Infinity™

Burnout Furnaces

115 and 230-volt Models

OPERATOR'S MANUAL

CE

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INTRODUCTION

Thank you for purchasing an **Infinity Burnout Furnace**.

We have designed and manufactured this furnace using the latest in microcomputer technology to give you many years of dependable service. The controls on your new Infinity are different from those you may be used to on an ordinary burnout furnace. To ensure that your Infinity Burnout Furnace gives you the highest level of service, review and follow the guidelines outlined in this Operator's Manual.

WARRANTY

This Whip Mix equipment is warranted to be free from defects in material and workmanship from the date of installation for a period of 24 months.

Any item returned to our factory through an authorized dealer, will be repaired or replaced at our option at no charge provided that our inspection shall indicate it to have been defective. Dealer charges are not covered by this warranty.

This warranty does not apply to damage due to shipping, misuse, careless handling or repairs by other than authorized service personnel. Whip Mix is not liable for indirect or consequential damage or loss of any nature in connection with this equipment.

This warranty is in lieu of all other warranties expressed or implied. No representative or person is authorized to assume for us any liability in connection with the sale of our equipment.

SAFETY INSTRUCTIONS

Use of the Infinity furnace not in conformance with the instructions specified in this manual may result in premature failure of the unit.

WARNING: To prevent fire or electrical shock, do not expose this appliance to rain or moisture.

ATTENTION USERS:

This symbol alerts the user that important Operating and Maintenance instructions have been included with the unit. Read carefully to avoid any problems.

This symbol warns the user to use caution surface is hot.

Do Not Attempt Internal Service

The interior of the Main Assembly is only accessible by removing hardware with tools and should only be opened and serviced by qualified technicians. Since the interior of the unit may contain high voltage and dangerous components, failure to heed this warning may result in equipment damage, personal injury and/or death.

Please call Whip Mix between 8:00 a.m. and 5:00 p.m. (EST) for service information toll free 800-626-5651.

SPECIFICATIONS

	INFINITY M	INFINITY L
Electrical	115V 50/60Hz 1075W 230V 50/60Hz 1280W	115V 50/60Hz 1392W 230V 50/60Hz 1890W
Capacity	8–1 3/4" rings or 2–3" rings	15–1 3/4" rings or 5–1 3/4" rings and 3–3" ring
Overall Dimensions	10.7"W x 10.2"D x 15.0"H (27.2cm x 26.9cm x 38.1cm)	14.4"W x 11.0"D x 15.0"H (36.6cm x 28.0cm x 38.1cm)
Heating Chamber Dimensions	5-1/2"W x 5-1/4"D x 5-1/8"H (14.0cm x 13.3cm x 13.0cm)	9-1/8"W x 5-1/4"D x 5-1/8"H (23.2cm x 13.3cm x 13.0cm)

INFINITY M AND L

Number of Programs	30
NIGHT TIME (DELAY START)	0 – 99 hours Note: This is the time required for the program to be completed and ready to cast.
HEAT RATE* (Stage 1)	a) 1 – 30°F/min. (1 – 17°C/min.) b) "FULL" Stage heats at the maximum rate attainable.
HEAT RATE* (Stages 2, 3, & 4)	a) 1 – 30°F/min. (1 – 17°C/min.) b) "FULL" Stage heats at the maximum rate attainable. c) "NO" Stage is not used. d) "COOL" Stage cools down to the programmed temperature. Note: If "NO" is selected for a stage, that stage and all subsequent stages will not be used. The furnace, therefore, can be used for one, two, three or four stage operation.
TEMPERATURE	a) Stage 1: 150°F – 2012°F (66°C – 1100°C) b) Stage 2, 3, 4: 100°F – 2012°F (38°C – 1100°C)
HOLD TIME	0 – 4 hours

* Programmable heat rates. Actual heat rate at high temperatures may be lower depending upon furnace load and electrical voltage.

ENVIRONMENTAL CONDITIONS

- Indoor use
- Altitude up to 2000 m
- Temperature 5°C to 40°C (41°F to 104°F)
- Maximum relative humidity 80% for temperatures up to 31°C (88°F) decreasing linearly to 50% relative humidity at 40°C (104°F)
- Mains supply voltage fluctuations not to exceed +/– 10% of the nominal voltage
- Pollution Degree 2, Installation Category II
- Protection Degree IP20 – protected against objects greater than 12.5mm, no liquid protection

KEY PARTS IDENTIFICATION AND EXPLANATION

FRONT PANEL (Figure 1)

DISPLAY	DESCRIPTION
1. NIGHT TIME (DELAY START)	Press to start a delayed program. The number entered is the time required for the program to be COMPLETED AND READY TO CAST. When a program is running, press to display the time remaining to complete the program.
2. START / STOP	Press to start or stop a program.
3. ⬆	Press to increase a number. The longer the button is pressed, the faster the numbers change.
4. ⬇	Press to decrease a number. The longer the button is pressed, the faster the numbers change.
5. ENTER / REVIEW	When programming or reviewing a program in process, press to advance to the next parameter.
6. PROGRAM SELECT	Press to select a program or to review the program currently running.
7. STAGE 1–2–3–4	While programming, the number of active stages are illuminated. In the burnout process, the current STAGE flashes.
8. °F and °C	Identifies the temperature scale.
9. °/ MIN	Identifies the heat rate.
10. HH : MM	Indicates time. When flashing it indicates that a power failure has occurred.
11. Main Display	A. The 4 digit display indicates the chamber temperature. B. When programming or reviewing, indicates PROGRAM NUMBER, NIGHT TIME (DELAY START) (time to completion), HEAT RATE, TEMP and HOLD TIME. C. Displays special words and error codes.
12. Program Status Graph	Indicates status of the burnout process.
13. Door Interlock Safety Switch	Shuts off electrical power from the heating plates when the furnace door is opened.

