

OWNER'S MANUAL

The Reliable Combination Steam-Tech/4200



INSTALLATION, OPERATION, MAINTENANCE, SERVICE AND PARTS MANUAL

**MODLES:
ST3E42
ST6E42**



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STEAMER SECTION

STEAM-TECH™ ELECTRIC STEAM COOKER



**MODELS: ST-3E
ST-6E**

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INTRODUCTION

DESCRIPTION:

The Steam-Tech represents the latest in counter top steam technology, designed to apply the benefits of steam cooking to today's health-conscious menus. Ideal for batch cooking, à-la-carte and rethermalization of individual entrées, the Steam-Tech puts the power of steam on your countertop. The Steam-Tech is a pressureless steam cooker consisting of:

- ➔ 3-pan or 6-pan cavity
- ➔ Electric pressureless generator (9, or 14kW inputs)
- ➔ Controls - mechanical or electronic
- ➔ Cleaning indicator
- ➔ Optional hold feature

These features and functions will be discussed in greater detail in the initial systems inspection section on page 7.

A "clean generator" light indicates when it's time to de-lime. Generators can be easily cleaned from the outside of the cooking compartment, through a port on top.

A "close-coupled" steam generator system gives quick start-ups and efficient steam transfer to the cooking compartment, without the use of fans or expensive blower motors. In tests for energy efficiency and cooking times performed in accordance with ASTM standards, the Steam Tech™ yielded impressive results over other similar counter top steamers.

With an optional "hold" feature, your Steam Tech™ will keep cooked foods at 160°F until you are ready to serve, giving you more time between cooking and serving - it's a Market Forge exclusive.

As your operation grows, so does your Steam Tech™. By stacking multiple Steam Tech™ models, you can accommodate up to 10 pans, creating a complete high-output steam cooking system.

BASIC FUNCTIONING:

To begin operation, the power switch is pressed into the on position, illuminating the power light. This opens the water feed solenoid valve to the steam generator. Once the appropriate water levels have been reached, the heating element is energized. When the water in the steam generator has reached 195°F, the green ready light, is illuminated, indicating that the unit is now ready to make steam and all controls are functional.

A steaming mode is selected, with the timer/selector switch. For continuous steam, set the selector timer knob to the "constant steam" position (the green area of the selector/timer switch). The cooker will continue to steam until the switch is moved to the "off" position. If you desire a timed steam cooking cycle, just set the timer knob to the cook time (up to 60 minutes).

In the timed steam mode, the cooker will create steam

for the duration of time you have set. Once the timer reaches the end of its cycle (0 minutes) the buzzer will sound. The buzzer is silenced by returning the timer knob to the "off" position, which ceases the steaming function. The generator will continue to idle at 195°F.

For units equipped with the optional digital timer, please refer to the optional digital control timer section on page 7 for basic explanation.

For units equipped with the optional steam and hold feature, an additional mode selector switch is used to place the cooker into the hold mode. At the completion of the cooking cycle, place the timer knob to the "off" position and then place the hold switch to the "on" position.

The hold feature is controlled by a separate thermostat with an additional temperature gauge mounted just above the control panel. The unit will now act as a holding cabinet until you call for steam again. During this time, the generator will continue to idle at 195°F.

Your new cooker is equipped with a clean generator light which automatically illuminates when the steam generator has accumulated mineral build-up. When the clean light is "on" this indicates that the heating element has reached a point where it is not safe to operate the steamer without cleaning the generator and electric heater. To prevent heater burn-out, the steam generator must be cleaned (Refer to the trouble-shooting and maintenance sections of this manual).

Steam or hot water leaving the unit is drained out the rear of the cooking cavity. Your unit is equipped with a drain water cooling system which adds cold water to this discharge. The cold water cools the hot discharge below 140°F which is suitable for standard drain lines. (Note: Do not use PVC or CPVC for drain piping.)

SERVICE:

Required service, both preventative and corrective, is explained in trouble-shooting and maintenance sections. Should repairs be required, a network of Authorized Agencies is available to assist with prompt service. A current Directory of Authorized Service Agencies may be obtained by contacting:

Market Forge Industries, Inc.
Everett, Massachusetts 02149-4403
Telephone: (617) 387-4100 • Toll Free: (866) 698-3188
Fax: (617) 387-4456 • Outside MA Fax: (800) 227-2659
custserv@mfii.com • www.mfii.com

The Model and Serial Numbers must be referenced when corresponding with Market Forge. The data plate containing the serial number is located on the top front of the steamer (body panel).

INSTALLATION

ASSEMBLY:

The assembled Steam-Tech™ Pressureless Steam Cooker is shipped in a carton on a skid. Steps required for assembly are as follows:

1. Remove the carton and the unit off the skid.
2. Install the feet into the threaded mounting locations on the bottom of the unit.
3. Mount the left and right pan support racks on the mounting brackets located inside each of the cooking compartments.
4. Mount the drip trough to the front of the unit.

SETTING IN PLACE:

If possible, a location should be selected under an exhaust hood which will remove small amounts of vapor emitted from the cooker during normal operation. Next, level the unit after it is placed in its final location. This is accomplished by turning the bottom part of the adjustable feet. Using the cabinet top as a reference, obtain level adjustment left-to-right and front-to-back.

SERVICE CONNECTIONS:

Service connections that are made at the back of the cooker, include (2) cold water inlet, drain, and electrical. (Refer to the electrical characteristics table on this page)

EQUIPMENT FAILURE CAUSED BY INADEQUATE WATER QUALITY IS NOT COVERED UNDER WARRANTY.

CAUTION: Do not use PVC or CPVC piping for inlet water service connections.

Please refer to Figure 1 on page 3 for locations of water and drain connections.

ELECTRICAL CONNECTIONS:

CAUTION: Use copper wire only for power supply connections.

Please refer to Figure 1 on page 3 for locations of electrical service connections.

WATER CONNECTIONS:

Cold water 1/2" female compression fitting water line will have maximum of 50 psi and minimum of 25 PSI of water pressure. Drain pipe full 1" female NPT to open floor drain with air break. Do not exceed 8' in length and no more than 2 elbows. Before connecting water to this unit, water supply should be analyzed to make sure hardness is no greater than 2.0 grains per gallon and pH level is within the range of 7.0-8.5. Water which fails to meet these standards should be treated by installation of a water conditioner. Equipment failure caused by inadequate water quality is not covered under warranty.

ELECTRICAL CHARACTERISTICS

Electrical connection power supply should utilize wire suitable for 90°C.

VOLTS (AC)	ST-3E (9 kW)		ST-6E (14 kW)	
	1 pH	3 pH	1 pH	3 pH
208 (197-219)	41A 46A	41A 41A	64A 64A	37A 37A
240 (220-240)	34A 38A	20A 22A	53A 58A	31A 34A
480 (360-500)	19A --	11A --	29A --	17A --
220/380, 3 pH, 4 Wire	-- --	11A --	-- --	18A --
240/415, 3 pH, 4 Wire	-- --	13A --	-- --	19A --

INTERNAL DIMENSIONS:

MODEL	HEIGHT	WIDTH	DEPTH
ST-3E	10.7" (271mm)	14" (235mm)	22.5" (571mm)
ST-6E	17.2" (436mm)	14" (235mm)	22.5" (571mm)

CAPACITY:

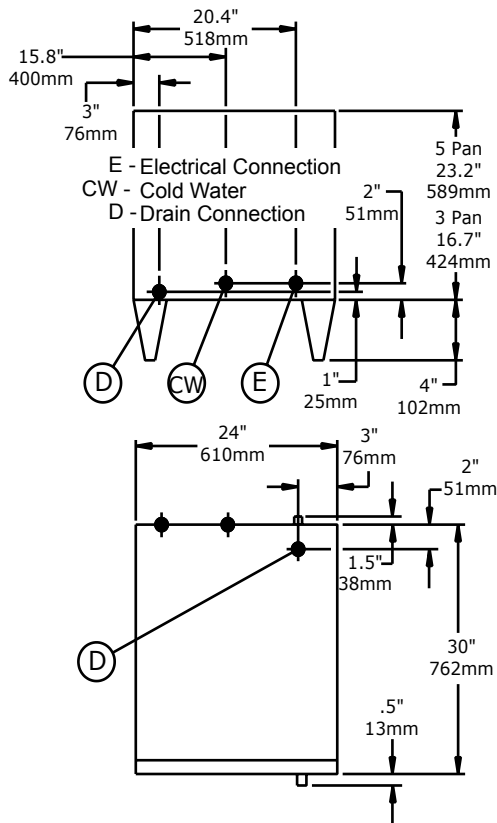
PAN SIZE	NUMBER OF PANS	
	ST-3E	ST-6E
12" x 20" x 1"	6	8
12" x 20" x 2 1/2"	3	5
12" x 20" x 4"	2	4

REVERSING THE DOORS:

The Steam-Tech Pressureless Steam Cooker has a reversible cooking compartment door for your convenience. This section contains instructions for reversing this door.

1. Turn off power to the unit.
2. Open the cooking compartment door
3. Remove the two screws that attach the top hinge to the front of the unit.
4. Slide the door upwards, off the bottom hinge.
5. Remove the two screws that attach the bottom hinge to the front of the units.
6. Remove the right and left side panels by unscrewing the one screw on each panel and sliding the panel down.
7. Remove the door interlock assembly by unscrewing the two nuts that hold it in place (assembly is attached to the screws in the top right hinge mounting holes, see Fig. 1).

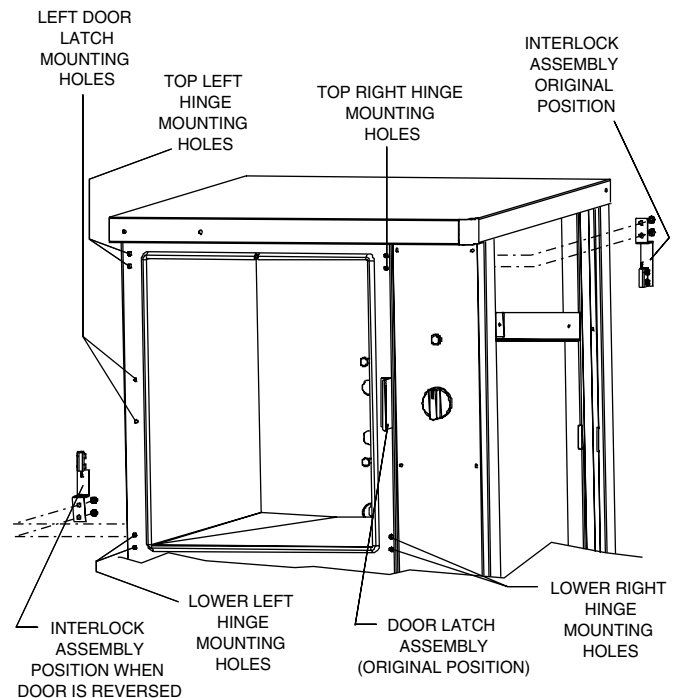
INSTALLATION



8. Remove the four screws in the right side hinge mounting holes and install them in the left side hinge mounting holes (where the hinges were originally mounted).
9. Using the nuts removed in step #6, reinstall the door interlock assembly onto the two screws in the lower left hinge mounting holes (see Fig. 1) with by moving the assembly over the cooking cavity to the other side of the unit. Rotate the door interlock assembly 180° for installation, so that the switch is now facing up.
10. Reinstall the top hinge and screws into the right lower hinge mounting holes. Rotate the hinge 180° for installation, so that the pin which the door rides on is now facing up. The hinge must be rotated because it will now function as the bottom hinge. **DO NOT COMPLETELY TIGHTEN THE HINGE** for installation so that the pin which the door rides on now facing up. The hinge must be rotated because it will now function as the bottom hinge. **DO NOT COMPLETELY TIGHTEN THE HINGE MOUNTING SCREWS YET.** These will be used later for adjusting the door.
11. Remove the door latch assembly from the face of the unit. The two nuts mounting the door latch are located behind the face of the unit and must be accessed where the right side panel was removed.
12. Remove the two white hole plugs from the left door

latch mounting holes, and insert them into the right door latch mounting holes (where the door latch assembly was originally mounted).

13. Rotate the door latch assembly 180°, and install into the left door latch mounting holes. (NOTE: Each stud on the latch assembly should have a plastic washer, a spring, a plastic washer and a Nyloc type nut.)
14. To adjust the tension of the door latch, tighten both nuts down until the springs are fully compressed, then back each nut off 1 1/2 turn.
15. Rotate the door 180° for mounting.
16. Slide the remaining hinge into the top door bearing.
17. Slide the door and hinge assembly down onto the hinge which you have already mounted to the front of the unit. Use the two screws to mount the top hinge into the right upper hinge mounting holes. **DO NOT COMPLETELY TIGHTEN THE HINGE MOUNTING SCREWS YET.**
18. Slowly push the cooking compartment door closed until it is latched.
19. The cooking compartment door can now be raised, lowered, and/or rotated into position by bumping it with the palm of your hand or by using a small rubber mallet.
20. First, check the alignment at the front of the door by making sure that the striker in the door is centered with the latch mechanism on the front of the unit.



INTRODUCTION

21. Square the door to the unit by raising or lowering the hinge side of the door, keeping the latch centered with the striker.
22. Visually inspect the door. Be sure that the door is square to the unit, the striker is centered with the latch, and the gasket is in contact with the entire lip of the cooking compartment.
23. Gently open the cooking compartment door, taking care not to move it out of position.
24. Tighten all 4 door hinge bracket mounting screws.
25. Close and visually inspect the door again, as described in step 22.
26. Reinstall the left and right side panels, using the screws for each panel.

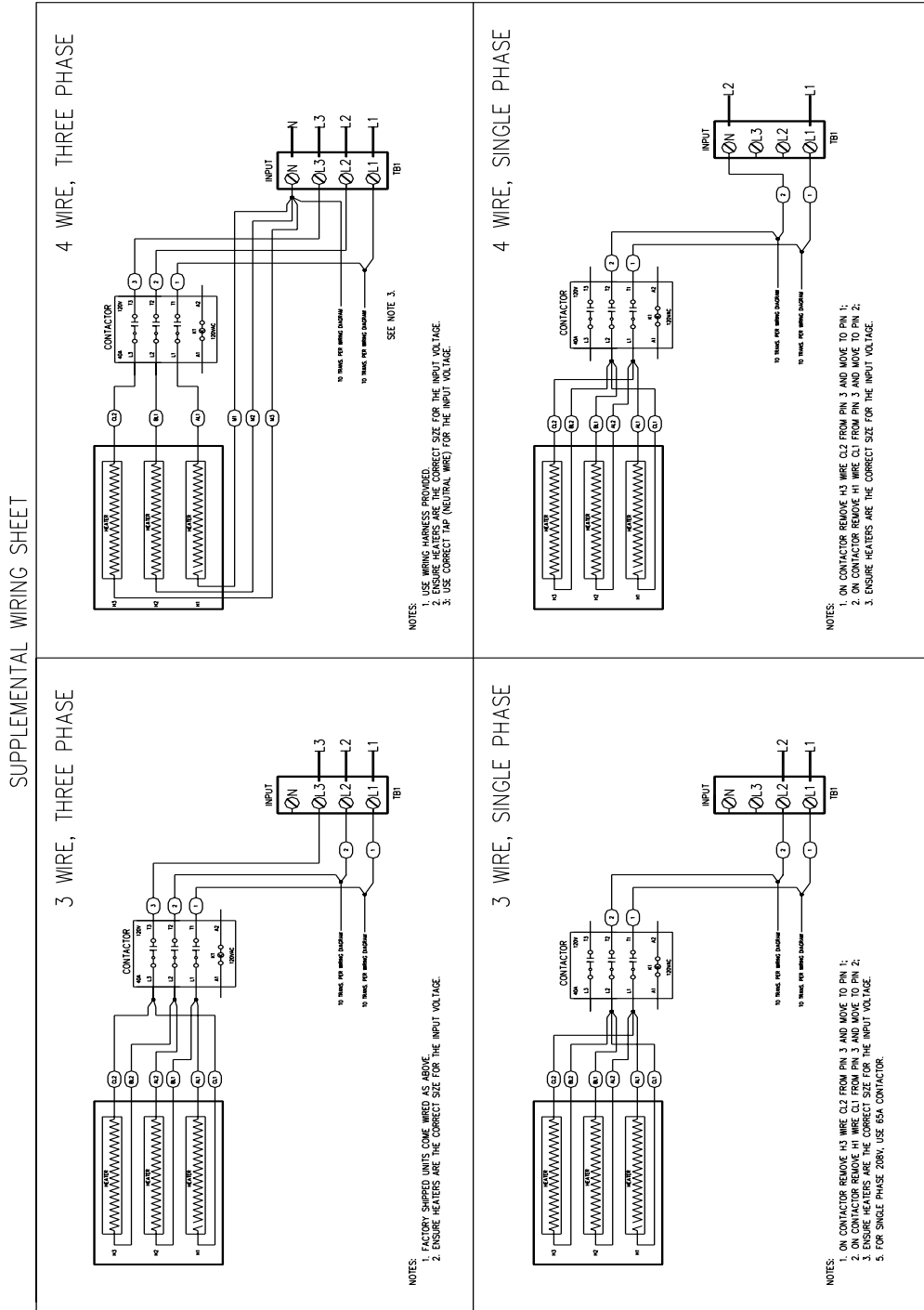
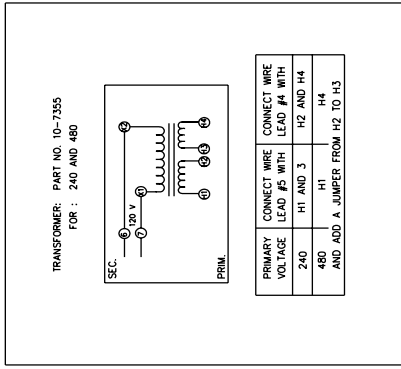
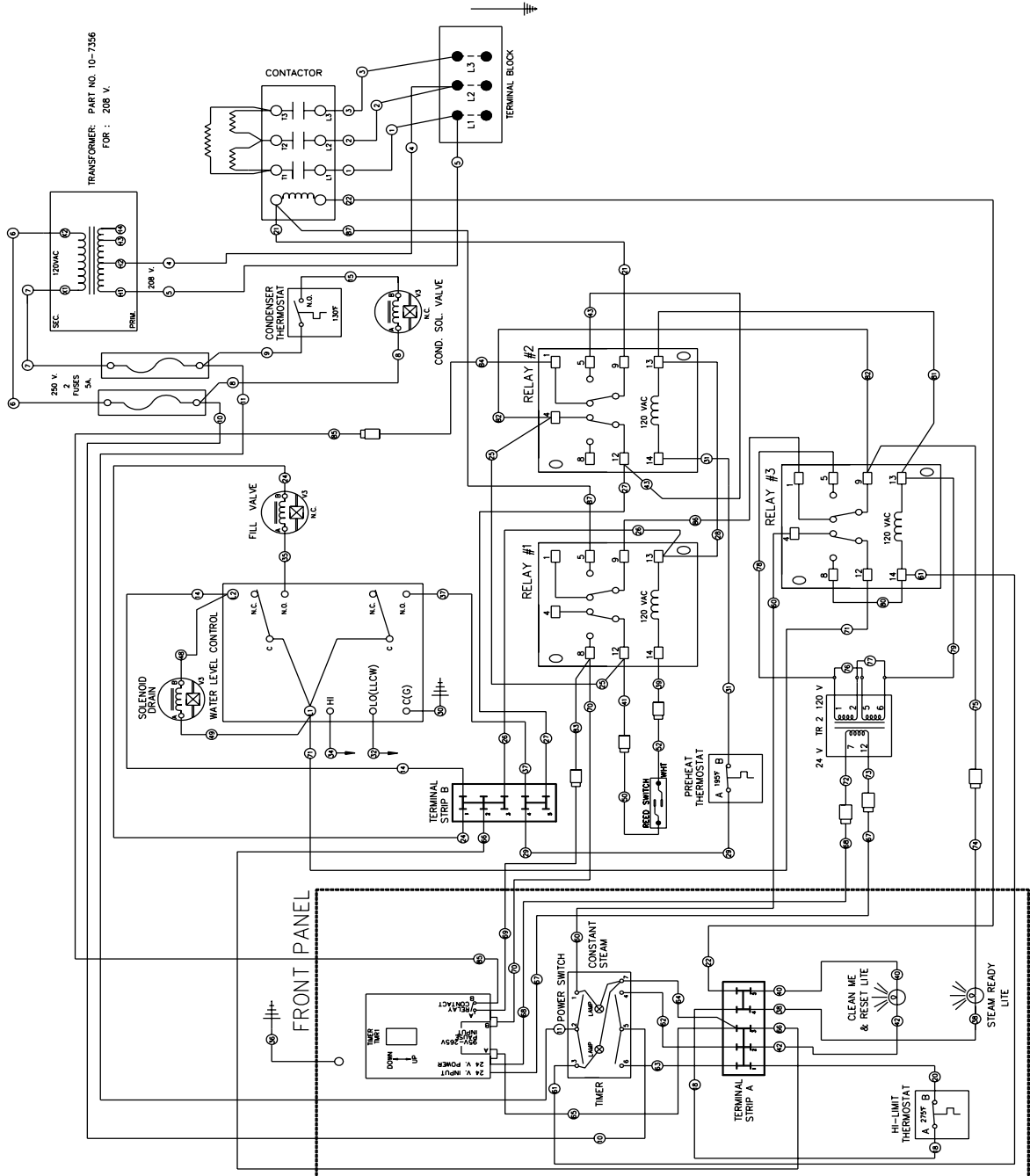


