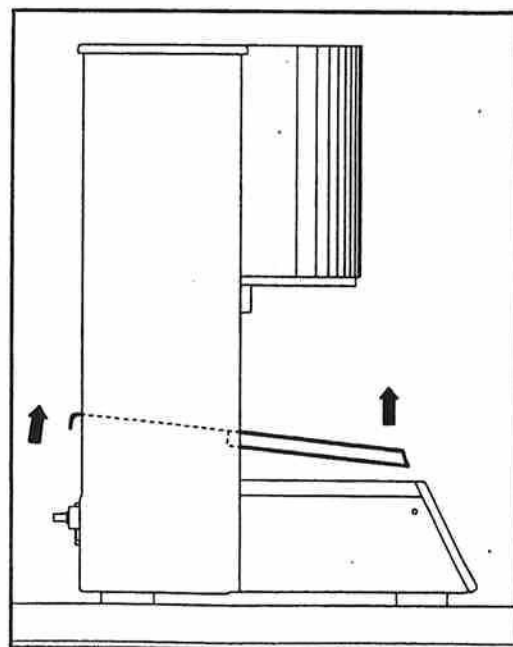
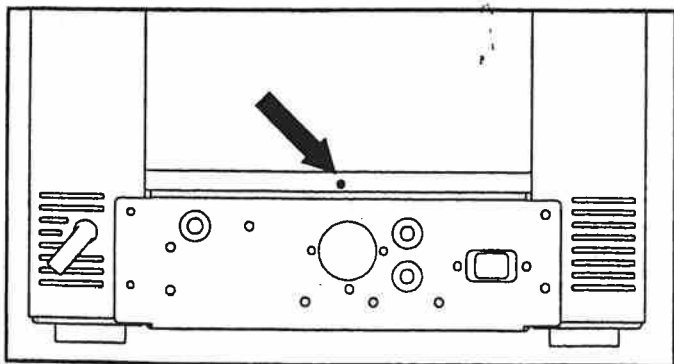
4. Carefully lift cover up just enough to clear rear panel lip.



5. Tilt cover as shown and remove.

## TO SERVICE THE ELECTRICAL MODULES:

1. Close door.
2. SHUT OFF POWER - DISCONNECT PLUG.
3. Remove screw from lower rear panel.
4. Lift cover plate from rear first and remove.