KEY PARTS IDENTIFICATION AND EXPLANATION

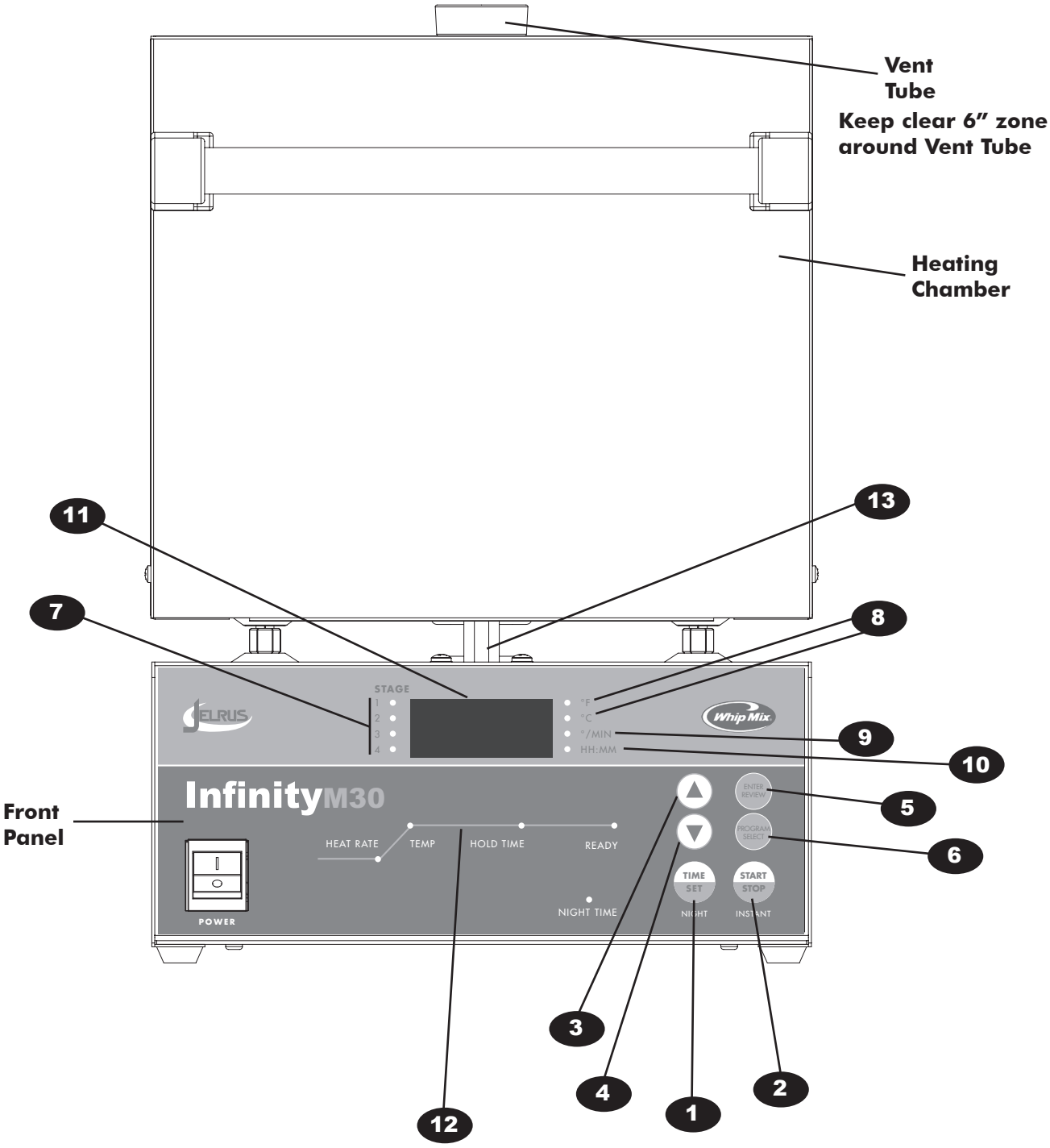


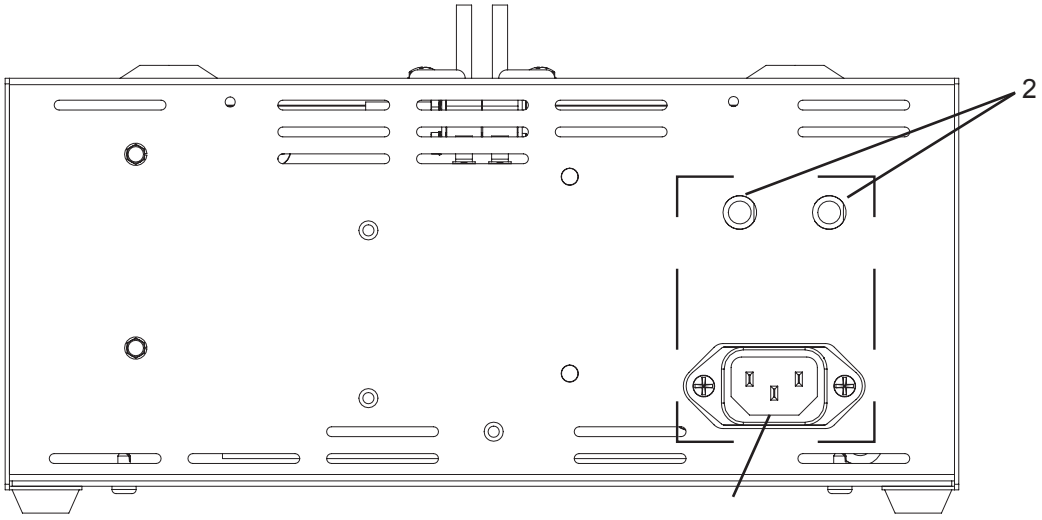
Figure 1
INFINITY M AND L IDENTIFICATION

KEY PARTS IDENTIFICATION AND EXPLANATION

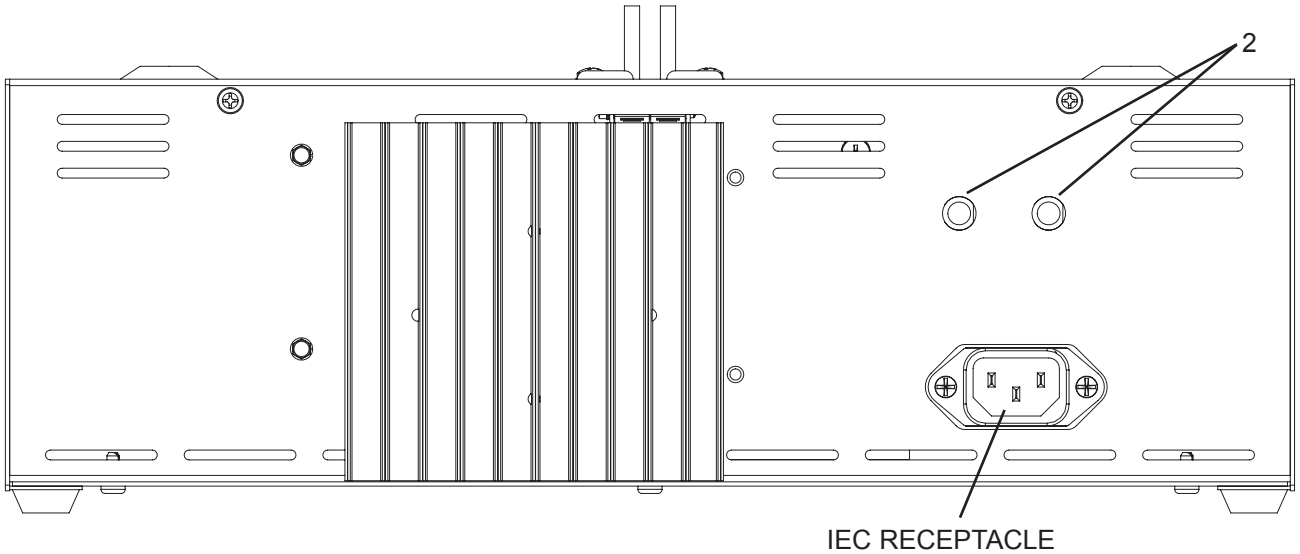
LOWER BACK PANEL (Figure 2)

DISPLAY	DESCRIPTION
1. Power Cord	AC power cords are provided to correspond to receptacles that are available in a specific country.
2. Circuit Breaker	Protects circuitry from electrical overload. • Black button will "pop out" if overload is present. • To reset, wait one minute and push black button into body of circuit breaker.

Figure 2
INFINITY LOWER BACK PANEL (MEDIUM)



INFINITY LOWER BACK PANEL (LARGE)



INSTALLATION

UNPACK AND SET–UP

1. Unpack the contents of the box. Remove the following materials:
   A. Vent Tube – Remove from bubble wrap and insert in hole on top of furnace.
   B. Calibration Table Kit – Remove plastic bag containing two tablets and save for future use.
   C. Burnout Tray – Remove tray(s) from bubble wrap and install on the floor of the chamber.

