

SERVICE AND OWNER'S MANUAL

ELECTRIC FRYERS

H14, H17, H22 KW, EPH14, AND EPH17 KW

Including References for EPRI Fryers



 **Frymaster®**

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SERVICE HOTLINE
1-800-551-8633

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CAUTION NOTES

FRYMASTER ELECTRIC FRYER(S) ARE MANUFACTURED FOR USE WITH THE TYPE VOLTAGE SPECIFIED ON THE FRYER(S) RATING PLATE LOCATED ON THE FRYER(S) DOOR. FOR PROPER INSTALLATION PROCEDURES IN THE UNITED STATES, REFER TO: THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE ANSI/N.F.P.A. NO. 70; IN CANADA, CANADIAN ELECTRICAL CODE PART 1, CSA-22.1. INFORMATION ON THE CONSTRUCTION AND INSTALLATION OF VENTILATING HOODS MAY BE OBTAINED FROM THE LATEST EDITION OF THE "STANDARD FOR THE INSTALLATION OF EQUIPMENT FOR THE REMOVAL OF SMOKE AND GREASE LADEN VAPORS FROM COMMERCIAL COOKING EQUIPMENT," N.F.P.A. NO. 96. COPIES OF THESE ELECTRICAL STANDARDS ARE AVAILABLE FOR THE NATIONAL FIRE PROTECTION ASSOCIATION, BATTERY MARCH PARK, QUINCY, MASS. 02269.

WARNING

IN THE EVENT OF A POWER FAILURE, THE FRYER(S) WILL AUTOMATICALLY SHUT DOWN. SHOULD THIS OCCUR, TURN THE POWER SWITCH OFF. DO NOT ATTEMPT TO START THE FRYER(S) UNTIL POWER IS RESTORED.

THE FRYER(S) MUST BE INSTALLED WITH A SIX-INCH (15cm) CLEARANCE AT BOTH SIDES AND BACK ADJACENT TO COMBUSTIBLE CONSTRUCTION. A MINIMUM OF 24-INCHES (60cm) SHOULD BE PROVIDED AT THE FRONT OF THE FRYER(S) DOOR.

THIS MANUAL SHOULD BE KEPT IN A CONVENIENT LOCATION AND REFERRED TO WHEN ANY PROBLEM OCCURS AND FOR FUTURE REFERENCE.

FOR YOUR SAFETY DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPORS AND LIQUIDS IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE.

FCC

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: 1) This device may not cause harmful interference, and 2) This device must accept any interference received, including interference that may cause undesired operation. While this device is a verified Class A device, it has been shown to meet the Class B limits.

CANADA

This digital apparatus does not exceed the Class A or B limits for radio noise emissions as set out by the ICES-003 standard of the Canadian Department of Communications.

Cet appareil numérique n'émet pas de bruits radioélectriques dépassant les limites de classe A et B prescrites dans la norme NMB-003 édictée par le ministre des communications du Canada.

FRYMASTER FRYERS EQUIPPED WITH LEGS ARE A PERMANENT INSTALLATION. FOR MOVEABLE OR PORTABLE INSTALLATION, FRYMASTER OPTIONAL EQUIPMENT CASTERS MUST BE USED. QUESTIONS?? CALL 1-800-551-8633.

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PARTS ORDERING/SERVICE INFORMATION

Parts orders must be placed directly with your local Frymaster Parts Distributor. To help speed up your order, the following information is required:

1. Model Number: _____
2. Serial Number: _____
3. Voltage: _____
4. Item Part Number: _____
5. Quantity Required: _____

NOTE: A list of Frymaster Parts Distributors was included with the fryers when shipped from the factory. If you do not have access to this list, please contact the Service Department at Frymaster 1-800-551-8633 or 1-318-865-1711.

Service information may be obtained by calling your local Factory Authorized Service Center. A list of these agencies is packed with your fryer. Service information may also be obtained

by calling the Frymaster Service Department. When calling, please have the following information available:

1. Model Number: _____
2. Serial Number: _____
3. Voltage: _____
4. Nature of service problem and symptoms.
5. Any other information that may be helpful in solving your service problem.

PARTS ORDERING/SERVICE INFORMATION CANADA — Garland Commercial Ranges, Ltd., 1177 Kamato Road, Mississauga, Ontario L4W 1X4.

NOTE: RETAIN AND STORE THIS MANUAL IN A SAFE PLACE FOR FUTURE USE. ADDITIONAL COPIES MAY BE OBTAINED FROM YOUR AUTHORIZED SERVICE AGENCY.

1. IMPORTANT INFORMATION

OPERATING, INSTALLATION, AND SERVICE PERSONNEL

Operating information for FRYMASTER equipment has been prepared for use by qualified and/or authorized operating personnel only.

All installation and service on FRYMASTER equipment must be performed by qualified, certified, licensed, and/or authorized installation or service personnel.

Service may be obtained by contacting the FRYMASTER FACTORY SERVICE DEPARTMENT, Factory Representative, or local Factory Authorized Service Center.

DEFINITIONS

QUALIFIED AND/OR AUTHORIZED OPERATING PERSONNEL

Qualified or authorized operating personnel are those who have carefully read the information in this manual and have familiarized themselves with the equipment functions or have had previous experience with the operation of equipment covered in this manual.

QUALIFIED INSTALLATION PERSONNEL

Qualified installation personnel are: individuals, a firm, corporation, or a company which either in person or through a representative are engaged in, and are responsible for the installation of electrical wiring from the building electric meter, main control box, or service outlet to the electrical appliance. Qualified installation personnel must be experienced in such work, be familiar with all electrical precautions required, and have complied with all requirements of state and local codes. Reference: All electrically operated appliances must be electrically connected and grounded in accordance with local codes, or in the absence of local codes, with the latest edition of the United States National Electrical Code ANSI/N.F.P.A. No. 70. In CANADA, with Canadian Electrical Code Part 1, CSA-C22.1.

QUALIFIED SERVICE PERSONNEL

Qualified service personnel are those familiar with FRYMASTER equipment and have been authorized by THE FRYMASTER CORPORATION. All authorized service personnel are required to be equipped with a complete set of service parts manuals and stock a minimum amount of parts for FRYMASTER equipment.

A list of Frymaster Factory Authorized Service Centers was included with the fryer when shipped from the factory. If you do not have access to this list, please contact the Frymaster Customer Service Department, using the number listed on the front of this manual. Failure to use qualified service personnel will void the Frymaster warranty.

SHIPPING DAMAGE CLAIM PROCEDURE

For your protection, please note that the FRYMASTER equipment was carefully inspected and packed by skilled personnel before leaving the factory. The transportation company assumes full responsibility for safe delivery upon acceptance of the equipment.

What to do if equipment arrives damaged:

1. **FILE CLAIM FOR DAMAGES IMMEDIATELY** — Regardless of extent of damage.
2. **VISIBLE LOSS OR DAMAGE** — Be sure this is noted on the freight bill or express receipt and is signed by the person making the delivery.
3. **CONCEALED LOSS OR DAMAGE** — If damage is unnoticed until equipment is unpacked, notify freight company or carrier immediately, and file a concealed damage claim. This should be done within fifteen (15) days of date of delivery. Be sure to retain container for inspection.

FRYMASTER DOES NOT ASSUME RESPONSIBILITY FOR DAMAGE OR LOSS INCURRED IN TRANSIT.

2. INSTALLATION INSTRUCTIONS

PROPER INSTALLATION IS ESSENTIAL TO EFFICIENT TROUBLE-FREE OPERATION. ANY ALTERATION OF THE EQUIPMENT VOIDS THE FRYMASTER WARRANTY.

Before installing the newly-arrived equipment, inspect it carefully for visible and concealed damage. See "Shipping Damage Claim Procedure" in Section 1.

The H14, H17, and H22 fryer accessory package contains a leg and caster installation instruction sheet for installation of legs and/or casters. Also refer to the "Caster/Leg Installation Instructions and Locations" section in this manual. The fryer(s) may be laid on its back or raised with a small floor jack to install legs or casters. **CAUTION:** Extreme caution **MUST** be exercised to prevent damage to the cabinet(s) and undercarriage.

FOR UNITS EQUIPPED WITH FRYMASTER COMPUTERS

COMPUTER INFORMATION

The user is cautioned that any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. While this device is a verified Class A device, it has been shown to meet the Class B limits. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of the equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

If necessary, the user should consult the dealer or an experienced radio and television technician for additional suggestions.

The user may find the following booklet prepared by the Federal Communications Commission helpful: "How to Identify and Resolve Radio-TV Interference Problems". This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.

3. ELECTRICAL SERVICE CONNECTIONS

Service connections should be made through the bottom rear portion of the fryer cabinet by means of an approved, flexible-metallic or rubber-covered electrical cable and quick-disconnect plug. This connection should be made to the fryer power input terminal block. If rigid or flexible-metal conduit connections are required, they must be made through the rear portion of the fryer cabinet to the fryer power input terminal block. The terminal block is located in the electrical component box behind the control panel on H14 and H17. The power input terminal on the H22 is located in the fuse box under the frypot. **CONNECTIONS MUST BE MADE BY QUALIFIED PERSONNEL ONLY.**

CAUTION:

The fryer(s) **MUST** be connected to the voltage and phase as specified on the rating and serial number plate located on the back of the fryer door. To determine the proper wire size and amperage service per fryer, use the chart in Section 4, "POWER REQUIREMENTS."

To facilitate cleaning and service, it is recommended that the fryer(s) be connected to the external power source by means of a UL approved quick-disconnect plug.

CAUTION:

A ground wire **MUST** be connected to the **GROUND** terminal provided near the input power terminal block.

CAUTION:

The following cautions should be adhered to when connecting the fryer to an emergency cutoff system:

- Be sure that each fryer is connected to a dedicated set of contacts in the emergency cutoff system.
- Refer to electrical handy box under left side of frypot. Connection terminal block is located inside box. Disconnect jumper wire 34C and replace with fire cut-off connection.
- Do not attempt to connect the contacts in series.
- Do not connect more than one fryer to each set of contacts.
- The contacts **MUST BE** normally closed contacts that open during the emergency.
- The contacts **CANNOT** have an external voltage applied.

4. POWER REQUIREMENTS

WARNING:

For power supply connection, use copper wire **ONLY**, suitable for at least 167°F (75°C).

MODEL	VOLTAGE	PHASE	WIRE SERVICE	MIN. SIZE	AWG (mm ²)	AMPS PER LEG		
						L1	L2	L3
H14	208	3	3	6	(16)	39	39	39
H14	240	3	3	6	(16)	34	34	34
H14	480	3	3	8	(10)	17	17	17
H14	220/380	3	4	6	(16)	21	21	21
H14	240/415	3	4	6	(16)	20	20	20
All EPH14 SERIES (EPRI)	208	3	3	6	(16)	39	39	39
	240	3	3	6	(16)	34	34	34
	220/380	3	4	6	(16)	21	21	21
	240/415	3	4	6	(16)	20	20	20
H17	208	3	3	6	(16)	48	48	48
H17	240	3	3	6	(16)	41	41	41
H17	480	3	3	6	(16)	21	21	21
H17	220/380	3	4	6	(16)	26	26	26
H17	240/415	3	4	6	(16)	24	24	24
All EPH17 SERIES (EPRI)	208	3	3	6	(16)	48	48	48
	240	3	3	6	(16)	41	41	41
	220/380	3	4	6	(16)	26	26	26
	240/415	3	4	6	(16)	24	24	24
H22	208	3	3	4	(25)	61	61	61
H22	240	3	3	4	(25)	53	53	53
H22	480	3	3	6	(16)	27	27	27
H22	220/380	3	4	6	(16)	34	34	34
H22	240/415	3	4	6	(16)	31	31	31

The electrical power supply for the fryer(s) **MUST** be the same as indicated on the rating and serial number plate located on the back of the fryer door(s).

5. OPERATING INSTRUCTIONS

AFTER FRYER(S) HAVE BEEN INSTALLED AT FRYING STATION:

1. To level fryers, the bottom of legs can be screwed out approximately one inch for leveling. Legs should be adjusted so that the fryer(s) are at the proper height in the frying station.

For fryers equipped with casters, there are no built-in leveling devices. The floor where the fryers are installed must be level.

If you need to relocate a fryer installed with legs, remove all the weight from each leg before moving. If a leg becomes damaged, contact your service agent for immediate repair or replacement.

2. Close fryer drain valve(s) and fill frypot with water up to OIL-LEVEL line at rear of frypot (or to the bottom line for fryers equipped with 2 oil level lines). See BOIL-OUT INSTRUCTIONS this page.
3. Boil out frypot(s).
4. Drain, clean, and fill frypot(s) with shortening. See FILLING WITH SHORTENING, this page.
5. Check thermostat calibration on fryers with solid-state controller. SEE THERMOSTAT CALIBRATIONS SECTION 8.

BOILING OUT THE FRYPOT

Clean frypot(s) as follows before filling with shortening:

1. Before switching the fryer(s) ON, close the frypot drain valve(s); fill empty frypot with mixture of **cold** water and FRYMASTER FRYER 'N' GRIDDLE CLEANER. Follow instructions on bottle when mixing.

2. To switch fryer on, depress fryer ON/OFF SWITCH to ON (Solid-State Thermostat Controller, Figure 3; Digital Solid-State Controller, Figure 3A; or Computer, Figure 4), and melt switch to OFF on solid-state thermostat controller.
3. Set thermostat knob or digital controller to 200°F (93°C) or program computer for BOIL OPERATION as outlined in PROGRAMMING INSTRUCTIONS, Page 14.

CAUTION:

4. Simmer the solution for 45 minutes to one hour. Do not allow water level to decrease below oil-level line in frypot during boil-out operation.

CAUTION:

Do not leave fryer unattended. The boil-out solution will foam up and overflow if fryer is left unattended. Press ON/OFF switch to the OFF position to control this condition.

5. Switch the fryer ON/OFF SWITCH(ES) OFF and allow solution to cool.
6. Add two gallons of water. Drain out the solution and clean the frypot(s) thoroughly.
7. Refill the frypot(s) with clean water. Rinse the frypot(s) twice, drain and wipe down with a clean, dish towel.

CAUTION:

ALL DROPLETS OF WATER MUST BE REMOVED FROM FRYPOT BEFORE FILLING WITH SHORTENING.

NOTE: Perform this boil-out function at least once a month.

8. The fryer(s) are now ready to fill with shortening.

FILLING WITH SHORTENING

Shortening capacity is 50 pounds (25 litres), 25 pounds (12.5 litres) per half pot of cold (70°F) shortening.

CAUTION:

Before filling the frypot(s) with shortening, close the FRYPOT DRAIN VALVE(S) and switch the

power switch(es) OFF. Remove the basket-support rack. Fill empty frypot(s) to the OIL-LEVEL line (or the bottom line for frypots equipped with 2 oil level lines). Be sure to reinstall basket-support rack on top of heating element to prevent element from floating out of shortening.

CAUTION:

When solid shortening is used, it should be thoroughly packed down into the frypot(s). Switch the ON/OFF SWITCH on, set the thermostat knob, or digital controller, or program computer for normal cooking temperature. Be sure controller is set to MELT CYCLE. THE FRYER(S) WILL OPERATE IN A MELT-CYCLE MODE UNTIL THE SHORTENING TEMPERATURE REACHES APPROXIMATELY 180°F(82°C) (See Pages 8 and 9.) *The EPRI fryer, with digital solid-state controller, will operate in a melt-cycle mode until the shortening temperature reaches set-point temperature. After the shortening has reached operating temperature, let the heating elements cycle AT LEAST four times, then insert a good thermometer or pyrometer near the temperature sensing probe approximately 3 inches (7.5mm) deep into the shortening. When the heating elements just cycle ON after the fourth time, the thermometer should read within $\pm 5^{\circ}\text{F}$ ($\pm 2^{\circ}\text{C}$) of the thermostat knob setting or computer programmed temperature. If not, calibrate the thermostat knob according to CALIBRATION INSTRUCTIONS in Section 8.*

6. DRAINING CLEANING AND FILTERING INSTRUCTIONS

CAUTION:

The draining and filtering of shortening must be accomplished with extreme care to avoid the possibility of burn injuries resulting from careless handling.

DRAINING: The following procedure is recommended for draining and filtering the shortening when a filter machine is not available.

1. Screw the drain pipe provided with the fryer(s) into the fryer drain valve. Assure

the drain pipe is fully screwed into the fryer drain valve. See Figure 1.

CAUTION:

2. Position a stock pot or other container under the drain pipe. **CAUTION:** The stock pot or other container must be of sufficient design to withstand the heat generated by the hot shortening. It is recommended that a Frymaster Filter Cone Holder and filter cone be used when a filter machine is not available. When using the Frymaster Filter Cone Holder and Cones, be sure the Cone Holder rests securely on the stock pot or other container. See Figure 1.

CAUTION:

3. Open the drain valve slowly to prevent splattering. However, since splattering may occur anyway, extreme caution must be exercised.

CAUTION:

4. If the fryer drain valve becomes clogged with food particles, you may use the FRYER'S FRIEND (Poker-like tool) to unclog the valve. This tool must be used from inside the frypot only and caution must be exercised so that the user grips the tool as far as possible above the hot shortening in the frypot. See Figure 2. Do not ram the FRYER'S FRIEND into the drain valve from inside the frypot when the valve is closed. This causes damage to the ball inside the valve. The valve will leak when this occurs. NEVER use the FRYER'S FRIEND or any other tool to unclog the valve from the front. HOT shortening could run out rapidly and cause injury. See Figure 1.
5. After draining the hot shortening into a stock pot or other container, allow to cool to 100°F(38°C) or lower before transporting, removing the drain pipe, or removing the Frymaster Filter Cone Holder and Cone.

CAUTION:

Extreme care must be exercised when working with hot shortening. Never use filter pan to dispose of used shortening. Use SDU (Shortening Disposal Unit) or stock pot to transport used shortening to disposal area.

CLEANING: Use a wooden paddle to move food particles and crumbs toward the front of frypot. Do not use scouring pads during filtering and draining operation. For Filter Magic systems only, leave drain valve open and pump fresh filtered shortening back into the frypot, washing all food particles and crumbs out through drain valve. After all food particles and crumbs have been flushed from frypot, close drain valve and allow frypot to fill with fresh, filtered shortening. For non-filter fryers, use a small metal container to remove hot shortening from portable filter and flush inside of frypot. Pour hot shortening in frypot to flush all food particles and crumbs out through drain valve into portable filter or metal container. Refer to "Boiling Out the Frypot in Section 5. for thorough cleaning instructions.



Figure 1

7. SHUTTING FRYER(S) OFF

SHUTTING OFF FOR SHORT PERIODS

1. Press fryer ON/OFF SWITCH(ES) to OFF position.
2. Put frypot cover(s) in place over frypot(s).

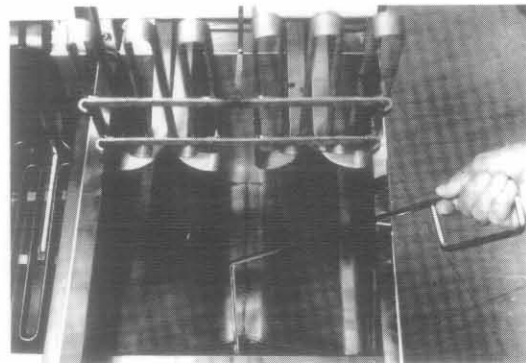


Figure 2

SHUTTING FRYER(S) OFF WHEN CLOSING STORE

1. Press fryer ON/OFF SWITCH(ES) to OFF position.
2. Turn OFF fryer circuit breakers in circuit breaker box.
3. Put frypot cover(s) in place over frypot(s).

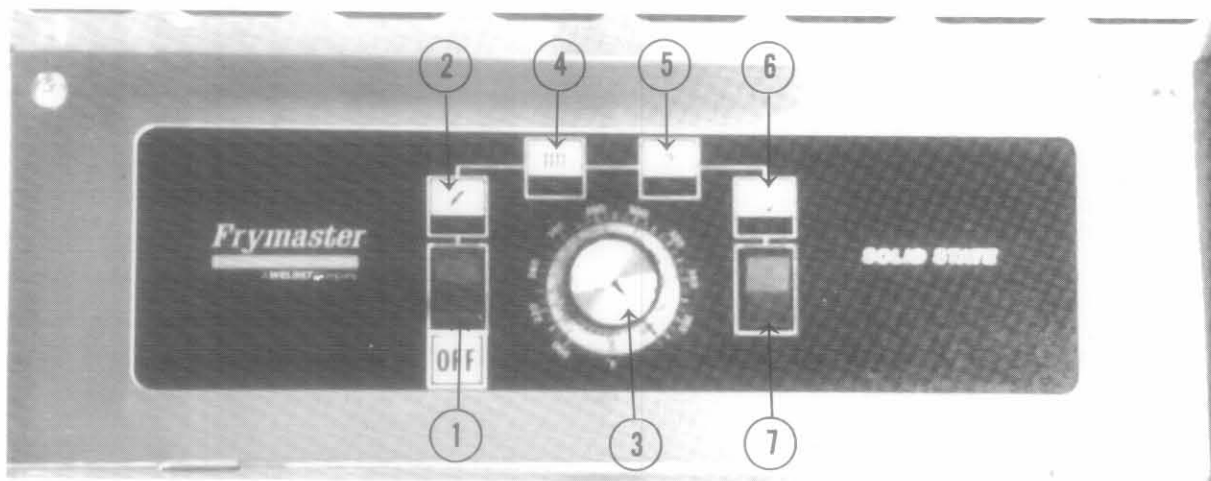


Figure 3

8. SOLID-STATE THERMOSTAT CONTROL PANEL (SINGLE CONTROLLER SHOWN) (Refer to Numbers Above)

Item No.