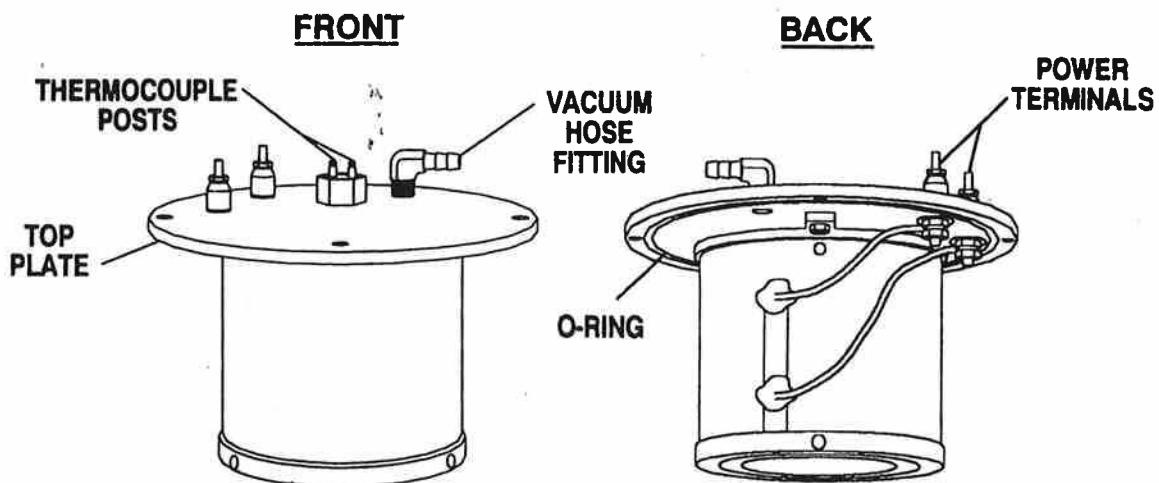


# MUFFLE REPLACEMENT

## I. MUFFLE REMOVAL

1. Be sure that the line cord is disconnected from the power receptacle.
2. Remove the muffle housing (See SERVICE, Page 18).
3. Remove the two thermocouple leads which are attached to the thermocouple posts. Note the position and color coding of the thermocouple leads so they may be reattached the same way.
4. Remove the two orange power leads which are attached to the power terminals on the top plate. Note that the lug on each power lead is secured to the power terminal with a hex nut above and below the lug. **DO NOT** attempt to loosen the top hex nut without holding the bottom hex nut with a wrench or pliers.
5. Remove the vacuum hose from the barbed fitting on the top plate. Rotate the hose gently in both directions to facilitate its removal from the fitting.
6. Remove the four hex head bolts from the top plate.
7. Remove the top plate from the vacuum chamber. Turn it over and place it on top of the vacuum chamber with muffle side up. This position is recommended in order to prevent damage to the thermocouple posts protruding from the top plate. The top plate can also be placed on any level surface if spacers are used to protect the thermocouple posts.
8. Remove the two muffle power leads which are attached to the two power terminals on the exposed (bottom) side of the top plate. Note that the lug on each muffle power lead is secured to the power terminal with a hex nut above and below the lug. **DO NOT** attempt to loosen the top hex nut without first holding the bottom hex nut with a wrench or pliers.
9. Remove the three screws which secure the muffle to the muffle base.
10. Carefully lift the muffle STRAIGHT UP from the muffle base. Muffle base will remain attached to the top plate.

Note: **DO NOT** "ROCK" the muffle from side to side when removing it, as this may damage the thermocouple.
11. Remove old O-ring from the top plate.



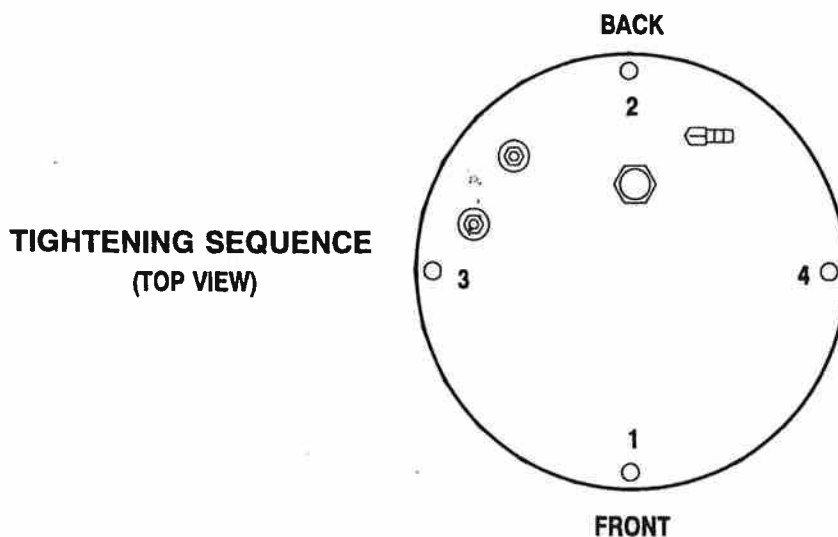
# MUFFLE REPLACEMENT

## II. NEW MUFFLE INSTALLATION

1. Carefully align the thermocouple hole in the replacement muffle with the thermocouple itself protruding from the top plate. Slide the replacement muffle over the thermocouple and then over the muffle base.