2. Place the furnace in position allowing a minimum of 10 inches (25.4 cm) of air space on all sides. Do not place the unit so as to block access to the power outlet.

3. Plug the power cord into a grounded AC electrical outlet. First connect the power cord located in the rear of the furnace. A dedicated circuit is required.

4. The furnace is now ready for operation.

CAUTIONS:
DO NOT BLOCK VENT HOLE ON TOP OF THE FURNACE. Hot gases are vented through this hole.

TO SET TEMPERATURE SCALE (Figure 1)

115V furnaces are pre-set in degrees Fahrenheit.
230V furnaces are pre-set in degrees Celsius.

1. Turn the power switch on. (If the furnace is already on, be sure it is in the idle mode – no program is running.) The chamber temperature appears on the Main Display and the °F light goes on.

2. Press ⬆⬇ at the same time. The degree light switches to the opposite temperature scale.

VENTING INSTRUCTIONS

Vent fans must have a minimum capacity of 100 cubic feet per minute for each burn out furnace.

If a common hood is used for more than one burn out furnace, fan capacity must be 100 cubic feet per minute for each square foot of hood opening.

All hoods, vent pipe and ducting components must be constructed of non-combustable materials and be installed in accordance with local building codes.

Maximum expected exhaust temperature is 1800°F (980°C).
Maximum expected exhaust waste heat is 5,100 BTU'S / Hour or 1,000 Watts.

TO TURN THE "BEEP" ON AND OFF (Figure 1)

When a program is completed, 20 "beeps" sound every 15 minutes to remind the operator that the material is ready to cast.

1. Be sure the Infinity is in the idle mode – no program us running.

2. Press ⬆ and (while holding) press PROGRAM SELECT to display the status of the "beep." "ON" indicates the beep is active. "OFF" indicates the beep is inactive.

3. Use either of the ⬆⬇ to turn the "beeps" on or off.

4. To return to the idle mode, wait 7 seconds or press STOP / START twice. (If STOP / START is pressed once, cycle starts.)

OPERATION

PROGRAM AND OPERATE – ONE STAGE PROGRAM (Figure 1)

1. Turn the power switch on.

2. Press PROGRAM SELECT. Use ⬆⬇ to display the desired program number (P1 – P30).

3. Press ENTER / REVIEW to select the displayed PROGRAM SELECT. STAGE 1 and NIGHT TIME (DELAYED START) lights turn on. Enter ⬆⬇ to set the time required for the program to be completed and ready to cast (1 – 99hrs).

4. Press ENTER / REVIEW. STAGE 1 light remains on, NIGHT TIME (DELAY START) light turns off and HEAT RATE light turns on. Enter ⬆⬇ to select the heat rate required from 1°F – 30°F / min (1°C – 17°C / min) or "FULL" for the maximum heat rate.

5. Press ENTER / REVIEW. STAGE 1 light remains on, HEAT RATE light turns off and TEMP light turns on. Enter ⬆⬇ to select the temperature required up to the maximum of 2012°F (1100°C).

6. Press ENTER / REVIEW. STAGE 1 light remains on, TEMP light turns off and HOLD TIME light turns on. Enter ⬆⬇ to program the time needed to hold at above temperature. (0 – 4hrs).

7. For one stage, the furnace must be programmed not to use STAGE 2, 3 or 4. Follow these steps:
   A. After completing step 6, press ENTER / REVIEW. STAGE 1 light turns off, STAGE 2 and HEAT RATE lights turn on.
   B. Press ⬇ Main Display shows ".....5, 4, 3, 2, 1, COOL, NO." Select "NO" to program the furnace not to use STAGE 2, 3 or 4.

8. All necessary information for this program is now entered.

9. To run the program immediately, press START / STOP.

10. To delay the start of the program to be ready to cast at the pre-set time (see Step 3), press NIGHT / TIME SET (DELAY START).

NOTE: If NIGHT / TIME SET (DELAY START) is pressed while a program is running, the time remaining for completion of the program will appear on the Main Display for 5 seconds.

PROGRAM AND OPERATE – TWO STAGE PROGRAM (Figure 1)

1. Follow One Stage Program, Steps 1 – 6.

2. Press ENTER / REVIEW. STAGE 1 light turns off, STAGE 2 and HEAT RATE lights turn on. Main Display shows four heat rate choices. Choose one:
   A. Select heat rate between 1°F – 30°F / min (1°C – 17°C / min) using ⬆⬇.
   B. Select "FULL" to program maximum heat rate.
   C. Select "COOL" to program the furnace to cool to a selected temperature.
   D. Select "NO" to turn off STAGE 2, 3 and 4. This will result in a One Stage Program.

NOTE: The HEAT RATE cannot be programmed to "COOL" in STAGE 1 – only in STAGE 2, 3 or 4.

3. Press ENTER / REVIEW. HEAT RATE light turns off and TEMP light turns on. Enter for the ⬆⬇ temperature required: heating temperature up to a maximum of 2012°F (1100°C) or cooling temperature down to a minimum of 100°F (38°C).

4. Press ENTER / REVIEW. TEMP light turns off and HOLD TIME light turns on. Enter ⬆⬇ to program the time needed to hold at the above temperature (0 – 4hrs.).

5. For two stages, the furnace must be programmed not to use STAGE 3 or 4. Follow these steps:
   A. After completing Step 4, press ENTER / REVIEW. STAGE 2 light turns off, STAGE 3 and HEAT RATE lights turn on.
   B. Press ⬇ Main Display shows "....5,4,3,2,1, COOL, NO." Select "NO" to program the furnace not to use STAGE 3 or 4.

6. All necessary information for this program is now entered.

7. To run the program immediately, press START / STOP.

8. To delay the start of the program to be ready to cast at the pre–set time (see One Stage Program, Step 3), press NIGHT / TIME SET (DELAY START).

NOTE: If NIGHT / TIME SET (DELAY START) is pressed while a program is running, the time remaining for completion of the program will appear on the Main Display for 5 seconds.

OPERATION

PROGRAM AND OPERATE – THREE STAGE PROGRAM (Figure 1)

1. Follow Two Stage Program, Steps 1 – 4.

2. Press ENTER / REVIEW. STAGE 2 light turns off, STAGE 3 and HEAT RATE lights turn on. Main Display shows four heat rate choices. Choose one:
   A. Select heat rate between 1°F – 30°F /min (1°C – 17°C /min) using ⬆⬇.
   B. Select "FULL" to program maximum heat rate.
   C. Select "COOL" to program the furnace to cool to a selected temperature.
   D. Select "NO" to turn off STAGE 3 and 4. This will result in a Two Stage Program.

NOTE: The HEAT RATE cannot be programmed to "COOL" in STAGE 1 – only in STAGE 2, 3 or 4.

3. Press ENTER / REVIEW. HEAT RATE light turns off and TEMP light turns on. Enter ⬆⬇ for the temperature required: heating temperature up to a maximum of 2012°F (1100°C) or cooling temperature down to a minimum of 100°F (38°C).

4. Press ENTER / REVIEW. TEMP light turns off and HOLD TIME light turns on. Enter ⬆⬇ to program the time needed to hold at the above temperature (0 – 4hrs.).