Fig. 3 Supplemental Wire Sheet

INSTALLATION



STEAM-TECH DIGITAL TIMER



VOLTAGE	ST-3E (9 KW)		ST-5E (14 KW)	
	3 PHASE	1 PHASE	3 PHASE	1 PHASE
208 V	24.98	43.27	38.86	67.3
240 V	21.65	37.5	33.67	58.33
480 V	10.82	18.75	16.83	29.16

Fig. 5 Digital Wiring Diagram

INITIAL SYSTEMS INSPECTIONS

GENERAL:

This section contains information for you to test and familiarize yourself with the operation of the Steam-Tech. After the cooker is completely assembled, all packaging materials removed, and all service connections are made, all systems must be given a thorough check-out before being put into operation. Be sure that the cooking compartment is empty, and both pan support racks are in place. Confirm that all service connections are correct. Close the cooking compartment door, and turn the timer knob to the "off" position.

WARM-UP:

Push the power switch to the "on" position. You will hear water entering the unit through the solenoid valve, filling the generator. Once the water level in the generator has reached the appropriate level, the solenoid valve will close, and the heater will energize. After a short time (approximately 10 minutes, depending on heater power), the green "ready" light will come on, indicating that the unit is ready to make steam.

TIMER STEAM MODE:

Set the selector/timer knob to 10 minutes and close the door. You will hear steam flow entering the cavity, and cold water flow into the drain. When the timer reaches 0 minutes, the buzzer will sound. The buzzer is silenced by returning the selector/timer knob to the "off" position. The green ready light will stay illuminated.

CONSTANT STEAM MODE:

The constant steam mode overrides all other cooking modes. This mode is entered by turning the selector/timer knob to the constant steam position on the dial (green area). With the knob set for constant steam and the door closed, you should hear steam enter the cavity and cold water flow into the drain.

OPTIONAL STEAM & HOLD MODE:

If your cooker is equipped with the "Steam and Hold" option, you enter this mode by placing the mode switch to the "Hold" position (Refer to the optional hold feature section on page 7). This mode only works if the steaming cycle has been completed and door is left closed. To

test the "hold" feature, use the following procedure:

- Step 1: With a cold compartment, turn power switch to "on."
- Step 2: Immediately put the mode selector to "hold."
- Step 3: After 3 minutes open the door and touch the wall of the cavity to see if it is warm.
- Step 4: If the wall is warm, then test is complete. Return hold mode to "off."

OPTIONAL DIGITAL CONTROL TIMER:

To begin, turn the power switch to "on." The cooker automatically fills the generator and begins the preheat. At the end of the preheat function, a green "ready" light will be illuminated.

For "constant steam" operation, place the mode selector switch to the "constant steam" position. You should hear steam enter the cavity and the cold water entering the drain. This action overrides the digital timer even if the timer was counting down prior to selection of the "constant steam" function. To check for proper operation of the digital timer, do the following:

- Step 1: Select "timed steam" mode
- Step 2: Press "clear" on display and it should read "00:00."
- Step 3: Enter 2 minutes into timer.
- Step 4: Press "start" on digital timer pad
- Step 5: Listen for steam entering cavity with steaming completed at end of cycle. If your unit has the "Steam and Hold" option, follow the instructions in the optional steam and hold mode section on page 7.

SHUT-DOWN:

No special procedure is necessary for shutting the unit down. Simply press the power switch into the "off" position.

CAUTION:

WHEN THE UNIT IS NOT IN USE, LEAVE THE COOKING COMPARTMENT DOOR SLIGHTLY AJAR TO PROLONG THE LIFE OF THE DOOR GASKET.

OPERATION

CONTROLS & INDICATORS:

The controls and indicators used to operate the Steam-Tech pressureless steam cooker are listed and described in the controls and indicators locations on page 8.

OPERATING PROCEDURES:

This section includes general instructions for daily operation of the Steam-Tech pressureless steam cooker. You should review the initial systems inspection section thoroughly if you are unfamiliar with the functions of the Steam-Tech. If you require more detailed technical information on the Steam-Tech's various systems and their

functions, please refer to the principles of operation section of this manual.

START-UP & PREHEATING:

The Steam-Tech pressureless steam cooker requires no start-up procedure. Simply press the power switch into the "on" position. The steam generator will fill up with water. Once full, the heater will automatically preheat the water in the generator to 195°F. This will take approximately 10 minutes. When the generator is ready to create steam the green ready light will come on.

OPERATION

COOKING - MECHANICAL CONTROLS:

NOTE: THE GREEN STEAMER READY LIGHT MUST BE ON BEFORE ANY CONTROLS BECOME OPERATIONAL.

1. Slide pans of food into the cooking compartment pan support racks.
2. Firmly close the cooking compartment door.
3. Begin steaming by either rotating the selection/timer knob to either the constant steam position or a desired cooking time.
4. At the end of the cook cycle (the buzzer will sound when the timer has timed out to zero, return the timer knob to the off position, which will turn off the buzzer.
5. If the unit is in constant steam mode, it will continue to provide steam to the cavity until the selector/timer is turned to the "off" position. Opening the door will interrupt the flow of steam to the cavity.

COOKING - USE OF THE DIGITAL TIMER:

NOTE: THE GREEN READY LIGHT MUST BE ON BEFORE ANY CONTROLS BECOME OPERATIONAL.

The cooker with the digital timer can be used in either a constant steam or timed steam mode For "constant steam" cooking, do the following:

1. Close the door
2. Move mode selector switch to the "constant steam position".
3. To exit "constant steam", move mode selector switch to the "timed steam".

For timed steam cooking, do the following:

1. Place the mode switch to the "timed steam" position.
2. Press the "CLEAR" button on the timer.
3. Enter the desired time up to 99 minutes.
4. Press "START".
NOTE: THE TIMER WILL NOT START COUNTING DOWN UNLESS THE DOOR IS CLOSED.
5. When the timer counts down to "ZERO", the beeper goes off until the "START STOP" button is pressed, steaming stops and the unit returns to a preheated stand-by mode. When you press stop, the existing program remains in the system. It is necessary to press clear, then re-program the time needed.
6. To shut-down the unit simply press the power switch to the "off" position. **NOTE: When the cooking compartment isn't in use be sure to leave the door slightly ajar to prolong the door gasket life.**

CONTROLS & INDICATORS LOCATIONS:

Power Switch	Located in the middle of the control panel. Pressing this button into the "on" position will supply power to the unit. Pressing this button into the "off" position will cut off power to the generator, and allow the system to drain.
Ready Light	Located above the power switch. It lights up green when the corresponding generator has warmed up to 195°F, indicating that it is ready to create steam.
Mode Selector Switch (Digital controls only)	Located in the center of the control panel, just above the ready light. Turn the switch to timed steam or constant steam.
Timer Knob	Located near the top of the control panel. Turn the timer knob to set the cook time.
Temperature Gauge (Hold option only)	Located at the bottom of the control panel, it is used to monitor the internal temperature of the cooking compartment during the hold mode.
Constant Steam Position	Located on the timer knob (selection/timer switch), the constant steam feature is entered by turning the knob clockwise to the green area (marked constant steam)
Clean Generator Warning Indicator & Switch	Located on the right side of the control panel. This will light up red when the generator needs to be de-limed. Refer to generator cleaning on page 9.
Reset Button	Located below the control panel. This will be used for the cleaning procedure.

OPERATION

DAILY CLEANING:

After each period of daily operation (more frequently as required to maintain cleanliness) the cooker should be thoroughly cleaned by completing the following steps:

1. Remove the baffle, and left and right side pan support racks by lifting them up off their mounting brackets.
2. Remove the drain screen by lifting it off its mounting studs.
3. Wash cooking compartment interior using detergent and water. Rinse and dry thoroughly.
4. Remove the drip/spill trough.
5. Wash all removed pieces with a detergent, using a brush, and rinse. These pieces can also be sent through a commercial automatic dish washing machine. Set these pieces aside for reassembly.
6. Replace the drip/spill trough.
7. Replace the drain screen inside the cavity.
8. Replace baffle, and pan supports into cooking cavity by hanging them on their mounting brackets.
9. Leave door slightly ajar.

PROLONGED SHUT-DOWN & CLEANING:

This section includes instructions for prolonged shut-down of the Steam Tech™ pressureless steam cooker.

1. Press the power switch into the “off” position. The steam generator will automatically drain.
2. Clean the cooking compartment, as described in the daily cleaning section above.
3. The Steam Generator must be rinsed and drained. Refer to the generator cleaning below for complete instructions.

CAUTION:

- Disconnect the power supply to the steam generator before servicing.
- Contact the Factory, the Factory Representative, or a Factory Authorized Service Company to perform maintenance repairs.
- Keep this manual for daily reference.

GENERATOR CLEANING:

The Steam-Tech is designed with an advanced cleaning system which notifies the user that the steam genera-

tor needs to be cleaned. Your steamer permits you to quickly clean the generator. The cleaning sequence is as follows:

- The red “CLEAN” light illuminates when scale builds-up in the tank and on the heating element
- When the unit is to be used the unit must be cleaned, as follows.
 1. Turn the power switch to the off position
 2. Turn off the water supply from its source
 3. Turn power switch on
 4. Red light is “on” and the generator will not fill with water.
 5. Locate the reset switch on the control panel depress it, and the red light should turn off.
 6. Remove the cleaning solution inlet cap located on the right hand side of the upper brow.
 7. Using a kitchen funnel, pour Market Forge’s TOTAL CONCEPT de-liming solution (P/N 20-0318) into the generator (2 quarts).
 8. Add 5 quarts of water to fill the generator to 3/4. The heater relay will click on.

CAUTION:

Read directions and information on TOTAL CONCEPT de-liming solution container before using.

9. Allow the unit to preheat until the green “READY” light comes on.
10. After the ready light is on, set the timer for about 20 minutes.
11. When the timer has counted to zero the system needs to be rinsed which is accomplished by:
 - Turning the power OFF (the unit drains).
 - Turn the water supply on at its source.
 - Turning ON the power permitting water to enter the generator.
 - Allowing the unit to reach preheat conditions (green light on).
 - Setting timer for 10 minutes.
 - Draining the rinse water after the buzzer sounds by turning OFF the power.

After rinse water is drained, turn the power on, wait for the steam ready light, and you are ready to cook. If the clean light comes back on the cleaning procedure must be followed again.

OPERATION

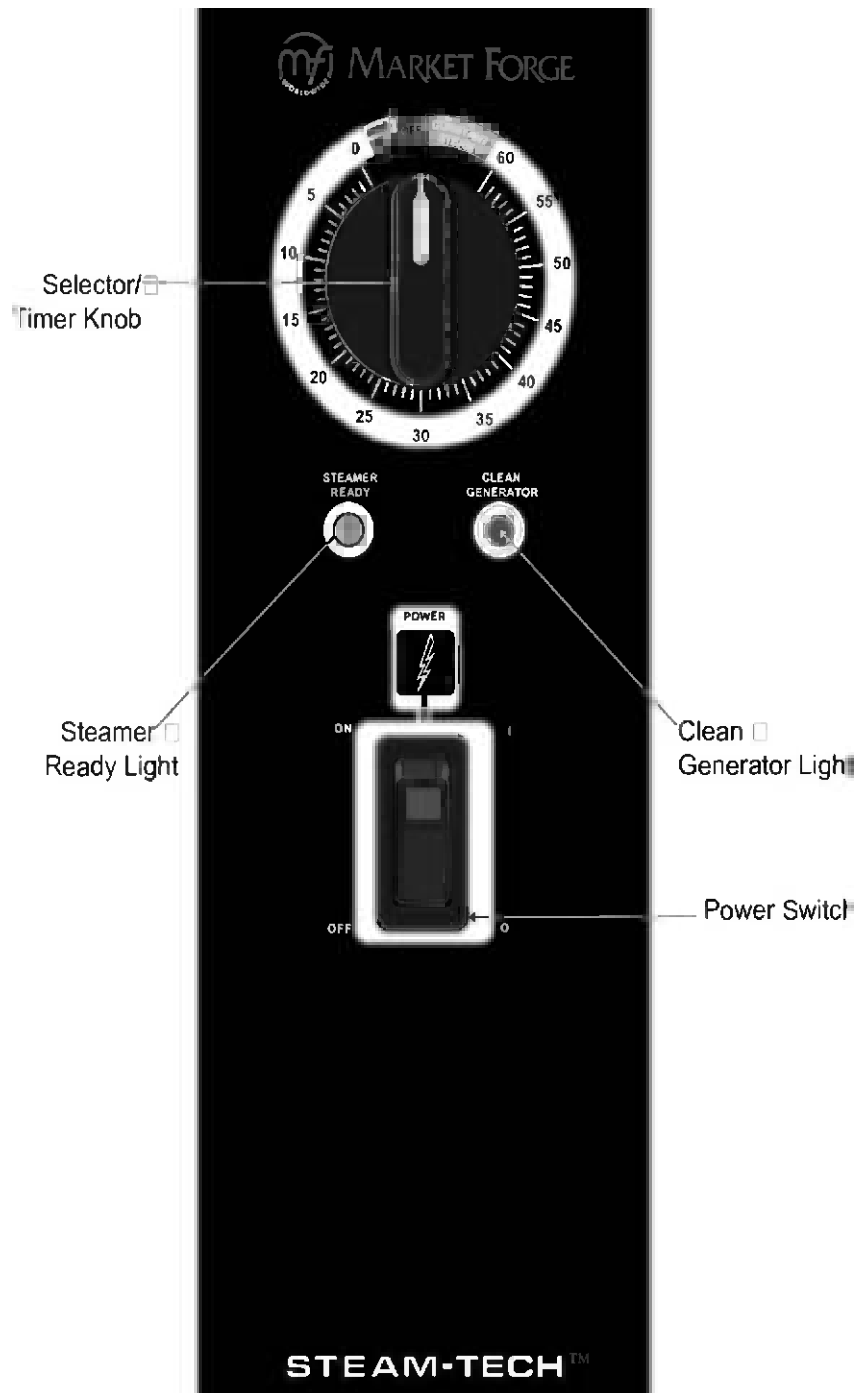


Fig. 6 Mechanical Timer (Control Panel)

OPERATION

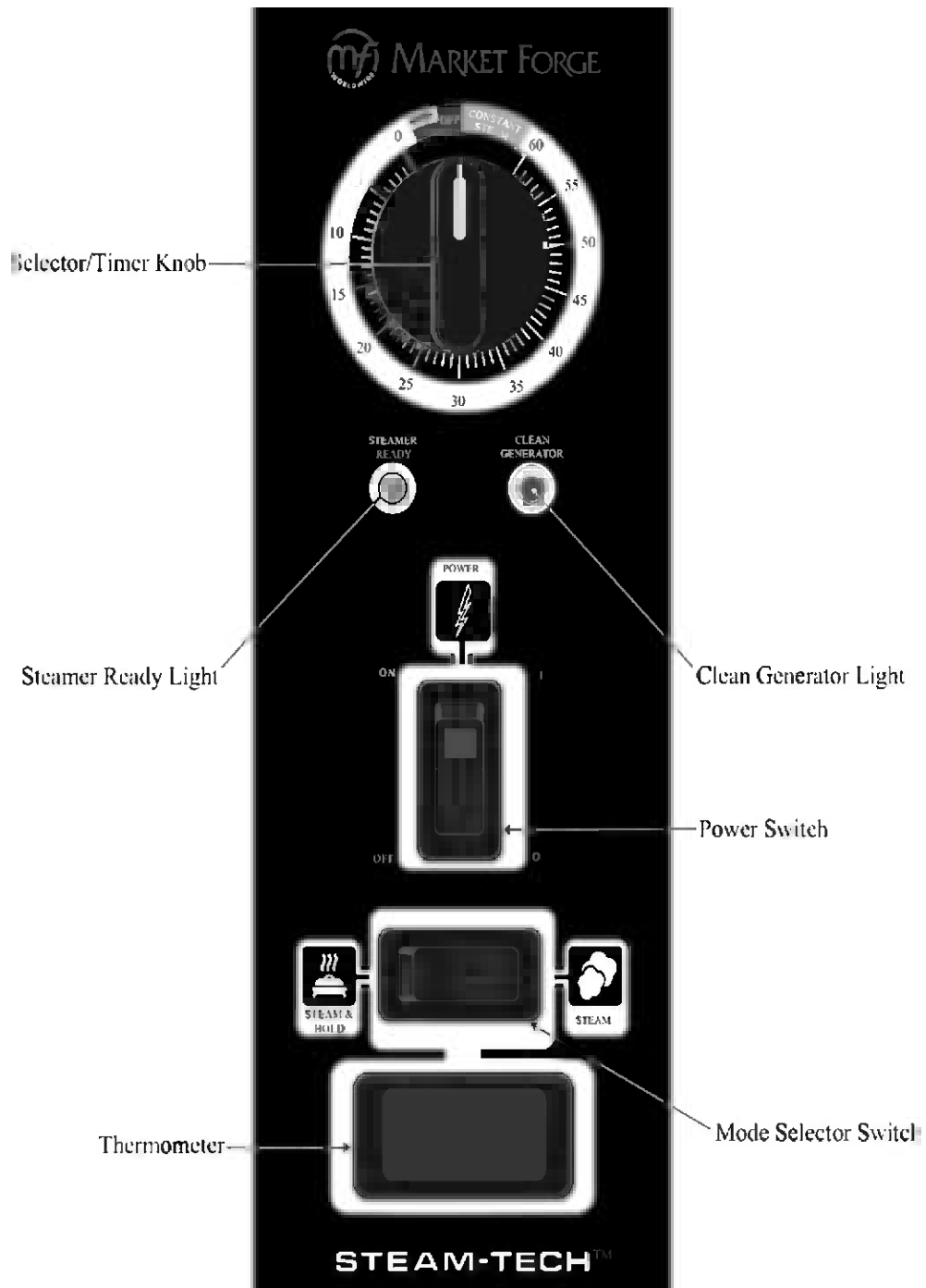


Fig. 7 Mechanical Timer with Hold (Control Panel)