1. Fryer ON/OFF Switch — controls power supply.
 2. Power ON Light — indicates when fryer is on.
 3. Temperature Control Knob — sets desired frying temperature.
 4. Heating Light — indicates heating elements are on.
 5. Trouble Light — indicates malfunction of fryer control circuit or overheat condition. (Controller must be reset.)*
 6. Melt-Cycle Light — indicates fryer is operating in Melt-Cycle MODE. (Fryer will come out of melt-cycle mode when shortening reaches 180°F (82°C).)
 7. Melt-Cycle Switch — controls melt cycle operation.
- *NOTE: To reset, turn ON/OFF switch OFF for 30 seconds, then ON.

WARNING

FRYER MUST BE FILLED WITH OIL, SHORTENING OR WATER BEFORE TURNING ON CONTROLLER.

THERMOSTAT CALIBRATIONS — SOLID-STATE THERMOSTAT CONTROLLER

1. Insert a good grade thermometer or pyrometer probe into the shortening near the fryer temperature sensing probe.
2. Turn thermostat knob to frying temperature.
3. Allow heating elements to cycle on and off automatically three times so the shortening will be uniform. Stir, if necessary, to get all shortening in bottom of frypot melted.
4. When heating elements come on for the fourth time, the thermometer or pyrometer should read within 5°F (2°C) of the thermostat knob setting. If not, calibrate as follows:
 - a. Loosen set screw in thermostat control knob until outer shell of knob will rotate on insert inside knob.
 - b. Rotate outer shell of knob until index line on knob aligns with marking that corresponds to thermometer or pyrometer reading.
 - c. Hold knob and tighten set screw.
 - d. Recheck the thermometer or pyrometer reading and the thermostat knob setting next time the heating elements come on.
 - e. Repeat steps 4a and 4d until thermometer or pyrometer reading and knob setting agree within 5°F (2°C).
 - f. If calibration cannot be made for any reason, call a Factory Authorized Service Center.
5. Remove thermometer or pyrometer probe.

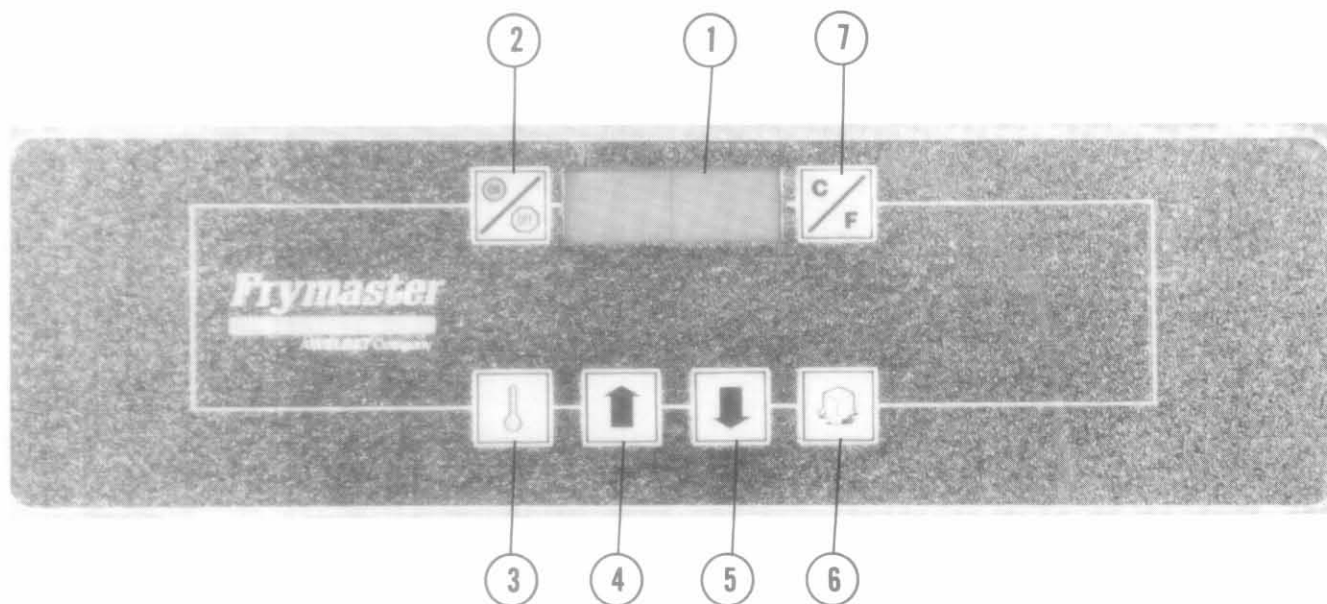


Figure 3-A

9. DIGITAL SOLID-STATE CONTROLLER (Refer to Numbers Above)

Item No.

1. Lighted Display — display of various functions and operations.
2. On/Off Switch — controls power supply.
3. Temperature/Set-Point Display Switch — selects shortening temperature or set-point temperature.
4. Up Arrow Switch — raises set-point temperature.
5. Down Arrow Switch — lowers set-point temperature for left side of split pot and for full pot.
6. Melt-Cycle Switch — cancels melt-cycle mode.
7. C/F Switch — selects temperature display in Celsius or Fahrenheit.

This device complies with the limits of Class B computing device pursuant to Sub-part J of Part 15 of FCC Rules.

WARNING

FRYER MUST BE FILLED WITH OIL, SHORTENING OR WATER BEFORE TURNING ON CONTROLLER.

OPERATING INSTRUCTIONS — FULL POT

- A. Turn controller on by pressing ON/OFF Switch, Item 2.

1. The controller software version number will display for four (4) seconds then set-point temperature will display constantly on U. S. and all other domestic fryers. To view actual shortening temperature, press the Temperature Switch, Item 3. On export fryers, the actual shortening temperature will display constantly. To view the set-point temperature, press the Temperature Switch, Item 3.

2. The controller automatically enters melt cycle and will stay in melt-cycle mode until the shortening reaches set-point temperature.

3. To cancel melt-cycle mode, press the Melt Switch, Item 6. **Caution:** Melt cycle should not be canceled if solid shortening is used.

4. When the shortening reaches the set-point temperature, the controller will exit the melt-cycle mode and shut off.

- B. To set the set-point temperature up or down, press the Up Arrow Switch, Item 4, to raise the set-point temperature, and the

Down Arrow Switch, Item 5, to lower the set-point temperature.

1. The display will change at the rate of approximately one degree per second.
 2. After a change of about 12 degrees, the display will change to a faster rate allowing large changes in set-point temperature to be made quickly.
- C. To change from Fahrenheit to Celsius display, press the C/F Switch, Item 7.
1. Display will change from "XXX°F" to "XXX°C".
 2. Display will change back to "XXX°F" by pressing the C/F Switch, Item 7, again.
- D. When the controller has reached the set-point temperature, the heat indicator decimal point will go out, indicating the fryer is ready for cooking process.
- NOTE:** The decimal point appearing between the first two numbers of the display indicates the heating source is on.

OPERATING INSTRUCTIONS — SPLIT POT

- A. Turn controller ON by pressing ON/OFF Switch, Item 2.
1. The controller software version number will display for four (4) seconds then set-point temperature will display constantly on U. S. and all other domestic fryers. To view actual shortening temperature, press the Temperature Switch, Item 3. On export fryers, the actual shortening temperature will display constantly. To view the set-point temperature, press the Temperature Switch, Item 3.
 2. Either side of the controller will automatically enter the melt-cycle mode when that particular side ON/OFF switch is pressed and will stay in melt-cycle mode until the shortening reaches set-point temperature.
 3. To cancel melt-cycle mode, press the Melt Switch, Item 6, for the desired side.
Caution: Melt cycle should not be canceled if solid shortening is used.

4. When the shortening temperature reaches the set-point temperature in the side that has been turned on or both sides, the controller will exit the melt-cycle mode and shut off.

- B. To set the set-point temperature up or down on either side of the controller, press the Up Arrow, Item 4, to raise the set-point temperature and the Down Arrow, Item 5, to lower the set-point temperature.
1. The left or right display will change at the rate of approximately one degree per second.
 2. After a change of about 12 degrees, the display will change to a faster rate allowing large changes in set-point temperature to be made quickly.
- C. To change from Fahrenheit to Celsius display on either side, press either left or right C/F Switch, Item 7.
1. Both displays will change from "XXX°F" to "XXX°C".
 2. Both displays will change back to "XXX°F" by pressing the C/F Switch, Item 7, again.
- D. When either side of the controller has reached the set-point temperature, the heat indicator decimal point will go out, indicating the fryer is ready for cooking process.
- NOTE:** The decimal point appearing between the first two numbers of the display indicates the heating source is on.
- E. Other indications that could be displayed on the Lighted Display:
1. "HOT" and actual frypot temperature — shortening temperature is above 385°F (196°C) which is too hot for most fried products.
 2. "Prob" — indicating that the controller has detected a problem in the temperature measuring circuits, including probe.
 3. "HELP" — indicating latching circuit did not lock in or an internal component failure.

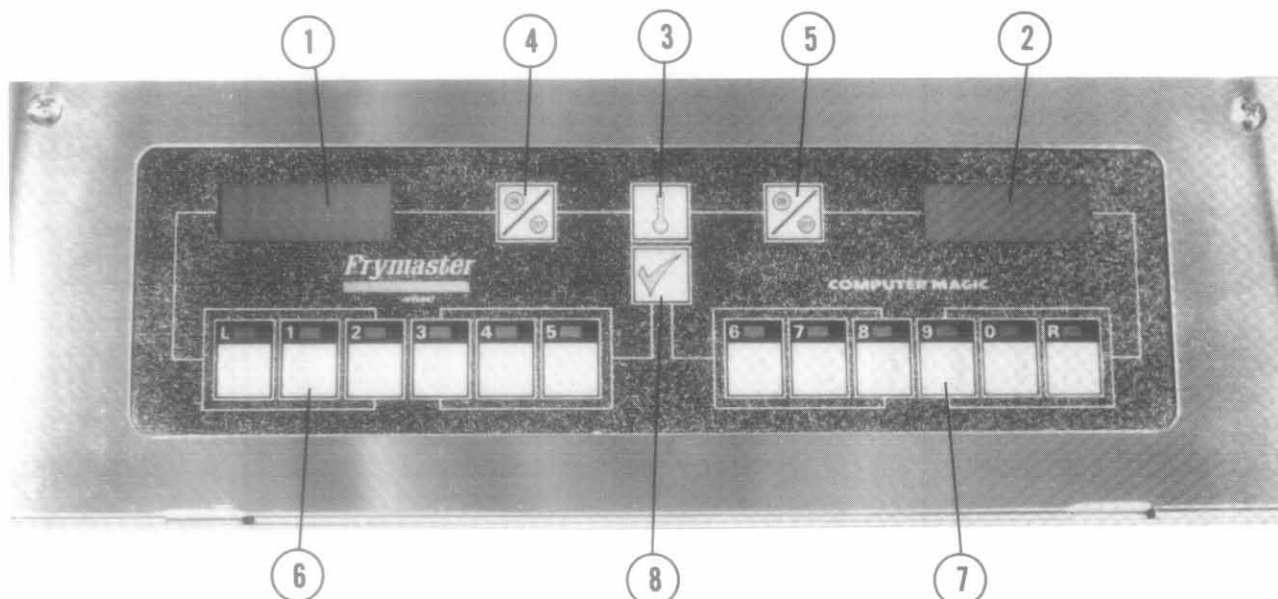


Figure 4

10. COMPUTER MAGIC III CONTROL PANEL — OPERATING INSTRUCTIONS *(Refer to Numbers Above)*

Item No.

1. Lighted Display — left side display of various functions and operations.
2. Lighted Display — right side display of various functions and operations.
3. Storage and Temperature Check Switch — locks program in computer and/or displays frypot temperature when depressed.
4. ON/OFF Switch — controls on/off for left side of split frypot computer.*
5. ON/OFF Switch — controls on/off for right side of split frypot computer.*
- 6/7. Product and Coding Switches — enter code for access to computer and programming functions.
8. Programming Switch — used when reprogramming the computer memory.

*On single frypot computer, either left or right switch will control power.

Complies with the limits of a class B computing device pursuant to sub-part J of part 15 of FCC Rules.

WARNING

FRYER MUST BE FILLED WITH OIL, SHORTENING, OR WATER BEFORE TURNING ON COMPUTER.

OPERATING INSTRUCTIONS

- A. Turn the computer on by pressing the ON/OFF SWITCH, Item 4 or 5.
 1. This will turn computer (fryer) on. One of the following will be displayed:
 - a. "CYCL", indicating that the fryer is operating in the melt cycle mode. Fryer will remain in the melt cycle mode until it reaches 180°F (82°C) or canceled manually. (See B next page.)
 - b. "Hi", indicating that the pot temperature is 16°F (6°C) higher than the set point.
 - c. "Lo", indicating that the pot temperature is 16°F (6°C) lower than the set point.

- d. "----", indicating that the fryer temperature is in the cooking range.
NOTE: For best results, cooking product should not be attempted unless display indicates "----".
- e. "Help", indicating that there has been a heating problem.
- f. "Hot", indicating that the pot temperature is in excess of 385°F (196°C).
- g. "Prob", indicating that the computer has detected a problem in the temperature measuring circuits, including probe.

NOTE: "." decimal point between digits 1 and 2 in either display area indicates that the elements are on.

B. Melt Cycle Cancel Feature. **Caution:** Melt cycle should not be canceled if solid shortening is used.

- 1. The computer will display "CYCL" during melt-cycle operation. To cancel melt cycle, depress "R" Switch. "CYCL" will be replaced by "LO". The decimal point between digits 1 and 2 will illuminate indicating that the elements are on.

NOTE: Use "L" Switch for left side of split pot and "R" Switch for right side of split pot or full pot.

C. Cook-cycle operation is initiated by pressing product switch:

- 1. The basket lift (on fryers so equipped) will lower the product into the shortening.
- 2. The display will indicate the previously programmed cook time and begin countdown.
- 3. If shake time is programmed, the operator will be notified of the need to shake the product "X" seconds after the cook cycle has begun (X = amount of time programmed). An alarm will sound, and the display will read "SH_". The blank will be the switch number. If no shake time has been programmed, "SH_" will not appear during the cook cycle. The alarm is self cancelable.

4. At the end of cooking cycle, an audio alarm will sound, "COOC" will be displayed, and the associated product switch indicator will flash. To cancel the cook alarm, press the appropriate switch.

5. At this time, the hold time will be displayed (if programmed greater than 0), and countdown to zero at which time an alarm and "Hd_" will be displayed. The blank will be the switch number. Hold alarm is canceled by pressing PROGRAMMING CHECK SWITCH, Item 8. If display is in use, hold time will count down invisibly until display is free.

CHECKING TEMPERATURE

A. Check the shortening temperature at any time by pressing STORAGE AND TEMPERATURE CHECK SWITCH, Item 3, once. Check the set point by pressing STORAGE AND TEMPERATURE CHECK SWITCH, Item 3, twice.

B. During the idle periods when the fryer is on but not in use, "----" should appear in both displays, Item 1 and 2, single frypot computer. "----" will appear in the display of the side that is turned on in a split pot computer. If not, check actual temperature and set point.

C. Should you suspect the probe is defective, check shortening temperature with a thermometer to verify that computer readout is reasonably close to your measured reading.

NOTE: The electronic circuitry can be affected adversely by current fluctuations and electrical storms. Should it not function or program properly for no apparent reason, the computer should be reset by unplugging fryer and plugging it back in. This could eliminate a service call.

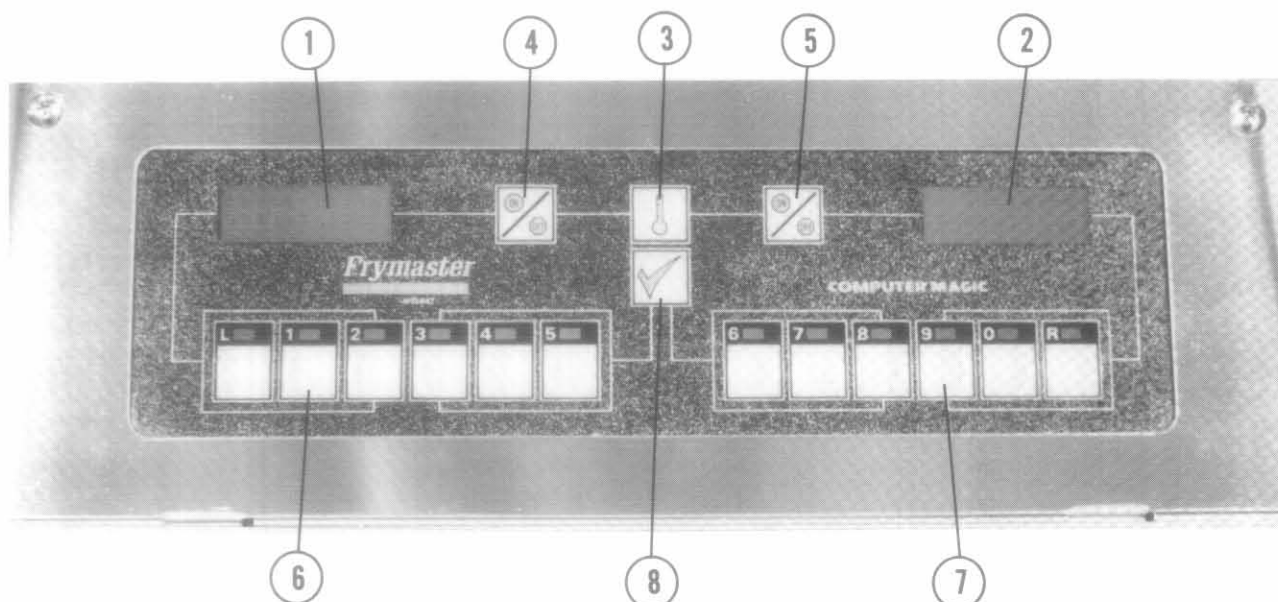


Figure 5

11. COMPUTER MAGIC III CONTROL PANEL— PROGRAMMING INSTRUCTIONS (*Refer to Numbers Above*)

Item No.

1. Lighted Display — left side display of various functions and operations.
2. Lighted Display — right side display of various functions and operations.
3. Storage Switch — locks program in computer.
4. ON/OFF Switch — controls power supply for left side of split frypot computer.*
5. ON/OFF Switch — controls power supply for right side of split frypot computer.*
- 6/7. Product and Coding Switches — enter code for access to computer and programming functions.
8. Programming Switch — used when reprogramming the computer memory.

*On single frypot computer, either left or right switch will control power.

WARNING

FRYER MUST BE FILLED WITH OIL, SHORTENING, OR WATER BEFORE TURNING ON COMPUTER.

PROGRAMMING INSTRUCTIONS FOR THE FRYMASTER COMPUTER. PLEASE READ INSTRUCTIONS BEFORE PROGRAMMING COMPUTER

FULL POT

1. Press ON/OFF SWITCH, Item 4 or 5.

2. To enter program mode, press green PROGRAMMING SWITCH, Item 8. CODE will appear in left display. If you have pressed this switch in error and do not wish to program, simply press PROGRAMMING SWITCH, Item 8, again. NOTE: Computer will flash "BUSY" if cooking is in progress.

3. Enter Code Number: Press 1,6,5,0 in that sequence on Item 6 and 7. Your program will not be accepted unless these numbers are entered. This prevents an unauthorized person from changing your present instructions.

4. "SP-r" (SET POINT) will appear in the left display, Item 1; this is for setting temperature; temperature previously selected will be displayed in the right display, Item 2.

Enter temperature desired. Press PROGRAMMING SWITCH, Item 8, to lock in temperature setting. If you do not need to change the settings, press PROGRAMMING SWITCH, Item 8.

5. "SELP" (SELECT PRODUCT) appears in Item 1. Press the product button to be programmed.
6. "SENS" appears in Item 1. The sensitivity number previously selected will be displayed in Item 2. Enter the new desired sensitivity number. Press Programming Switch, Item 8, to lock in sensitivity setting.

NOTE: SENS — Sensitivity is a built-in feature that causes the computer to adjust cooking time to compensate for the drop in shortening temperature when a basket of product is placed into the fryer. Different food products will vary in density, basket load size, and initial temperature. Food products will also vary in how well cooked a product is required to be. A proper sensitivity setting for each product will assure a high-quality product each time. For example: four ounces of french fries can be programmed to be cooked to the same quality as two and one-half pounds. Some experimenting with the range of 1 to 9 may be required to obtain the desired quality to meet your specifications.

7. "COOC" is now displayed in Item 1. If a cooking time has been entered in the program prior to this programming, it will appear in Item 2. If that time is correct, press PROGRAMMING SWITCH, Item 8. If you wish to change that time, enter the numbers. The new time will be displayed in Item 2. Press PROGRAMMING SWITCH, Item 8.
8. "SH-" is now displayed in Item 1. If your product requires shaking during the cooking process, set the time by pressing the number of minutes to cook before shaking. This number will appear in the right display, Item 2.
Example: Total Cook Time 3:00 minutes
Shake After Cooking 1:00 minute

9. Set the desired shake time. At the end of the set time, a beeper will sound, and the product button will flash for 3 seconds. If none is required, set the time at "0" and press PROGRAMMING SWITCH, Item 8.

10. "HD-" will appear in Item 1. Set the time you require for holding the cooked product, 13 seconds to 60 minutes. Press PROGRAMMING SWITCH, Item 8. If you do not wish to use the HOLD time, enter "0" and press "PROGRAMMING SWITCH", Item 8. SELP will again display in Item 1. If more products are to be programmed, return to Step 5 and follow all instructions to this point.

ADDITIONAL HOLD-TIME INSTRUCTIONS

Forcing hold timer to another product button: In the event the same product is being cooked in more than one basket, any product button can be programmed to use the hold timer normally used with a different product button. Example: Program button "3" for 7:00 minutes hold time. Then when programming button "R" for hold time, press address 4. Both "3" and "R" will then use the same hold time of 7:00 minutes. See below for button numbers and their assigned address numbers. Any other button can be programmed to use the same hold time.