5. For three stages, the furnace must be programmed not to use STAGE 4. Follow these steps:
   A. After completing Step 4, press ENTER / REVIEW. STAGE 3 light turns off, STAGE 4 and HEAT RATE lights turn on.
   B. Press ⬆⬇ Main Display shows "....5,4,3,2,1, COOL, NO." Select "NO" to program the furnace not to use STAGE 4.

6. All necessary information for this program is now entered.

7. To run the program immediately, press START / STOP.

8. To delay the start of the program to be ready to cast at the pre-set time (see One Stage Program, Step 3), press NIGHT / TIME SET (DELAY START).

NOTE: If NIGHT / TIME SET (DELAY START) is pressed while a program is running, the time remaining for completion of the program will appear on the Main Display for 5 seconds.

PROGRAM AND OPERATE – FOUR STAGE PROGRAM (Figure 1)

1. Follow Three Stage Program, Steps 1 – 4.

2. Press ENTER / REVIEW. STAGE 3 light turns off, STAGE 4 and HEAT RATE lights turn on. Main Display shows four heat rate choices. Choose one:
   A. Select heat rate between 1°F – 30°F/min (1°C – 17°C/min) using ⬆⬇.
   B. Select "FULL" to program maximum heat rate.
   C. Select "COOL" to program the furnace to cool to a selected temperature.
   D. Select "NO" to turn off Stage 4. This will result in a Three Stage Program.

NOTE: The HEAT RATE cannot be programmed to "COOL" in STAGE 1 – only in STAGE 2, 3 or 4.

3. Press ENTER / REVIEW. HEAT RATE light turns off and TEMP light turns on. Enter ⬆⬇ for the temperature required: heating temperature up to a maximum of 2012°F (1100°C) or cooling temperature down to a minimum of 100°F (38°C).

4. Press ENTER / REVIEW. TEMP light turns off and HOLD TIME light turns on. Enter ⬆⬇ to program thetime needed to hold at the above temperature (0 – 4 hrs.).

5. All necessary information for this program is now entered.

6. To run the program immediately, press START / STOP.

7. To delay the start of the program to be ready to cast at the pre–set time (see One Stage Program, Step 3), press NIGHT / TIME SET (DELAY START).

NOTE: If NIGHT / TIME SET (DELAY START) is pressed while a program is running, the time remaining for completion of the program will appear on the Main Display for 5 seconds.

OPERATION

REVIEW A PROGRAM (Figure 1)

1. Turn the power switch on.

2. Press PROGRAM SELECT.

3. Press ⬆⬇ to select the program number to be reviewed. The program number (P1 – P30) will appear on the Main Display.

4. The number of stages in the program are indicated by the STAGE lights next to the Main Display.

5. Press ENTER / REVIEW. NIGHT TIME (DELAY START) light turns on. The number of hours entered for the entire program to be completed and ready to cast appears on the Main Display. After 7 seconds, if no other button is pressed, NIGHT TIME (DELAY START) light turns off and the actual furnace temperature appears on the Main Display.

6. Press ENTER / REVIEW again. If 7 seconds has not elapsed, the HEAT RATE light turns on. If 7 seconds has already elapsed and the furnace temperature appears on the Main Display, press ENTER / REVIEW twice. First the NIGHT TIME (DELAY START) light turns on and then the HEAT RATE light turns on. When the HEAT RATE light is on, the programmed heat rate appears on the Main Display.

NOTE: STAGE 1 light is now on.

7. Press ENTER / REVIEW and TEMP light turns on. The programmed temperature (TEMP) for STAGE 1 appears on the Main Display.

8. Press ENTER / REVIEW and HOLD TIME light turns on. The programmed HOLD TIME for STAGE 1 appears on the Main Display in HR : MIN.

9. All of the information in STAGE 1 has now been entered. If ENTER / REVIEW is pressed again, STAGE 2 light turns on. Review STAGE 2 following the same procedure as above. Continue pressing ENTER / REVIEW to review all of the individual parameters in STAGE 2, 3, or 4.

NOTE: NIGHT / TIME SET (DELAY START) appears only at the very beginning of STAGE 1.

EDIT WHILE A PROGRAM IS RUNNING (Figure 1)

1. To identify which program is running, press PROGRAM SELECT.

NOTE: The program number cannot be changed using ⬆⬇ while the program is running.

2. To determine the time remaining for the completion of the program, press NIGHT / TIME SET (DELAY START). The time remaining appears on the Main Display for 5 seconds.

3. Any individual parameter can be increased or decreased during the actual running of all 30 programs.

NOTE: HEAT RATE cannot be changed to "NO" in the stage currently running or in the stages already completed.

4. To change a parameter while a program is running, press ENTER / REVIEW to advance to the desired STAGE and parameter (i.e. HEAT RATE, TEMP or HOLD TIME). Initially, STAGE 1 will appear. Any parameter can be increased or decreased by pressing ⬆ or ⬇.

5. Any program can be stopped or started by pressing the START / STOP button.

6. If a program is edited while running and the HEAT RATE in STAGE 2, 3 or 4 is set to "COOL" but the corresponding TEMP programmed is entered to heat to a higher temperature than the previous stage, the Infinity will try to heat with a 0°F / Min (0°C / Min) HEAT RATE. In this case, when NIGHT / TIME SET (DELAY START) is pressed, 99:99 (Hr : Min) flashes on the Main Display, indicating that the program cannot be completed.

OPERATION

SAMPLE ONE STAGE PROGRAM
(To be completed and ready to cast in 24 hours)

	NIGHT TIME DELAY START	HEAT RATE	TEMP	HOLD TIME
STAGE 1	24:00	10°F (6°C)	1600°F (871°C)	1:00
STAGE 2		NO	*	*
STAGE 3		NO	*	*
STAGE 4		NO	*	*

*Though any number may appear, the unit is deactivated when "NO" is selected for the HEAT RATE.

NOTE: To turn off STAGE 2,3 and 4, select "NO" for the HEAT RATE in STAGE 2.

SAMPLE TWO STAGE PROGRAM
(To start immediately)

	HEAT RATE	TEMP	HOLD TIME
STAGE 1	10°F (6°C)	600°F (316°C)	30
STAGE 2	20°F (11°C)	1600°F (871°C)	1:00
STAGE 3	NO	*	*
STAGE 4	NO	*	*

*Though any number may appear, the unit is deactivated when "NO" is selected for the HEAT RATE.

NOTE: To turn off STAGE 3 & 4, select "NO" for the HEAT RATE in STAGE 3.

To start immediately, press START / STOP.

Follow the same programming procedures if a three or four stage program is desired.

SAMPLE THREE STAGE PROGRAM
(Program with Cooling)

	HEAT RATE	TEMP	HOLD TIME
STAGE 1	10°F (6°C)	600°F (316°C)	30
STAGE 2	20°F (11°C)	1600°F (871°C)	1:00
STAGE 3	NO	*	*
STAGE 4	NO	*	*

*Though any number may appear, the unit is deactivated when “NO” is selected for the HEAT RATE.

To start immediately, press START / STOP.

Follow the same programming procedures if a three or four stage program is desired.

NOTE: When the temperature is set to a lower temperature than in the previous stage, the furnace ignores the programmed HEAT RATE (except for "NO") and automatically cools to the pre-set temperature. The time required for the cooling stage is determined by the pre-set temperature. The lower the temperature, the more time needed to cool down.