OPERATION

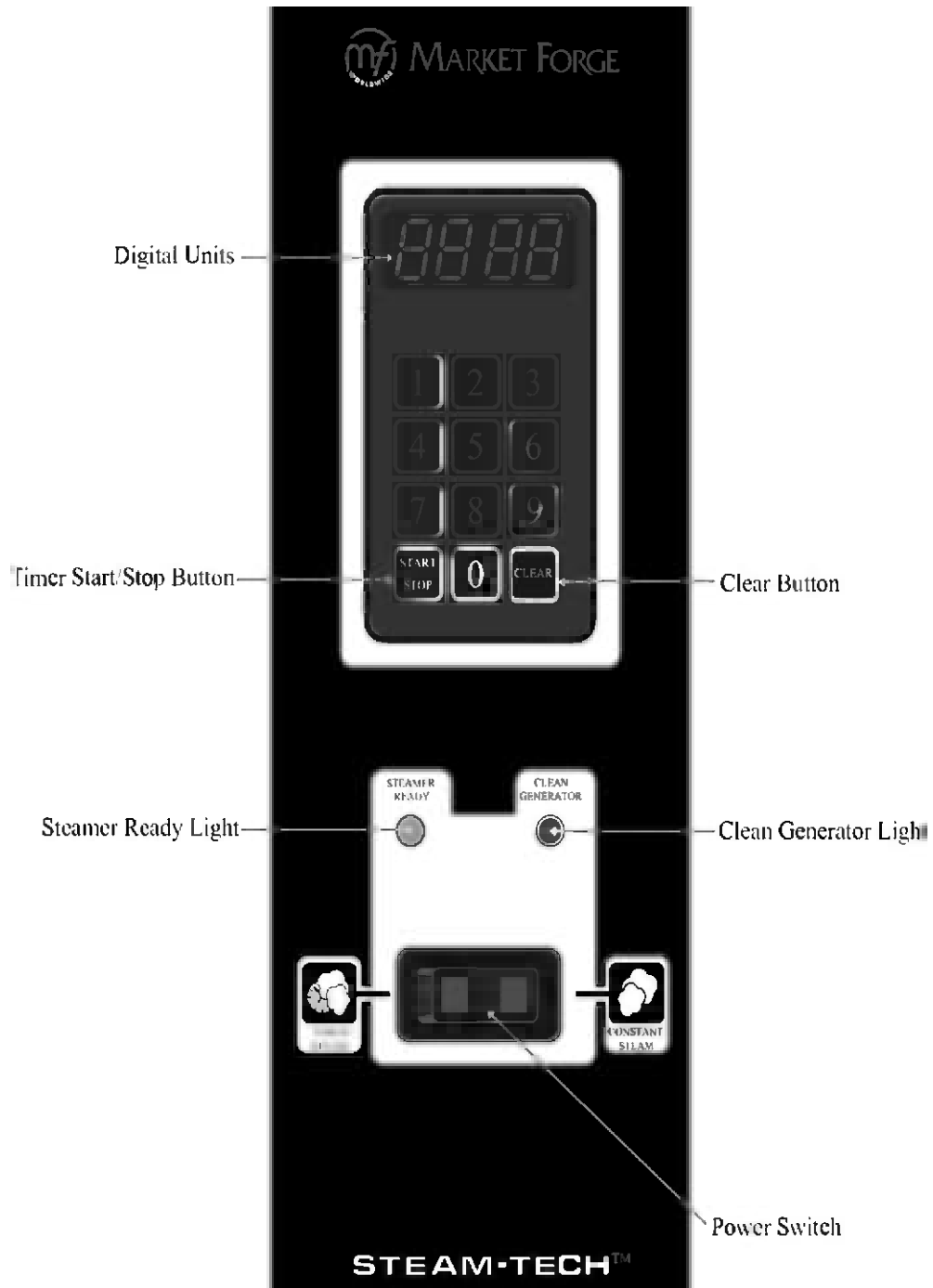


Fig. 8 Digital Timer (Control Panel)

PRINCIPLES OF OPERATION

GENERAL:

The Steam-Tech represents the latest in counter top steam technology, designed to apply the benefits of steam cooking to today's health-conscious menus. A "close-coupled" steam generator system gives quick start-ups and efficient steam transfer to the cooking compartment, without the use of fans or expensive blower motors. In tests for energy efficiency and cooking times performed in accordance with ASTM standards, the Steam-Tech yielded impressive results over other similar counter top steamers. This section includes explanations of the steam generation, control, and drainage.

FILL/COLD WATER INLET:

When the power switch is pressed into the "on" position, a normally closed solenoid operated fill valve energizes and opens. The valve supplies cold water to the steam generator. At the same time, a normally open solenoid operated drain valve energizes and closes allowing the steam generator to fill with water (until the factory predetermined level is reached).

The water level in the steam generator is sensed by high and low water sensor probes which are mounted on the front of the generator. The probes are connected to the electronic water level control board which, controls the opening and closing of the generator fill valve. When the water level has reached the high water level sensor probe, the electronic board cuts power to the generator fill valve. As steam is created and used up, the water level in the steam generator will drop. When the water level falls below the level of the high water level sensor rod, the electronic board will close the circuit to the generator fill valve, allowing fresh water to enter the generator until the water has risen back up to the level of the high water level sensor.

PREHEATING & STANDBY:

When the water level in the generator has risen up to the low water level sensor probe, the electronic water level control board closes a circuit which activates a relay. This relay supplies power to the heater. The heater will stay on at full power until the water temperature is sensed by a thermostatic switch mounted inside the steam generator, below the water level. The steam generator will standby or idle at 195°F ready to make steam when it is called for.

STEAM GENERATION:

The Steam-Tech will not create steam until it is called for. Steam is called for by setting the timer/selector switch to either constant steam or timed steam. The cooking compartment door contains a magnet which activates a magnetic reed switch. The reed switch is located behind the front face of the unit, next to the cooking cavity opening. When the door is opened, the magnet and switch are separated. This opens the circuit to the heater, which will halt the creation of steam, but allow the heater to maintain 195°F water temperature in the steam generator. When the unit is on, the heater will maintain 195°F water temperature in the steam generator, to insure quick

generation of steam when it is called for. When steam is called for, a circuit is closed which activates a relay. This relay closes the 208v, 240v, or 480v circuit which supplies power to the heater. The generator now begins to create steam. Steam passes from the steam generator directly through the side of the cooking compartment.

The fresh steam entering the cooking compartment forces the colder air to the bottom of the compartment and down the cooking compartment drain line. The cooking compartment drain line then has cooling water is sprayed into the drain flow. The cooling water is controlled by a thermostat located downstream of the cooling water nozzle. This configuration reduces the drain flow temperature to below 140°F. When the unit is steaming, the cooling water flow is on continuously. The cooling water comes "on" demand during other steamer functions such as generator blow-down (drain).

HOLD FEATURE (OPTION):

The Steam-Tech has a unique hold option which allows it operate as a holding cabinet at the end of a steaming cycle. The optional hold feature is activated by selecting the hold mode using the mode switch at the end of the steam cycle. While in the hold mode the generator will idle at 195°F, ready to create steam again.

When the thermostatic switch senses that the temperature of the cooking compartment has dropped below 170°F, it activates the steam generator. This will raise the temperature inside the cooking compartment. When the thermostatic switch senses that the temperature of the cooking compartment has risen to 175°F, it cuts power to the generator. This system insures that the internal temperature of the cooking compartment will stay within a safe holding temperature range of above 150°F. The temperature of the cooking compartment can be monitored by observing the temperature gauge. The temperature gauge is located at the bottom of the the control panel.

DRAINAGE:

◎ COOKING COMPARTMENT DRAINAGE:

The bottom of the cooking compartment is angled slightly towards the rear of the unit. This assures that any condensate build-up or spills will be directed towards the drain hole which is located at the bottom center at the rear of the cooking compartment. Any liquid exiting the cooking compartment runs down the cooking compartment drain tube and into the drain line.

STEAM GENERATOR DRAINAGE:

Steam generator drainage is controlled by a normally open solenoid operated drain valve. When the power switch is pressed into the "on" position, power is supplied to the drain valve, which causes it to close allowing the generator to fill. When the power switch is pressed into the "off" position, power to the generator drain valve is cut, causing it to open. The steam generator will now automatically drain.

TROUBLE-SHOOTING

GENERAL:

The information in this section is intended to assist the operator, maintenance and the service personnel in locating the source of problems which may occur with the cooker. Before following any of the procedures given in this section, the operator/maintenance person should be thoroughly familiar with the operation section of this manual.

If the problem cannot be readily corrected without the use of tools, the operator/maintenance person should contact the nearest Market Forge service agency for assistance.

WATER LEVEL CONTROL BOARD:

The Dual Function Water Level Controller is two controls on one board. One controller maintains correct water level in the generator, the other a low water safety cut-off.

The following troubleshooting procedure will only determine if the Water Level Control Board is working properly, it will not determine why the board has failed.

WARNING: THIS PROCEDURE EXPOSES YOU TO A SHOCK HAZARD AND MUST BE PERFORMED ONLY BY QUALIFIED SERVICE TECHNICIAN.

Improperly connected or malfunctioning water level controller may cause damage to the steam generator due to low water, or create a scalding hazard to the operator due to a hot water overflow condition.

TOOLS REQUIRED: A digital or analog volt meter capable of reading 120 volts A.C. and a jumper wire with alligator clips.

Procedure:

1. Turn off all power to the unit.
2. Remove control panel or right side access panel-Refer to Figure 6-1 for relay locations and terminal identification.
3. Remove the wires from the terminal connectors "G, H, and LLCO."

WARNING: WHEN YOU TURN THE POWER ON, THERE ARE TERMINALS THAT CARRY 120 VOLTS. PROTECT THE ENDS OF THESE DISCONNECTED WIRES TO PREVENT SHORTING TO HOT LEADS.

4. Turn power ON. Using the voltmeter, check that the power being supplied to terminals L1 and L2 is 120 volts, plus 10%, minus 15%.

TESTING THE WATER FILL RELAY:

1. When the power is turned on, the LED (light emitting diode) next to the water fill relay should be ON. Using the voltmeter, touching the probes to terminals L2 and N.O. next to the water fill relay should show 120 volts. Touching the probes to L2 and N.C. should show no voltage.
2. Connect the jumper to terminals "G" and "H." After a delay of 4-5 seconds, the relay should switch and the LED will go OFF. Using the voltmeter, touching the probes to terminals L2 and N.O. of the water fill relay should show no voltage. Touching the probes to L2 and N.C. should show 120 volts.
3. Disconnect the jumper.

TESTING THE LOW WATER FILL RELAY:

1. With the power ON, the LED next to the Low Water Relay should be OFF. Using the voltmeter, touch probes to the L2 and N.O. terminals next to this relay, there should be no voltage. Touching the probes to terminals L2 and N.C. should show 120 volts.
2. Connect the jumper to terminals "G" and LLCO". The LED next to the Low Water Relay should turn ON immediately.
3. Touch the voltmeter probes to terminal L2 and N.O. next to the low water relay, there should be 120 volts. Touch the probes to terminals L2 and N.C., there should be no voltage.
4. Remove the jumper and turn OFF the power. Reconnect the disconnected wires; wire to terminal "G", wire to terminal "LLCO", and wire to terminal "N.O." of the water fill relay.

TROUBLE-SHOOTING

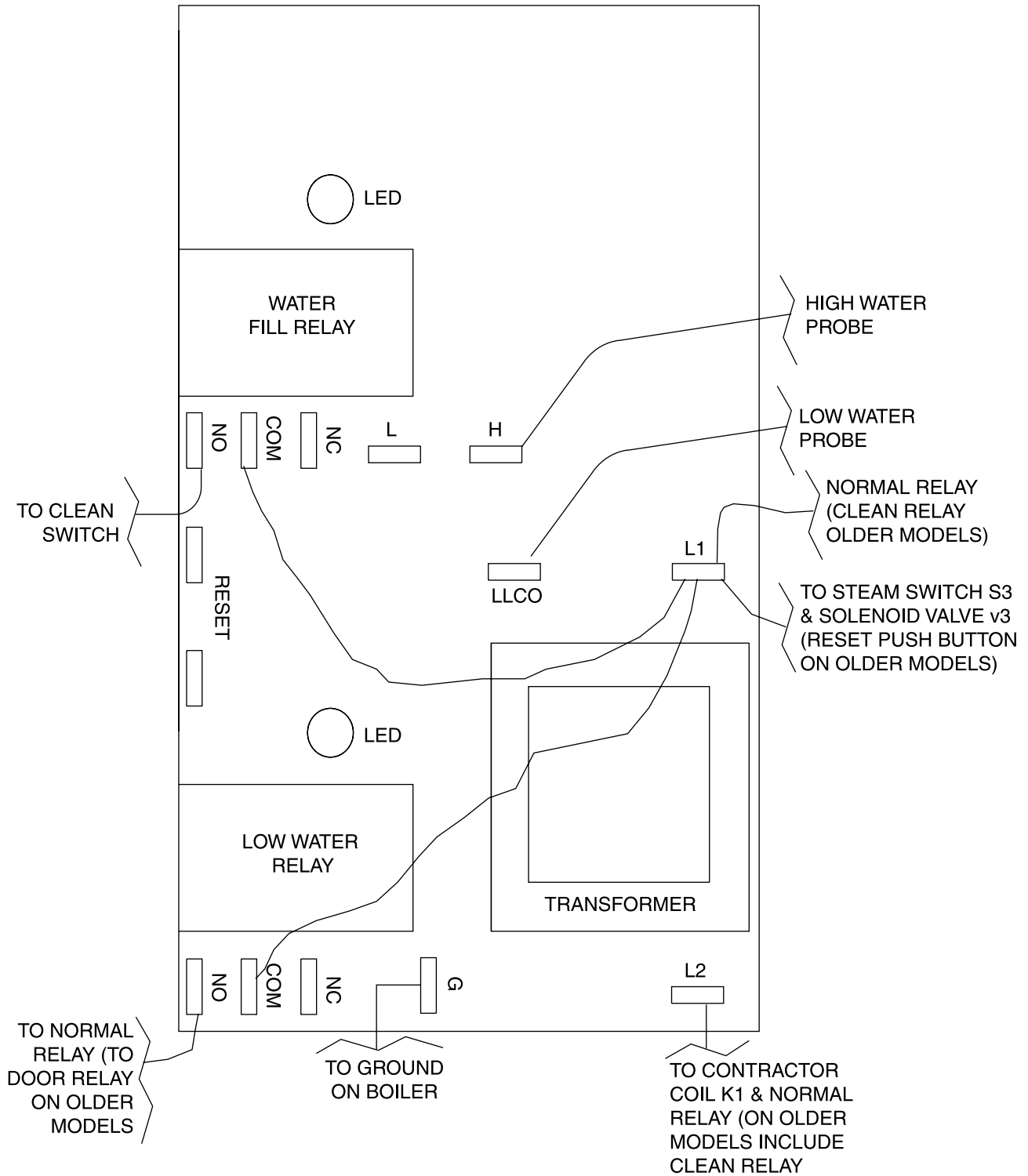


Fig. 9 Water Level Control Board

TROUBLE-SHOOTING

TROUBLE	PROBABLE CAUSE	REMEDY
POWER light does not come on when the POWER switch is pressed into the ON position	<ol style="list-style-type: none"> 1. No 120v power to unit. 2. Fuse blown. 3. Faulty POWER switch. 	<ol style="list-style-type: none"> 1. Be sure 120v power supply is on. 2. Replace fuse. 3. Check/replace POWER switch (P/n 08-6549).
Water enters the steam generator very slowly.	<ol style="list-style-type: none"> 1. Dirty strainer screen in the water fill solenoid valve. 2. Dirt or lime accumulation on seat of water fill solenoid valve. 3. Low water pressure. 	<ol style="list-style-type: none"> 1. Clean/replace strainer screen. 2. Clean valve seat. 3. Check inlet press. (25-50 PSI).
Steam generator will not fill.	<ol style="list-style-type: none"> 1. Faulty generator fill solenoid valve. 2. Faulty generator drain solenoid valve. 3. Lime Build-up on Probe . 	<ol style="list-style-type: none"> 1. If 120v is verified at the fill solenoid coil, (see Fig. 13) but the valve fails to open, replace the valve (P/n 08-6498). 2. If 120v is verified at the drain solenoid coil, (see Fig. 13) but the valve fails to close, replace valve (P/n 08-5021). 3. Clean or Replace Probe (P/n 08-6337).
READY light will not come on.	<ol style="list-style-type: none"> 1. 208/240/480 power supply is not on. 2. Faulty 195°F generator thermostat. 3. Lime Build-up on Probe. 	<ol style="list-style-type: none"> 1. Check to be sure 208/240/480 electrical service is turned on. 2. Check/replace thermostat (P/n 08-6449). 3. Clean or Replace Probe (P/n 08-6337).
Generator will not create steam	<ol style="list-style-type: none"> 1. 208/240/480 power supply is not connected or not turned on. 2. Cooking compartment door is ajar. 3. Cooking compartment door out of alignment. 4. Faulty door magnet or magnetic reed switch. 5. Lime buildup on probe. 6. Faulty circuit breaker (P/n 08-6472 / 10-5944). 7. Faulty steam relay or contactor. 8. Faulty control panel TIMER. 9. Faulty MODE selector switch 10. Wiring short. 	<ol style="list-style-type: none"> 1. Check to be sure 208/240/480 power is connected and on. 2. Check to be sure that the cooking compartment door is closed and latched. 3. Check to be sure cooking compartment door is properly aligned. 4. Check magnet (P/n 08-5027), and reed switch (P/n 08-6308). Replace if needed. 5. Clean or replace probe (P/n 08-6337). 6. Check circuit breaker at your 208/240/480 volt service connection. Reset if necessary (P/n 08-6472/10-5944). 7. Check/replace steam relay or contactor if necessary (P/n 08-6472/10-5944). 8. Check/replace control panel TIMER if necessary (Mechanical 08-6464, Digital 08-6429). 9. Check/replace MODE SELECT switch if necessary (P/n 08-6550). 10. Check wiring, at terminals.
Generator continues to create steam when the cooking compartment door is opened.	<ol style="list-style-type: none"> 1. Faulty magnet reed switch (contacts failed closed). 2. Wiring short. 	<ol style="list-style-type: none"> 1. Check magnetic reed switch. Replace if necessary (P/n 08-6308). 2. Check wiring, at terminals.