BUTTON	L	1	2	3	4	5	6	7	8	9	0	R
ADDRESS	1	2	3	4	5	6	7	8	9	10	11	12

11. When you complete your program, lock in the program by pressing STORAGE AND TEMPERATURE CHECK SWITCH, Item 3.

SPLIT POT

1. Press either ON/OFF SWITCH, Item 4 or Item 5.
2. To enter the program mode, press PROGRAMMING SWITCH, Item 8. CODE will appear in the left display, Item 1. If you have pressed this switch in error and do not wish to program, simply press PROGRAM-

MING SWITCH, Item 8 again. **NOTE:** You cannot program the computer while it is in the cook mode. The computer will flash "BUSY" if cooking is in progress.

3. Enter Code Number: Press 1,6,5,0 in that sequence on Item 6 and 7. Your program will not be accepted unless these numbers are entered. This prevents an unauthorized person from changing your present instructions.
4. "SP-r" (SET POINT) will appear in Item 1; this is for setting the cooking temperature for the right pot. The temperature previously selected will be displayed in Item 2. Enter new temperature desired. Press PROGRAMMING SWITCH, Item 8, to lock in temperature setting. If you do not wish to change the setting, press PROGRAMMING SWITCH, Item 8.
5. "SP-L" (SET POINT) will appear in the left display, Item 1; this is for setting the cooking temperature for the left pot. The temperature previously selected will be displayed in the right display, Item 2. Enter the new temperature desired and press PROGRAMMING SWITCH, Item 8, to lock in temperature setting. If you do not wish to change the setting, press PROGRAMMING SWITCH, Item 8.
6. "SELP" (SELECT PRODUCT) will appear in Item 1. Select buttons "L" through "5", Item 6, for programming the left side of split pot; select buttons "6" through "R", Item 7, for programming the right side of split pot. Press the product switch, Item 6 or 7, to be programmed.
7. "SENS" will appear in Item 1. Refer to steps 6-11 under Full Pot Programming Instructions to program individual product buttons.

BOIL FEATURE

1. Before switching the fryer(s) ON, close the frypot drain valve(s): fill empty frypot with mixture of cold water and FRYMASTER FRYER 'N' GRIDDLE cleaner. Follow instructions when mixing.

WARNING

ON EARLY SPLIT POT UNITS, BOTH POTS WILL GO TO BOIL OPERATION. ON LATER SPLIT POT UNITS, BOIL MODE WILL NOT TURN ON BOTH SIDES OF COMPUTER. EACH SIDE WILL HAVE TO BE TURNED ON SEPARATELY.

2. To program computer for Boil Feature, press ON/OFF SWITCH, Item 4 or 5.
3. Press PROGRAMMING SWITCH, Item 8. CODE will appear in the left display.
4. Enter Code Number: Press 1,6,5,3 in that sequence. The right display will read BOIL. The temperature is automatically set for a temperature of 195°F (91°C). The fryer will attain this proper boil temperature and remain there until the OFF switch, Items 4 or 5, is pressed which cancels the boil-out mode. In high-altitude locations, the fryer must be monitored constantly for over-boil conditions. If over-boil conditions occur, turn off fryer immediately, allow to cool, and re-enter boil-out mode to continue the boil-out operation.

FRYER RECOVERY TIME CHECK

1. The computer automatically checks the recovery time each time the pot temperature drops below 250°F (121°C). To check recovery time, press PROGRAMMING SWITCH, Item 8. "CODE" will appear in the left display, Item 1.
2. Enter Code Number: Press 1,6,5,2 in that sequence on Items 6 and 7. The recovery time will appear in both displays, Item 1 and Item 2, for five seconds.

TEMPERATURE SELECTION MODE — FAHRENHEIT TO CELSIUS

1. To change the computer temperature from Fahrenheit to Celsius or Celsius to Fahrenheit, Press ON/OFF SWITCH, Item 4 or 5.
2. Press the PROGRAM CHECK SWITCH, Item 8. CODE will appear in left display, Item 1.

3. Enter Code Number 1,6,5,8 in that sequence on Items 6 and 7. The computer will automatically toggle the temperature from Fahrenheit to Celsius or Celsius to Fahrenheit.
4. Press the TEMPERATURE CHECK SWITCH, Item 3, to display the temperature in the newly-selected mode.

CONSTANT OIL-TEMPERATURE DISPLAY MODE

1. The cooking oil temperature will be displayed constantly at all times. To program constant temperature display, press ON/OFF Switch, Item 4 or 5.

2. Press the PROGRAM CHECK SWITCH, Item 8. CODE will appear in left display, Item 1.
3. Enter Code 1, 6, 5, L in that sequence on Items 6 and 7. The COMPUTER DISPLAY, Item 2 for full pot, Item 1 and 2 for split pot, will display oil temperature constantly.

4. To remove the constant oil-temperature display, repeat Step 2 and 3.

NOTE: During product cooking process, the cooking time will not be displayed, but timing is taking place.

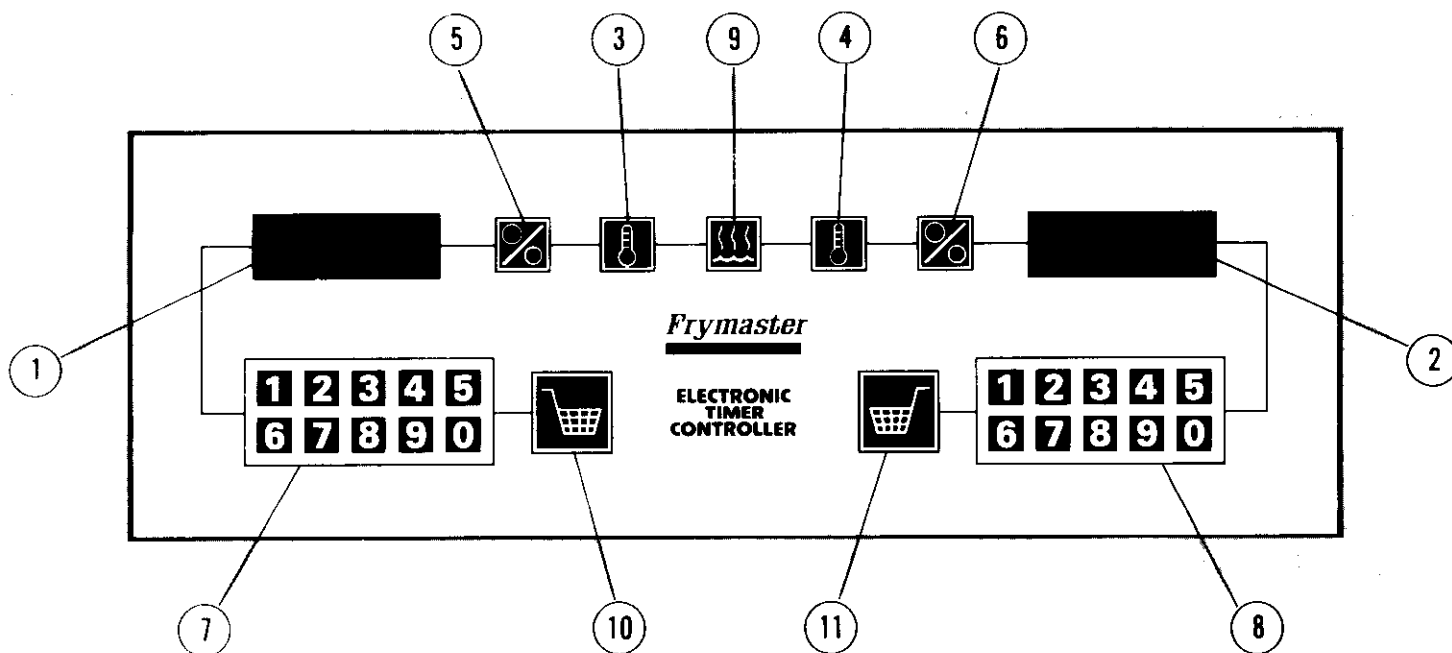


Figure 6

12. TIMER CONTROL PANEL (Refer to Numbers Above)

Item No.

1. Lighted Display — left side display of various functions and operations.
2. Lighted Display — right side display of various functions and operations.
3. Temperature Check Switch — controls left side of split pot. Press once for set point. Press again to return to cook time. (Full pot will display in Item 2.)
4. Temperature Check Switch — controls right side of split pot. Press once for set point. Press again to return to cook time. (Full pot will display in Item 2.)
5. On/Off Switch — controls power supply for left side of split pot and for full pot.
6. On/Off Switch — controls power supply for right side of split pot and for full pot.
7. Cook Time and Temperature Set Switches — controls left side of full or split pot.
8. Cook Time and Temperature Set Switches — controls right side of full or split pot.
9. Boil Mode Switch — controls boil mode.
10. Left Basket Lift Switch — controls left basket lift and cancels alarm.
11. Right Basket Lift Switch — controls right basket lift and cancels alarm.

WARNING

FRYER MUST BE FILLED WITH OIL, SHORTENING, OR WATER BEFORE TURNING ON TIMER.

ELECTRONIC TIMER CONTROLLER USER INSTRUCTIONS

TURNING THE UNIT ON

SPLIT POT:

Left side press ON/OFF SWITCH, Item 5.
Right side press ON/OFF SWITCH, Item 6.

FULL POT:

Press ON/OFF SWITCH, either Item 5 or 6.

ADJUSTING THE TEMPERATURE

SPLIT POT:

Left side press TEMPERATURE CHECK SWITCH, Item 3. Current set point is displayed in Item 1. To change set point, enter new temperature with numbered keys, Item 7. Press TEMPERATURE CHECK SWITCH, Item 3 or 4, to lock in set point. If you do not need to change setting, return to cook time by pressing Item 3 or 4.

Right side — follow left side procedure using right side controls, Items 4, 2, 8.

FULL POT:

Press TEMPERATURE CHECK SWITCH, Item 3 or 4. Current set point is displayed in Item 2. To change set point, enter new temperature with numbered keys, Item 8. Press TEMPERATURE CHECK SWITCH, Item 3 or 4, to lock in set point. If you do not need to change setting, return to cook time by pressing Item 3 or 4.

ADJUSTING THE TIMERS

The Electronic Timer Controller is always ready to time the cook operation for the time displayed in Items 1 and 2. You may change the time using the following procedure:

Left Basket Timer — enter new time with number keys, Item 7.

Right Basket Timer — enter new time with number keys, Item 8.

COOKING INSTRUCTIONS

Press LEFT BASKET LIFT SWITCH, Item 10; or RIGHT BASKET LIFT SWITCH, Item 11, to initiate a timed cook cycle. The corresponding displayed time now counts down. At timeout, the basket lift removes the product from the shortening. An audio alarm alerts the operator that cooking is completed, and the display area shows COOC.

Press LEFT BASKET LIFT SWITCH, Item 10; or RIGHT BASKET LIFT SWITCH, Item 11, to cancel the alarm.

BOIL-MODE OPERATION

Press BOIL-MODE SWITCH, Item 9, to reset the timer to 195°F (91°C). The fryer will now maintain 195°F (91°C) until either ON/OFF switch is pressed, at which time the controller will return to the previously set value.

MELT-CYCLE OPERATION

The fryer automatically goes into melt cycle if shortening temperature is under 180°F (82°C). To override melt cycle, press RIGHT BASKET LIFT SWITCH, Item 11. For Split Pot, press BASKET LIFT SWITCH, Item 10 or 11, corresponding to pot being used.

ADDITIONAL INSTRUCTIONS

The controller automatically selects Fahrenheit/Celsius temperature values. Temperature values less than 190°F are considered Celsius values.

The Electronic Timer Controller stores the current time and temperature settings when the unit is turned off with the ON/OFF switches, Items 5 and 6. However, in the event of power failure, recheck time and temperature setting.

FRYER ALARMS

The Electronic Controller Timer will display the following:

Heat Failure Alarm "HELP": displayed continuously indicates that there has been a heating failure. High Temperature Alarm "Hot": displays if the frypot temperature is above 385°F (196°C). Defective Probe Alarm "Prob": indicating the computer has detected a problem in the temperature measuring circuits, including the probe.

13. TROUBLESHOOTING — FRYER WITH SOLID-STATE THERMOSTAT CONTROL PANEL

WARNING

Inspection, testing and repair of electrical equipment should be performed only by qualified service personnel. The unit should be unplugged or power disconnected when servicing, except when electrical tests are required.

NOTE: This chart does not include every possible problem and the cause. However, careful observation of all malfunction indications and logical troubleshooting will help in correcting the problem in a more expedient manner.

NOTE: Refer to Interface Board Test-Point Chart in Wiring Diagram Section of this manual to aid in troubleshooting

DANGER: Use extreme care during electrical circuit tests. Live circuits will be exposed.

PROBLEM/INDICATION	POSSIBLE CAUSE	CORRECTIVE ACTION
Power Light On, Heat Light On, Trouble Light On, Elements Not Heating.	A. Latch Relay failed to energize. B. Defective latch relay. C. Drain valve not fully closed (Filter Magic and FootPrint Filter models only). D. Defective or maladjusted drain valve microswitch. E. Open hi-limit thermostat.	A. Reset On/Off Switch. For split pot, reset both On/Off switches. B. Unplug and replace latch relay. C. Turn fryer power switch off, (for split pot, turn both power switches off), close drain valve, turn power switch(es) on. D. Adjust or replace switch and repeat step "C" above. E. Check continuity of hi-limit and replace if open.
Power Switch On, Power Light On, Trouble Light On, Heat Light Off. For Split Pot; Trouble Light On Before Power Switch Is Turned On.	A. High resistance or open temperature probe circuit. 1. Open probe. 2. Defective connection in probe circuit. 3. Defective controller.	A. Check continuity or resistance of probe circuit. 1. Replace probe if defective. 2. Repair defective connection. 3. Replace controller if defective.
Fryer Does Not Come Out Of Melt Cycle When Temperature Reaches 180°F (82°C) And Continues To Cycle. If Melt Switch Is Turned Off, Fryer Continues To Heat Until Hi-limit Thermostat Trips, Trouble Light Comes On, Heating Light Remains On And Heating Elements Shut Off.	A. Shorted temperature sensing probe circuit. B. Defective controller. C. Shorted temperature sensing probe. D. Shorted probe circuit on interface board.	A. Short circuit in probe wire harness. B. Replace controller if defective. C. Check resistance of probe and replace if defective. D. Check probe circuit on interface board and replace if defective.

PROBLEM/INDICATION	POSSIBLE CAUSE	CORRECTIVE ACTION
Power Switch On, Fryer Does Not Heat, No Controller Lights. Interface LED's #1 And #2 Off.	A. No power to fryer. B. 3-amp control circuit fuses blown. C. Control circuit breaker tripped on 480-volt fryer only. D. Main 3-phase Buss fuses blown (H22 fryer only).	A. Check power supply. 1. Power cord unplugged. 2. Reset fryer circuit breakers. B. Correct fault and replace fuses. C. Correct fault and reset control circuit breaker. D. Correct fault and replace fuses.
Power Switch On, No Controller Lights, Fryer Does Not Heat. Interface Board LED #1 On, LED #2 Off.	A. Loose connection in 12-volt power supply circuit. B. Defective 12-volt transformer. C. Loose connection or defective relay in fire prevention system (if equipped).	A. Check for 12-volt AC at all terminals of 12-volt circuit. Repair as necessary. B. Check for 12-volt AC on load side of 12-volt transformer. If no 12-volt output, replace. C. Check for loose connections and repair or replace defective relay.
Power Switch On, No Controller Lights, Fryer Does Not Heat. Interface Board LED #1 ON, LED #2 ON.	A. Loose connection between interface board and controller. B. Defective controller.	A. Check for loose plugs or loose pins at each end of controller wire harness. B. Check controller with Frymaster MTB-310 tester. Replace if found to be defective.
Power Switch On, Power Light On, Heat Light On, Or Cycling In Melt Cycle, Trouble Light Off, Fryer Does Not Heat. Interface Board LED #1 Off, LED #2 On.	A. Defective 24-volt transformer caused by shorted latch or heating contactor coil. B. Fuse blown in 24-volt transformer split pot and export model (only). C. Burned open traces on interface board.	A. Check resistance of latch contactor and heat contactor coils. Replace if defective. Replace 24-volt transformer. B. Check for shorted contactor coils as in "A" above and replace blown fuse. C. Check for shorted contactor coils as in "A" above. Replace defective contactor and interface board.

PROBLEM/INDICATION	POSSIBLE CAUSE	CORRECTIVE ACTION
Power Switch On, Power Light On, Heat Light On, Trouble Light Off, Fryer Does Not Heat, All Appropriate LED's On.	A. Defective heat or latch contactor, broken wires or burned open 3-phase contacts.	A. Check for 24-volts at contactor coils. If voltage available, replace contactor. Repair broken wires and loose connections.
Fryer Slow Coming Out of Melt Cycle and Slow Recovery.	A. Low 3-phase power input. B. Incorrect voltage i.e., 240-volt fryers connected to 208-volt source. C. Heating elements incorrectly wired. D. One or more segments burned out in heating elements. E. Broken wires where wires enter heating elements.	A. Check supply voltage; contact power company if low voltage. B. Check fryer rating plate for correct voltage. C. Check heating element wire connections as per wiring diagram, correct if improperly wired. D. Check for specified current draw at each phase. Replace heating element if specified current draw is not met. E. Replace heating element.
Power Switch On, Heat Light On — After Initial Daily Start-up and Busy Time Periods — Trouble Light Comes On, Fryer Stops Heating, Fryer Not Overheating.	A. Heating elements floating in shortening. B. Hi-limit thermostat capillary tube bulb bent and touching heating element. C. Hi-limit thermostat prematurely tripping.	A. Check for basket support rack installed on top of heating elements and adjust tilt spring tension as necessary. B. Carefully straighten the bulb so that it does not touch heating element. C. Replace hi-limit thermostat if defective.
Power Switch On, Power Light On, Heat Light Off, Trouble On After Temperature Reaches 410°F (210°C), Fryer Continues To Heat Until Hi-limit Trips.	A. Heating elements wired wrong. B. Heating element segments shorted together inside heating element shell, or wire shorted together where wires enter heating element. C. One or more contacts sticking closed on heating contactor.	A. Check heating element wiring as per wiring diagram. Rewire if incorrectly wired. B. Check for specified current draw at each phase. Replace heating element if defective. C. Check for current draw on heating contactor input phases. If current draw is found, replace contactor.

PROBLEM/INDICATION	POSSIBLE CAUSE	CORRECTIVE ACTION
Power Switch On, Power Light On, Heat Light On, Trouble Light On, Fryer Heating Normally.	A. False alarm. 1. Defective connection in controller wire harness; Pin 10 — full pot, Pin 12 — split pot, Pin 2 — both full and split pot. 2. Defective interface board. 3. Defective controller. 4. Shorted contacts in latch relay.	A. Check for loose connection in plugs of controller. 1. Repair loose connections. 2. Replace interface board if defective. 3. Test controller with Frymaster MTB-310 tester. Replace controller if defective. 4. Unplug latch relay and replace with known good relay.

14. TROUBLESHOOTING — FRYER WITH DIGITAL SOLID-STATE CONTROL PANEL

WARNING

Inspection, testing, and repair of electrical equipment should be performed only by qualified service personnel. The unit should be unplugged or power disconnected when servicing, except when electrical tests are required.

DANGER: Use extreme care during electrical circuit tests. Live circuits will be exposed.

NOTE: This chart does not include every possible problem and the cause. However, careful observation of all malfunction indications and logical troubleshooting will help in correcting the problem in a more expedient manner.

NOTE: Refer to Interface Board Test-Point Chart in Wiring Diagram Section of this supplement to aid in troubleshooting.

NOTE: This troubleshooting section applies to EP series electric fryers only.

PROBLEM/INDICATION	POSSIBLE CAUSE	CORRECTIVE ACTION
ON/OFF Switch On: Display Shows "XXX°F" and "HELP" Alternately, Heat Indicator Cycling On and Off, Heating Elements Off.	A. Latch relay failed to energize B. Defective latch relay. C. Drain valve not fully closed (Filter Magic and FootPrint models only). D. Defective or maladjusted drain valve microswitch. E. Open hi-limit thermostat.	A. Reset ON/OFF switch. For split pot, reset both ON/OFF switches. B. Unplug and replace latch relay. C. ON/OFF switch off (for split pot, press both switches off), close drain valve, turn power switch(es) on. D. Adjust or replace switch(es) and repeat step "C" above. E. Check continuity of hi-limit and replace if open.
ON/OFF Switches On: Display Shows "Prob" ; No Heat Indicator.	A. High/Low resistance in temperature probe circuit. 1. Open or shorted probe. 2. Defective connection in probe circuit. 3. Defective controller. 4. Shorted or open probe circuit on interface board.	A. Check continuity or resistance of probe circuit. 1. Replace probe if defective. 2. Repair defective connection. 3. Check controller with Frymaster MTB-310 Tester. Replace if found to be defective. 4. Check probe circuit on interface board and replace board if defective.

PROBLEM/INDICATION	POSSIBLE CAUSE	CORRECTIVE ACTION
No Displays On Controller When ON/OFF Switch(es) Are Pressed On. Interface Board LED's All Off.	A. No power to fryer. B. 3-amp control circuit fuses blown.	A. Check power supply. 1. Power cord unplugged. 2. Reset fryer circuit breakers. B. Correct fault and replace fuses.
No Display On Controller When ON/OFF Switches Are Pressed On. Interface Board LED #1 On, LED #2 Off.	A. Loose connection in 12-volt power supply circuit. B. Defective 12-volt transformer. C. Loose connection or defective relay in fire prevention system (if equipped).	A. Check for 12-volt AC at all terminals of 12-volt circuit. Repair as necessary. B. Check for 12-volt AC on load side of 12-volt transformer. If no 12-volt output, replace transformer. C. Check for loose connections and repair or replace defective relay.
No Display On Controller When ON/OFF Switches Are Pressed On. Interface Board LED # 1 On, LED #2 On.	A. Loose connection between interface board and controller. B. Defective controller.	A. Check for loose plugs or loose pins at each end of computer wire harness. B. Check controller with Frymaster MTB-310 tester. Replace if found to be defective.
ON/OFF Switch On, Displays Show Set-point Temperature (XXX°F) and Heat Indicator Cycles On and Off; Elements Do Not Heat. Interface Board LED #2 On; All Others Off.	A. Defective 24-volt transformer caused by shorted latch contactor coil. B. Fuse blown in 24-volt transformer split pot and export model (only). C. Burned open traces on interface board.	A. Check resistance of latch contactor coil. Replace if defective. Replace 24-volt transformer. B. Check for shorted contactor coil as in "A" above and replace blown fuse. C. Check for shorted contactor coil as in "A" above. Replace defective contactor and interface board.
ON/OFF Switches On, Displays Show Set-point Temperature (XXX°F) or (XXX°C), Heat Indicator On, Fryer Does Not Heat. All Appropriate LED's On.	A. Defective latch contactor, broken wires or burned open 3-phase contacts. B. Open triacs on triac board	A. Check for 24-volts at contactor coil. If voltage available, replace contactor. Repair broken wires and loose connections. B. Check for current draw at heating element wires on triac board. If no current draw, replace triac board.