NOTE: Press NIGHT / TIME SET (DELAY START) to start an overnight burnout. See SAMPLE ON STAGE PROGRAM to program NIGHT TIME (DELAY START) time.

ERROR CODES

NOTE: “Beeps” occur when the Error Code appears on the Main Display

ERROR CODE	DESCRIPTION	PROBABLE CAUSE
Er 1	INVALID ENTRY ERROR: STAGE, HEAT RATE and TEMP lights flash	Occurs when the HEAT RATE is set to COOL but the TEMP of that stage is higher than the TEMP of the prior stage (should be heating). This will occur when a program is already running and a parameter was edited in process.
Er 2	TABLET TEMPERATURE CALIBRATION ERROR	Occurs when the temperature on the display is outside the allowable range at the time the user pressed the ENTER / REVIEW keys simultaneously to set the Infinity calibration temperature to 1500°F. If this occurs and is not an operator error, it indicates that there is a problem with the thermocouple or the PC board. Press ENTER / REVIEW to turn off the error indication and continue with the program. Press START / STOP to end the program.
Er 3	ELECTRONICS MALFUNCTION	Occurs when PC board hardware malfunctions.
Er 4	OPEN THERMOCOUPLE	Occurs if the thermocouple is open or the connecting wire(s) are broken or disconnected from the terminal board.
Er 5	REVERSED THERMOCOUPLE OR NO HEAT	Occurs if the thermocouple extension wires have been connected backwards to the terminals on the printed circuit board. The error will be detected 5 minutes after heating program started. This error will also occur if the program is started and the chamber door is kept open for 5 minutes or the relay is defective, the heater plates are defective or there is a problem with the main PC board.

ERROR CODE	DESCRIPTION	PROBABLE CAUSE
Er 6	SHORTED THERMOCOUPLE OR DEFECTIVE HEATER PLATES	Occurs if the thermocouple wires are shorted or the heater plates are defective causing Infinity to achieve a HEAT RATE of less than 6% of the maximum attainable HEAT RATE with full power applied to the heater plates for 5 minutes. This error will also occur if a program is running and the door is kept open for more than 5 minutes or the relay or the Main PC board developed a problem during a burnout process.
Er 7	THERMAL RUNAWAY	Occurs when the temperature has exceeded 2015°F (1102°C) for 1 minute if the highest temperature programmed was less than 2000°F (1093°C). This also occurs when the temperature has exceeded 2050°F (1121°C) for 1 minute if the highest temperature programmed was 2000°F (1093°C) or higher.
Flashing 99:99 when NIGHT / TIME SET (DELAY START) is pressed during a program	INVALID ENTRY ERROR WHILE A PROGRAM IS RUNNING	Occurs when the HEAT RATE in STAGE 2, 3 or 4 is set to "COOL" but the corresponding TEMP is entered to heat to a higher temperature than the previous stage.

SERVICE

CLEANING INSTRUCTIONS

Clean exterior of furnace only by wiping unit with a damp cloth coated with a mild non abrasive cleaner.

CAUTION: The INFINITY should be serviced only by qualified service technicians. Be sure to unplug the power cord and wait for the furnace to cool before performing any service operation. For help with operating or servicing your Whip Mix equipment, please call Whip Mix any time between 8:00am and 5:00pm Eastern time.

Toll Free	1–800–626–5651
Local	1–502–637–1451
FAX	1–502–634–4512

TEMPERATURE CALIBRATION

Infinity Multi–Stage Burnout Furnaces come complete with temperature Calibration Tablets (2) which accurately melt at 1500°F (816°C). (Re–Order Calibration Tablet Kit – PN 15291).

Your Infinity is factory calibrated. It is not necessary to re-calibrate on installation. If it becomes necessary to re-calibrate in the future, use the following calibration procedure.

Temperature Calibration with Calibration Tablets (Figure 3)

1. Place a short metal casting ring towards the front center of the chamber.

2. Place a ceramic tray or a small piece of casting ring lining material on top of the ring. Place a tablet in the center of the tray.

3. Program the Infinity as follows:

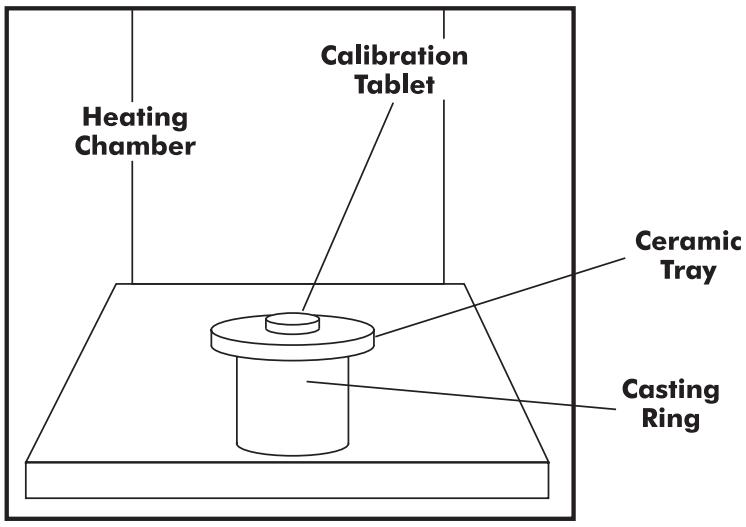
	HEAT RATE	TEMP	HOLD TIME
STAGE 1	FULL	1200°F (649°C)	0:05
STAGE 2	25°F (14°C)	1700°F (927°C)	0:00
STAGE 3	NO	*	*
STAGE 4	NO	*	*

*Though any number may appear, the unit is deactivated when “NO” is selected for HEAT RATE.

4. Close the furnace door and press START / STOP.

5. When the furnace temperature attains 1400°F (760°C) as indicated on the Main display, open the furnace door slightly and begin to check for the melting of the tablet. Continue to do this at each 25°F (14°C) interval, opening the furnace door just enough to determine at a quick glance if the tablet has begun to liquefy at the edges.

6. When the tablet begins to melt or liquify at the edges, immediately press ⬆ and hold. Then press ENTER/REVIEW. Your Infinity is now calibrated. Three "beeps" sound and "CAL" appears on the main display.



POWER FAILURE

1. If a power failure occurs, the Infinity memorizes the conditions prior to the loss of power. When the power returns, the Infinity returns to the proper point in the program.

2. When power is returned, the HR:MIN light flashes indicating that a power failure has occurred. It continues to flash until START / STOP is pressed.

NOTE: The HR:MIN light flashes if the power switch is turned off and on while a program is running and START / STOP was not pressed. It will not flash if the power switch was turned off or a power failure occurred when the PROGRAM READY light was on.

REPLACEMENT OF DOOR INSULATION AND SPRINGS

1. Open, locate and remove the two screws on the door closest to the door hinges which hold the retainer strip in place. Remove the retainer strip.

2. Remove the one piece door insulation by sliding it toward the rear of the furnace and slightly lifting.

3. To replace the springs, remove each spring from the hook which holds it in place. Remove both the hook and spring.

4. To reinstall the new door insulation or springs and hooks, reverse the above procedure. If installing springs and hooks, add grease to junction of spring and hook and spring and hinge junction.

FIELD SERVICE

REPLACEMENT OF HEATING PLATES

Turn off the power to the oven, unplug the power cord, remove trays from the muffle chamber and insure that the oven is cool.

Remove the upper back cover.