TROUBLE-SHOOTING

TROUBLE	PROBABLE CAUSE	REMEDY
Generator doesn't drain when the POWER switch is pressed into the OFF position.	<ol style="list-style-type: none"> 1. Clogged or kinked generator drain line. 2. Clogged generator drain hole. 3. Faulty generator solenoid drain valve. 	<ol style="list-style-type: none"> 1. Check to be sure that the generator drain line is not kinked and is free of debris. 2. Check to be sure the generator drain hole is free of debris. 3. Rebuild or replace generator solenoid drain valve (P/n 08-5021).
CLEAN GENERATOR light stays on after it has been cleaned (delimed) and rinsed.	<ol style="list-style-type: none"> 1. Faulty or incorrectly set CLEAN GENERATOR thermostat. 2. Faulty CLEAN latching relay. 3. Wiring short. 4. Faulty Reset Switch 	<ol style="list-style-type: none"> 1. Depress reset button on front panel. 2. Check/replace if necessary (P/n 08-6474). 3. Check wiring, at terminals. 4. Check/Replace if necessary (P/n 08-6553)
Unit fails to hold.	<ol style="list-style-type: none"> 1. Faulty hold thermostat 2. Faulty hold switch 3. Faulty timer 	<ol style="list-style-type: none"> 1. Replace (P/n 08-7521) 2. Replace (P/n 08-6550) 3. Check/replace control panel TIMER if necessary. (Mechanical 08-6464, Digital 08-6429)

MAINTENANCE

GENERAL:

This section contains both preventive and corrective maintenance information. Preventive maintenance may be performed by maintenance personnel at the establishment in which the cooker is installed. It is recommended that user personnel never attempt to make repairs or replacements to the equipment. Assistance in service methods or a current directory of authorized agencies may be obtained from Market Forge Industries.

DAILY CLEANING:

After each period of daily operation (more frequently as required to maintain cleanliness) the cooker should be thoroughly cleaned by completing the following steps:

1. Remove the baffle, and left and right side pan support racks by lifting them up off their mounting brackets.
2. Remove the drain screen by lifting it off its mounting studs.
3. Wash cooking compartment interior using detergent and water. Rinse and dry thoroughly.
4. Remove the drip/spill trough.
5. Wash all removed pieces with a mild detergent, using a brush, and rinse. These pieces can also be sent through a commercial automatic dish washing machine. Set these pieces aside for reassembly.
6. Replace the drip/spill trough.

7. Replace the drain screen inside the cavity.
8. Replace baffle, and pan supports into cooking cavity by hanging them on their mounting brackets.
9. Leave door slightly ajar.

PREVENTIVE MAINTENANCE:

A good preventive maintenance program begins with the daily cleaning procedure described above. Additional preventive maintenance operations are presented in this section. In establishments which employ full-time maintenance personnel, the tasks described can be assigned to them. For other installations, tasks requiring mechanical or electrical experience must be performed by an authorized service agency.

CAUTION: Under no circumstances should hardware (or parts) be replaced with a different size or type other than as specified in the parts list. The hardware used in the cooker has been selected or designed specifically for its application and the use of other hardware may damage the equipment, present a safety hazard and will void any warranty.

The following sections set forth minimum preventive maintenance procedures which must be completed periodically to assure continued trouble-free operation.

CLEANING THE GENERATOR:

The Steam Tech Pressureless Steam Cooker has an au-

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automatic indicator light which tells you when the steam generator needs to be cleaned.

CLEANING INSTRUCTIONS:

The cleaning sequence is as follows:

- The red “CLEAN” light illuminates when scale builds-up in the tank and on the heating element
- When the unit is to be used the unit must be cleaned, as follows.
 1. Turn the power switch to the off position
 2. Turn off the water supply from its source
 3. Turn power switch on
 4. Red light is “on” and the generator will not fill with water.
 5. Locate the reset switch on the control panel depress it, and the red light should turn off.
 6. Using a kitchen funnel, pour Market Forge’s TOTAL CONCEPT de-liming solution (P/n 20-0318) into the generator (2 quarts).
 7. Add 5 quarts of water to fill the generator to 3/4. The heater relay will click on.

CAUTION: READ DIRECTIONS AND INFORMATION ON TOTAL CONCEPT DE-LIMING SOLUTION CONTAINER BEFORE USING.

8. Allow the unit to preheat until the green “READY” light comes on.
9. After the ready light is on, set the timer for about 20 minutes.
10. When the timer has counted to zero the buzzer sounds and the system needs to be rinsed which is accomplished by:
 - Turning the power OFF (the unit drains).
 - Turn the water supply on at its source.
 - Turning ON the power permitting water to enter the generator.
 - Allowing the unit to reach preheat conditions (green light on).
 - Setting timer for 10 minutes.
 - Draining the rinse water after the buzzer sounds by turning OFF the power.

After rinse water is drained, turn the power on, wait for the steam ready light, and you are ready to cook. If the clean light comes back on the cleaning procedure must be followed again.

CONTROL PANEL ELECTRICAL SERVICE ACCESS:

The control panel assembly is mounted on the front of the unit. It houses all of the controls and indicators which are used to operate the Steam-Tech. In order to service any of the control panel electrical components, the control panel assembly must be removed from the

front of the unit.

CAUTION: BE SURE TO DISCONNECT THE POWER SUPPLY FROM THE UNIT BEFORE SERVICING ANY ELECTRICAL COMPONENTS.

Procedure:

1. Remove the 6 screws that fasten the control panel assembly onto the front of the unit.
2. Gently move the control panel assembly out away from the unit.

NOTE: A ground strap acting as a restraint prevents the control panel from putting unnecessary strain on wires and connections.

DOOR ADJUSTMENT:

The cooking compartment door alignment, door handle tension and latch tension are pre-adjusted at the factory during assembly. During normal usage, these should not need any attention. Note that when the cooking compartment doors are reversed, as described in the service connections section on page 2 of this manual, the doors will need to be aligned and the door latch tension will need to be adjusted (the door handle will not need adjustment when the door is reversed).

DOOR ALIGNMENT:

The cooking compartment doors are pre-aligned at the factory during assembly, and should not need adjusting unless they are reversed. Should the doors need realignment, the procedure is as follows:

Procedure:

1. Open the cooking compartment door.
2. Loosen all screws (2 per hinge) which mount the upper and lower hinge brackets to the face of the unit using a flat head screwdriver. **DO NOT REMOVE THE SCREWS.**
3. Begin to retighten all 4 screws so that they are snug against the face of the unit. **DO NOT COMPLETELY TIGHTEN THE SCREWS!**
4. Slowly push the cooking compartment door closed until it is latched.
5. The cooking compartment door can now be raised, lowered, and/or rotated into position by bumping it with the palm of your hand or by using a small rubber mallet.
6. First, check the alignment at the front of the door by making sure that the striker in the door is centered with the latch mechanism on the front of the unit.
7. Square the door to the unit by raising or lowering the hinge side of the door, keeping the latch centered with the striker.
8. Visually inspect the door. Be sure that the door is

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square to the unit, the striker is centered with the latch, and the gasket is in contact with the entire lip of the cooking compartment.

9. Gently open the cooking compartment door, taking care not to move it out of position.
10. Tighten all 4 door hinge bracket mounting screws using a flat head screwdriver.
11. Close and visually inspect the door again, as described in step 8.

DOOR LATCH TENSION ADJUSTMENT:

CAUTION: Shut off main electrical power to unit.

Procedure:

1. Open the cooking compartment door.
2. Remove the control panel. By removing the six mounting screws, and disconnecting the wire plug and restraining wire.
3. Tighten both nuts down until the springs are fully compressed.
4. Back each nut off 1 1/2 turn.
5. Remount the control panel. Reconnecting wire plug and restraining wire.

DOOR HANDLE TENSION ADJUSTMENT:

Procedure:

1. Open the cooking compartment door.
2. Remove the (6) screws and washers, from the top edge and from the bottom edge of the door.
3. Remove the inner door gasket mounting plate assembly, from the outer door. Do not disassemble these three components, remove them as an assembly.
4. Tighten both nuts down until the springs are fully compressed.
5. Back each nut off 1/2 turns.
6. Remount the inner door gasket, mounting plate assembly by assembling the (6) screws and washers.

DOOR GASKET REPLACEMENT:

The cooking compartment door gaskets are made of a silicone type rubber material, which is very durable, but is subject to wear during normal operation. Should the

gasket leak, readjust the door gasket to the unit or replace it.

Procedure: Replace Gasket:

1. Open the cooking compartment door.
2. Remove the (3) screws from the top of the door, and the (3) screws from the bottom of the door.
3. Remove the inner door, gasket plate and gasket.
4. Remove the (6) nuts on the back of the inner door.
5. Remove the door gasket mounting plate and the door gasket.
6. Install the new door gasket (*Refer to the door assembly parts list on page 23 for part number*) to the mounting plate.
7. Reassemble the mounting plate with gasket to the inner door using the (6) nuts.

NOTE: Remember that the lip on the door gasket mounting plate must fit into the channel on the inside edge of the gasket to insure a proper seal.

8. Reassemble the inner door, mounting plate, and gasket with the outer door using the (3) screws on the top and bottom of the door.

Procedure: To Adjust Gasket To Unit:

To prevent steam leaks around the door adjust the gasket tension to cavity. Adjust the gasket by loosening (6) screws on top & bottom of door, move inner door plate in or out, left side or right side and tighten (6) screws.

SOLENOID FILL VALVE STRAINER SCREEN CLEANING:

The solenoid operated fill valves contain a built-in strainer screen inside the valve body. This screen must be removed and cleaned periodically (depending on usage and water quality) to remove any debris or lime build-up which will accumulate during normal operation.

Procedure:

1. Remove the back panel of the unit.
2. Unscrew screen plug from valve and remove screen.
3. Clean screen and reassemble screen and screen plug into valve body.
4. Replace the back panel.

ILLUSTRATED PARTS LIST

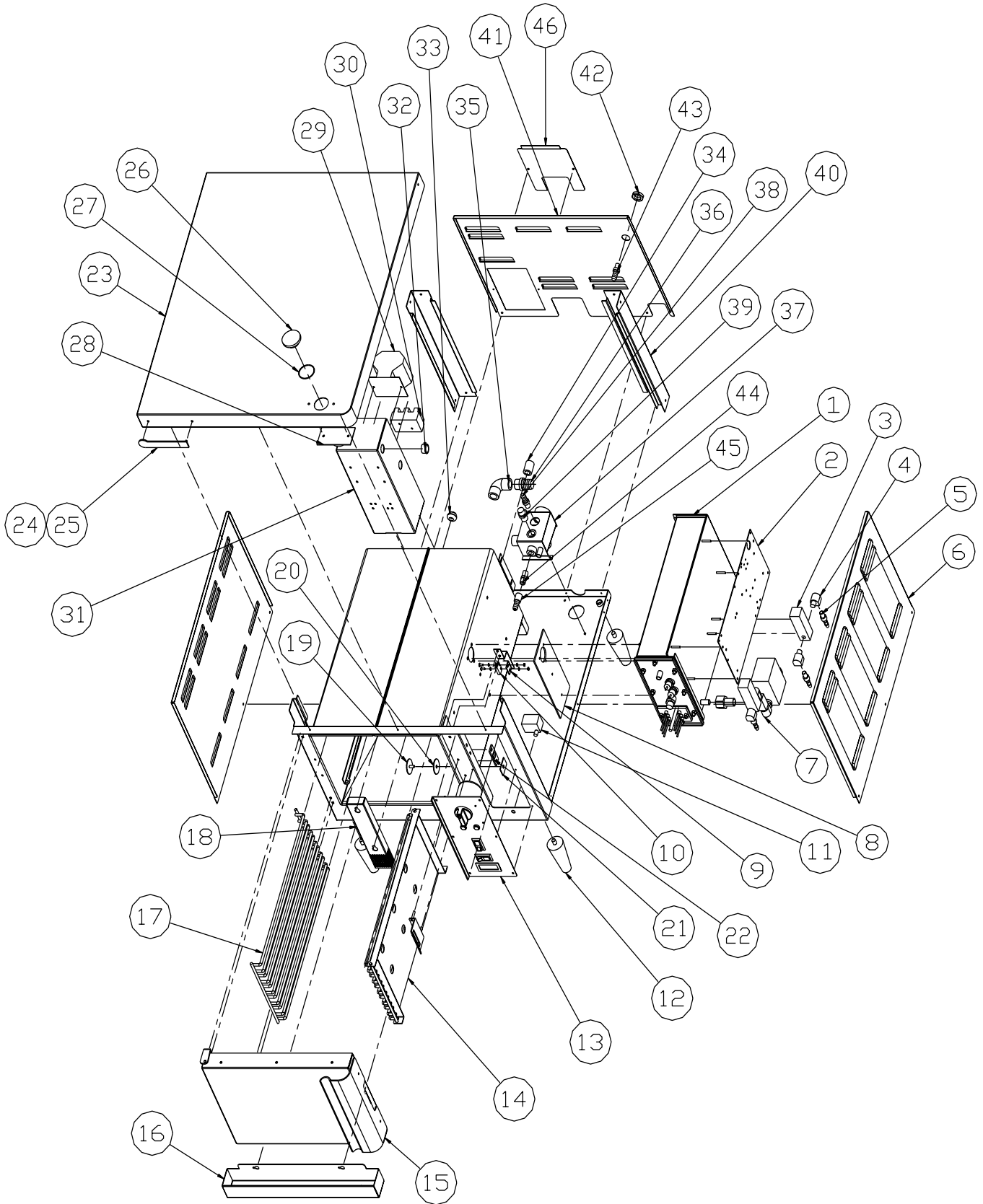


Fig. 10 Top Level Assembly

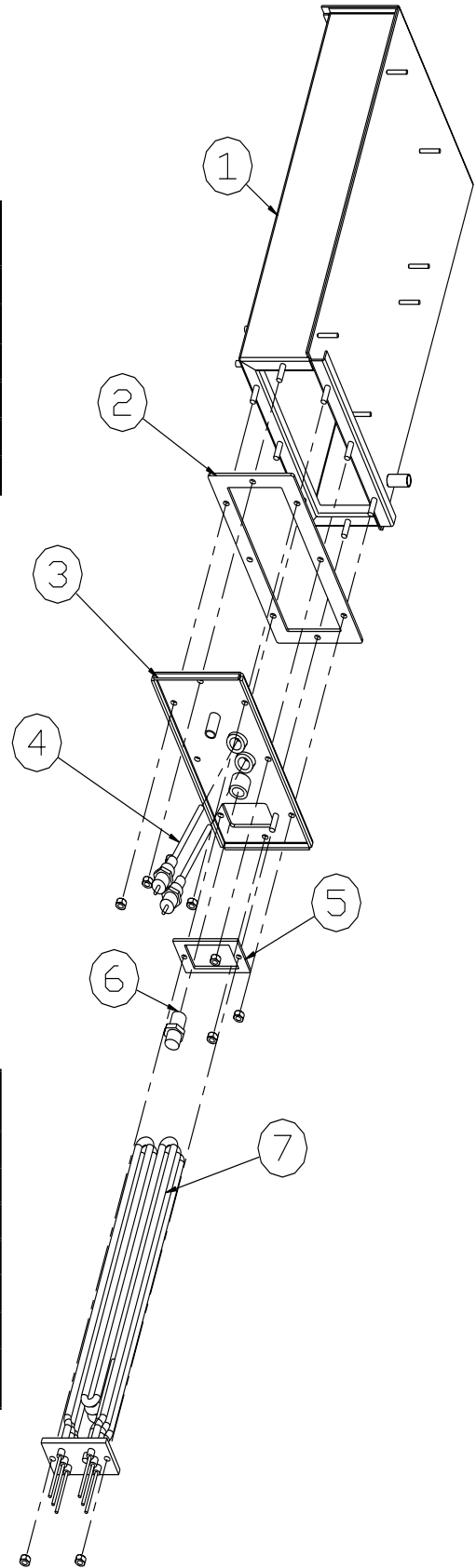
ITEM	ST-3E PART NO.	ST-6E PART NO.	DESCRIPTION	QTY.
1	REF.	---	BOILER ASSY.	1
2	REF.	---	ELECTRICAL ASSY.	1
3	08-6498	---	SOLENOID VALVE	1
4	10-1055	---	ELBOW, STREET, 3/8" NPT	2
5	08-4863	---	HOSE BARB, 3/8" NPT X 1/4 ID HOSE	2
6	91-7652	91-7653	PANEL, SIDE	2
7	REF.	---	PLUMBING ASSY.	1
8	91-6838	91-6839	GASKET, INLET	1
9	91-7690	---	BRACKER, REED SWITCH	1
10	08-6308	---	REED SWITCH	1
11	08-6553	---	RESET THERMOSTAT	1
12	08-7520	---	LEG, ADJUSTABLE	4
13	REF.	REF.	CONTROL PANEL	1
14	91-7697	91-7698	BAFFLE	1
15	91-6493	91-6486	DOOR ASSY.	1
16	91-7497	---	DRIP TROUGH	1
17	91-5700	91-7699	RACK	2
18	91-7684	---	STRAINER	1
19	91-7414	---	SEALING PLATE	1
20	91-7415	---	GASKET, LINER FRONT	1
21	91-7416	---	PLATE, RETAINING	1
22	09-6428	---	THERMOSTAT, COOK & HOLD UNITS ONLY	1
23	91-7660	---	PANEL, TOP	1
24	08-5894	---	CASTING, NAME PLATE	1
25	08-7807	---	TINERMAN CLIP	2
26	91-7765	---	CLEAN PLUG	1
27	08-7511	---	O RING, CLEAN PLUG	1
28	91-7594	---	CLEAN ME PORT	1
29	SEE NOTE	---	TRANSFORMER	1
30	08-6555	---	TERMINAL BLOCK	1
31	91-6779	---	JUNCTION BOX	1
32	09-6575	---	BUSHING, WIRING	1
33	91-6491	---	GROMMET	1
34	08-4981	---	BULKHEAD, 1/2" NPT X 3/8" NPT	2
35	08-7548	---	ELBOW, 1" NPT	1
36	08-1207	---	HOSE BARB, 1" NPT X 1 ID HOSE	1
37	91-6840	---	DRAIN BOX ASSY	1
38	98-1477	---	HOSE BARB, 3/8" NPT X 3/8 ID HOSE	1
39	08-7513	---	THERMOSTAT, 135°F	1
40	91-7674	91-7705	REAR POST	2
41	91-7654	91-7655	PANEL, REAR	1
42	10-3343	---	NUT, 1/2" NPT	1
43	08-4892	---	HOSE BARB, 1/2" NPT X 3/8 ID HOSE	1
44	08-4866	---	SPRAY NOZZLE	1
45	08-4978	---	HOSE BARB, 3/8" NPT X 1/4 ID HOSE, FEMALE	1
46	91-7668	---	PANEL, ACCESS	1

NOTE: 480V UNITS HAVE (2) ALL OTHERS HAVE (1).