PROBLEM/INDICATION	POSSIBLE CAUSE	CORRECTIVE ACTION
Fryer Very Slow Coming Up to Set-point Temperature and Slow Recovery.	A. Low 3-phase power input. B. Incorrect voltage i.e., 240-volt fryers connected to 208-volt source. C. Heating elements incorrectly wired. D. One or more segments burned out in heating elements. E. Broken connections where wires enter heating elements. F. Defective latch contactor <i>or triac on triac board</i>. One contact burned open on latch contactor <i>or one triac open on triac board</i>. G. One phase of incoming power out or circuit breaker tripped.	A. Check supply voltage; contact power company if low voltage. B. Check fryer rating plate for correct voltage. C. Check heating element wire connections as per wiring diagram, correct if improperly wired. D. Check for specified current draw at each phase. Replace heating element if specified current draw is not met. E. Replace heating element. F. Check latch contactor and replace if defective <i>or triacs on triac board</i>. <i>Replace board if triacs are open</i>. G. Check all phases of incoming power. Reset main power circuit breakers.
ON/OFF Switches On, Heat Indicator On — After Initial Daily Start-up and Busy Time Periods, Display Shows "HELP" and "HOT"; Fryer Stops Heating.	A. Heating elements floating in shortening. B. Hi-limit thermostat capillary tube bulb bent and touching heating element. C. Hi-limit thermostat prematurely tripping.	A. Check and make sure basket support rack installed on top of heating elements and adjust heating element tilt spring tension as necessary. B. Carefully straighten the bulb so that it does not touch heating element. C. Replace hi-limit thermostat if defective.
ON/OFF Switches On; Heat Indicator Off, Fryer Over Heats, Displays Show "HOT" and "HELP".	A. Heating elements wired wrong.	A. Check heating element wiring as per wiring diagram. Rewire if incorrectly wired.

PROBLEM/INDICATION	POSSIBLE CAUSE	CORRECTIVE ACTION
(Continued)	B. Heating element segment shorted together inside heating element shell, or wire shorted together where wires enter heating element. C. <i>One or more triacs shorted on triac board.</i>	B. Check for specified current draw at each phase. Replace heating element if defective. C. <i>Check for current draw on heating triac input phases. If no current draw is found, replace triac board.</i>
ON/OFF Switches On, Displays Show "HELP". Controller Operates and Controls Normally.	A. False alarm. 1. Defective interface board. 2. Shorted contacts in latch relay. 3. Defective controller.	A. Check for shorted components. 1. Replace interface board if defective. 2. Unplug latch relay and replace with known good relay. 3. Test controller with Frymaster MTB-310 tester. Replace controller if defective.
Controller Will Not Accept Changes To Temperature When Up and Down Arrows Are Pressed.	A. Controller buttons shorted.	A. Test controller with Frymaster MTB-310 tester. Replace controller if found defective.
Occasionally, Controller Will Display "XXX°F" (Actual Shortening Temperature) and "HOT" Alternately During Initial Start-up or After Last Product Load Cooked.	A. Controller set-point temperature set at maximum 375°F (190°C) causing fryer temperature to overshoot.	A. Lower set-point to a lower temperature.

15. TROUBLESHOOTING — FRYER WITH COMPUTER

WARNING

Inspection, testing and repair of electrical equipment should be performed only by qualified service personnel. The unit should be unplugged or power disconnected when servicing, except when electrical tests are required.

DANGER: Use extreme care during electrical circuit tests. Live circuits will be exposed.

NOTE: This chart does not include every possible problem and the cause. However, careful observation of all malfunction indications and logical troubleshooting will help in correcting the problem in a more expedient manner.

NOTE: Refer to Interface Board Test-Point Chart in Wiring Diagram Section of this manual to aid in troubleshooting

PROBLEM/INDICATION	POSSIBLE CAUSE	CORRECTIVE ACTION
On/Off Switch On; Display Shows "CYCL" and "HELP" Alternately, Alarm Sounding, Heat Indicator Cycling On and Off, Heating Elements Off.	A. Latch Relay failed to energize B. Defective latch relay. C. Drain valve not fully closed (Filter Magic models only). D. Defective or maladjusted drain valve microswitch. E. Open hi-limit thermostat.	A. Reset On/Off Switch. For split pot, reset both On/Off switches. B. Unplug and replace latch relay. C. On/Off switch off (for split pot, press both switches off), close drain valve, turn power switches on. D. Adjust or replace switch(es) and repeat step "C" above. E. Check continuity of hi-limit and replace if open.
On/Off Switches On; Display Shows "Prob", Alarm Sounding; No Heat Indicator.	A. High/Low resistance in temperature probe circuit. 1. Open or shorted probe. 2. Defective connection in probe circuit. 3. Defective computer. 4. Shorted or open probe circuit on interface board.	A. Check continuity or resistance of probe circuit. 1. Replace probe if defective. 2. Repair defective connection. 3. Check computer with Frymaster MTB-310 Tester. Replace if found to be defective. 4. Check probe circuit on interface board and replace board if defective.

PROBLEM/INDICATION	POSSIBLE CAUSE	CORRECTIVE ACTION
No Displays On Computer When On/Off Switch(es) Are Pressed On. Interface Board LED's All Off	A. No power to fryer. B. 3-amp control circuit fuses blown. C. Control circuit breaker tripped on 480-volt fryer only. D. Main 3-phase Buss fuses blown (H22 fryer only).	A. Check power supply. 1. Power cord unplugged. 2. Reset fryer circuit breakers. B. Correct fault and replace fuses. C. Correct fault and reset control circuit breaker. D. Correct fault and replace fuses.
No Display On Computer When On/Off Switches Are Pressed On. Interface Board LED #1 On LED #2 Off.	A. Loose connection in 12-volt power supply circuit. B. Defective 12-volt transformer. C. Loose connection or defective relay in fire prevention system (if equipped).	A. Check for 12-volt AC at all terminals of 12-volt circuit. Repair as necessary. B. Check for 12-volt AC on load side of 12-volt transformer. If no 12-volt output, replace. C. Check for loose connections and repair or replace defective relay.
No Display On Computer When On/Off Switches Are Pressed On. Interface Board LED #1 On LED #2 ON.	A. Loose connection between interface board and computer. B. Defective computer	A. Check for loose plugs or loose pins at each end of computer wire harness. B. Check computer with Frymaster MTB-310 tester. Replace if found to be defective.
On/Off Switch On, Displays Show "CYCL" and Heat Indicator Cycles On And Off; Elements Do Not Heat. Interface Board LED #2 On All Others Off.	A. Defective 24-volt transformer caused by shorted latch or heating contactor coil. B. Fuse blown in 24-volt transformer split pot and export model (only). C. Burned open traces on interface board.	A. Check resistance of latch contactor and heat contactor coils. Replace if defective. Replace 24-volt transformer. B. Check for shorted contactor coils as in "A" above and replace blown fuse. C. Check for shorted contactor coils as in "A" above. Replace defective contactor and interface board.

PROBLEM/INDICATION	POSSIBLE CAUSE	CORRECTIVE ACTION
On/Off Switches On, Displays Show "CYCL" Or "Lo", Heat Indicator On, Fryer Does Not Heat. All Appropriate LED's On.	A. Defective heat or latch contactor, broken wires or burned open 3-phase contacts. B. <i>Open triacs on triac board (for EPRI fryers only).</i>	A. Check for 24-volts at contactor coils. If voltage available, replace contactor. Repair broken wires and loose connections. B. <i>Check for current draw at heating element wires on triac board. If no current draw, replace triac board (for EPRI fryers only).</i>
Fryer Slow Coming Out of Melt Cycle and Slow Recovery.	A. Low 3-phase power input. B. Incorrect voltage i.e., 240-volt fryers connected to 208-volt source. C. Heating elements incorrectly wired. D. One or more segments burned out in heating elements. E. Broken wires where wires enter heating elements. F. Defective latch or heat contactor. One contact burned open on latch contactor. <i>For EPRI fryer, one triac open on triac board.</i> G. One phase of incoming power out or circuit breaker tripped.	A. Check supply voltage; contact power company if low voltage. B. Check fryer rating plate for correct voltage. C. Check heating element wire connections as per wiring diagram, correct if improperly wired. D. Check for specified current draw at each phase. Replace heating element if specified current draw is not met. E. Replace heating element. F. Check contactor and replace if defective. <i>For EPRI fryer, replace triac on triac board. Replace triac board if triacs are open.</i> G. Check all phases of incoming power. Reset main power circuit breakers.
On/Off Switches On, Heat Indicator On — After Initial Daily Start-up and Busy Time Periods, Display Shows "HELP" and "Hi" Alternately With Alarm Sounding. Fryer Stops Heating.	A. Heating elements floating in shortening. B. Hi-limit thermostat capillary tube bulb bent and touching heating element.	A. Check for basket support rack installed on top of heating elements and adjust tilt spring tension as necessary. B. Carefully straighten the bulb so that it does not touch heating element.

PROBLEM/INDICATION	POSSIBLE CAUSE	CORRECTIVE ACTION
(Continued)	C. Hi-limit thermostat prematurely tripping.	C. Replace hi-limit thermostat if defective.
On/Off Switches On; Heat Indicator Off, Fryer Over Heats, Displays Show "O-Hi", "HOT" and "HELP" With Alarm Sounding.	A. Heating elements wired wrong. B. Heating element segments shorted together inside heating element shell, or wire shorted together where wires enter heating element. C. One or more contacts sticking closed on heating contactor. <i>For EPRI fryers, one or more triacs shorted on triac board</i>	A. Check heating element wiring as per wiring diagram. Rewire if incorrectly wired. B. Check for specified current draw at each phase. Replace heating element if defective. C. Check for current draw on heating contactor (<i>or triac for EPRI fryer</i>) input phases. If current draw is found, replace contactor (<i>or triac</i>).
On/Off Switches On, Displays Show "HELP", With Alarm Sounding. Computer Operates and Controls Normally.	A. False alarm 1. Defective interface board. 2. Shorted contacts in latch relay. 3. Defective computer.	A. Check for shorted components. 1. Replace interface board if defective. 2. Unplug latch relay and replace with known good relay 3. Test computer with Frymaster MTB-310 tester. Replace computer if defective.
On/Off Switches On, Heat Indicator Cycles On and Off Normally. After Melt Cycle is Complete at 180°F(82°C), Display Shows "Hi-". Fryer Stops Heating.	A. Programmed set point temperature is less than 180°F (82°C).	A. Reprogram computer with desired set-point temperature.
<i>EPRI Fryers Only ON/OFF Switches On, Display Shows "Hi-". Fryer Will Not Heat.</i>	A. <i>Programmed set-point temperature is 15° (6°C) or more below room temperature.</i>	A. <i>Reprogram computer with desired set-point temperature.</i>

PROBLEM/INDICATION	POSSIBLE CAUSE	CORRECTIVE ACTION
Computer Will Not Accept Programming Mode.	A. Computer buttons shorted.	A. Test computer with Frymaster MTB-310 tester. Replace computer if found defective.
Occasionally, Computer Will Display "HI" and "HOT" Alternately During Initial Start-up or After Last Product Load Cooked.	A. Computer programmed set point temperature set at maximum 375°F (190°C) causing fryer temperature to over shoot.	A. Program computer to a lower set-point temperature.

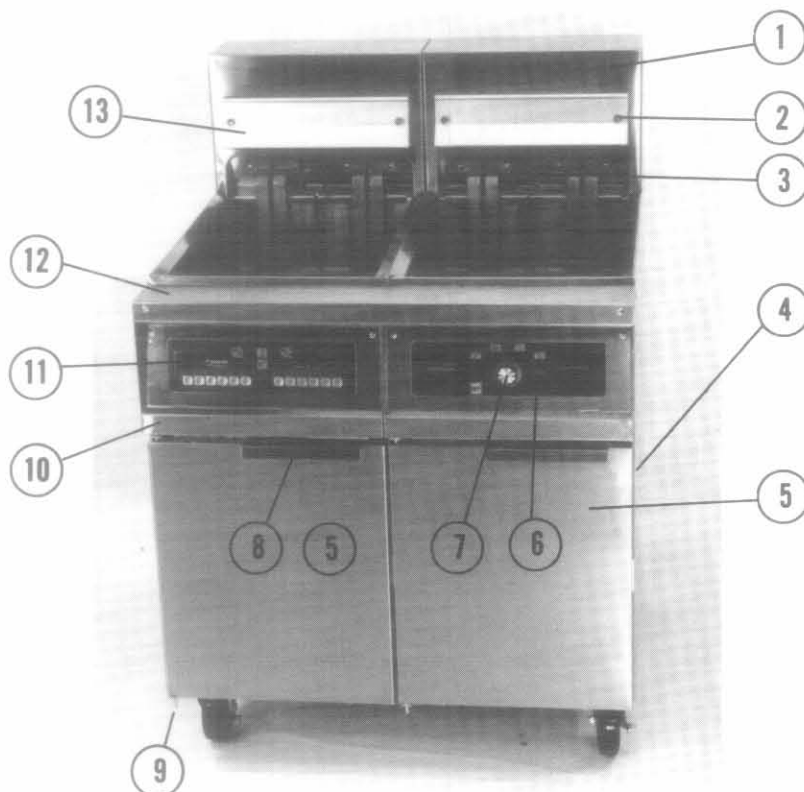


Figure 7

16. PARTS LIST — Electric Fryer H14, H17, & H22 (Refer to Figure 7)

<u>ITEM NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>FRYER MODEL</u>
1	824-0146	Tilt Housing Cover, Full Pot	ALL
*	824-0146-1	Tilt Housing Cover, Full Pot Export	ALL
*	824-0147	Tilt Housing Cover, Split Pot	ALL
*	824-0334	Tilt Housing Cover, Full Pot NAVY	
*	809-0015	Cage Nut	ALL
*	910-3122	Tilt Housing Cap Strip	ALL
2	809-0171	Basket Hanger Screw	ALL
3	810-0443	Heating Element Lift Handle	ALL
4	901-1697	Cabinet Side, Left, CRS, Without Holes	ALL
4	902-1697	Cabinet Side, Right, CRS, Without Holes	ALL
4	911-1697	Cabinet Side Left, SS, Without Holes	ALL
4	912-1697	Cabinet Side, Right, SS, Without Holes	ALL
4	901-9324	Cabinet Side, Left, CRS, With Holes	ALL
4	902-9324	Cabinet Side, Right, CRS, With Holes	ALL
4	911-9324	Cabinet Side, Left, SS, With Holes	ALL
4	912-9324	Cabinet Side, Right, SS, With Holes	ALL
*	900-0889	Side Hole Cover, CRS (3)	ALL
*	900-0890	Side Hole Cover, CRS (1)	ALL
*	910-0889	Side Hole Cover, SS (3)	ALL
*	910-0890	Side Hole Cover, SS (1)	ALL
*	809-0359	Screw (16)	ALL

16. PARTS LIST (CONT'D) - Frypot and Associated Components (Refer to Figures 7 & 8)

<u>ITEM NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>FRYER MODEL</u>
5	806-1962	Door, Stainless Steel Left or Right	ALL
*	806-1961	Door, Painted Left or Right	ALL
6	806-3267	Solid-State Controller, Full Pot	ALL
*	806-3268	Solid-State Controller, Split Pot	ALL
*	806-3798	Solid-State Controller, Full Pot NAVY ONLY	H17, H22
7	810-0387	Thermostat Knob	ALL
8	910-3672	Door Handle	ALL
*	809-0372	Screws, Door Handle	ALL
*	810-0066	Magnetic Door Catch	ALL
9	809-0216	Door Hinge Pin	ALL
*	810-0658	Pin Retaining Ring	ALL
*	810-0275	Door Pin Spring	ALL
*	900-07341	Door Hinge	ALL
10	823-0767	Control Panel Mounting Frame, Single, SS	ALL
10	806-47331	Control Panel Mounting Frame, Double, SS	ALL
10	806-47341	Control Panel Mounting Frame, Triple, SS	ALL
11	806-3708	Computer, Single or Multi Product, Full Pot	ALL
*	806-3709	Computer, Single or Multi Product, Split Pot	ALL
*	806-3720	Computer Basket Lift Timer, Full Pot	ALL
*	806-3721	Computer Basket Lift Timer, Split Pot	ALL
**	806-3660	Computer Beeper & Mount, Large	ALL
*	806-4310	Computer, Remote, Full Pot In-hood Mount	ALL
*	806-4311	Computer, Remote, Split Pot In-hood Mount	ALL
*	806-4312	Computer, Remote, Full Pot On-hood Mount	ALL
*	806-4313	Computer, Remote, Split Pot On-hood Mount	ALL
*	806-4451	Computer, Multi-product, Full Pot	EPRI
*	806-5021	Computer, Multi-product, KFC Export (Australia & New Zealand)	EPRI
*	806-4452	Computer, Multi-product, Split Pot	EPRI
*	806-4448	Digital Controller, Full Pot, Specify Constant Set-point Display or Constant Temperature Display	EPRI
*	806-4449	Digital Controller, Split Pot, Specify Constant Set-point Display or Constant Temperature Display	EPRI
12	910-6606	Top Cap, Single	ALL
*	910-6607	Top Cap, Double	ALL
*	910-9148	Top Cap, Triple	ALL
*	910-9156	Top Cap, 4 Fryers	ALL
13	803-0028	Basket Hanger	ALL
*	823-0839	Handle, Fronthold NAVY ONLY	H22

*These items not illustrated.