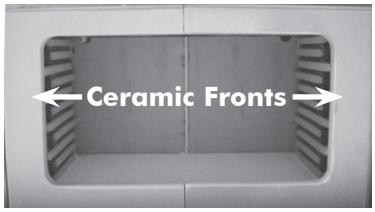
On the rear of the unit remove the nuts that hold the heater plate wires to the ceramic terminals. Remove all hardware and wires from the terminals. Discard any burnt hardware and replace with hardware pieces shipped with the heater plates. Retain hardware for later use. Straighten the wires for smoother removal of the plates.

Straighten thermocouple at the bend and remove bushings from heater plate wires.

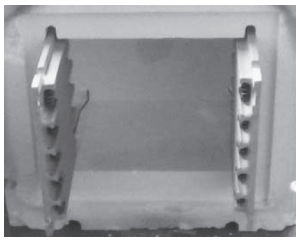
Move heater wires and thermocouple out of the upper housing to allow insulation to slide out the back of the unit.

From the front of the muffle chamber with the door open push the entire insulation chamber out the back of unit and place on a table.

Remove ceramic front plates from muffle insulation and place aside.

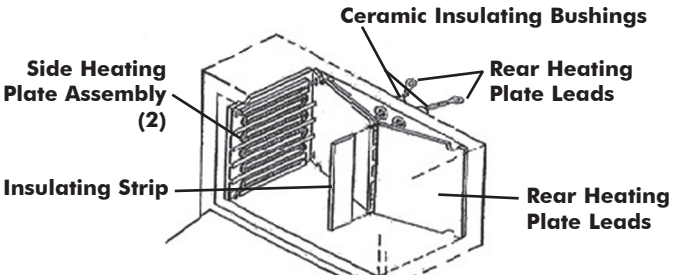


From here the plates can be removed by pulling them out the front of the insulation. The Large models have back plates and side plates, while the Medium model has only side plates.



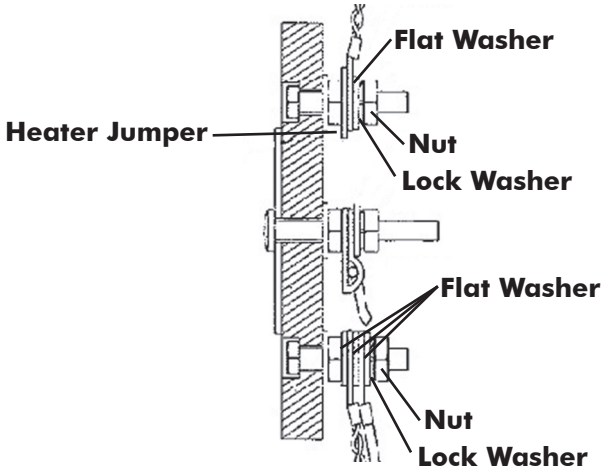
Place the new plates in the chamber, if back plates are being replaced as well they must be installed first, also insure that the wires are bent up so they will slide into the back.

If the back plates are being replaced the filler strip should be replaced as well. A new strip was shipped with the plates.



Once the plates are installed place the insulation chamber back inside the oven and wire the terminals according to the model and voltage in the pictures on the next page:

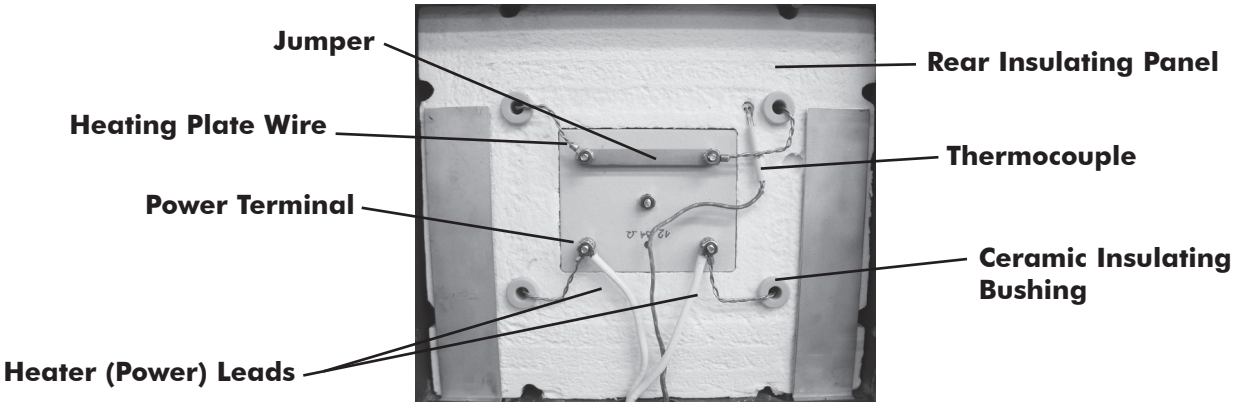
When wiring the plates insure that between each wire a flat washer is placed. See picture below.



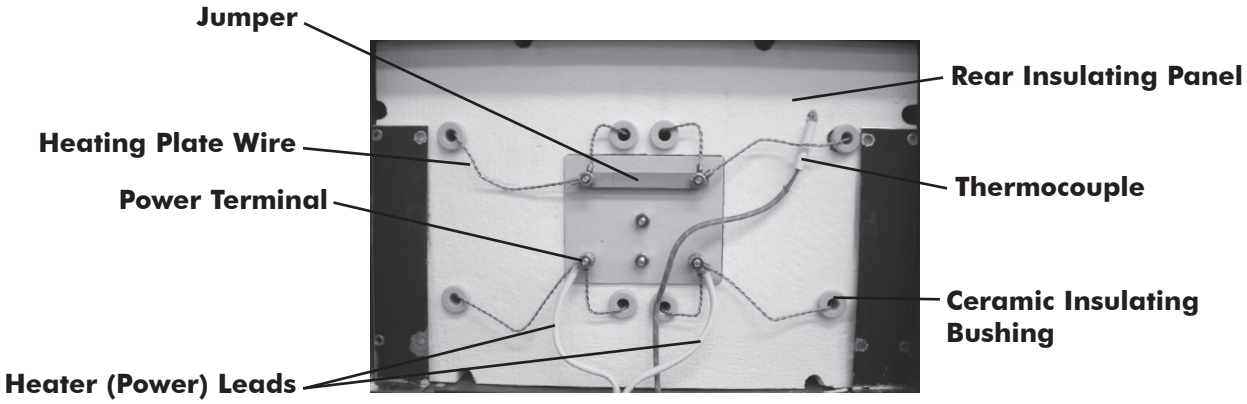
Note: Place flat washer between each wire.

After the heater plates are wired, replace the upper back cover and bottom cover. Insure that the oven heats by running a program.