ILLUSTRATED PARTS LIST

LIST OF HEATING ELEMENTS

PART NO.	MODEL NO.	kW RATING	VOLTAGE
08-6485	ST-3E	9	208
08-6486	ST-3E	9	240
08-6487	ST-3E	9	480
08-6491	ST-6E	14	208
08-6492	ST-6E	14	240
08-6493	ST-6E	14	480



ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	91-7707	BOILER BODY WELD ASSY.	1
2	91-6444	BOILER FRONT GASKET	1
3	91-7711	BOILER FRONT PLATE	1
4	08-6337	WATER LEVEL PROBE	2
5	91-8660	ELEMENT GASKET	1
6	08-6449	THERMOSTAT, 195°F	1
7	---	SEE LIST OF HEATING ELEMENTS TABLE ABOVE	1

NOTE: OLDER UNITS ONLY REPLACED WITH KIT # 91-6791. ELIMINATED ON LATEST MODELS.

Fig. 11 Top Generator Assembly

ILLUSTRATED PARTS LIST

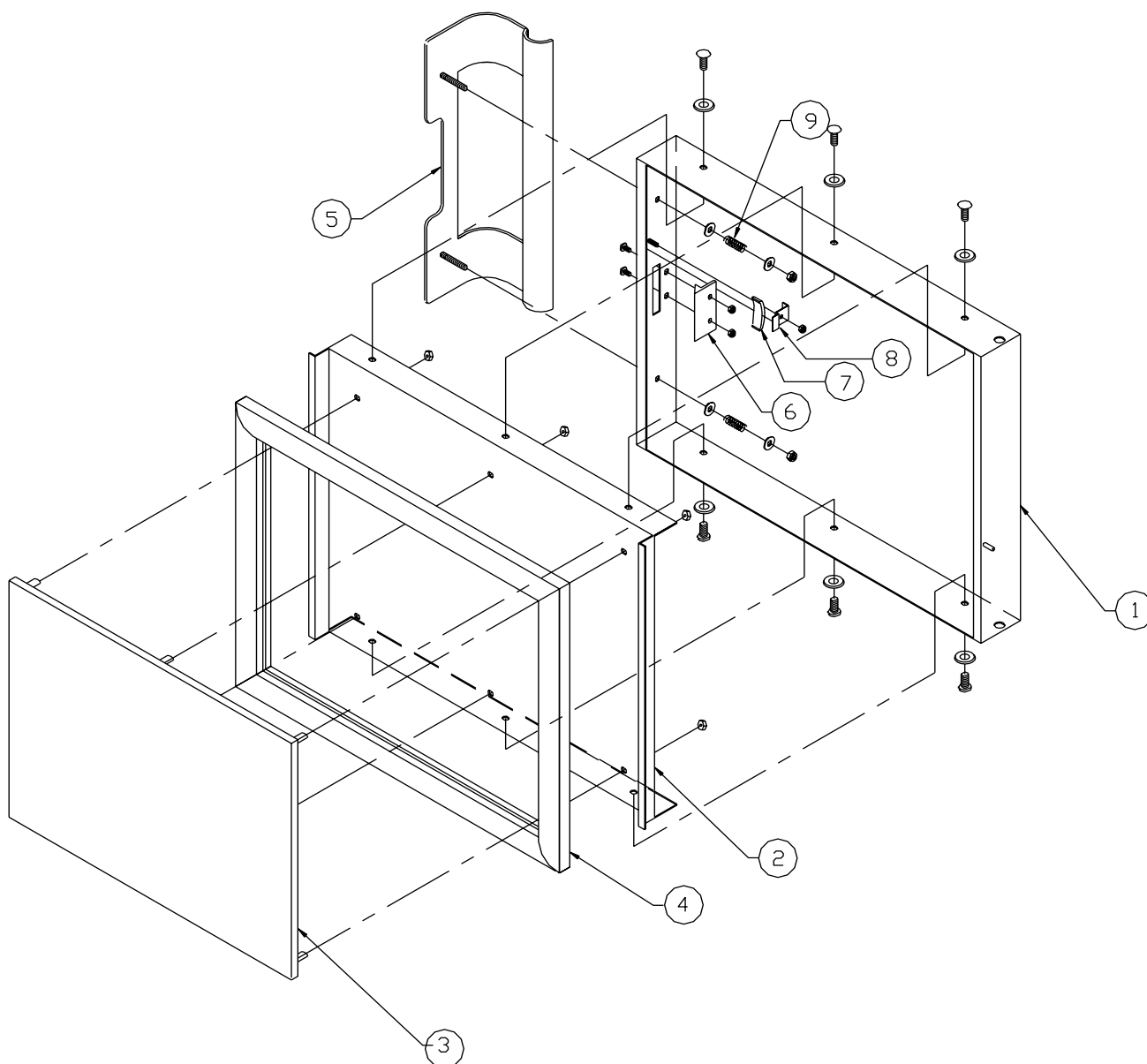


Fig. 12 Door Assembly

ITEM NO.	ST-3E PART NO.	ST-6E PART NO.	DESCRIPTION	QTY.
1	91-5729	91-7692	OUTER DOOR	1
2	91-5766	91-7694	INNER DOOR	1
3	91-5731	91-7696	GASKET RETAINING PLATE	1
4	91-5286	91-7783	DOOR GASKET	1
5	91-5745	---	DOOR HANDLE	1
6	09-1608	---	STRIKER	1
7	08-5027	---	MAGNET	1
8	91-5901	---	MAGNET BRACKET	1
9	08-4600	---	COMPRESSION SPRING	2

ILLUSTRATED PARTS LIST

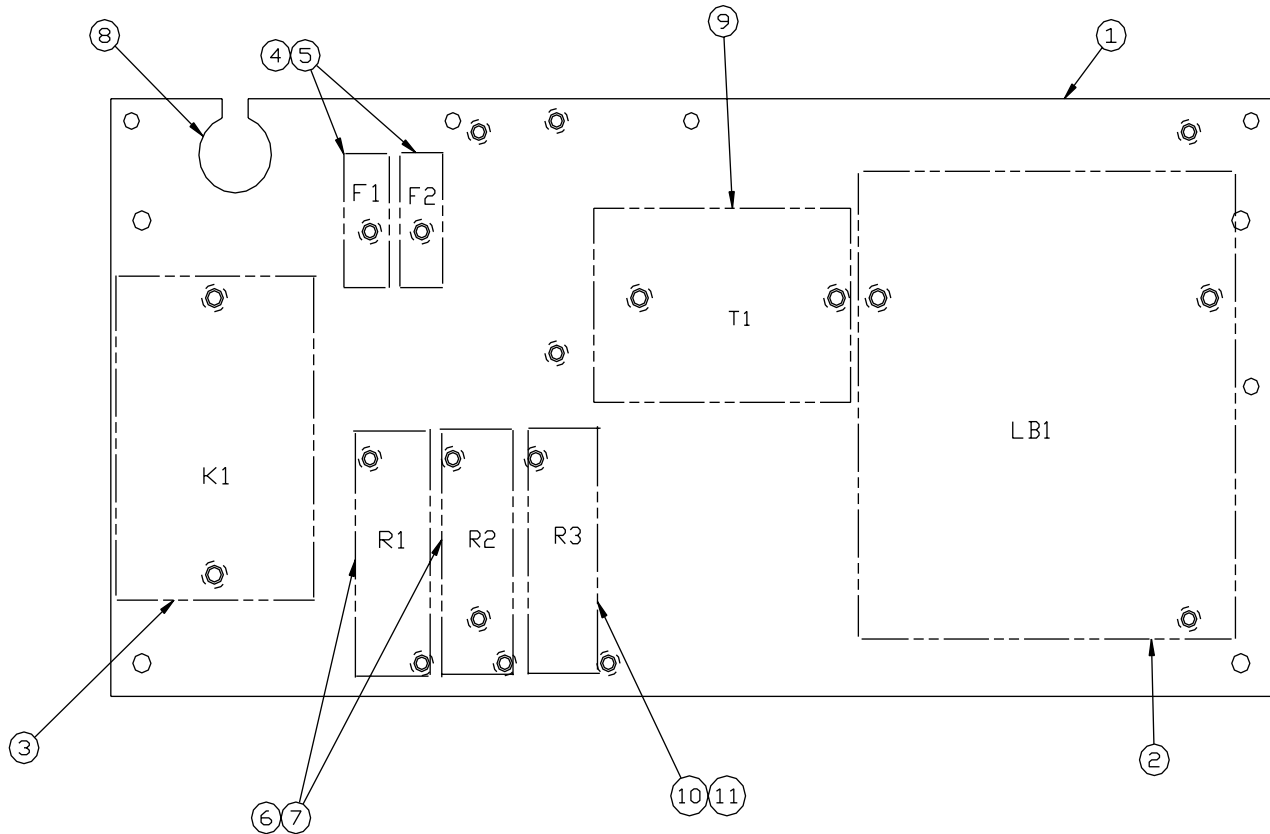


Fig. 13 Electrical Subassembly

ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	91-7718	ELECTRIC PLATE	1
2	08-6328	LIQUID LEVEL BOARD	1
3	SEE NOTE 2	CONTACTOR	1
4	08-6479	FUSE BLOCK	2
5	08-6468	FUSE 5A	2
8	08-6472	RELAY	2
7	08-6475	RELAY BASE	2
8	09-6575	BUSHING, PLASTIC	1
9	08-6450	120 TO 240V TRANSFORMER	SEE NOTE 1
10	08-6472	RELAY	SEE NOTE 1
11	08-6475	RELAY BASE	SEE NOTE 1

NOTES: 1. One of each of these components are used on digital only. Mechanical timer units use none.
 2. Single phase 208 and 240 volt six pan units use part number 09-6483. All others use part number 10-5944.

DIFFERENT CONFIGURATIONS OF ELECTRICAL SUBASSEMBLY BY CONTROL OPTION

CONTROL OPTION	NOTES
MECHANICAL TIMER	OMIT R3 RELAY AND BASEM OMIT T1
MECHANICAL TIMER WITH HOLD	OMIT R3 RELAY AND BASEM OMIT T2
DIGITAL TIMER	---

ILLUSTRATED PARTS LIST

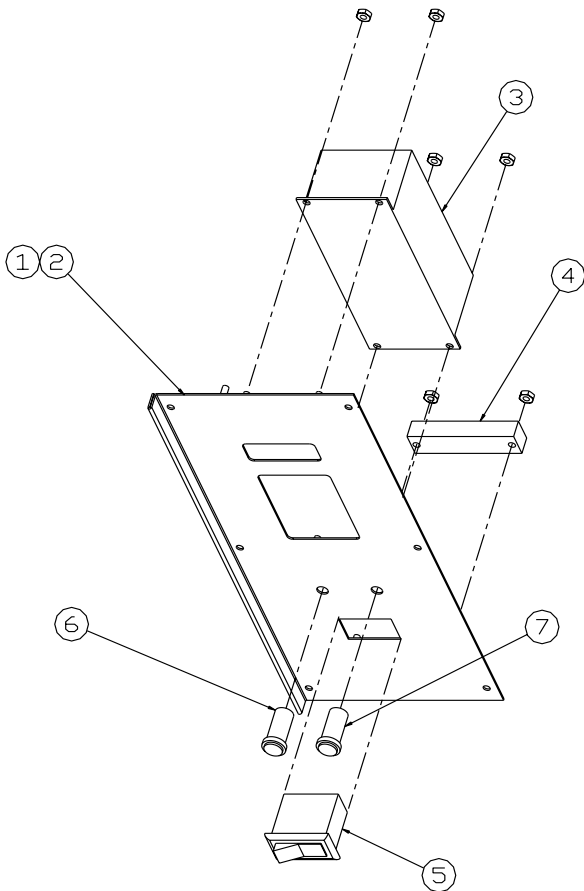


Fig. 14 Mechanical Panel with Cook & Hold Assembly

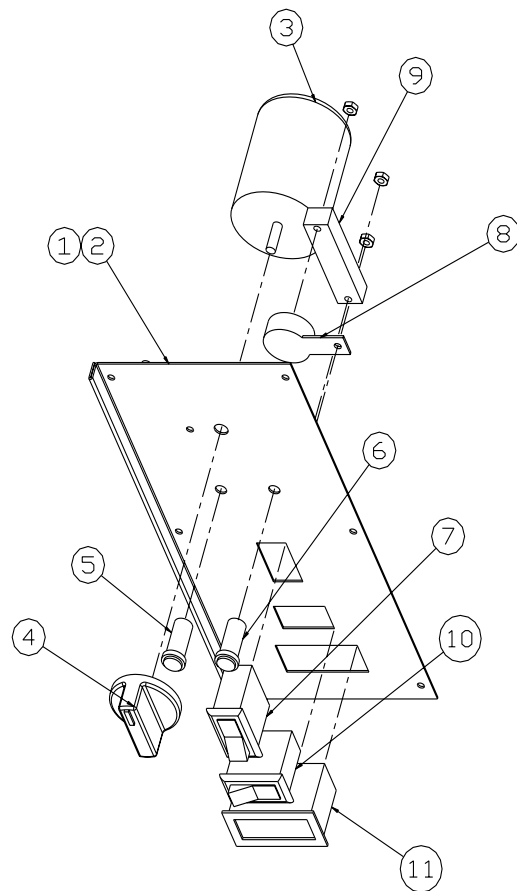


Fig. 15 Digital Panel Assembly

ITEM NO.	ST-3E PART NO.	ST-6E PART NO.	DESCRIPTION	QTY.
MECHANICAL PANEL WITH COOK AND HOLD ASSEMBLY				
1	91-7703	91-7704/24	CONTROL PANEL	1
2	91-6437	---	GRAPHICS	1
3	08-6464	---	TIMER	1
4	08-7516	---	TIMER KNOB	1
5	08-6467	---	RED LIGHT	1
6	08-6466	---	GREEN LIGHT	1
7	08-6549	---	POWER SWITCH	1
8	10-7395	---	BUZZER	1
9	08-6552	---	TERMINAL SWITCH	1
10	08-6550	---	MODE SWITCH (WITH HOLD ONLY)	1
11	08-7521	---	THERMOMETER (WITH HOLD ONLY)	1
DIGITAL PANEL ASSEMBLY				
1	91-6835	91-6836	CONTROL PANEL	1
2	91-7687	---	GRAPHICS	1
3	08-6429	---	DIGITAL TIMER	1
4	08-6552	---	TERMINAL STRIP	1
5	08-6551	---	MODE SWITCH	1
6	08-6467	---	RED LIGHT	1
7	08-6446	---	GREEN LIGHT	1

OVEN SECTION

ELECTRIC COMPACT CONVECTION OVEN

MODELS: ● 4200
● 4292



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INTRODUCTION

This service and parts manual contains general information, installation, operation, principles of operation, trouble-shooting and maintenance information for the Market Forge Model 4200 Electric Compact Convection Oven. Also included are parts lists, in which each replaceable part is identified and shown in an accompanying illustration.

DESCRIPTION

The Market Forge Model 4200 Electric Compact Convection Oven is an electrically powered convection oven designed to achieve high volume cooking with a minimum of power consumption. The unit consists of a heavily insulated cooking compartment fitted with a two speed convector blower and heated by electric elements. All oven controls are located on a panel on the right front of the oven as seen from the front.

OVEN COMPONENTS

The major assemblies of the model 4200 are the stainless steel and flat back painted steel cabinet enclosure, door with window, porcelain cooking compartment with nine-position shelf supports, heating element and contractor assembly, and control panel assembly. Controls and indicators include the thermostat, main power switch, blower speed switch, cool down/switch, elements on indicator light, 60-minute timer, and elements only switch. The oven is available in variety of mounting configurations: 4" 102mm high-legs, 27" 686mm legs with shelf, or stacked on top of another Model 4200 with the bottom unit on 18" 457mm stainless steel legs with shelf.

BASIC FUNCTIONING

The Model 4200 becomes operational when the power switch is placed in the ON position, door is closed, and thermostat set. Contrac-

tors located in the control section close the circuit to heating elements located at the right of the cooking chamber. When the chamber reaches the preset temperature, the thermostat contacts open, causing the contractors to interrupt the circuit to the heating elements. When the temperature in the chamber drops enough to close the thermostat contacts, the circuit closes again. Any number of such cycles might occur during the cooking time, ~indicated by the element indicator light coming on and off.

SERVICE

Required service, both preventive and corrective, is explained in section 5. Should repairs be required, a network of authorized agencies is available to assist with prompt service. A current directory of Authorized Service Agencies may be obtained by contacting:

Product Service Department
Market Forge Company
35 Garvey Street
Everett, MA 02149-4403
(617) 387-4100

The model and serial number must be referenced when corresponding with Market Forge. The data plate with serial number is located on the right of the bottom front trim ledge.

* We recommend that service be performed by a qualified Market Forge Authorized Service. Service performed by others will void warranty. Market Forge is not responsible for repairs made by other than authorized service agents.

INSTALLATION

RECEIVING

1. Examine shipment for external and internal damage and completeness. Transport crated oven through building, to installation area before unpacking.
2. Report any damage or shortages to carrier and Market Forge immediately.
3. **DO NOT AT ANY TIME LAY THE OVEN DOWN ON ITS TOP, RIGHT SIDE, OR FRONT. TO DO SO MAY DAMAGE THE EQUIPMENT AND VOID THE WARRANTY.**

ASSEMBLY - VENT BOX ATTACHMENT

1. Remove steam vent box and packet of screws from inside oven and attach vent box to back of oven over vent opening using five #8 sheet metal screws.

Single Oven on 4" Legs

Fasten legs to the weld nuts located on bottom panel of oven. The hex foot on the leg is adjustable.