**NOTE: Beeper 806-3660 must be used with computer model CM8501 only.

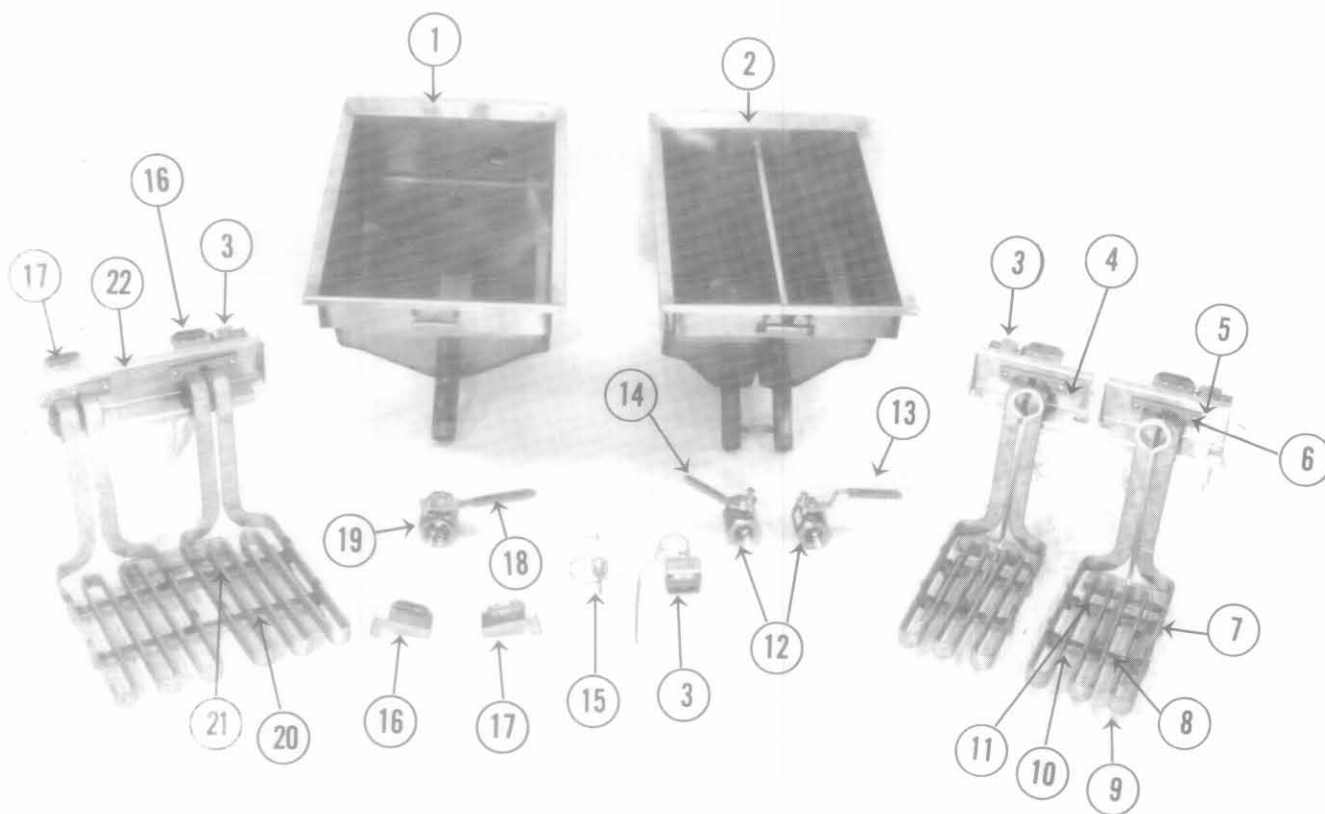


Figure 8

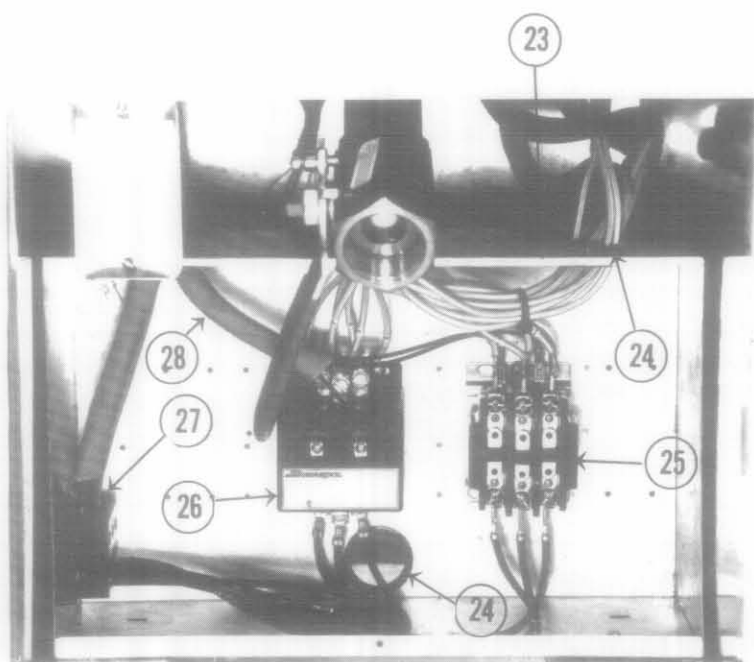


Figure 9

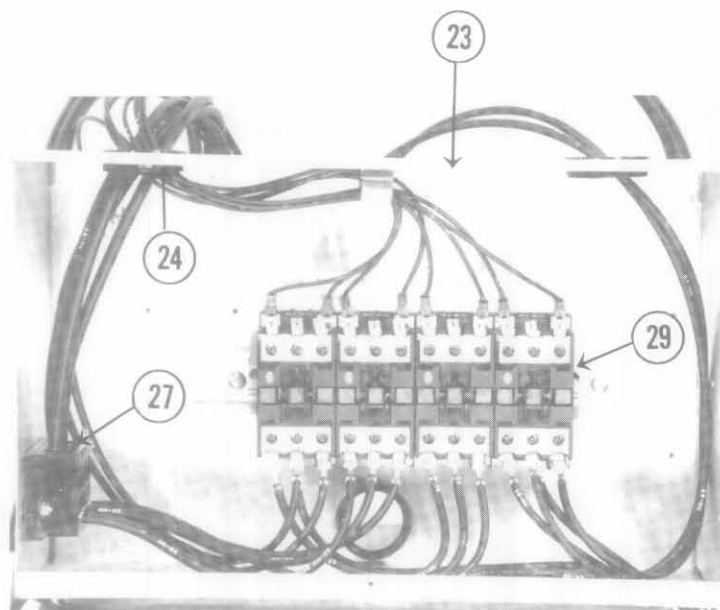


Figure 10

16. PARTS LIST (CONT'D)-Frypot and Associated Components (Refer to Figures 8, 9, & 10)

<u>ITEM NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>FRYER MODEL</u>
1	823-0808	Frypot Only, Full Pot, For Fryers W/O Filter	ALL
1	823-0816	Frypot Only, Full Pot, For Fryers W/Filter	ALL
1	806-4352	<i>Frypot Assembly, Full Pot, For Fryers W/O Filter</i>	<i>EPRI</i>
1	806-4350	<i>Frypot Assembly, Full Pot, For Fryers W/Filter</i>	<i>EPRI</i>
2	823-0807	Frypot Only, Split Pot, For Fryers W/O Filter	H14, H17
2	823-0815	Frypot Only, Split Pot, For Fryers W/Filter	H14, H17
2	806-4351	<i>Frypot Assembly, Split Pot For Fryers W/O Filter</i>	<i>EPRI</i>
2	806-4349	<i>Frypot Assembly, Split Pot For Fryers W/Filter</i>	<i>EPRI</i>
3	826-1001	Hi-Limit Thermostat Kit	ALL
*	807-1025	Hi-Limit Capillary Tube Bushing	ALL
4	823-1881	<i>Heating Element Tilt Plate Split Pot</i>	<i>EPRI</i>
5	823-1882	Heating Element Tilt Plate, Split Pot	ALL
6	809-0117	Tilt Plate & Element Mount Screw	ALL
7	910-0868	Heating Element Clamp	ALL
*	910-1000	Heating Element Lower Retainer Bracket	ALL
8	809-0105	Heating Element Clamp Screw	ALL
*	810-0443	Heating Element Lift Handle	ALL
*	810-0076	Lift Handle Drive Lock Pin	ALL
9	807-0881	Heating Element 208 Volts	H14
*	807-0881-1	Heating Element 240 Volts	H14
*	807-0881-2	Heating Element 480 Volts	H14
*	807-0881-3	Heating Element 208 Volts	H17
*	807-0881-4	Heating Element 240 Volts	H17
*	807-0881-4	Heating Element 220 Volts	H14
*	807-0881-5	Heating Element 480 Volts	H17
*	807-0881-6	Heating Element 208 Volts	H22
*	807-0881-7	Heating Element 240 Volts	H22
*	807-0881-8	Heating Element 480 Volts	H22
*	807-0881-9	Heating Element 440 Volts	H22
*	807-0881-10	Heating Element 220 Volts	H17
*	807-0881-11	Heating Element 220 Volts	H22
*	807-0881-12	Heating Element 440 Volts	H17
10	823-0822	Front Heating Element Support Bar, Split Pot	ALL
11	910-0869	Rear Heating Element Support Bar, Split Pot	ALL
12	810-0380	Drain Valve, 1", Split Pot	ALL
13	823-0817	Drain Valve Handle, Right, Split Pot, For Fryers W/Filter	ALL
14	823-0818	Drain Valve Handle, Left, Split Pot For Fryers W/Filter	ALL
15	806-1658 or	Temperature Probe	ALL
*	806-4206	Temperature Probe	ALL
*	810-0625	Temperature Probe Guard	ALL
*	806-3841	Temperature Probe Wire Harness Full Vat	ALL
*	806-3842	Temperature Probe Wire Harness Split Vat	ALL
*	807-0157	Connector 6-Pin Male	ALL

16. PARTS LIST (CONT'D)-Frypot and Associated Components (Refer to Figures 8, 9, & 10)

<u>ITEM NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>FRYER MODEL</u>
*	807-0158	Connector, 6-Pin Female	ALL
*	807-0701	Pin, Female	ALL
*	826-1000	Hi-Limit Temperature Bulb Clip Kit	ALL
16	902-1141	Wire Support Bracket Right	ALL
17	901-1141	Wire Support Bracket Left	ALL
18	810-0583-1	Drain Valve Handle, Full Pot W or W/O Filter	ALL
19	810-0583	Drain Valve 1-1/4", Full Pot W/O Filter	ALL
*	823-1363	Drain Valve W/Filter	ALL
20	823-0821	Front Heating Element Support Bar, Full Pot	ALL
21	910-3681	Rear Heating Element Support Bar, Full Pot	ALL
22	823-1378	Heating Element Tilt Plate, Full Pot	ALL
23	823-0811	Component Box (only)	ALL
*	823-1160	Contactor Box (only)	FPH 14 & 17
*	900-3695	Component Box Cover	ALL
*	900-3980	Contactor Box Cover	FPH 14 & 17
24	807-0128	Insulator Bushing	ALL
25	807-0703	Latching Contactor Domestic (Latching and Heating Contactor Navy Shipboard)	ALL
26	807-1071	Heating Contactor	H14, H17
26	807-0884	Heating Contactor, Domestic	H22
*	807-1168	Heating & Latching Contactor, Export Klockner Moeller & Telemecanique	H22
27	807-0878	Terminal Block 3-lug 12-pole	ALL
*	807-1352	3-Phase Power Input Fuse Block	H22
*	807-0499	Fuse, 40 AMP Buss, SC40	H22
*	807-0500	Fuse, 45 Amp, Buss	H22
28	811-0208	Insulator Tubing Sleeve	ALL
29	807-1167	Heating & Latch Contactor Export Klockner Moeller & Telemecanique	H14,H17
*	806-5072	<i>Triac Board</i>	<i>EPRI</i>
*	807-1254	<i>Heat Sink for Triac Board</i>	<i>EPRI</i>
*	807-0703	<i>Latch Contactor, Furnas</i>	<i>EPRI</i>

*These items not illustrated.

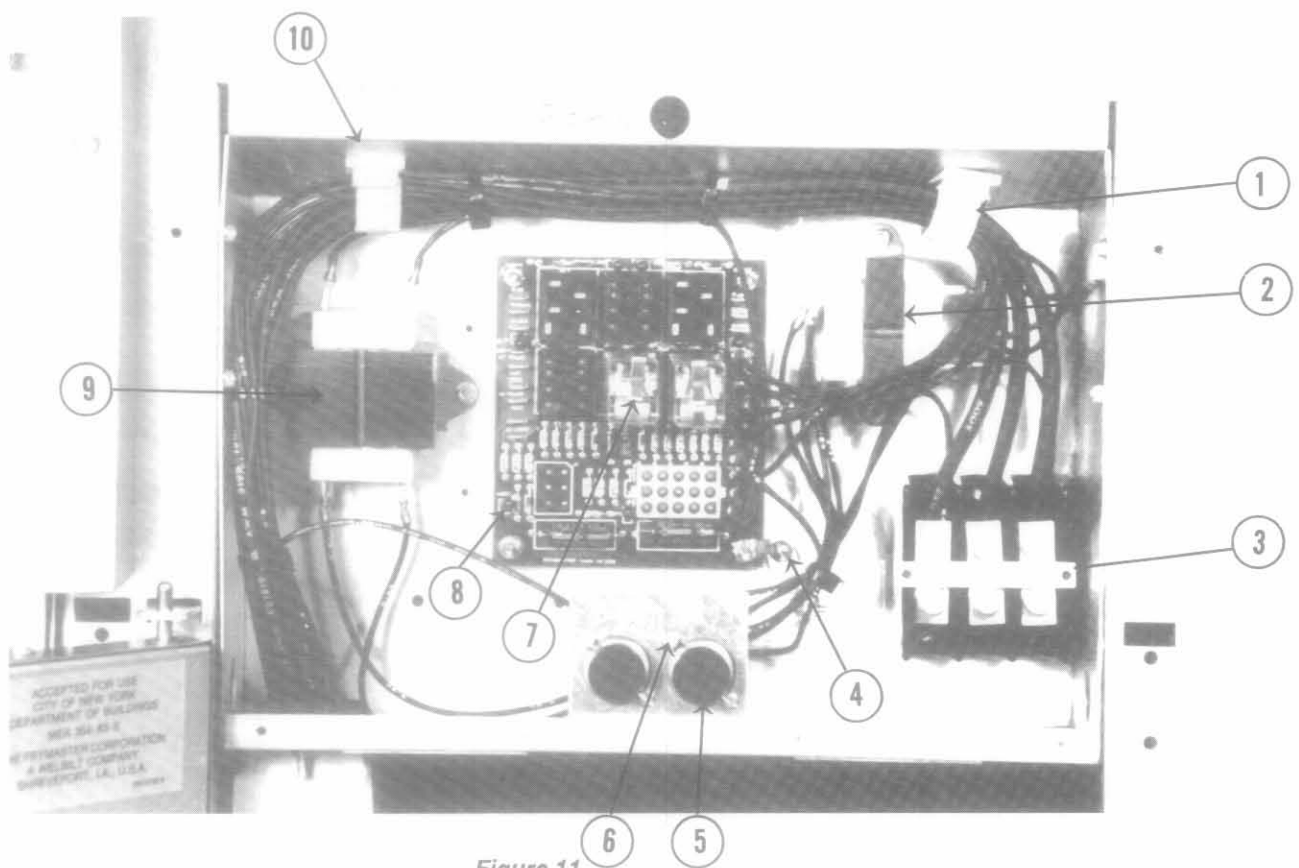


Figure 11

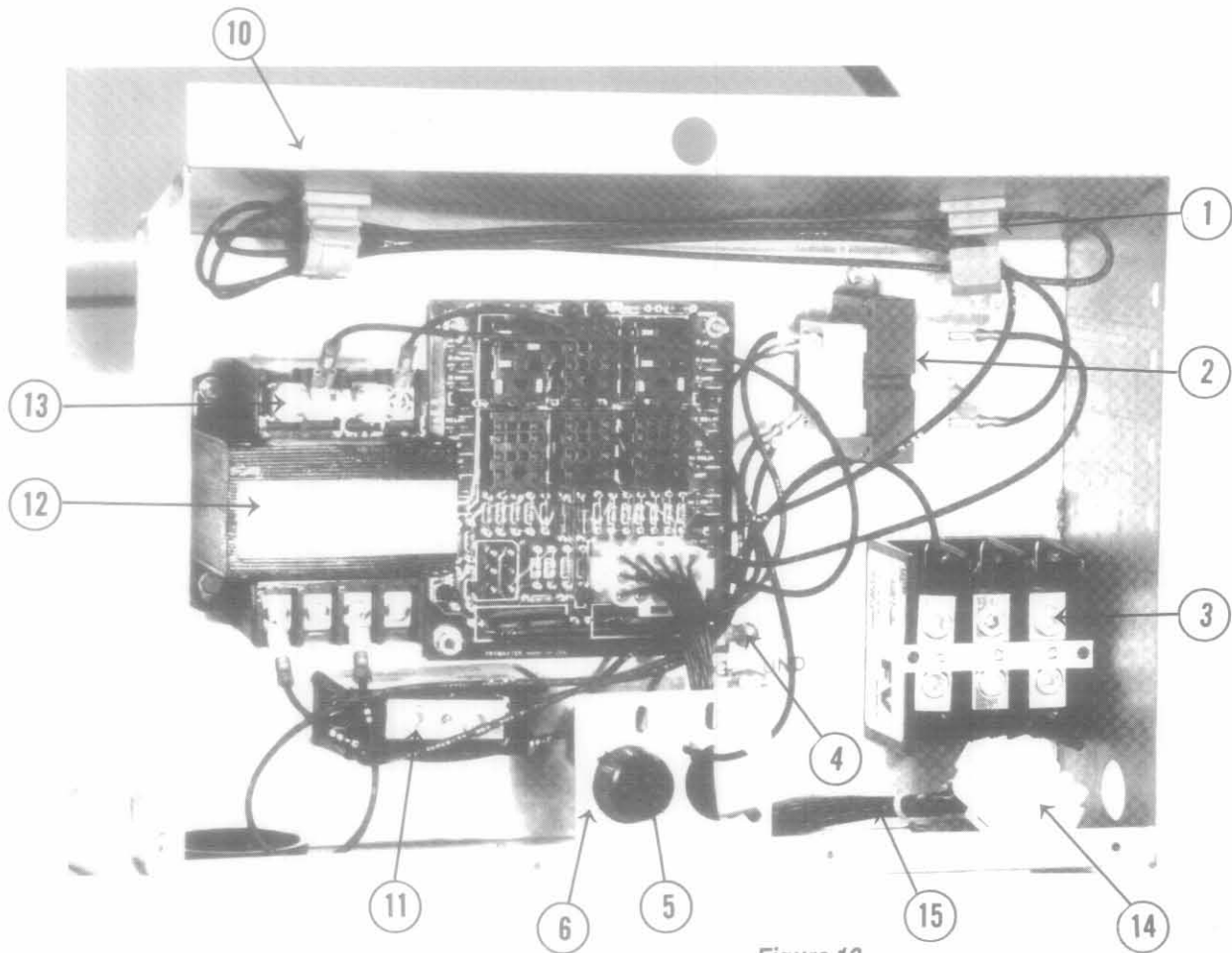


Figure 12

16. PARTS LIST (CONT'D)-Front Component Box and Associated Components (Refer to Figures 11 & 12)

<u>ITEM NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>FRYER MODEL</u>
1	809-0037	Plastic Wire Clamp	ALL
2	807-0979	Transformer 208/240/12V For 208 or 240V Fryers (only)	ALL
2	807-0855	Transformer 120/12V For 440 or 480V Fryers (only)	ALL
3	807-0065	3-Phase Power Input Terminal Block	ALL
4	807-0070	Terminal Lug, Ground	ALL
5	807-0922	Fuse Holder for 208 & 240V Fryers	ALL
6	920-0051	Fuse Holder Bracket for 208 & 240V Fryers	ALL
*	807-0069	Circuit Breaker for 440 or 480V Fryers	ALL
*	920-0156	Circuit Breaker Bracket for 440 or 480V Fryers	ALL
*	807-0921	Fuse 3 Amp Buss KTK-3, For 208 & 240V Fryers	ALL
7	807-0833	Heat and Latch Relay	ALL
*	807-0834	Basket Lift Relay, For Fryers W/Basket Lifts	ALL
8	806-3850	Interface Board Rear Mounted Probe	ALL
8	806-3111	Interface Board Front Mounted Probe	ALL
*	809-0349	Spacer, Interface Board	ALL
*	806-4333	Interface Board	EPR/
9	807-0800	Transformer 120/24V For 440 or 480V Fryers (only) Full Pot	ALL
9	807-0680	Transformer 208/240/24V Full Pot Domestic	ALL
10	823-0810	Component Box	ALL
11	970-0567	Terminal Block, Neutral, Export (only)	ALL
12	807-1169	Transformer 208/220/240/24V Fryers (only) Split Pot	ALL
12	807-1215	Transformer 120/24V For 440 or 480 Fryers (only) Split Pot	ALL
12	807-1007	Transformer 220V/12V 40VA, GS Fryers Only	ALL
13	807-1174	Fuse for 807-1169 & 807-1007 Transformers	ALL
*	807-0064	Transformer 480/120V Non-Basket Lift Fryers	ALL
*	807-0331	Transformer 480/120V for Basket Lift Fryers (only)	ALL
14	807-0804	Connector, Female 15-pin	ALL
*	807-0701	Pin, Female	ALL
*	807-0258	Pin, Male	ALL
15	806-2071	Control Panel Wire Harness	ALL

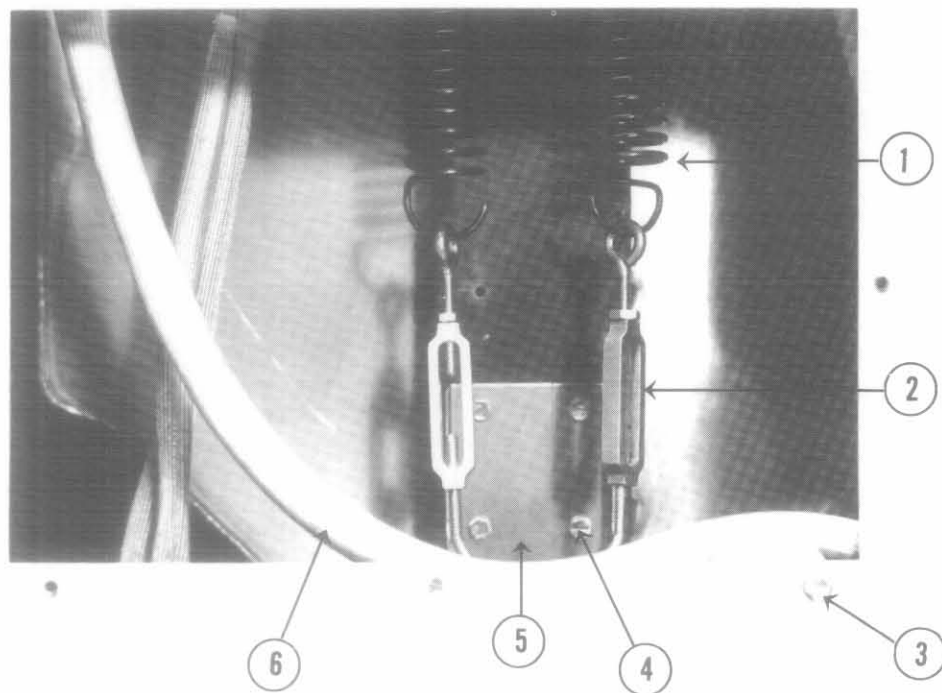


Figure 13

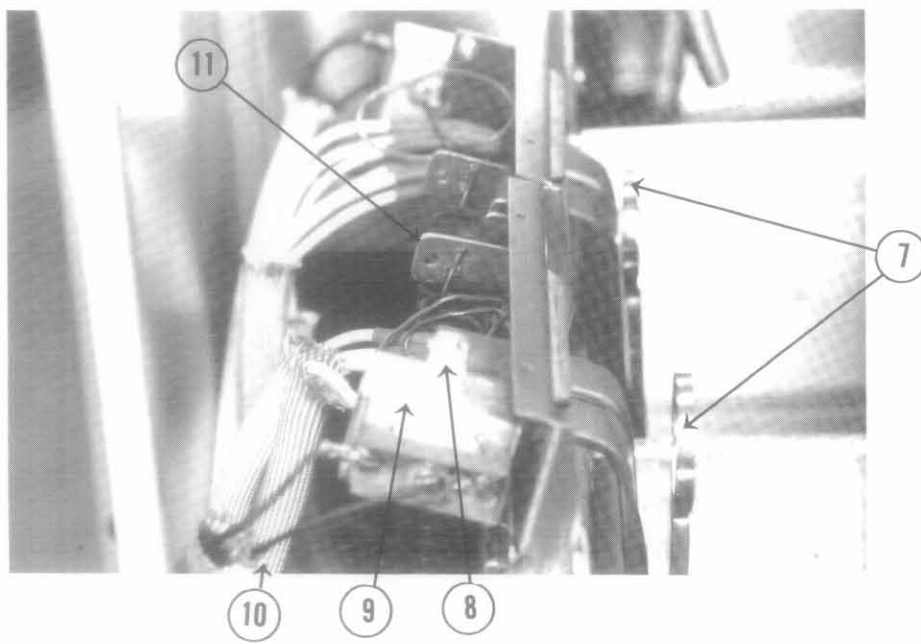


Figure 14

16. PARTS LIST (CONT'D)-Heating Element Tilt Mechanism and Associated Components (Refer to Figures 13 & 14)

<u>ITEM NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>FRYER MODEL</u>
1	810-0297	Heating Element Tilt Spring	ALL
2	809-0358	Tilt Spring Turnbuckle	ALL
3	809-0126	Rear Access Cover Screw	ALL
*	910-3177	Cabinet Rear Access Cover	ALL
4	809-0126	Turnbuckle Bracket Screw	ALL
5	900-0871	Turnbuckle Bracket	ALL
6	811-0208	Insulator Tubing Sleeve	ALL
7	810-0443	Heating Element Lift Handle	ALL
*	810-0076	Lift Handle Lock Pin	ALL
8	809-0096	Hi-Limit Thermostat Mount Screw	ALL
9	826-1001	Hi-Limit Thermostat Kit	ALL
10	811-0208	Insulator Tubing Sleeve	ALL
11	823-0059	Upper Tilt Spring Bracket	ALL
*	807-0027	Tilt Switch For GS Fryers Only	ALL
*	900-1549	Tilt Switch Bracket For GS Fryers Only	ALL

*These items not illustrated.