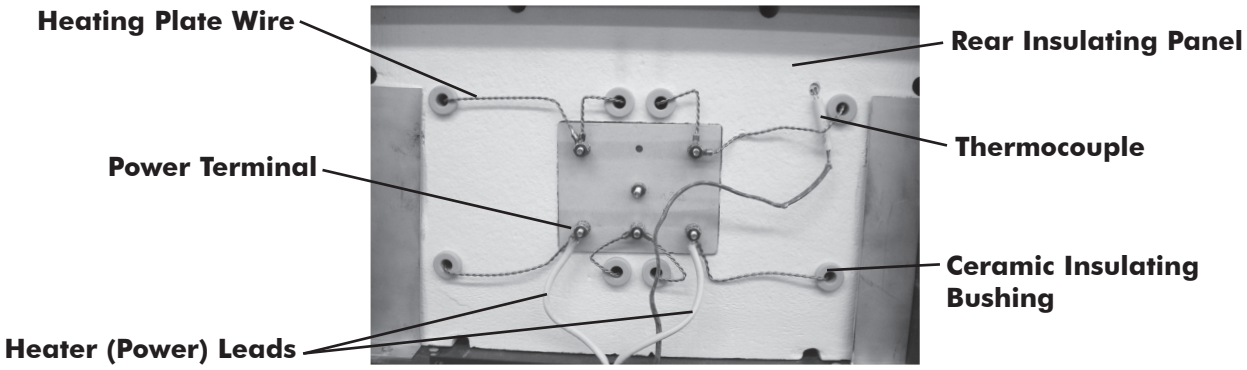
Figure 4
INFINITY WITH UPPER REAR PANEL REMOVED



INFINITY- M30 115V



INFINITY- L30 115V



INFINITY- L30 230V

FIELD SERVICE

REPLACEMENT OF THE MAIN PC BOARD

Part numbers can be found on last page(s) of Manual.

1. Remove the bottom panel.

2. **Note and record the color and location of each wire on the thermocouple terminals located on the Main PC Board.** Remove both wires.

3. **Tag or label the electrical connectors on the Main PC Board before removal so that you know where to reconnect each one. Create a sketch showing the locations and referencing the tag or labeling.** Pull straight out on the connector. DO NOT PULL ON THE WIRES.

4. Remove the nuts and lock washers that hold the Main PC Board to the front panel and lift straight away from the front panel to remove board.

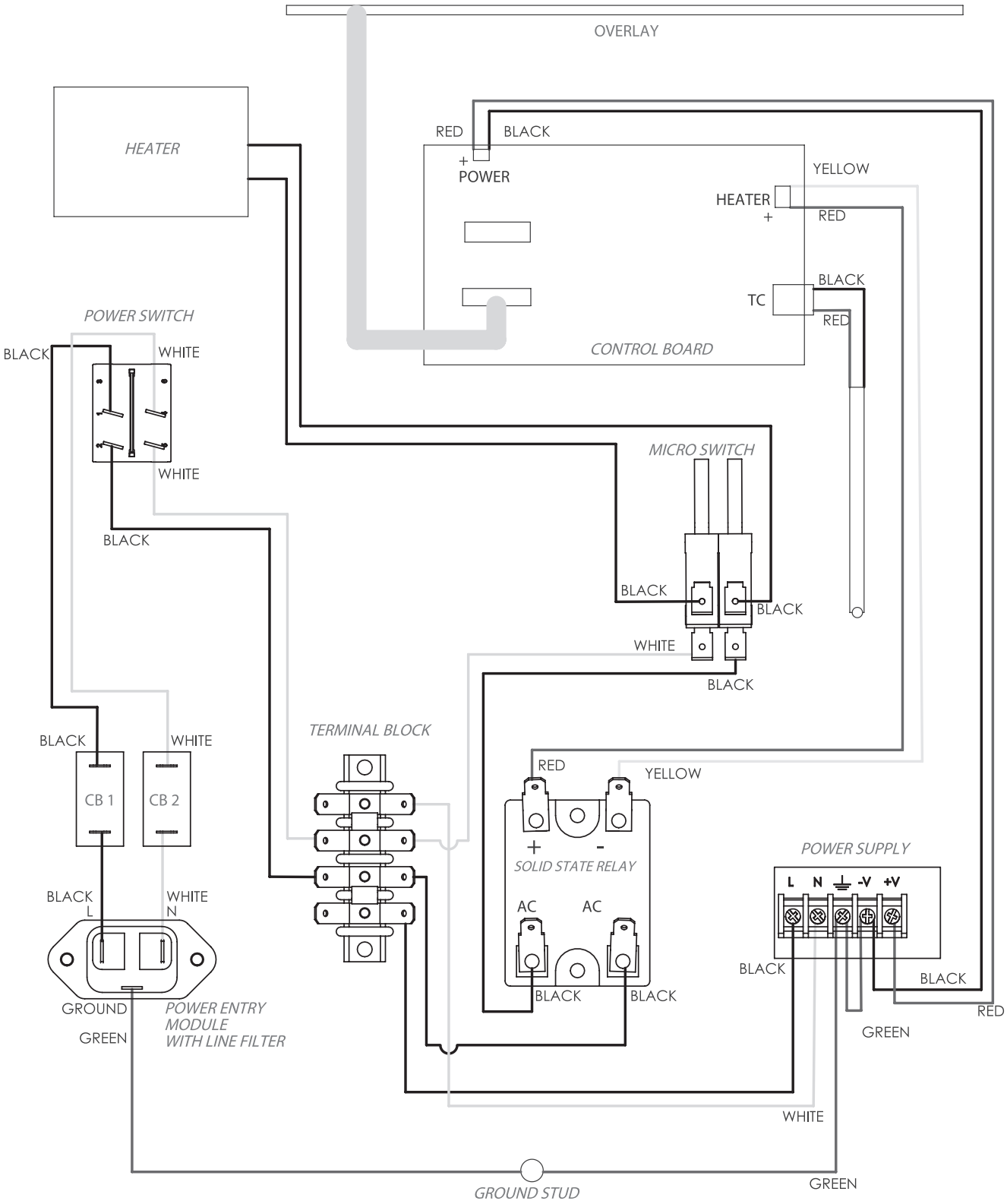
5. Align the holes in the new board with the standoffs on the front panel, reinstall the fasteners and screws.

6. Reconnect the electrical connectors by referring to the tags and your sketch.

7. Reconnect the two thermocouple wires to the thermocouple terminals observing the color coding noted in Step 2. If thermocouple wires are reversed, 5 minutes after heating program is started, "Er 5" will appear on the Main Display.

8. Replace the bottom panel.

Figure 5
INFINITY WIRING DIAGRAM



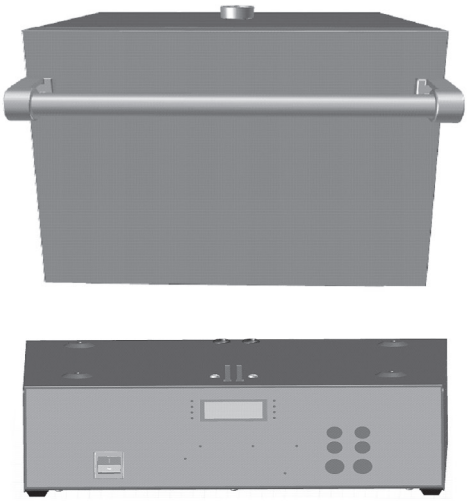
FIELD SERVICE

REPLACEMENT INSTRUCTIONS: 15295 JELRUS THERMOCOUPLE

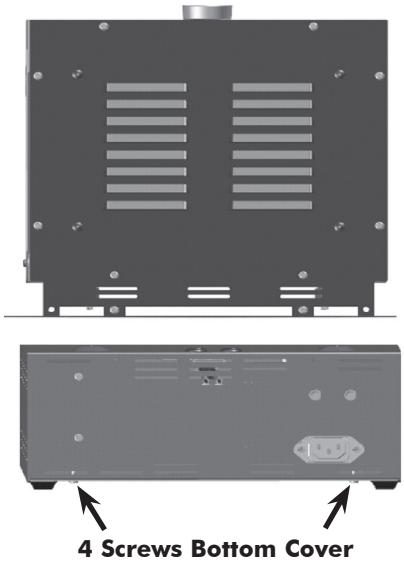
For assistance call 1-800-626-5651 or write to: tops@whipmix.com

CAUTION!
TO PREVENT INJURY, ALWAYS TURN POWER OFF AND DISCONNECT THE OVEN'S POWER CORD BEFORE PERFORMING SERVICE. VERIFY THAT UNIT IS COOL TO THE TOUCH.