Single Oven on 28" Legs with Shelf

1. Insert legs (*Fig. 1 No. 3*) through holes in shelf (*Fig. 1 No. 1*) Do not tighten set screws in corners of shelf.
2. Screw leg tops (*Fig. 1 No. 2*) onto legs. (*Fig. 1 No. 3*)
3. Insert leg tops (*Fig. 1 No. 2*) through holes in angle iron frame (*Fig. 1 No. 4*) into weld nuts in bottom of oven.
4. Screw leg tops (*Fig. 1 No. 2*) into weld nuts by turning leg and top assemblies.
5. Raise shelf (*Fig. 1 No. 1*) to desired height and tighten set screws in shelf corners.

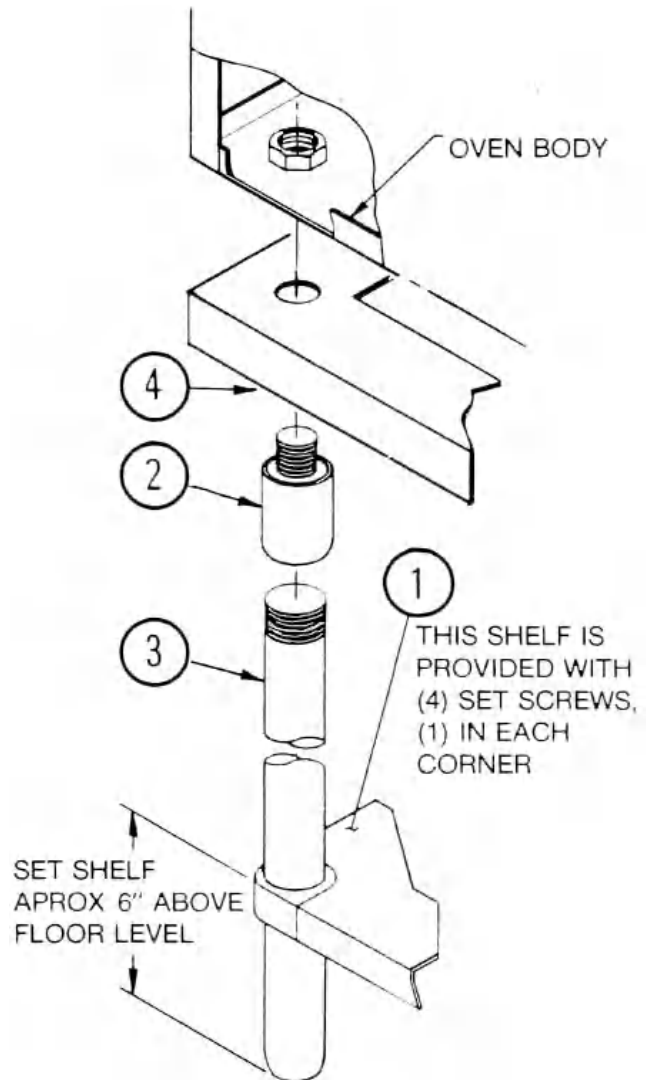


Fig. 1

ITEM	PART NO.	DESCRIPTION	QTY.
1	99-6180	SOLID SHELF ST/ST	1
2	A10-0635	LEG TOP	4
3	A10-0634	FLOOR LEG 28" HIGH	4
4	D99-6183	SHELF	1

INSTALLATION

Stacked Ovens on 18" Legs with Shelf

STACKING INSTRUCTIONS:

1. Fasten Item No. 1, stacking channel, to the bottom left side of top oven. Note - left channel has (2) holes. Use nut & washer (Item 3 & 4) front & rear.
2. Remove access panel from the right side of both ovens.
3. Remove knockouts from the top of the bottom oven and from the bottom of the top oven.
4. Place upper oven on top of lower oven with the right side stacking channel placed between. Line up holes in both ovens with the holes in the channel.
5. Fasten ovens together with the washer (Item No. 4) and the bolt (Item No. 11) inserted up thru top of lower oven, thru stacking channel and into bottom of upper oven, using the existing weld nut to fasten the rear and the nut provided with the stacking kit (Item No. 5) to fasten the front.

ELECTRICAL CONNECTION:

1. Read data plate located on top surface of right side of bottom trim just below control panel before connecting electrical supply to oven. Make sure electrical supply is the same voltage, phase, and frequency called for on data plate.
2. All ovens are shipped three phase and may be converted to single phase as per alternate single phase wiring diagram.
3. Feed supply through opening in rear of oven (Fig. 2-1 No. 2) and connect supply wires to terminal block behind control panel.
4. Wiring diagram label is located on control bracket, accessible by opening control panel.

NOTE: Improper connection to power supply or connection to power supply other than that designated on data plate will void the warranty.

Assemble stand, as shown, before stacking ovens.

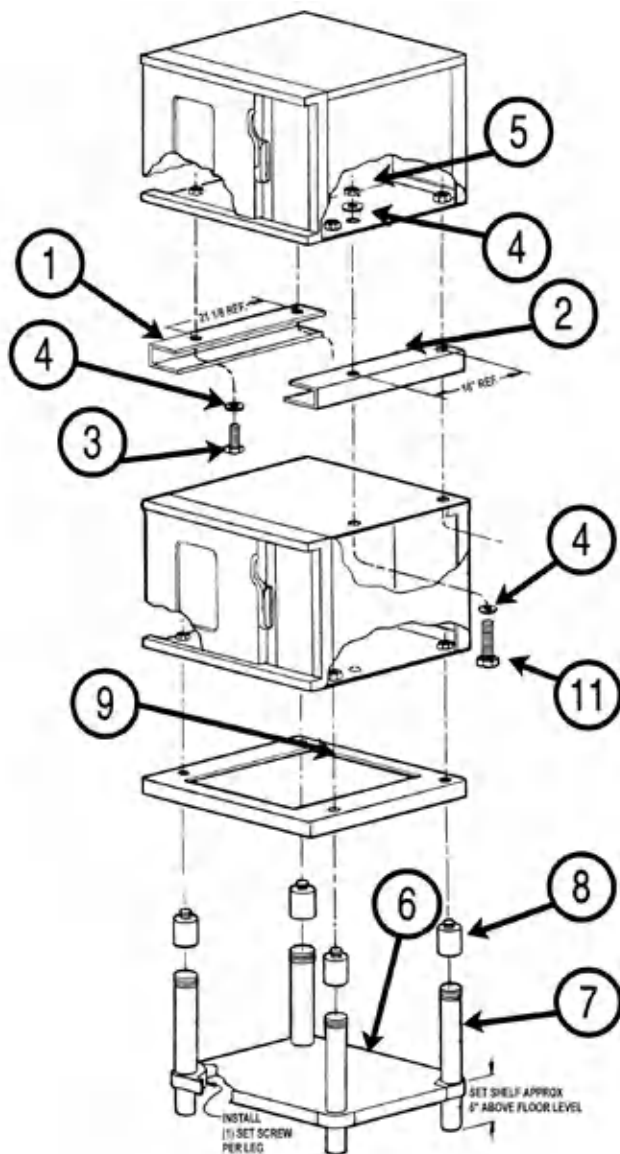


Fig. 2

ITEM	PART NO.	DESCRIPTION	QTY.
1	B99-6203	Stacking Channel Left	1
2	B99-6204	Stacking Channel Right	1
3	10-2564	Hex Bolt $\frac{3}{4}$ -10 x $1\frac{1}{2}$ Lg.	2
4	10-2411	Plain Washer - $\frac{3}{4}$	5
5	10-2320	Nut, Hex - $\frac{3}{4}$ -10	1
6	99-6180	Solid Shelf	1
7	A09-5271	Floor Leg 18" High	4
8	A10-0635	Leg Top	4
9	D99-6183	Shelf	1
10	A25-3263	Set Screw & Wrench Kit	1
11	08-3426	Hex Bolt $\frac{3}{4}$ -10 x 4 Lg.	2

INSTALLATION

OVEN CHECKOUT & ADJUSTMENTS:

Door Adjustment (Old Style):

The door was properly adjusted at the factory, if door does not open or close properly adjust the ball plunger catch as follows:

1. Remove adjusting wrench from back of manual and insert in notches on sides of ball plunger.
2. Loosen jam nut with wrench.
3. Turn adjusting wrench left or right until ball plunger engages in door striker plate for best operation.
4. Tighten jam nut with wrench while adjusting wrench is still engaged in notches.
5. Return adjusting wrench to back of manual.

THERMOSTAT CALIBRATION

(OLD STYLE):

The thermostat is a device which automatically limits heat input at or below the dial setting.

Before attempting to calibrate thermostat, make sure that the thermostat is the cause of problems experienced. Check for improper electrical service, incorrect mixes over and under proofing, incorrect temperatures, and warping pans. Thermostats are calibrated and sealed by the original manufacturer before leaving their plant. Only a qualified service person should make calibration adjustments, if they become necessary.

CALIBRATE ELECTRONIC THERMOSTAT (NEW STYLE):

1. Set oven thermostat knob at 350°F.
2. Allow oven to preheat to 350°F.
3. Observe temperature with digital thermometer.
4. If temperature goes above 350°F turn set pot labelled HI (on circuit board) counter-clockwise. % turn should be sufficient.
5. Allow time for oven temperature to drop, then recheck temperature.
6. If temperature is below 350°F turn set pot labelled HI (on circuit board) clockwise. +/- 5°F turn should be sufficient.

7. Repeat steps 4 to 7 until oven temperature stabilizes at 350°F +/- 5°F
8. Apply Glyptol or Duco Cement to set pot to prevent rotation.

THERMOSTAT DIAL PLATE CALIBRATION (NEW STYLE):

1. Clamp thermocouple sensor in the center of the middle rack in compartment.
2. Pass the thermocouple sensor wire through the door gasket and close the door.
3. Plug the sensor lead into the pyrometer.
4. Set the oven power switch to ON.
5. Set the thermostat knob to 3500 (191°C).
6. Allow the oven to warm up for a minimum of (3) three ON/OFF cycles.

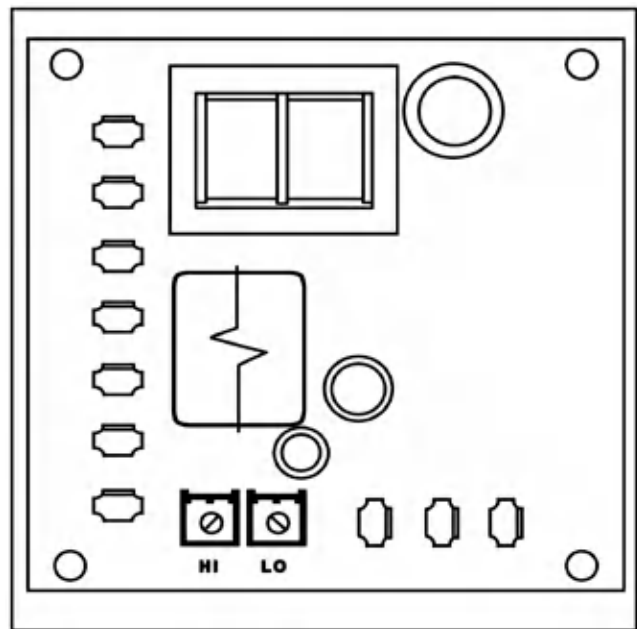
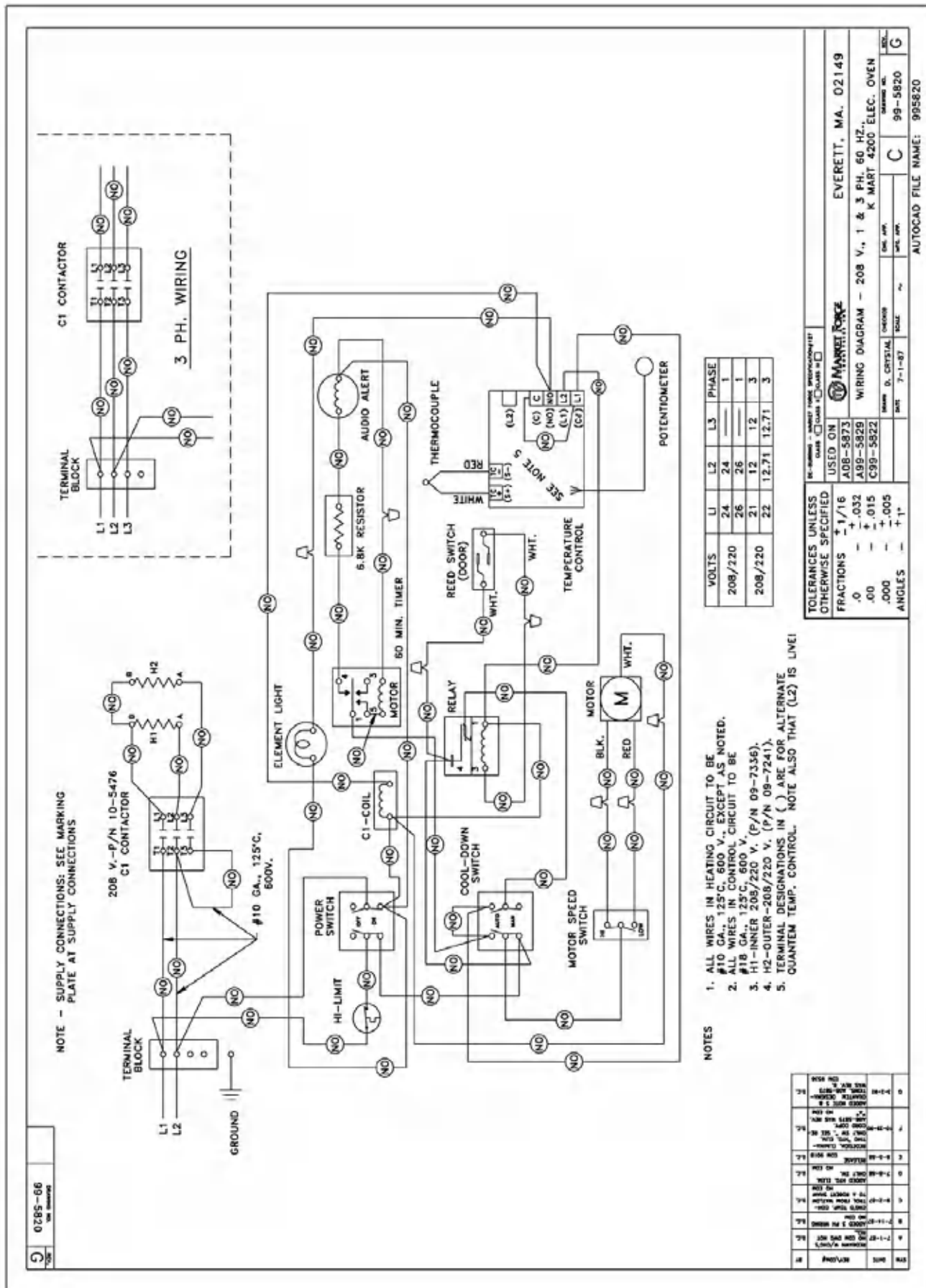


Fig. 3

7. Record the temperature when the element indicator light goes off. If a temperature of 345°-355° is attained, no calibration is necessary.
8. If the temperature differs more than +/- 5°F from the dial setting:
 - Pencil mark the knob pointer position as a reference point on the control panel next to the dial plate
 - Loosen the dial plate mounting screws only enough to move the plate.
 - Move the dial plate until calibration matches thermometer reading (350°F).

INSTALLATION



0285-06
REV. 10-66

NOTE - SUPPLY CONNECTIONS: SEE MARKING PLATE AT SUPPLY CONNECTIONS

208 V.-P/N 10-5476

GROUND

#10 GA., 125°C, 600V.

- NOTES
1. ALL WIRES IN HEATING CIRCUIT TO BE #10 GA., 125°C, 600 V., EXCEPT AS NOTED.
 2. ALL WIRES IN CONTROL CIRCUIT TO BE #18 GA., 125°C, 600 V.
 3. H1 - INNER 208/220 V. (P/N 09-73356).
 4. H2 - OUTER - 208/220 V. (P/N 09-72417).
 5. TERMINAL DESIGNATIONS IN () ARE FOR ALTERNATE QUANTEM TEMP. CONTROL. NOTE ALSO THAT (L2) IS LIVE!

VOLTS	L1	L2	L3	PHASE
208/220	24	24	—	1
208/220	26	26	—	1
	21	12	12	3
	22	12.71	12.71	3

REV	DATE	BY	CHKD	APP'D	DESCRIPTION
1	10-66				REVISED TO ADD 10-5476 P/N CONTACTOR
2	10-66				REVISED TO ADD 10-5476 P/N CONTACTOR
3	10-66				REVISED TO ADD 10-5476 P/N CONTACTOR
4	10-66				REVISED TO ADD 10-5476 P/N CONTACTOR
5	10-66				REVISED TO ADD 10-5476 P/N CONTACTOR
6	10-66				REVISED TO ADD 10-5476 P/N CONTACTOR
7	10-66				REVISED TO ADD 10-5476 P/N CONTACTOR
8	10-66				REVISED TO ADD 10-5476 P/N CONTACTOR
9	10-66				REVISED TO ADD 10-5476 P/N CONTACTOR
10	10-66				REVISED TO ADD 10-5476 P/N CONTACTOR

TOLERANCES UNLESS OTHERWISE SPECIFIED	
FRACTIONS	± 1/16
"	± .032
"	± .015
"	± .005
"	± 1°

REV.	DATE	BY	CHKD	APP'D	DESCRIPTION
1	7-1-67				REVISED TO ADD 10-5476 P/N CONTACTOR
2	7-1-67				REVISED TO ADD 10-5476 P/N CONTACTOR
3	7-1-67				REVISED TO ADD 10-5476 P/N CONTACTOR
4	7-1-67				REVISED TO ADD 10-5476 P/N CONTACTOR
5	7-1-67				REVISED TO ADD 10-5476 P/N CONTACTOR
6	7-1-67				REVISED TO ADD 10-5476 P/N CONTACTOR
7	7-1-67				REVISED TO ADD 10-5476 P/N CONTACTOR
8	7-1-67				REVISED TO ADD 10-5476 P/N CONTACTOR
9	7-1-67				REVISED TO ADD 10-5476 P/N CONTACTOR
10	7-1-67				REVISED TO ADD 10-5476 P/N CONTACTOR

EVERETT, MA. 02149
WIRING DIAGRAM - 208 V., 1 & 3 PH., 60 HZ.
K MART 4200 ELEC. OVEN
99-5820
AUTOCAD FILE NAME: 995820

OPERATION

PRINCIPLES OF OPERATION:

Uniform distribution of heat within the oven is assured by continuous operation of a convector blower. Moving air continuously strips away a thin layer of moisture and cold air from the top of the food allowing more rapid heat penetration. Lower temperatures and shorter times than those used in conventional deck ovens 'Can be used. In general, temperature settings can be reduced by 50°F (28°C) from recipe temperatures for conventional ovens. Some products may require slightly higher or lower temperatures. Product should be checked for doneness in about half the time it would take in a conventional oven. Time savings may be about 15% to 20%.