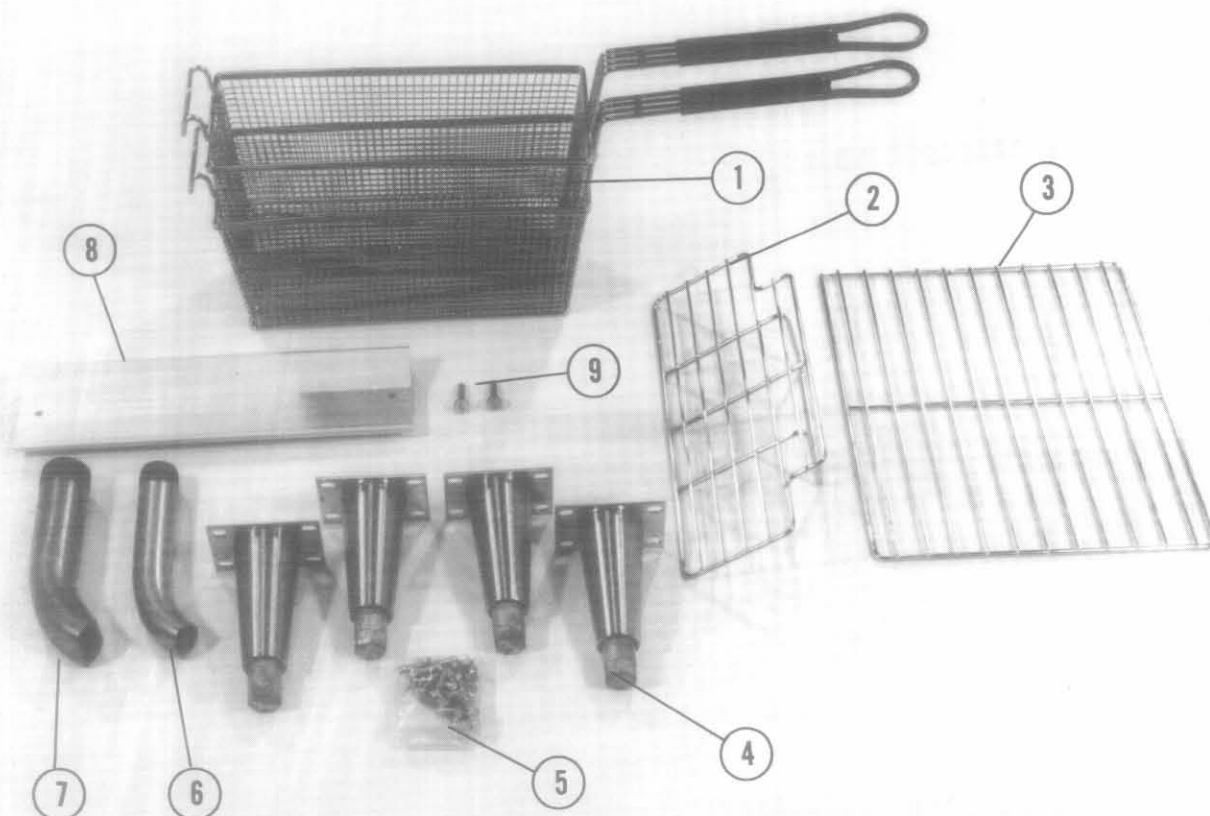


Figure 15

16. PARTS LIST (CONT'D)-Accessories (Refer to Figure 15)

<u>ITEM NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>FRYER MODEL</u>
1	803-0022	Twin Frybasket	ALL
2	803-0106	Basket Support Rack, Split Pot	ALL
3	803-0132	Basket Support Rack Full Pot	ALL
4	806-5043	Leg Package	ALL
5	809-0131	Leg Mounting Screws	ALL
6	813-0188	Drain Nipple, Full Pot	ALL
7	813-0276	Drain Nipple, Split Pot	ALL
8	803-0028	Basket Hanger	ALL
9	809-0171	Basket Hanger Screws	ALL
*	823-0846	Legs, NAVY ONLY	ALL
*	803-0072	Filter Cone Holder	ALL
*	803-0047	Clean Out Rod	ALL
*	803-0042	Filter Cone	ALL
*	806-3068	Cover, Frypot, Full Pot	ALL
*	806-3071	Cover, Frypot, Split Pot	ALL
*	810-0357	Caster W/Brake 5"	ALL
*	810-0356	Caster W/O Brake 5"	ALL
*	810-0651	Caster W/Brake 2"	ALL

FPH Models

*These items not illustrated.

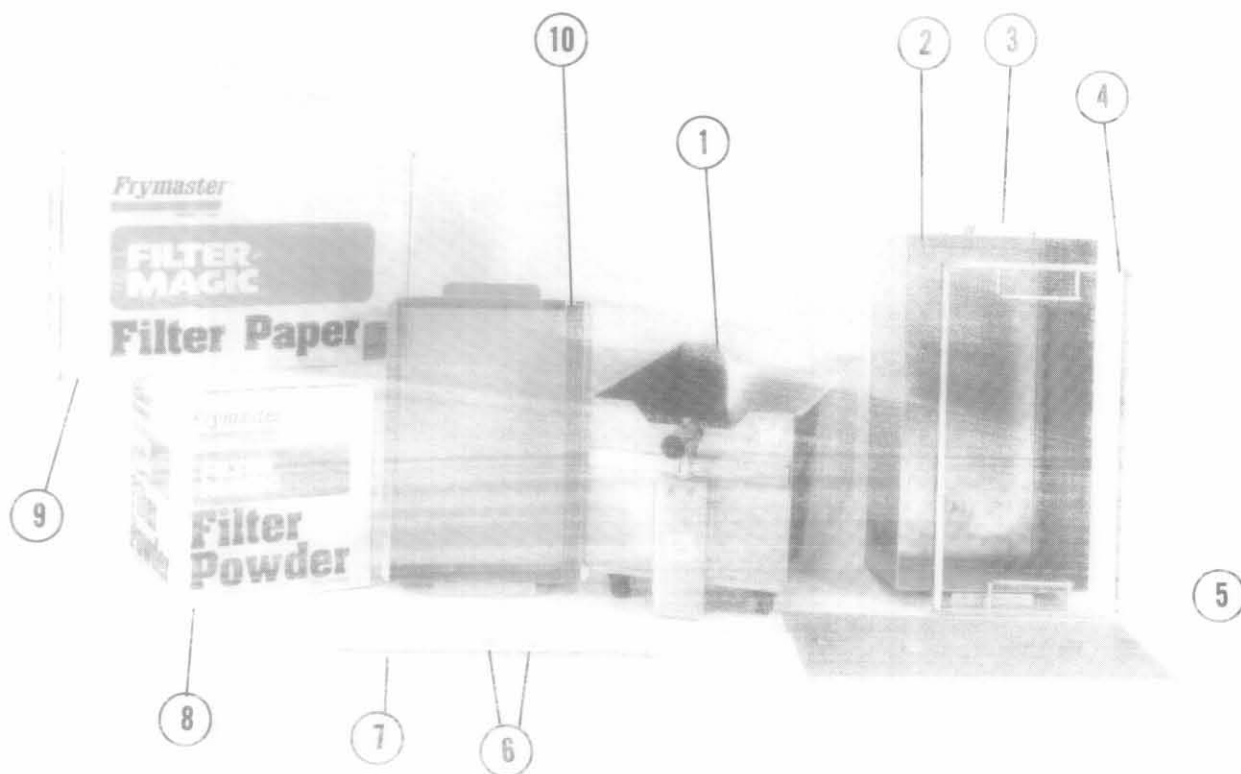


Figure 15-A

16. PARTS LIST (CONT'D)-FILTER MAGIC II (Refer to Figure 15-A)

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	806-4338	Pan, Outer (Complete)
2	806-4859	Pan, Inner
3	810-0180	Handle, Inner Pan
*	809-0024	Screw, Handle
4	823-17331	Filter Paper Hold-down Ring
5	823-1732	Screen, Filter Pan
6	816-0117	O-Ring, Inner Pan Fitting
7	806-4373	Pan Heater
8	803-0002	Filter Powder
9	803-0154	Filter Paper
10	823-1362	Crumb Screen

*Not illustrated.

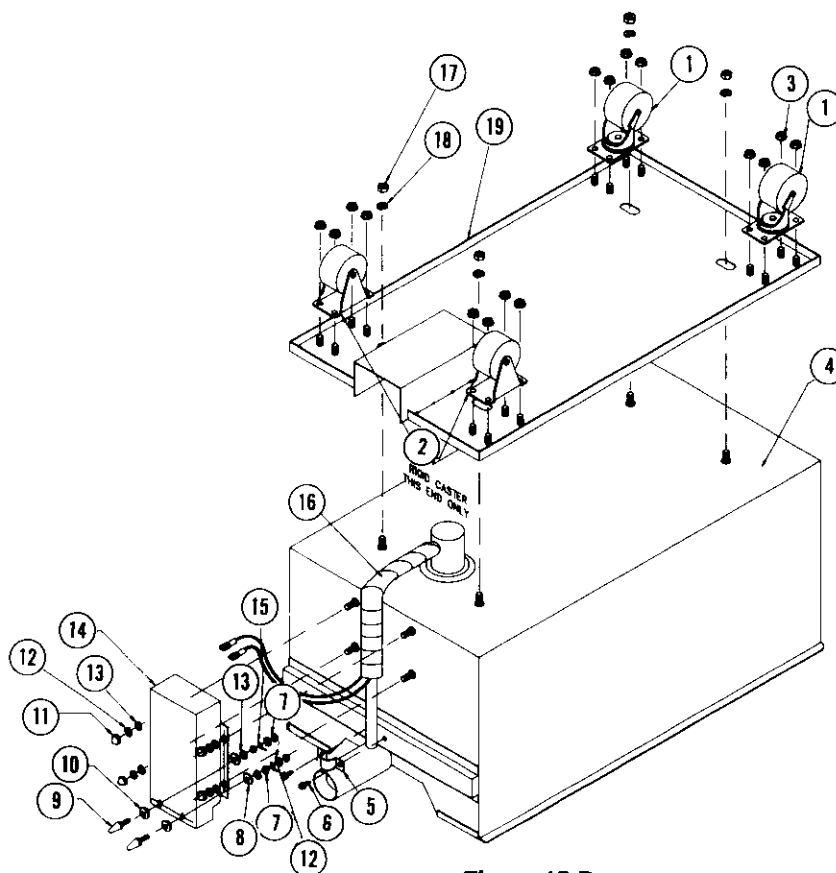


Figure 15-B

16. PARTS LIST (CONT'D)-FILTER MAGIC II (Refer to Figure 15-B)

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	810-0006	Caster, 2 in. Swivel
2	810-0005	Caster, 2 in. Rigid
3	809-0256	Keps Lock Nut
4	823-1360	Pan, Only
5	910-1350	Clamp, Suction Tube
*	813-0411	Pipe Plug
6	809-0361	Screw Drill
7	809-0053	Nut 10-32
8	807-1367	Insulator Filter Contacts
9	810-0695	Contactor Pan Heater
10	807-1270	Insulator Shoulder
11	809-0020	Nut, Cap 10-24
12	809-0184	Lock Washer, #10
13	809-0185	Flat Washer #10
14	824-0291	Cover, Suction Tube
15	807-0037	Terminal Tab
16	806-4373	Pan Heater
17	809-0071	Base Mount Nut
18	809-0189	Washer, Flat 1/4"
19	823-1361	Base, Outer Pan

*Not illustrated.

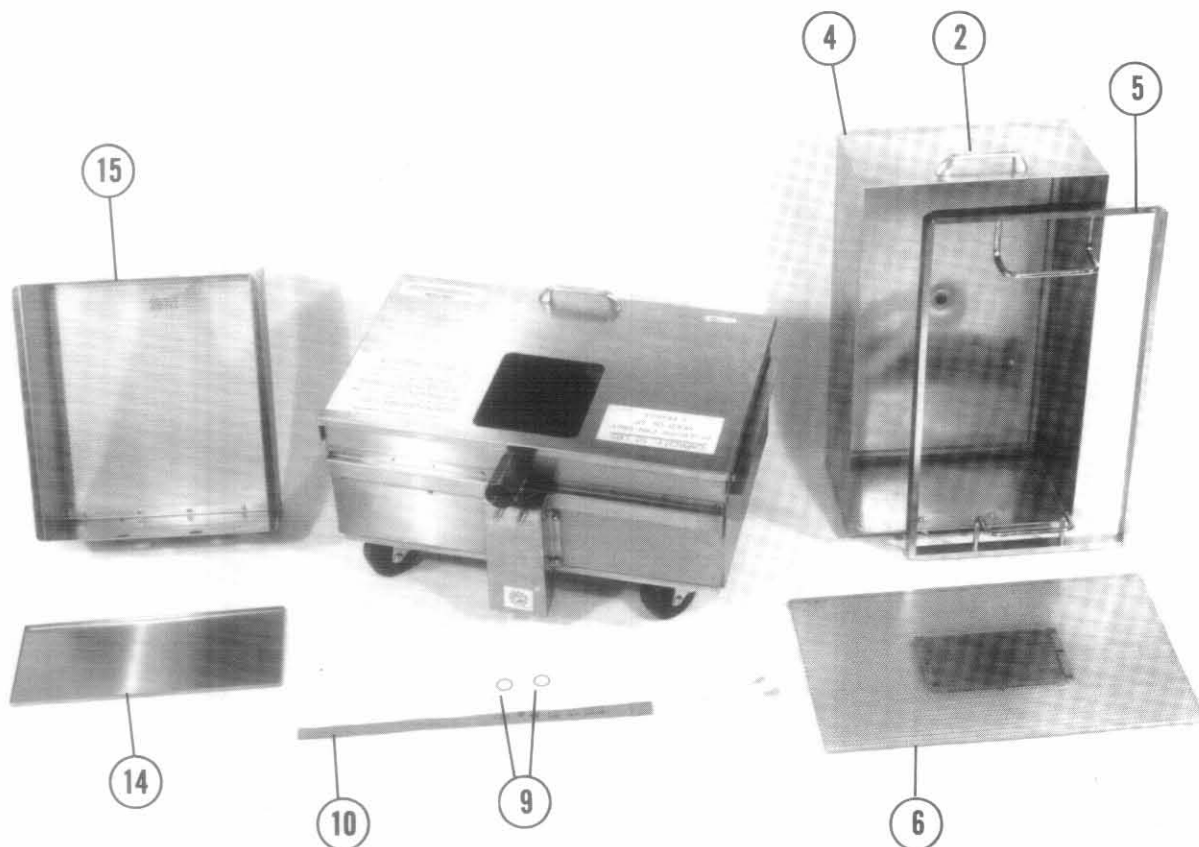


Figure 15-C

16. PARTS LIST (CONT'D)-FOOTPRINT II (Refer to Figure 15-C)

ITEM	PART NO.	DESCRIPTION
1	806-4370SP	Outer Pan Assembly
2	810-0180	Handle, Outer Pan Cover
*	809-0024	Screw, Handle
3	823-1397	Cover, Outer Pan
4	806-4771	Inner Pan Assembly
5	823-16631	Filter Paper Hold-down Ring
6	823-1664	Screen, Filter Pan
*	803-0002	Filter Powder
*	803-0153	Filter Paper, High Performance
7	809-0422	Pan Cover Hinge Screw
8	824-0246	Cover, Suction Tube
9	816-0117	O-Ring, Inner Pan Fitting
10	806-4373	Pan Heater
11	810-0695	Contact Pan Heater
12	807-1367	Insulator Filter Contacts
13	807-1270	Insulator Shoulder
14	910-4240	Drip Pan
15	823-1423	Crumb Screen

*Not illustrated.

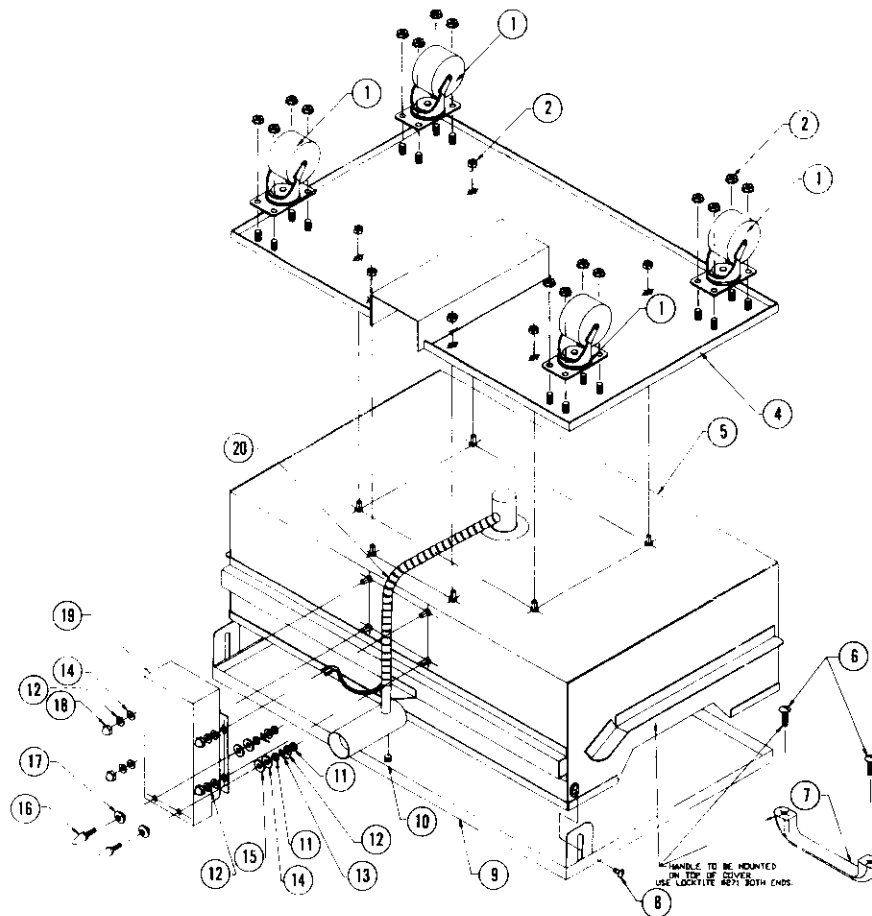


Figure 15-D

16. PARTS LIST (CONT'D)-FOOTPRINT II (Refer to Figure 15-D)

ITEM	PART NO.	DESCRIPTION
1	810-0006	Caster, 2 in. Swivel
2	809-0256	Keys Lock Nut
3	809-0417	Lock Nut
4	823-1376	Base Assembly, Outer Pan
5	823-1377	Filter Pan Assembly
6	809-0024	Screw 10-24 x 3/8"
7	810-0180	Handle
8	809-0422	Screw, Shoulder, 10-32
9	823-1397	Cover
10	813-0411	Pipe Plug
11	809-0053	Nut 10-32
12	809-0184	Washer, Lock #10
13	807-0037	Terminal Tab
14	809-0185	Flat Washer #10
15	807-1367	Washer, Flat Non-conductive
16	810-0695	Contact Pan
17	807-1270	Washer Shoulder Insert
18	809-0020	Nut, Cap 10-24
19	824-0312	Housing, Tube and Heater
20	806-4370	Pan Heater