NOTE: DO NOT "ROCK" the muffle from side to side when replacing it, as this may damage the thermocouple.

2. Install the three sets of screws and washers which secure the muffle to the muffle base.
3. Clean O-ring groove on top plate.
4. Apply a thin uniform coat of vacuum grease (supplied with your new muffle) to the O-ring. Place the O-ring into the O-ring groove on the top plate.
5. Hold the O-ring in place while placing the top plate on the vacuum chamber.
6. Rotate the top plate so that the barbed fitting is at the "one o'clock" position when looking down from the front of the machine (see illustration below).
7. Reconnect the vacuum hose, being careful not to kink the hose. This connection will determine the position in which the top plate should be secured. (See 8.)
8. Align the holes of the muffle housing with the holes on the top plate and install the four bolts. Torque bolts (in sequence shown below) to 100 in./lbs.
9. Observing the earlier wire color codes (RED and BLACK), reconnect the thermocouple. Tighten the connections securely.
10. Replace the muffle housing (See SERVICE, Page 18).
11. Run the Muffle Conditioning Program (#400). This will break in the new muffle and eliminate any moisture which may have been absorbed by the muffle and the firing block. (Moisture can affect vacuum.) If any moisture collects on the firing platform, repeat Program #400.



# **THERMOCOUPLE REPLACEMENT**

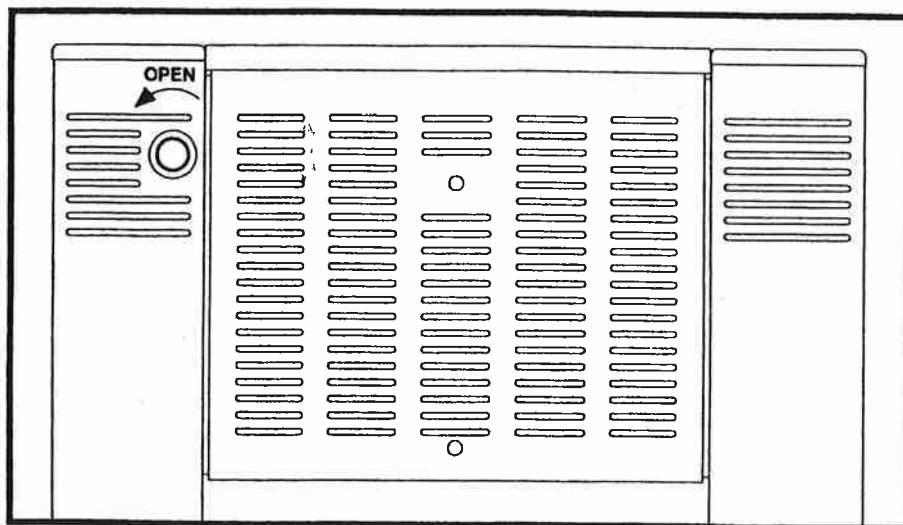
1. Be sure that the line cord is disconnected from the power receptacle.
2. Remove Muffle housing (See **SERVICE**, Page 18).
3. Remove the two thermocouple leads. Note the position and color coding of the two thermocouple leads, so they may be reattached in the same manner.
4. Remove the thermocouple and O-ring.
5. Lift the thermocouple out of the top plate.
6. Reverse this procedure to install the replacement thermocouple. Apply O-ring lubricant (provided) to O-ring before installing. Tighten the connections securely, observing the color coding.
7. Re-calibrate the furnace after replacing the thermocouple (as outlined under **TEMPERATURE CALIBRATION**, Page 14).

**NOTE:** The thermocouple used in this furnace contains **PLATINUM** and may be returned for credit against the purchase of a replacement thermocouple.