CONTROLS:

All controls for the Model 4200 oven are located on the control panel on the front of the oven (Fig. 5). These controls are; a thermostat to control oven temperature (Fig. 5 No. 1), an Elements On indicator light (Fig. 5 No. 2), a power switch with ON and OFF positions (Fig. 5 No. 3), a blower switch with high and low positions (Fig. 5 No. 4), a cool down switch with manual and auto positions (Fig. 5 No. 5) and a 60 minute electro-mechanical timer (Fig. 5 No. 6). Heating Elements Only Switch (Fig. 5 Not Shown).

PRE-HEATING:

1. Set thermostat to desired temperature, set blower switch to desired speed, and turn on power switch. Blower wheel should rotate clockwise when viewed from front of oven. Low speed is suggested for fragile products *ie* those leavened by beaten egg whites such as souffles, angel food cake and popovers.
2. Indicator light will go out when desired temperature is reached. Oven will pre-heat to 350°F 180°C in about 10 minutes. Large differences in time from this indicate faulty heating elements, or connection to wrong electric power supply.

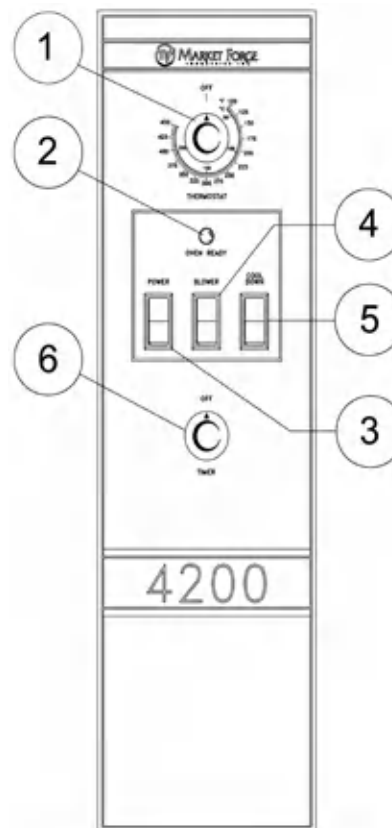


Fig. 5

OPERATION:

1. Set temperature about 50°F (28°C) less than what recipe calls for when using standard oven.
2. Load pans evenly on shelves making sure pans don't touch sides of oven or other pans.
3. Check food for doneness in about half the time it would take in a conventional deck oven. Visual inspection of food can be made without opening the door by looking through tempered glass window.
4. Blower will automatically shut off by a door interlock switch when door opens. Closing the door will restart the blower.
5. Blower may be operated with door open by placing cool down switch in manual position. No power is supplied to heating elements with cool down switch in manual position, allowing rapid lowering of oven temperatures with door open.
6. Heating elements only without blower fan when door is shut. (For delicate products)

MAINTENANCE

CLEANING:

1. Clean interior of oven with a commercially available oven cleaner suitable for use on porcelain.
2. Racks, rack supports, and blower wheel may be cleaned by soaking in ammonia and water solution after removing them from oven.
3. Stainless steel parts may be cleaned using a commercially available stainless steel cleaner.

REMOVAL & REPLACEMENT OF PARTS:

WARNING: Disconnect oven from main power supply before working on oven.

DOOR REMOVAL:

1. Remove lower screw (Fig. 6, #1) from upper hinge assembly of door.
2. Loosen top screw (Fig. 6, #2) from upper assembly.
3. Push upper hinge pin (Fig. 6, #3) into door.
4. Rotate top of door forward to clear upper frame.
5. Pull up and out on door to remove.

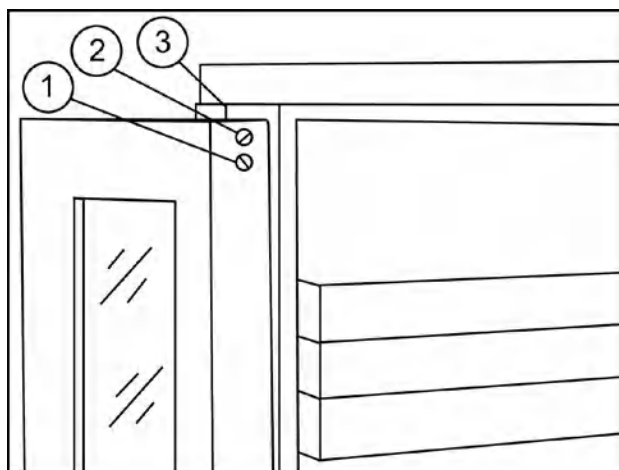


Fig.6

DOOR REPLACEMENT (OLD STYLE):

Reverse above procedure being sure to put as many washers under as there were before removal.

OVEN LINER GASKET REMOVAL:

1. Remove all screws from gaskets.
2. Remove all gaskets.

GASKET REPLACEMENT:

1. Replace top and bottom metal gaskets on front of oven liner and screw in place.
2. Replace left and right side metal gaskets and screw in place.

BLOWER WHEEL REMOVAL:

1. Shut off main power supply.
2. Remove baffle by placing hand under back end and rotating baffle up and out.
3. Loosen set screws located in the center of the blower wheel on the wheel hub.
4. Pull blower wheel off of shaft.

BLOWER WHEEL REPLACEMENT:

1. Remove metal burrs and foreign matter from motor shaft with emery cloth or sandpaper.
2. Lubricate blower wheel hub with high graphite grease. (Remove blower and lubricate at least once every six months).
3. Place blower wheel on shaft. Make sure set screws are positioned over the flats on the shaft. Make sure there is 3/16" clearance between blower wheel and oven wall.
4. Tighten set screws to 160 in-lbs torque.

MOTOR REMOVAL:

1. Make sure main power supply is disconnected from oven.
2. Remove baffle and blower wheel.
3. Remove right side panel.
4. Open control compartment cover.
5. Remove motor bolt access plate.
6. Remove four nuts and bolts holding motor to motor mount.
7. Remove cover from wiring box mount on motor and disconnect wires.

MAINTENANCE

MOTOR REPLACEMENT:

1. Reverse procedure above.
2. Check motor wiring to make sure blower turns clockwise when seen from front of oven.

SWITCH REMOVAL:

1. Make sure power supply to oven is off.
2. Open control compartment cover.
3. Disconnect wire to switch.
4. Depress spring clips on switch and push forward.

SWITCH REPLACEMENT:

1. Push switch into proper control panel opening until spring clips catch.
2. Reconnect wire to switch.
3. Close control cover.

CONTACTOR REMOVAL:

1. Make sure power supply to oven is off.
2. Open control compartment cover.
3. Disconnect wire from appropriate component.
4. Unscrew fasteners of appropriate components and remove.

CONTACTOR REPLACEMENT:

1. Attach components to mounting.
2. Replace and tighten fasteners.
3. Reconnect wires.

THERMOSTAT REMOVAL:

1. Make sure power supply to oven is off.
2. Open control compartment cover.
3. Remove racks and rack supports from oven compartment.
4. Remove baffle.
5. Disconnect thermocouple lead wires from circuit board.
6. Unscrew thermocouple from oven liner.
7. Pull thermocouple and wires through oven liner into oven compartment and remove.
8. Remove circuit board from bracket.

THERMOSTAT REPLACEMENT:

Follow Thermostat Removal in reverse order.

HEATER ELEMENT REMOVAL:

1. Make sure power supply to oven is off.
2. Remove right side panel.
3. Remove element terminal cover above motor and disconnect wires.
4. Remove element plate and insulation spacer.
5. Remove racks and rack supports from oven cavity.
6. Remove baffle.
7. Remove eight screws holding element assembly to the oven wall.
8. Remove elements.

ELEMENT REPLACEMENT:

Follow Element Removal in reverse order.

DOOR INTERLOCK SWITCH BRACKET REMOVAL (OLD STYLE):

Make sure power supply to oven is off.
Open control compartment cover.
Remove wires to door interlock switches.
Remove two bracket retaining screws.
Remove interlock switch assembly.

DOOR INTERLOCK SWITCH BRACKET REPLACEMENT (OLD STYLE):

1. Insert long end of door activated plunger through hole in left front side of control compartment.
2. Replace spring and switches in bracket and secure switch assembly with two screws.
3. Position switches so that push buttons on switches just touch actuator plate on plunger rod.
4. Replace wires using wiring diagram as guide.
5. Replace control compartment cover.

MAINTENANCE

NEW STYLE INTERLOCK SWITCH

REMOVAL:

1. Make sure power supply to oven is off.
2. Remove lower bottom trim, remove screws on end.
3. Remove screws from switch, to remove switch.
4. Remove marr connectors from leads, then remove switch.

REPLACEMENT OF SWITCH:

Follow New Style Interlock Switch Removal in reverse order.

HI-LIMIT REMOVAL:

1. Make sure power supply to oven is off.
2. Open oven door.
3. Remove all shelves and rack supports.
4. Remove baffle from right side.
5. Unscrew fasteners from Hi-Limit on liner wall and pull out.
6. Remove wire leads from Hi-Limit.

HI-LIMIT REPLACEMENT:

Follow Hi-Limit Removal in reverse order.

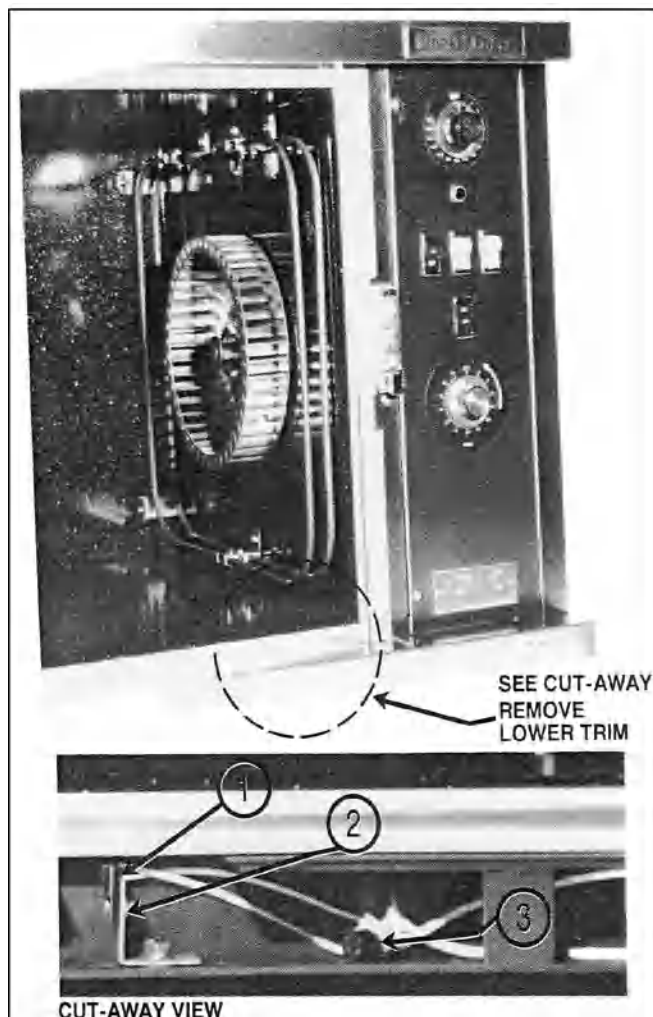


Fig. 7

NEW STYLE INTERLOCK LOCATION

ITEM	PART NO.	DESCRIPTION
1	08-6308	Reed switch (fan interlock)
2	99-6168	Reed switch mounting bracket
3	REF.	Marr connectors, two

TROUBLE-SHOOTING

GENERAL:

The information in this section is intended to assist both the operator and service personnel in locating the general source of problems which may occur with the model 4200 compact convection oven. Before following any of the procedures given in this section, the op-

erator should be thoroughly familiar with the operating instructions and the function of all controls described on page 6 of this manual. If the problem cannot be readily corrected, the operator should contact the nearest Authorized Market Forge Service Agency for assistance.

TROUBLE-SHOOTING GUIDE:

PROBABLE CAUSE	REMEDY
1. Convector fan fails to operate.	
<ul style="list-style-type: none"> a. Power to oven is off. b. ON-OFF switch off. c. Oven door open. d. Faulty cool down switch ON-OFF switch, door switch, fan motor, wiring. 	<ul style="list-style-type: none"> a. Locate external circuit breakers for power and place in ON position. b. Place in ON position. c. Close door. d. Test each component and connecting wire, replace as required.
2. Oven will not heat with thermostat at maximum setting, fan operating.	
<ul style="list-style-type: none"> a. Faulty thermostat wiring. b. Thermostat contacts or coil faulty. 	<ul style="list-style-type: none"> a. Test thermostat and connecting wiring. Replace as required. b. Replace thermostat.
3. Indicator light fails to light with thermostat set, fan operating, oven hot.	
<ul style="list-style-type: none"> a. Indicator light burned out. b. Faulty wiring. 	<ul style="list-style-type: none"> a. Replace light. b. Check wiring and repair as needed.
4. Erratic oven temperature.	
<ul style="list-style-type: none"> a. Faulty thermostat operation. 	<ul style="list-style-type: none"> a. Recalibrate or replace as required.
5. Uneven heating.	
<ul style="list-style-type: none"> a. One or more heating elements inoperative. 	<ul style="list-style-type: none"> a. Check wiring to elements; check for burned out elements. Replace as required.

WE RECOMMEND THAT SERVICE BE PERFORMED BY A QUALIFIED MARKET FORGE AUTHORIZED SERVICER. SERVICE PERFORMED BY OTHERS WILL VOID WARRANTY. MARKET FORGE IS NOT RESPONSIBLE FOR REPAIRS MADE BY OTHER THAN AUTHORIZED SERVICE AGENTS.

TROUBLE-SHOOTING

WIRING:

All the electrical components of the model 4200 (ON-OFF switch, door switch, thermostat control, contactors, fan motor, and indicator light) are connected to each other by wiring shown on page 5. If all the electrical components are operating correctly and the incoming power has been checked, but the unit fails to operate, the fault lies in the wiring.

Using an ohmmeter, wiring continuity between the connections, shown in the wiring diagram is readily verified. This is best done in stages, removing only those wires required for each continuity check. As each lead is replaced, it should be checked for evidence of corrosion and cleaned if necessary. All leads must be tightly attached to provide a good electrical connection.

ELECTRICAL FAULT ISOLATION GUIDE

FAILURE	FAULT LOCATION
1. Oven will not operate when the thermostat is set.	a. Incoming power b. Door switch c. Thermostat control d. ON-OFF switch e. Cool down switch f. Contactor g. Wiring
2. Intermittent operation of heaters.	a. Thermostat control b. Contactor coil c. Wiring
3. Convector fan fails to operate.	a. Cool down switch b. ON-OFF switch c. Door Switch d. Fan motor e. Wiring
4. Indicator light off, heater under power.	a. Indicator light b. Wiring
5. Uneven heating.	a. Heating elements b. Wiring
6. (Elements Only) fails to come on.	a. Check switch b. Check hi-limit switch c. Check wiring

WE RECOMMEND THAT SERVICE BE PREFORMED BY A QUALIFIED MARKET FORGE AUTHORIZED SERVICER. SERVICE PERFORMED BY OTHERS WILL VOID WARRANTY. MARKET FORGE IS NOT RESPONSIBLE FOR REPAIRS MADE BY OTHER THAN AUTHORIZED SERVICE AGENTS.

TROUBLE-SHOOTING

ELECTRICAL CONNECTIONS

CONTROL BOARD:

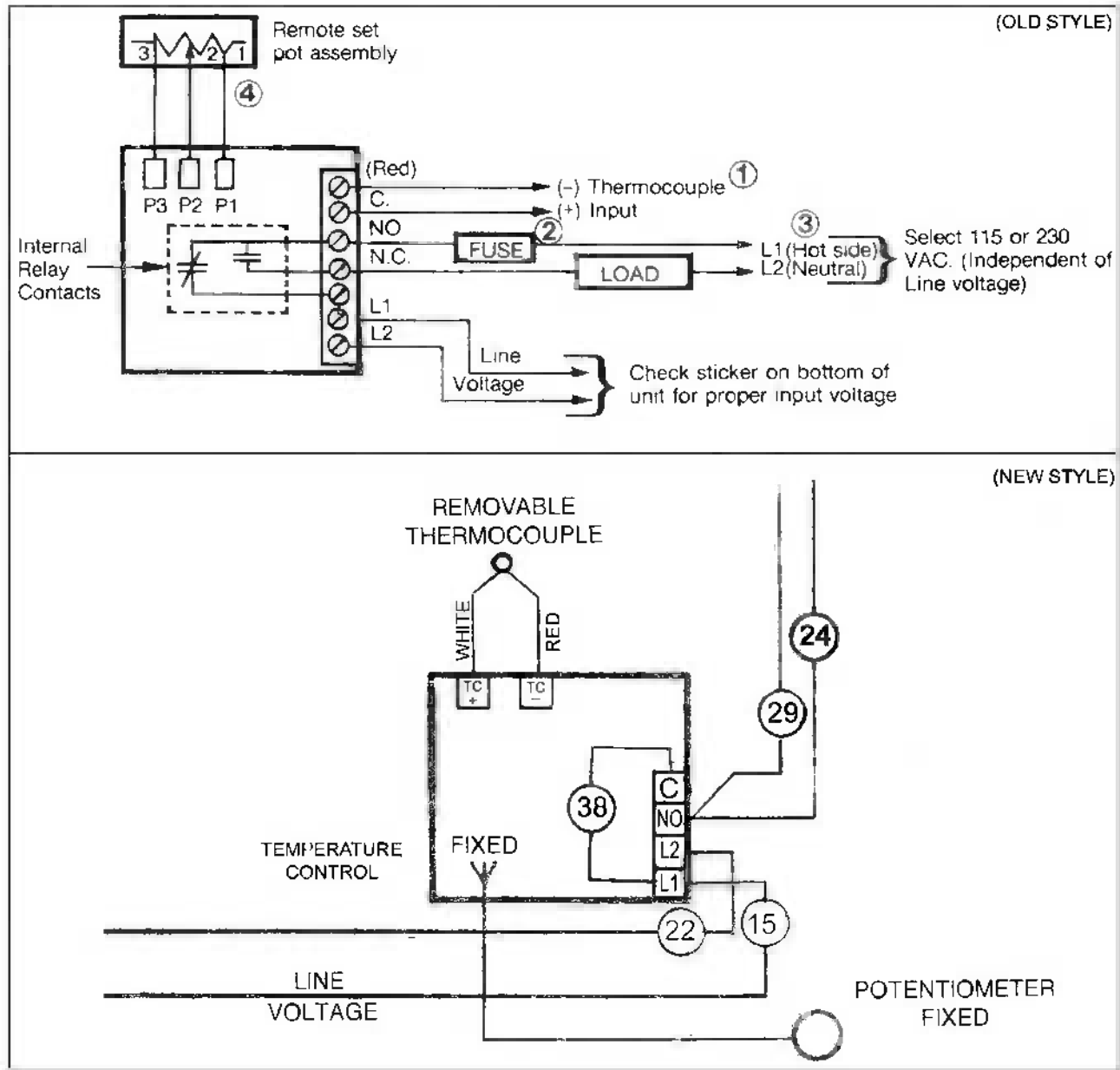


Fig. 8

NOTE: New style board CANNOT BE CALIBRATED. Check thermocouple for fault in temperature control. If thermocouple is good, replace temperature control board.