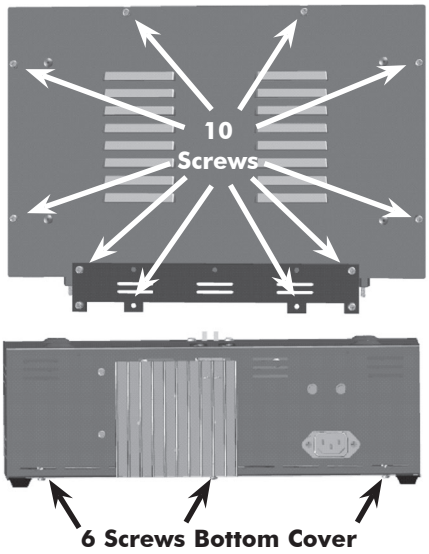
Front View Large



Rear View Medium

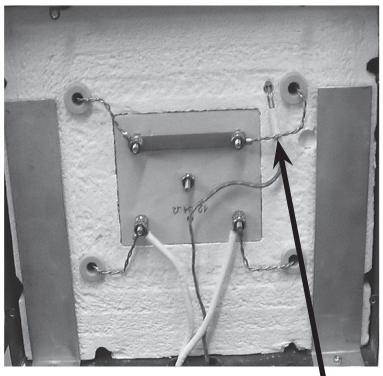


Rear View Large

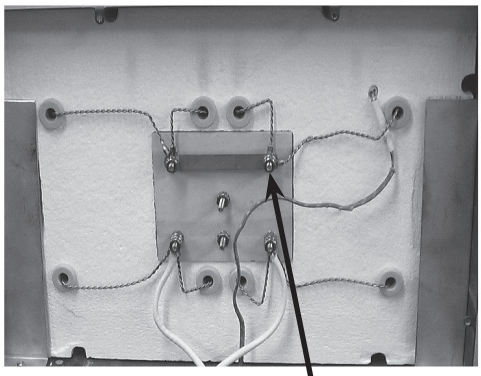


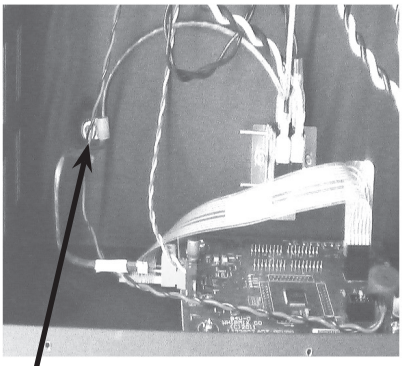
Unplug oven, remove trays from inside, then lay oven on its side and remove screws from bottom and back covers.

Rear Back View Medium



Rear Back View Large





Note: make sure to run thermocouple wire through loop to hold wire stable before pulling into upper housing.

Disconnect heater wires to pull thermocouple out from the muffle, then through the grommet into lower housing. Disconnect thermocouple from the main board.

Note: Thermocouple should be wired as shown above. Heater wire must rest over ceramic sheath not to come in contact with bare wire or fiber sleeve.

REPLACEMENT OF THE SSR (Solid State Relay) (PN 96225)

1. Remove the lower bottom panel (Figure 2, Page 6).

2. Note and record the color and location of each of the four wires on the SSR terminals (Figure 5, Page 24). Remove each of the four wires by pulling straight up on the connecter. DO NOT PULL ON THE WIRES.

3. Remove the two nuts and screws that hold SSR in place. Lift SSR off the chassis (Figure 5, Page 24).

4. Put the new SSR in place on the rear panel. Locate the SSR so that the center terminal will face downward when the bottom panel is in place.

5. Replace the four wires on the SSR (Figure 5, Page 24).

6. Replace the lower bottom panel (Figure 2, Page 6).

SPARE PARTS LIST

SPARE PARTS FOR INFINITY M–30		
	Part No.	
Description	**115V**	**230V**
Power Cord Kit-Japan & U.S.	26202	26202
NEW-Main PC Board	15303	15304
Heater Jumper	33130	33130
Ceramic Front Section	15292	15292
Door Assembly	15284	15284
Door Insulation	15722	15722
Heating Plates Assembly Side (Set of 2)	33915	33916
Ceramic Terminal Block w/Terminals	33935	33935
Door Handle Kit	15279	15279
NEW-Thermocouple Assembly Kit	15295	15295
NEW-Solid State Relay (SSR) 25 amp	96225	96225
Tray for Heating Chamber	33256	33256
Power Switch	15684	15684
Calibration Table Kit 1500°F (816°C)	15291	15291
NEW-Door Switch Kit	15294	15294
Vent Tube	15729	15729
Ceramic Insulating Bushings (Pkg. of 4)	33958	33958
NEW-Rubber Feet (Set of 4)	96011	96011
Door Spring Hook Assembly Kit	33997	33997
Door Hinges (Set of 2)	33998	33998
Circuit Breaker	117046	117047
Heater wire assembly	15312	15312

SPARE PARTS FOR INFINITY L–30		
	Part No.	
Description	**115V**	**230V**
NEW-Main PC Board	15305	15306
Heater Jumper	33130	33130
Ceramic Front Section (Set of 2)	15293	15293
Door Assembly	15286	15286
Door Insulation	15712	15712
Heating Plate Assembly, Side (Set of 2)	15297	27957
Heating Plate Assembly, Rear (Set of 2)	15296	27956
Ceramic Terminal Block w/ Terminals	33936	33936
Floor Plate w/ Filler Strip Insulation Kit	33981	33981
Door Handle Kit	15286	15286
NEW-Thermocouple Assembly Kit	15295	15295
NEW-Solid State Relay (SSR) 25 amp	96225	96225
Tray for Heating Chamber	33256	33256
Power Switch	15684	15684
Calibration Tablet Kit 1500°F (816°C)	15291	15291
NEW-Door Switch Kit	15294	15294
Vent Tube	15729	15729
Ceramic Insulating Bushings (Pkg. of 4)	33958	33958
NEW-Rubber Feet (Set of 4)	96011	96011
Door Spring Hook Assembly Kit	33997	33997
Door Hinges (Set of 2)	33998	33998
Circuit Breaker	117046	117047
Heater wire assembly	15312	15312

PROGRAM CARD FORMS

Program # **Metal(s)**

	HEAT RATE	TEMP	HOLD TIME
STAGE 1			
STAGE 2			
STAGE 3			
STAGE 4			

Program # **Metal(s)**

	HEAT RATE	TEMP	HOLD TIME
STAGE 1			
STAGE 2			
STAGE 3			
STAGE 4			

Program # **Metal(s)**

	HEAT RATE	TEMP	HOLD TIME
STAGE 1			
STAGE 2			
STAGE 3			
STAGE 4			

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STAGE 4			

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STAGE 2			
STAGE 3			
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