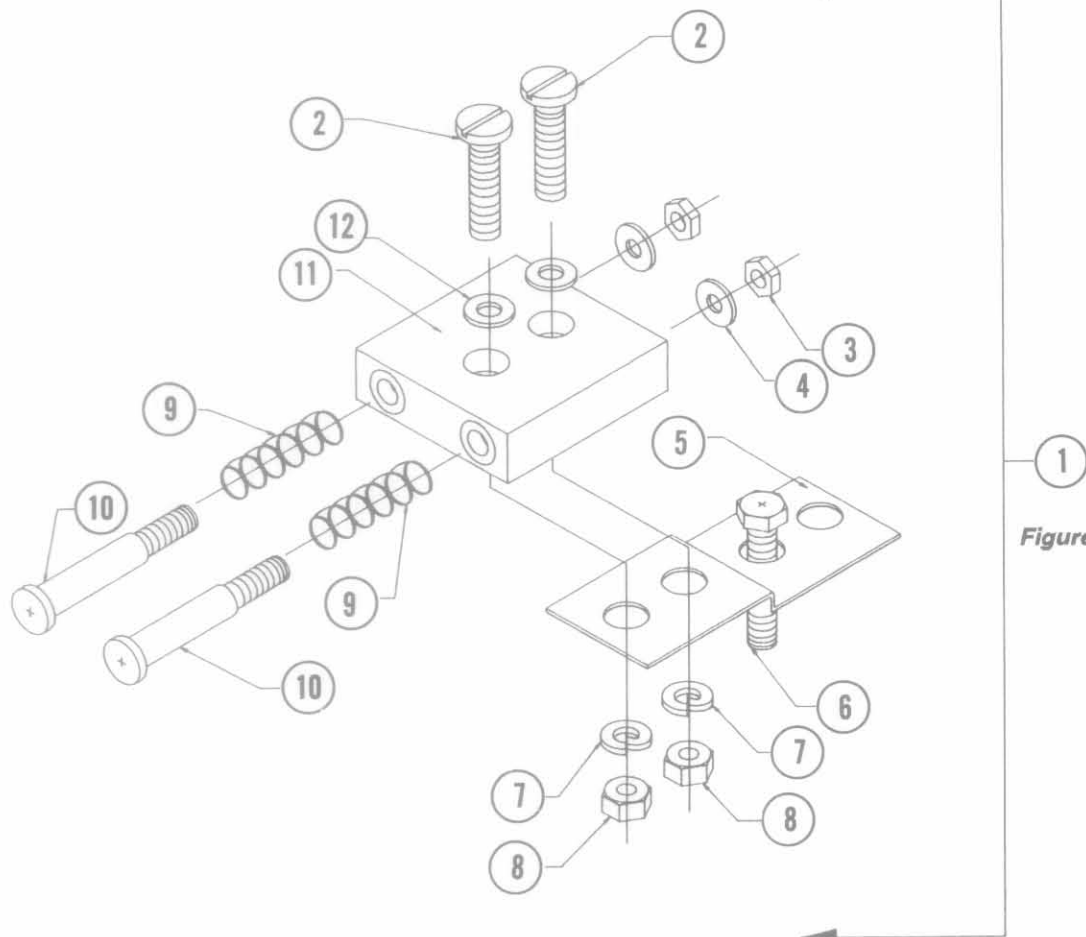


Figure 15-E

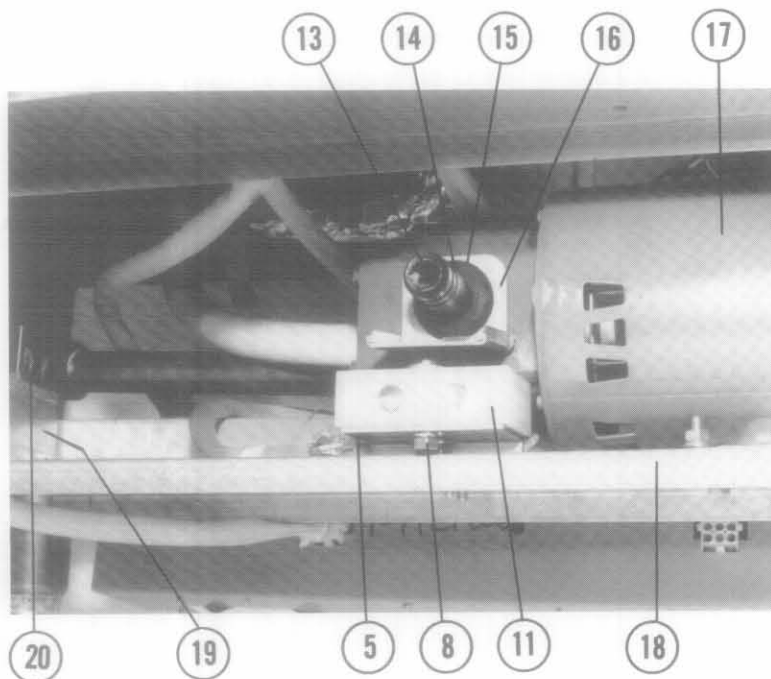


Figure 15-F

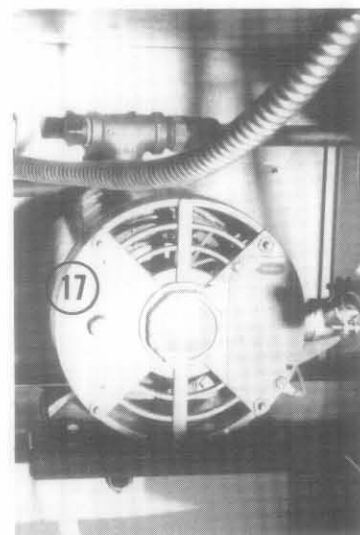


Figure 15-G

16. PARTS LIST (CONT'D)-FILTER MAGIC II & FOOTPRINT II (Refer to Figures 15-E, F, & G)

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	806-4694	Contactor Block Assembly
2	809-0291	Block Mount Bolt
3	809-0053	Nut, 10-32
4	809-0185	Flat Washer, #10
5	910-1521	Block Mount Bracket
6	809-0131	Bracket Mount Bolt
7	809-0191	Lock Washer
8	809-0071	Block Mount Nut
9	810-0696	Contact Spring
10	810-0693	Contact Pin
11	810-0694	Contactor Block (Only) Pan Heater
12	809-0435	Flat Washer 1/4"
13	810-0697	Connector, Oil Pickup, FootPrint
13	823-1356	Connector, Oil Pickup, Filter Magic
14	816-0012	O-Ring, Oil Pickup Tube
15	816-0102	Oil Diverter Grommet
16	900-1472	Oil Diverter
17	807-1197	Motor, Pump 120V
17	807-1266	Motor, Pump 240V
*	807-1420	FM Heater, Pump 120V, 36 in. 45W, Rear Flush
*	807-1419	FM Heater, Pump 240V, 36 in. 60W, Rear Flush
*	807-1408	FM Heater Pump 120V, 70 in. 50W
*	807-1409	FM Heater Pump 240V, 70 in. 90W
*	807-1472	FP Heater, Oil Return Line 120V, 56 in. 40W
*	807-1473	FP Heater, Oil Return Line 240V, 56 in. 70W
18	900-6984	Pump Motor Mount Frame
19	823-1598	Pump Motor Mount Frame End
20	810-0665	Pump Motor Mount Frame Leveling Nut

*Not illustrated.

16. PARTS LIST (CONT'D)-FILTER MAGIC II & FOOTPRINT II (Refer to Figures 15-H - M)

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	930-0839	Bracket, Pump Control Switch
2	807-0027	Microswitch
3	920-0219	Bracket, Handle Pivot
4	910-6670	Rod, Valve Handle
5	920-0753	Handle, Return Valve
6	902-0883	Handle, Oil Return Valve, Right
6	901-0883	Handle, Oil Return Valve Left Split Vat Only
7	810-0278	Valve, Oil Return
8	813-0376	Fitting, Hose
9	810-0285	Swivel, Valve Handle Rod
10	910-3605	Rod, Valve Handle
11	920-0387	Plate, Swivel
12	920-0742	Mount Bracket, Swivel Plate
13	807-0012	Pump Relay
14	806-4358	Resistor, Ready Light
15	807-0800	Transformer 120/24
15	807-0547	Transformer 240/24
16	807-0276	12-Pin Terminal Block
17	900-3708	Transformer Box Filter Magic
18	824-0249	Transformer Box FootPrint
19	807-1275	Light, Ready 2V
20	814-0001	Handle Grip
21	816-0026	Gasket, Power Shower
22	806-4505	Power Shower, Full Vat
23	806-4527	Power Shower, Split Vat
24	809-0415	Clean-out Screw, Power Shower
25	810-0668	Hose Clamp
26	811-0847	Hoses - Specify Length
*	807-0154	Power Cord, Optional
*	824-0148	Filter Cabinet Cover
*	806-0396	Power Shower Storage Box

*Not illustrated.

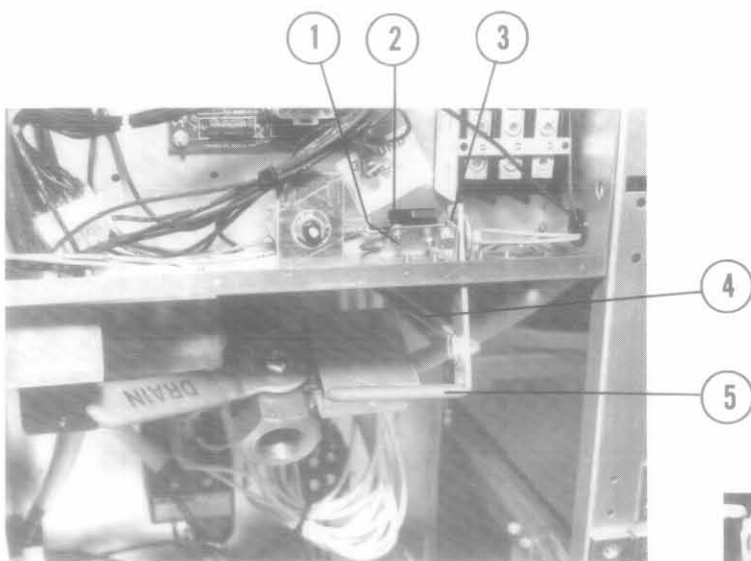


Figure 15-H

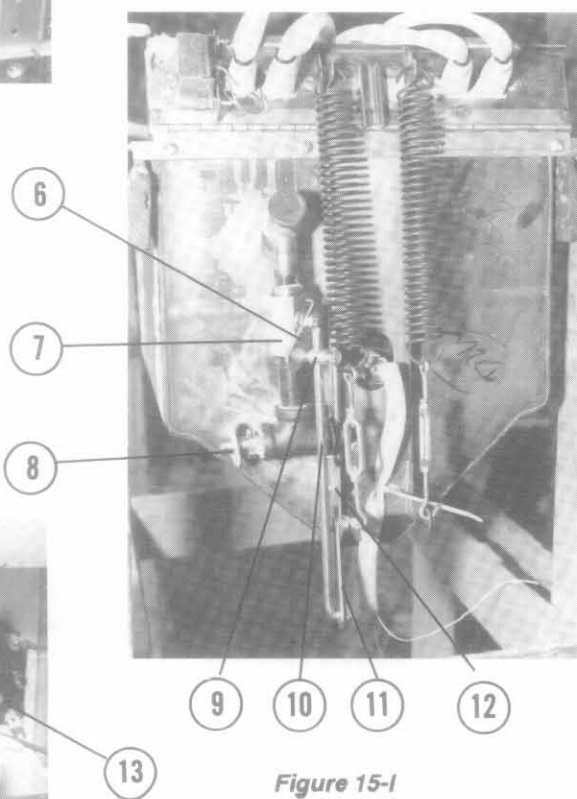


Figure 15-I

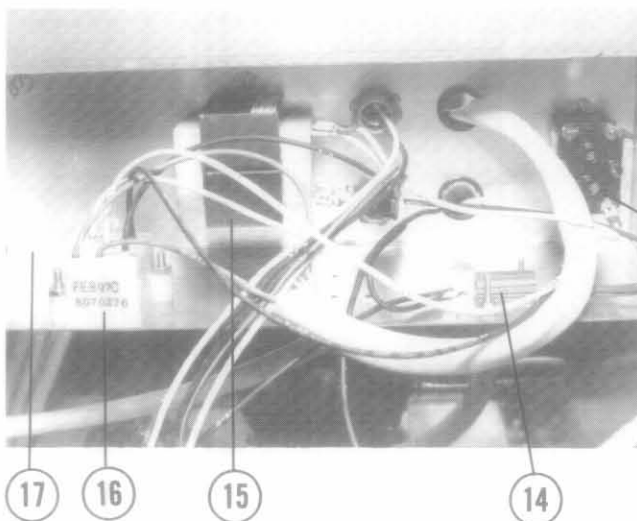


Figure 15-J

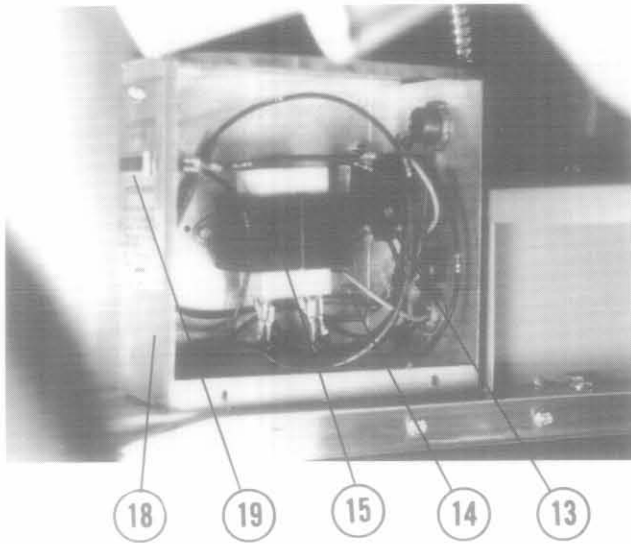


Figure 15-K

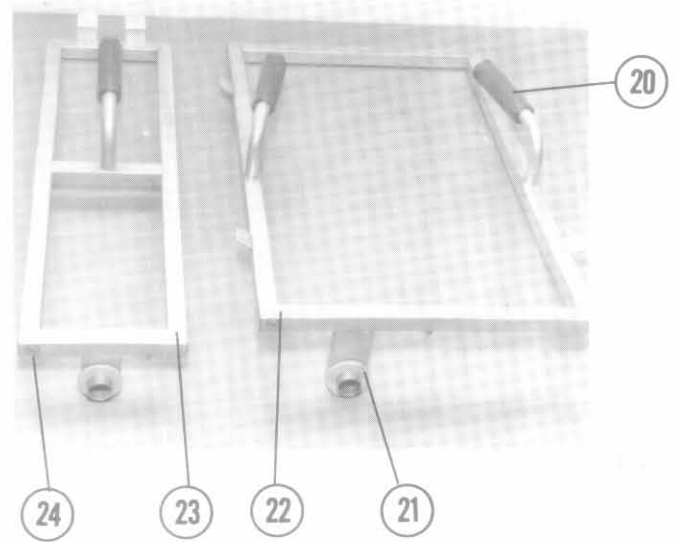


Figure 15-L

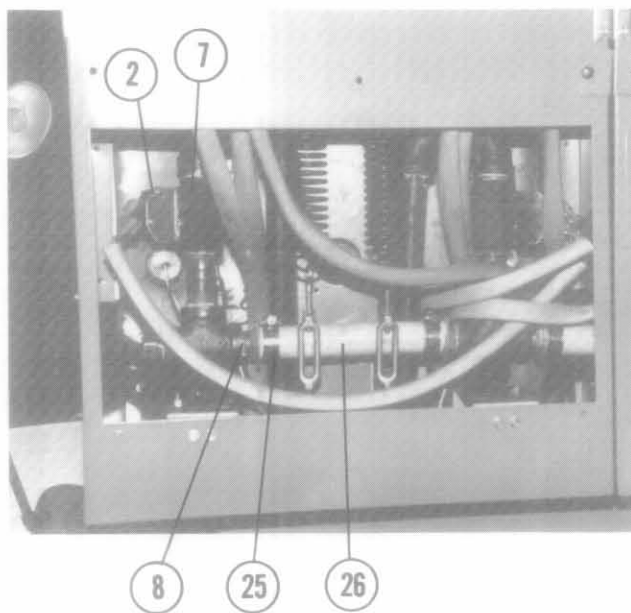
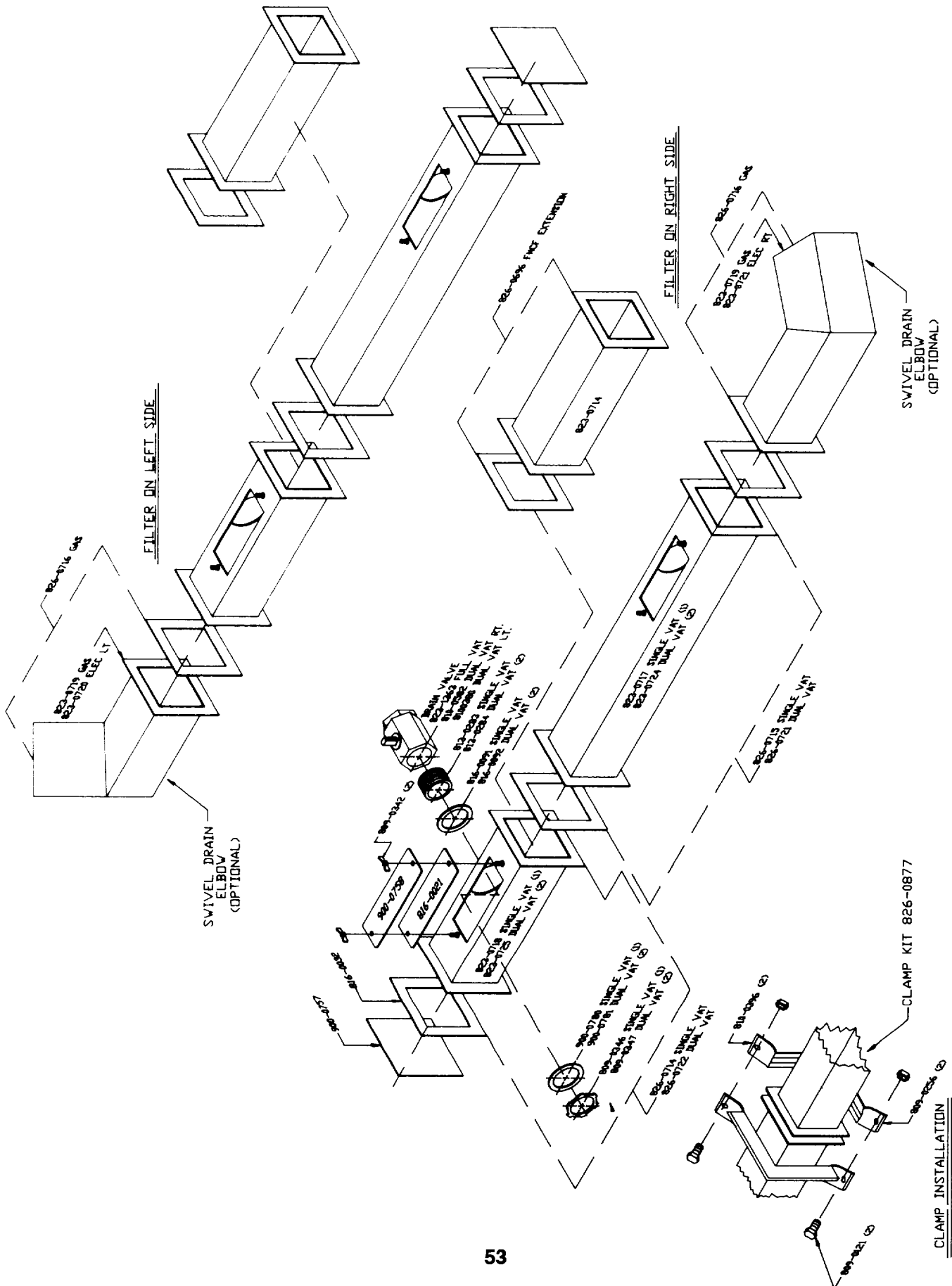
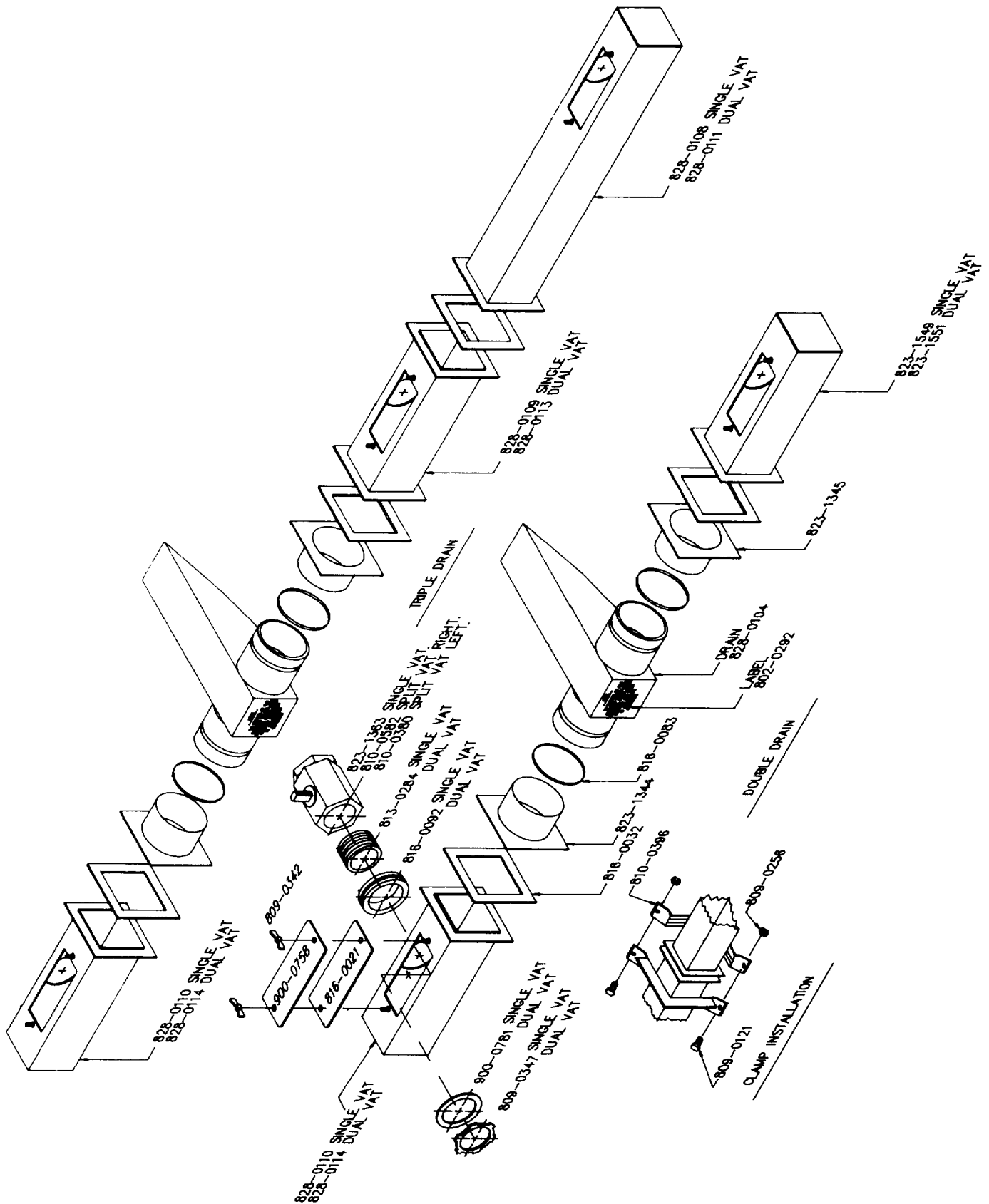