# **POWER FAILURE PROTECTION**

If a power failure occurs while a program is running, you have the following three choices:

1. Do nothing. When the power resumes, the program in progress will automatically restart at the point where the power failure occurred regardless of the amount of time that has passed.  
To indicate that a power failure has occurred, **POWER FAILURE** will appear on the lower display. Press **CLEAR** to remove this message and return to normally displayed information.
2. Do nothing. When the power resumes, the program in progress will automatically restart at the point where the power failure occurred regardless of the amount of time that has passed.  
The restarted program may be stopped by pressing **CANCEL**. At this time the door will open and the work may be removed.
3. If you want to remove your work from the muffle during the power failure and prior to the power returning, perform the following steps:
  1. Turn knob on the back of the **VISTA/WIZARD** one-half turn in a counterclockwise direction to release vacuum. (Be sure to close this knob **TIGHTLY** after vacuum is released)
  2. Gently pull down on the lift mechanism and remove work.



## SPARE PARTS LIST - VISTA/WIZARD

DESCRIPTION	100V	115V	220V	240V
MUFFLE REPLACEMENT KIT	23701	23702	23703	23704
MUFFLE VACUUM HOSE	23705	23705	23705	23705
MUFFLE TERMINAL GASKET	23706	23706	23706	23706
MUFFLE TOP PLATE O-RING	23707	23707	23707	23707
THERMOCOUPLE AND O-RING REPLACEMENT KIT	23708	23708	23708	23708
DOOR GASKET	23734	23734	23734	23734
LIFT MECHANISM KIT	23733	23733	23733	23733
DOOR UPPER STOP SWITCH	23735	23735	23735	23735
DOOR LOWER STOP MICROSWITCH ASSEMBLY	23736	23736	23736	23736
DOOR DRIVE MOTOR ASSEMBLY	23737	23737	23737	23737
DOOR DRIVE BELT	23738	23738	23738	23738
UPPER DOOR DRIVE PULLEY KIT	23739	23739	23739	23739
VACUUM TRANSDUCER	23711	23711	23711	23711
VACUUM LINE FILTER ASSEMBLY	23712	23712	23712	23712
VACUUM TRANSDUCER TUBING	23713	23713	23713	23713
MANIFOLD VACUUM HOSE	23714	23714	23714	23714
VACUUM MANIFOLD ASSEMBLY REPLACEMENT KIT	23715	23715	23715	23715
MAIN BOARD	23716	23716	23716	23716
SPEAKER ASSEMBLY	23718	23718	23718	23718
LOWER DISPLAY BOARD	23719	23719	23719	23719
KEYPAD AND FRAME ASSEMBLY	23728	23728	23728	23728
POWER SUPPLY ASSEMBLY (INCLUDES TRIAC)	23720	23721	23722	23723
AC LINE FILTER	23724	23724	23726	23726
TRANSFORMER ASSEMBLY	23729	23730	23730	23730
LINE CORD KIT - US / JAPAN	23201	23201	-	-
LINE CORD KIT - CONTINENTAL EUROPE	-	-	23203	-
LINE CORD KIT - ISRAEL	-	-	23204	-
LINE CORD KIT - ITALY	-	-	23205	-
LINE CORD KIT - AUSTRALIA	-	-	-	23206
LINE CORD KIT - ENGLAND	-	-	-	23202

### SPARE PARTS - VISTA ONLY

UPPER DISPLAY L.E.D. BOARD (RED LIGHTS)	23740	23740	23740	23740
UPPER DISPLAY BOARD (DIGITAL DISPLAY ONLY)	23741	23741	23741	23741
UPPER DISPLAY DRIVER BOARD	23742	23742	23742	23742

### ACCESSORIES

CALIBRATION INSTRUMENT KIT	23709	23709	23709	23709
FIRING BLOCK	23710	23710	23710	23710
COOLING TRAY	23743	23743	23743	23743
CERAMIC SUPPORT TRAY - 3" DIAMETER	7101	7101	7101	7101
SILVER WIRE	28383	28383	28383	28383
PUR - I - FIRE™ DECONTAMINANT	7102	7102	7102	7102