ILLUSTRATED PARTS LIST

GENERAL:

This section contains a complete listing of all replaceable parts for the 4200 compact convection oven. For the purpose of parts identification, the unit is broken down into functional assemblies, and each assembly is shown in a pictorial view which is keyed to the accompanying part list. Each parts list contains the figure item number, the Market Forge part number and an abbreviated description.

ORDERING INFORMATION:

Orders for repair parts should be directed to the nearest authorized parts distributor. For a current Market Forge Authorized Parts and Service Distributor list go to our web site or contact:

Market Forge Industries Inc.

Toll Free: (866) 698-3188

www.mfii.com

Parts, Service and Availability Toll Free No.:

(888) 259-7076

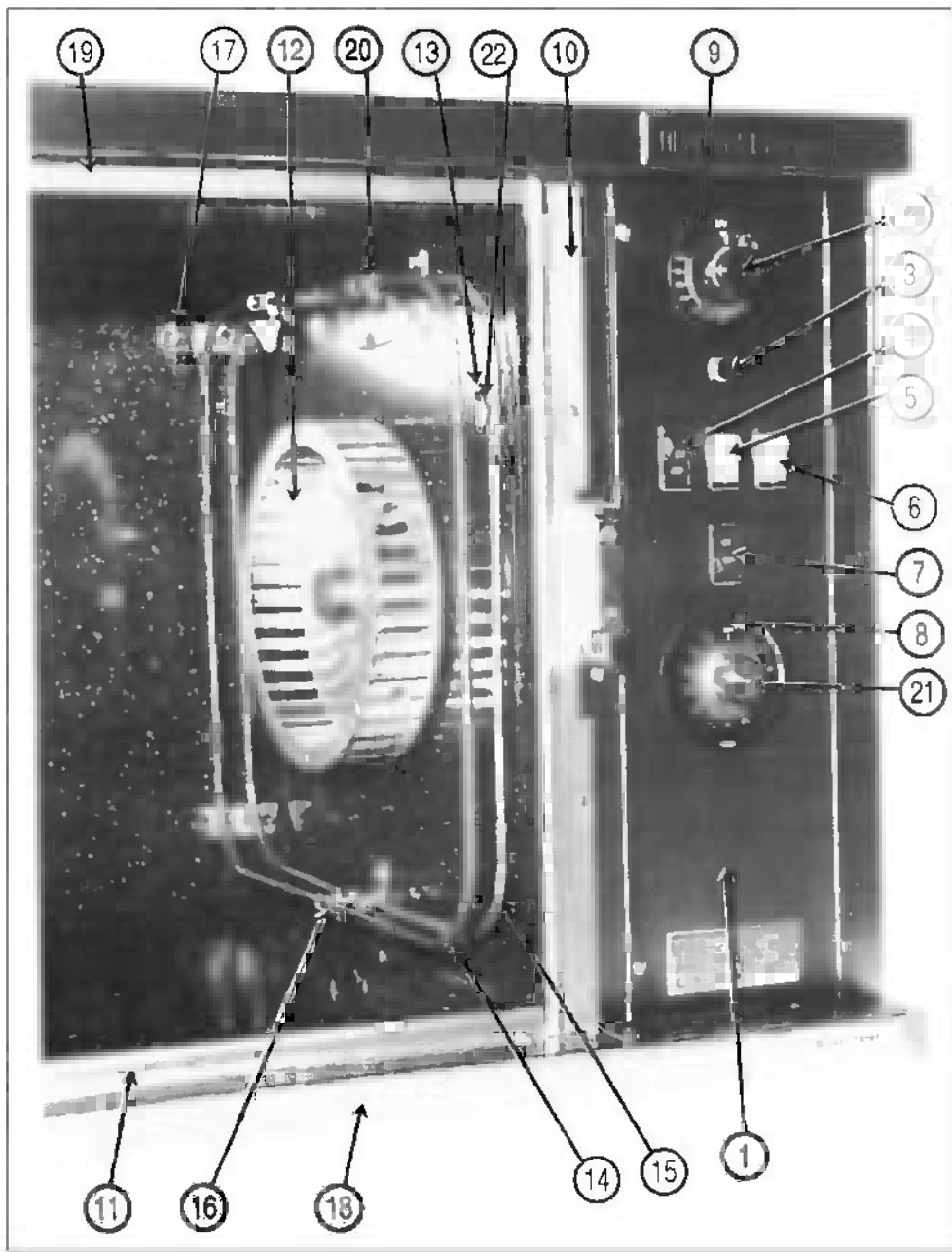


Fig. 9

ILLUSTRATED PARTS LIST

Fig. 9 4200 Compact Convection Oven

ITEM NO.	PART NO.	DESCRIPTION
1	99-5826	CONTROL PANEL K-MART ONLY
2	09-5268	THERMOSTAT KNOB
3	09-6440	RED PILOT 250V
4	09-7231	SWITCH DPDT 250V, 10 AMP, RED, ON-OFF SWITCH
5	09-7244	SWITCH DPDT 250V, 10 AMP, BLUE, BLOWER SWITCH
6	09-7235	SWITCH DPDT 250V, 10 AMP, WHITE, COOL DOWN SWITCH
7	09-7231	SWITCH DPDT 250V, 10 AMP, RED, HEATING ELEMENTS ONLY
8	08-5839	THERMOSTAT DECAL
9	99-5830	TIMER DECAL
10	99-6136	SIDE GASKET
11	99-6101	TOP AND BOTTOM GASKET
12	09-5269	BLOWER WHEEL
13	09-7259	THERMOCOUPLE AND WASHER
14	09-7241	HEATING ELEMENT, OUTER, 280V-2500W, 220V-2800W (EXPORT)
14A	09-7242	HEATING ELEMENT, OUTER, 230V-2571W, 240V-2800W
15	097336	HEATING ELEMENT, INNER, 280V-2500W, 220V-2800W
15A	09-7337	HEATING ELEMENT, INNER, 230V-2571W, 240V-2800W
16	99-6102	HEATING ELEMENT BRACKET
17	99-6130	BAFFLE SUPPORT
18	99-5054	BOTTOM TRIM
19	99-5055	TOP TRIM
20	99-6107	OVEN INTERIOR COVER PLATE
21	09-5267	60 MINUTE TIMER KNOB
22	08-6351	HI-LIMIT THERMOSTAT

ILLUSTRATED PARTS LIST

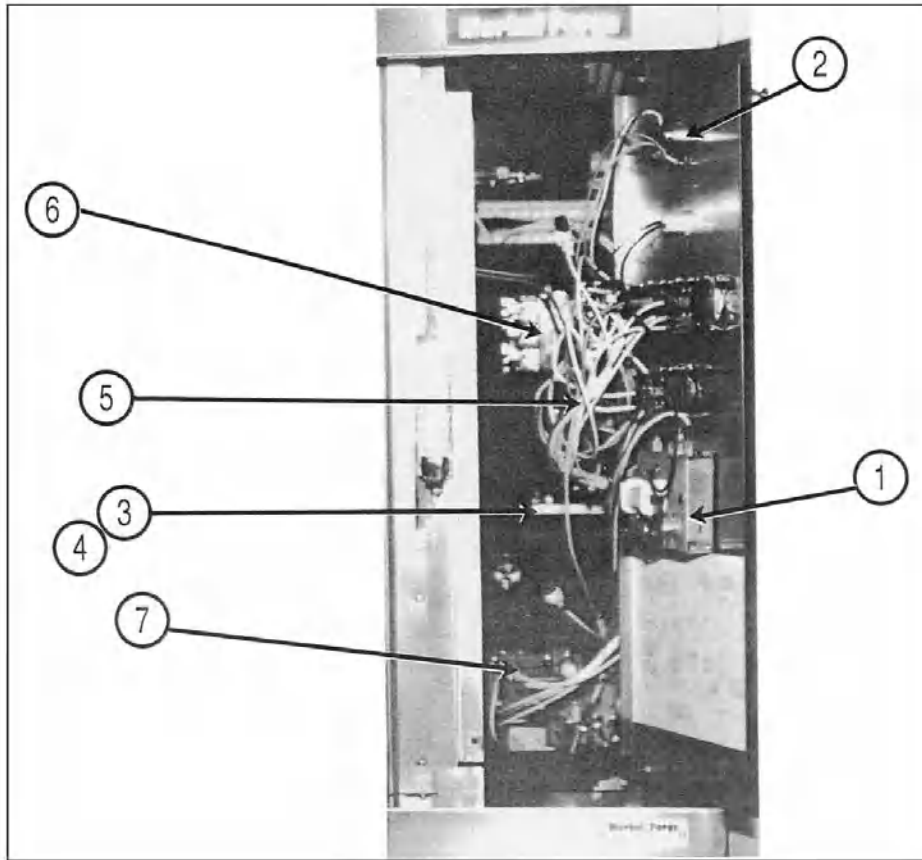


Fig. 10

Fig. 10 Control Panel, Open

ITEM NO.	PART NO.	DESCRIPTION
1	10-6293	60 MINUTE TIMER, 240V, 50/60 HZ
2	REF.	REMOTE POTENTIOMETER, PART OF THERMOSTAT 08-6355
3	10-6649	TERMINAL BLOCK
4	10-5551	GROUND LUG
5	99-5822	CONTROL CIRCUIT WIRE HARNESS
6	10-5476	CONTACTOR, 280V, 40 AMP, 50/60 HZ
6A	10-5943	CONTACTOR, 240V, 40 AMP, 50/60 HZ
7	08-6355	TEMPERATURE CONTROLLER, 208 OR 240V

ILLUSTRATED PARTS LIST

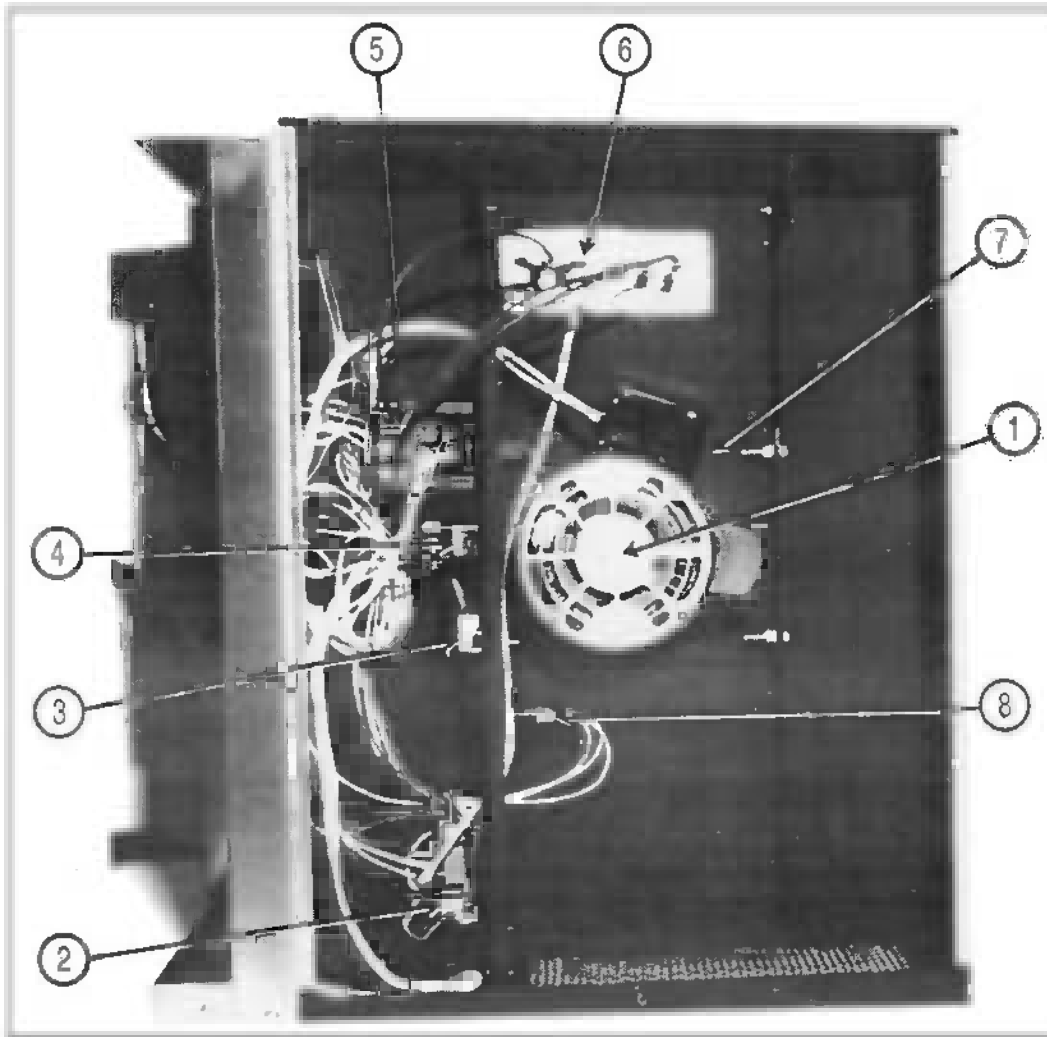


Fig. 11

Fig. 11 Right Side View

ITEM NO.	PART NO.	DESCRIPTION
1	09-7230	BLOWER MOTOR, 208/230V, 1/4 HP, 2 SPEED
2	REF.	TEMPERATURE CONTROLLER, 208-240V
3	REF.	TERMINAL BLOCK
4	10-6874	S.P.S.T. RELAY, FOR REED SWITCH, 240V
5	REF.	CONTACTOR, 208V, 40 AMP, 50/60 HZ
6	99-6108	HEATING ELEMENT COVER PLATE
6A	99-6109	HEATING ELEMENT COVER GASKET
7	99-6140	ASSEMBLY, BLOWER MOTOR AND BRACKET
8	09-6516	SIREN AUDIO ALERT, 120V
8A	09-6599	6.8 K CERAMIC RESISTOR FOR ALTER, NOT SHOWN

ILLUSTRATED PARTS LIST

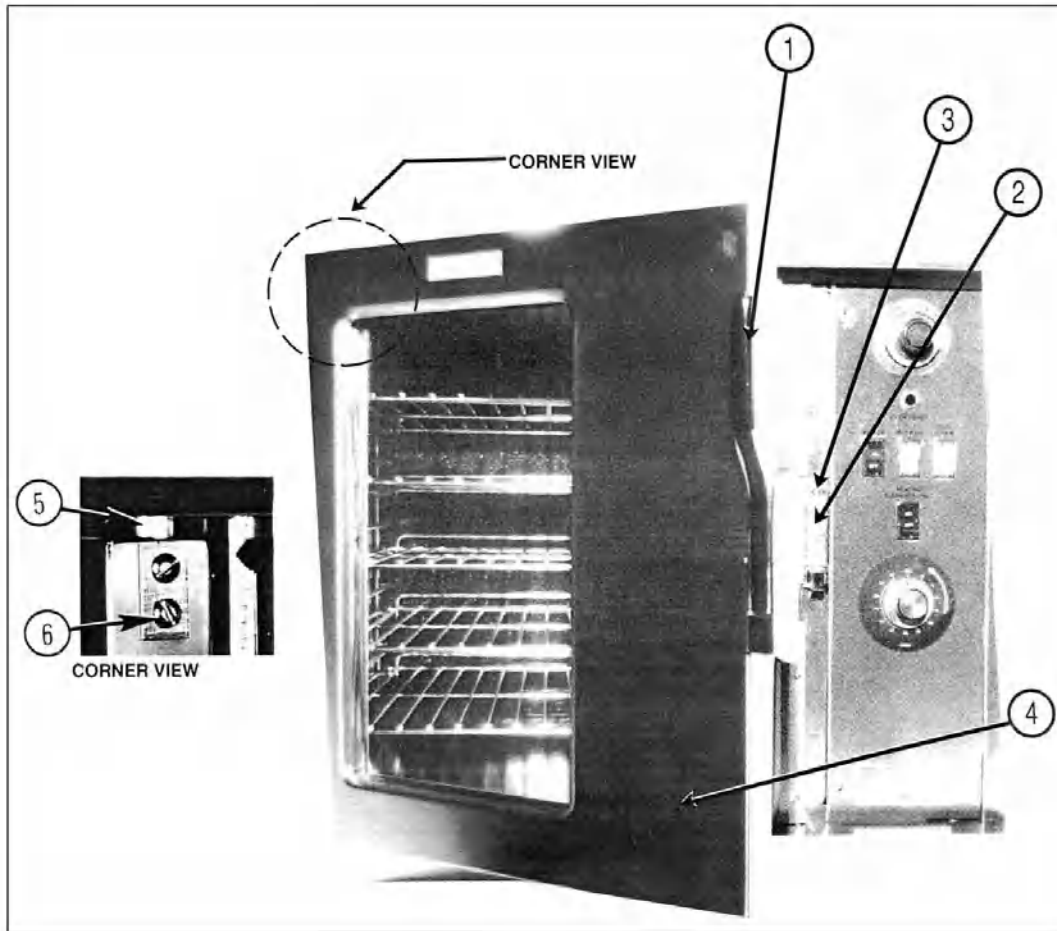


Fig. 12

Fig. 12 Door Assembly

ITEM NO.	PART NO.	DESCRIPTION
1	08-5205	DOOR HANDLE ASSEMBLY
2	REF.	CATCH, PART OF 08-5205
3	99-6115	SPACER CATCH
4	99-6170	DOOR ASSEMBLY
5	99-6153	HINGE PIN
6	99-6154	HINGE PIN PLATE

ILLUSTRATED PARTS LIST

INSIDE OVEN COMPARTMENT

PART NO.	DESCRIPTION
99-5027	BAFFLE
99-5057	RACK SUPPORTS
99-5056	RACKS
99-5052	EXTERIOR TOP PANEL
99-5058	EXTERIOR REAR PANEL
99-5020	RIGHT SIDE ACCESS PANEL
99-5035	LEFT SIDE PANEL
10-0633	4" ADJUSTABLE LEGS
99-6176	28" HIGH STAND
99-6177	18" STACKED KIT WITH STAND

4200/4292 REVERSING SWING OF DOOR (S):

1. Remove door handle, P/N [08-5205](#), by removing three slotted screws located on edge of handle.
2. Loosen two upper hinge pin screws. Pin will drop into door.
3. Remove door by tilting top of door outward while lifting door off of lower hinge pin.
4. Remove catch plate assembly from face of oven.
5. Remove four round head machine screws from opposite side of oven face.
6. Re-install on other side of oven face, the four round head machine screws removed in step 5.
7. Re-locate and install catch plate assembly at new location.
8. Hold door in new position and allow hinge pin to slide out. Tighten two screws to hold pin in this position.
9. Release the (new) top hinge pin and re-install door in the new position. Push up hinge pin and tighten two screws to hold upper hinge pin in place.
10. Replace handle using hardware removed in step 1.
11. Adjust door by resetting adjustment on catch plate assembly.