Figure 15-M

FILTER MAGIC II SQUARE DRAIN BREAKDOWN



FOOTPRINT II SQUARE DRAIN BREAKDOWN



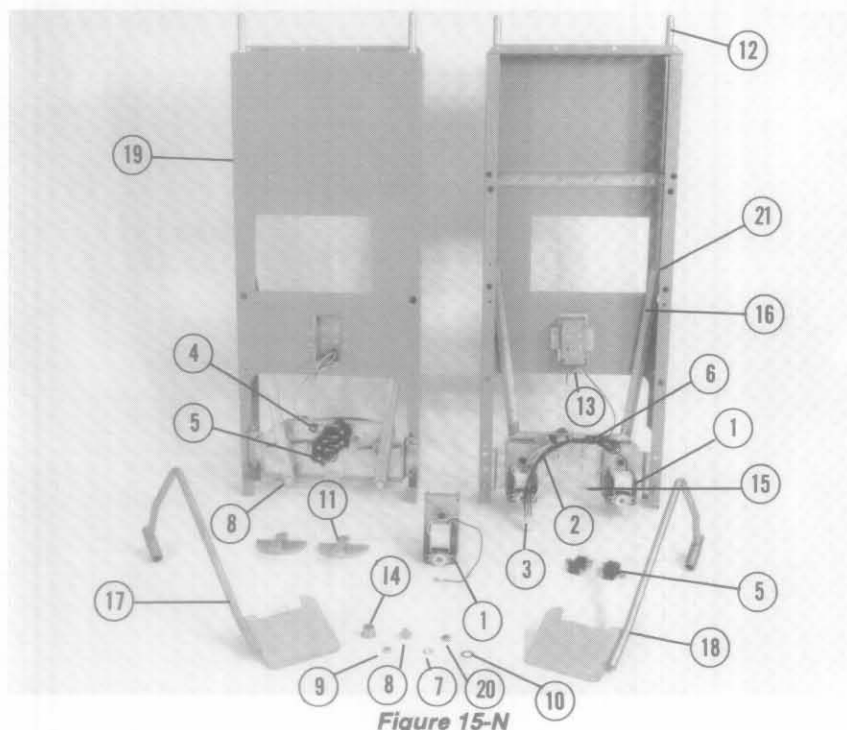


Figure 15-N

16. PARTS LIST (CONT'D)-BASKET LIFT (Refer to Figure 15-N)

ITEM	PART NO.	DESCRIPTION
1	806-0362	Gear Motor, 120V
1	806-0934E	Gear Motor, 240V Export
2	806-2079	Harness, Wiring
3	807-0158	Connector 6-Pin
4	807-0124	Bushing, Heyco
5	807-0240	Switch, Micro
6	809-0037	Clamp, Plastic
*	809-0082	Ring, Truarc Retaining
7	809-0194	Washer, 5/16
8	809-0155	Screw, Leveling
9	810-0220	Spacer, Tubular
*	809-0196	Washer, 3/8
10	809-0203	Washer, Nylon
11	810-0052	Bellcrank
12	810-0192	Rod Basket Lift
13	810-0045	Bushing, Plastic Handy Box
14	813-0035	Bushing, Basket Lift Rod
15	920-3233	Mount, Motor U
16	920-6076	Link, B/L
17	823-0813	Basket Lift Arm, Left
18	823-08131	Basket Lift Arm, Right
19	806-4427	Basket Lift Rear Enclosure, CR, 120V
19	806-44271	Basket Lift Rear Enclosure, SS, 120V
19	806-4428	Basket Lift Rear Enclosure, CR 240V
19	806-44281	Basket Lift Rear Enclosure, SS, 240V
20	809-0063	Nut
21	810-0170	Roll Pin

*Not illustrated.

17. SERVICE PROCEDURES

Before performing any maintenance on your Frymaster fryer, you must disconnect the electrical power supply.

When electrical wires are disconnected, it is recommended that they be marked in such a way to facilitate reassembly.

Procedure 1: Replacing Controller

1. Unscrew and remove two control panel screws.
2. Control panel is hinged at the bottom and will swing open from the top.
3. Unplug wiring harness at plug on back of controller.

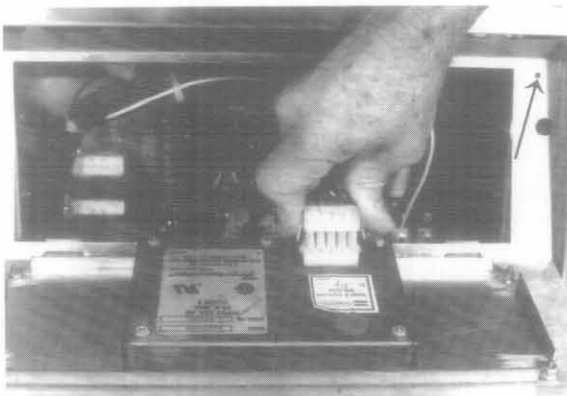


Figure 16

4. Control panel including controller can be removed by lifting the assembly from the hinged slots in the control frame.
5. Reverse procedures to install new controller.

Procedure 2: Replacing Temperature Sensing Probe on Fryers With Rear Mounted Probe

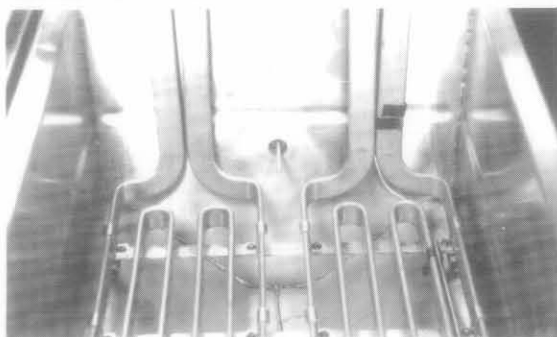


Figure 17

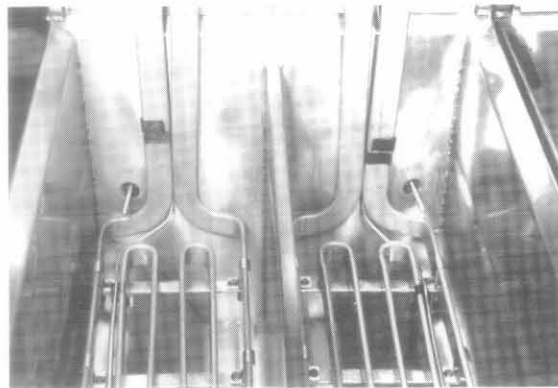


Figure 18

1. Drain shortening from frypot.
2. Remove fryer(s) from under exhaust vent hood to gain access to heating element tilt housing rear access covers.
3. Remove screws securing access cover to tilt housing and lift plate off fryer.

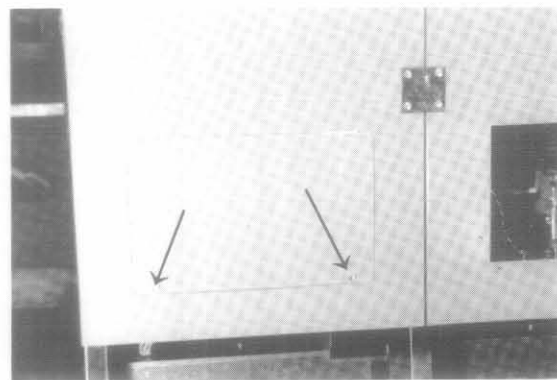


Figure 19

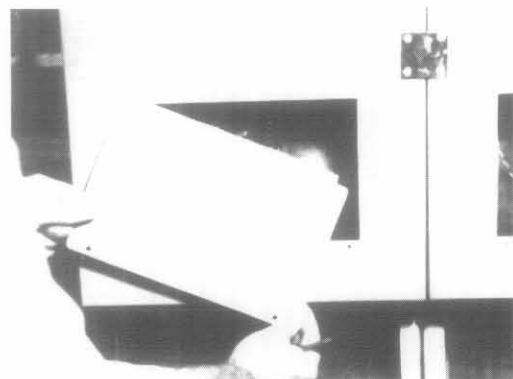


Figure 20

4. Disconnect the temperature probe quick connect plug.

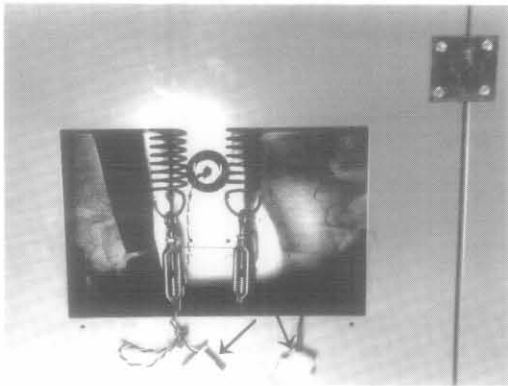


Figure 21

5. Using a pin pusher, remove the temperature probe wires from the quick connect plug. Note which pinholes the wires were removed from. **NOTE:** On split-pot fryers, remove only the probe wires of the probe being replaced.

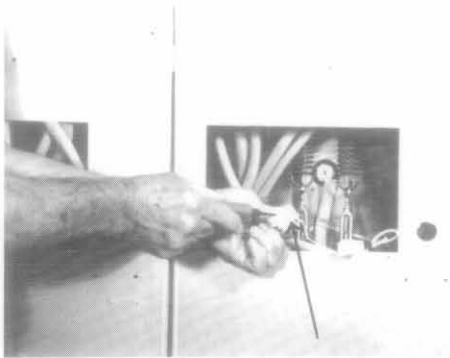


Figure 22

6. Unscrew temperature probe from rear of frypot, using a 7/8 inch (21mm) open-end or box-end wrench.

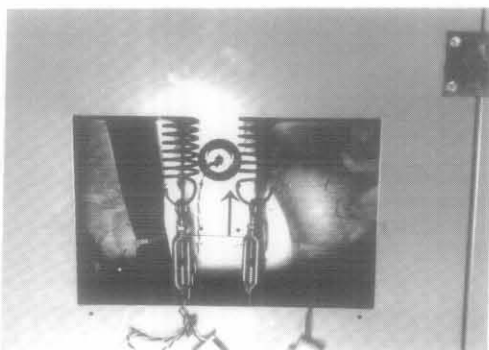


Figure 23

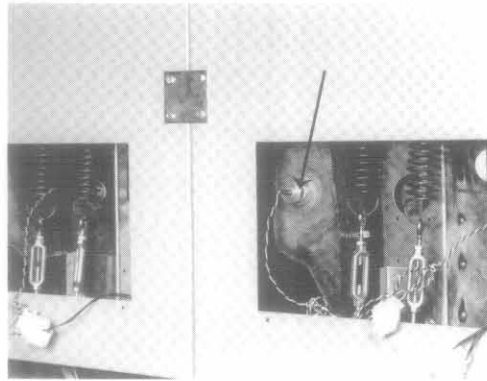


Figure 24

7. Apply Loc Tite PST 567 sealant to probe threads.
8. Screw replacement probe into rear of frypot and tighten securely. **DO NOT OVER TIGHTEN.**
9. Insert replacement probe wires into quick connect plug in the same pinholes as were removed from in Step 5.

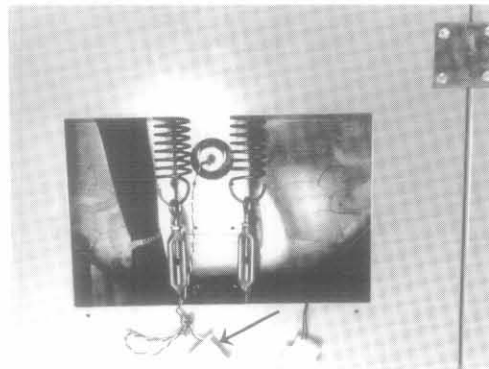


Figure 25

10. Reconnect quick connect plug, making sure plug is securely latched.
11. Route probe wiring and quick connect plug to prevent interference with heating element tilt springs.
12. Reinstall access cover on rear of fryer and install fryer(s) back under exhaust vent hood.

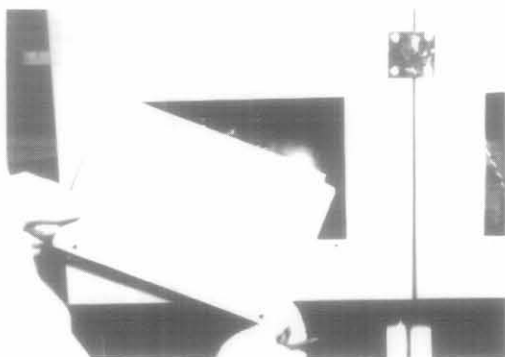


Figure 26

Procedure 3: Replacing Heating Element

1. Drain shortening from frypot.
2. Remove frypot cover if installed.
3. Remove the one screw securing the contactor box cover located under frypot.

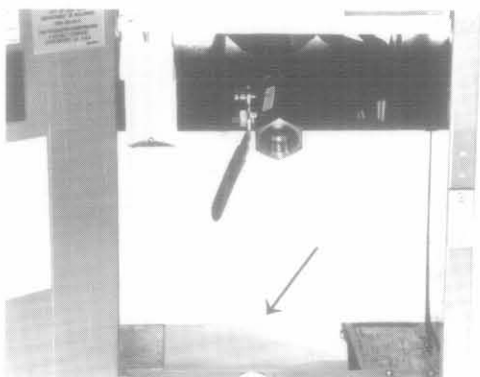


Figure 27

4. Remove cover from box by pulling out at bottom.



Figure 28

5. Remove heating element wires from contactor, marking each wire for ease of reassembly.

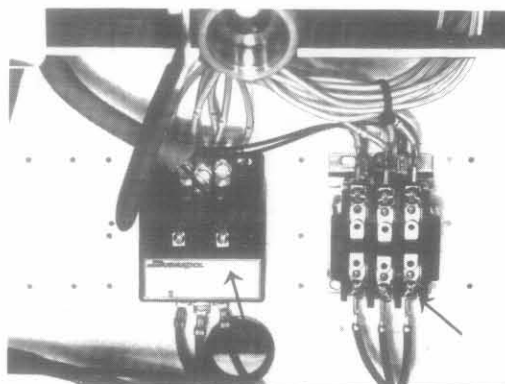


Figure 29

6. Remove the two screws from the front of the tilt housing cover.
7. Remove the screws at the rear of the tilt housing cover.

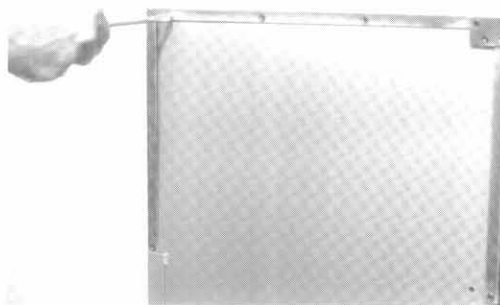


Figure 30

8. Remove tilt housing cover by lifting upward.

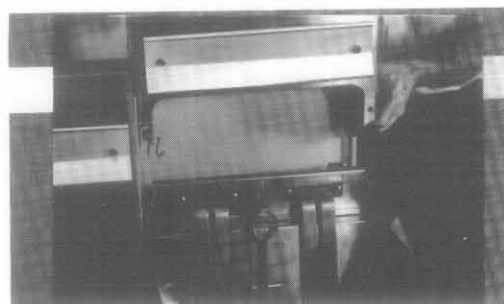


Figure 31

9. Unclamp the hi-limit capillary bulb from the heating element.

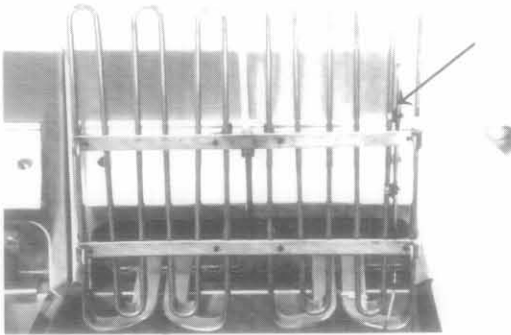


Figure 32

10. Remove the two screws holding the hi-limit control to the mounting bracket.

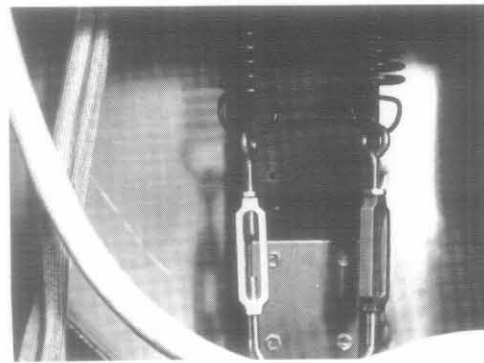


Figure 35

13. Remove screw from front of wire tray.

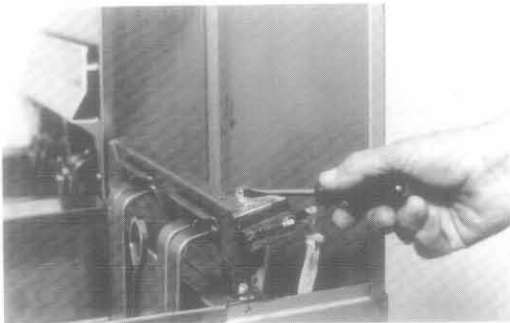


Figure 33

11. Remove screws securing access cover on rear of fryer and remove cover.

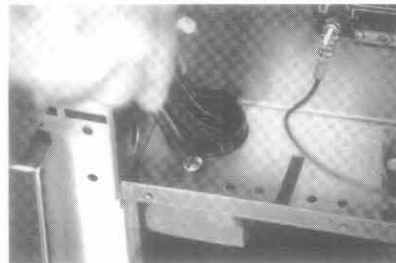


Figure 36

14. Lower wire tray down and remove heating element wires.

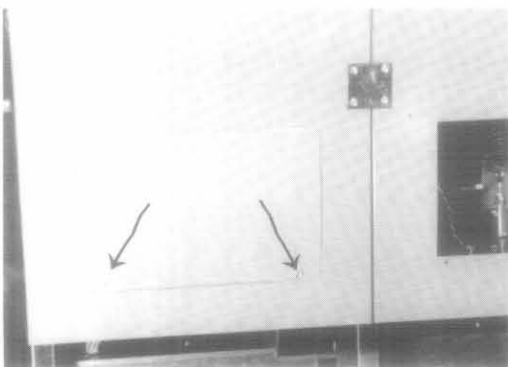


Figure 34

12. Disconnect the tilt plate spring.



Figure 37

15. Remove the two heating element mounting screws and pull element out of frypot.

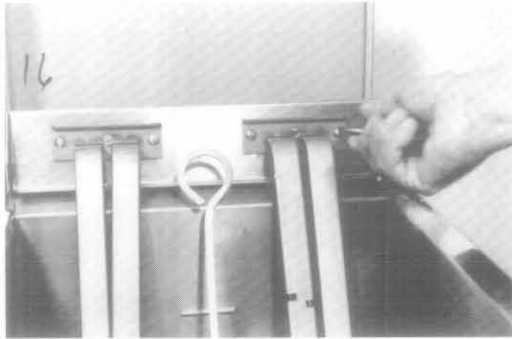


Figure 38

16. Install element by reversing the above procedures.

Procedure 4: Replacing Hi-Limit Thermostat

1. Remove frypot cover if installed.
2. Remove the two screws from the front of the tilt housing cover.
3. Remove the screws from the rear of the tilt housing cover.

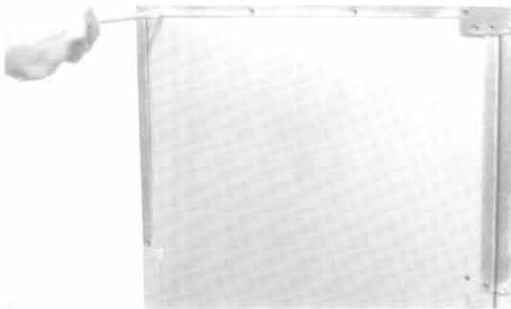


Figure 39

4. Remove tilt housing cover by lifting upward.

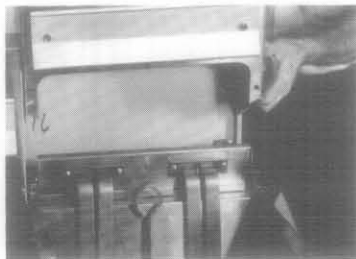


Figure 40

5. Remove wiring from hi-limit control, marking each wire for ease of reassembly.

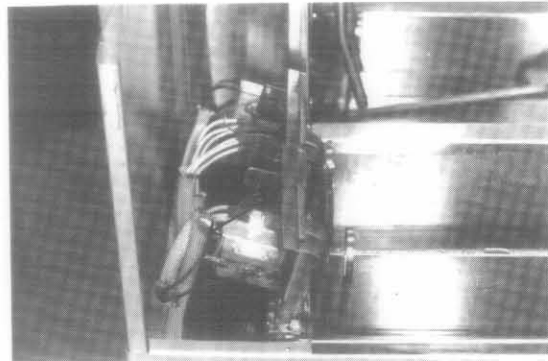


Figure 41

6. Remove screw and nut from hi-limit thermostat mounting bracket.

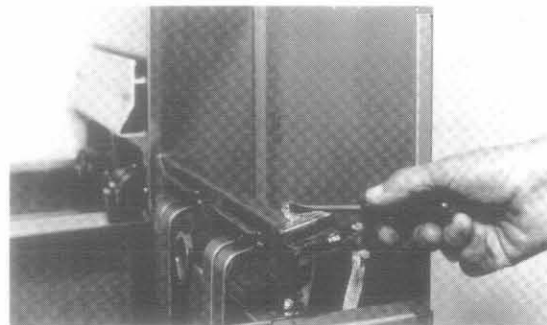


Figure 42

7. Raise heating element(s) and remove hi-limit capillary bulb from heating element.

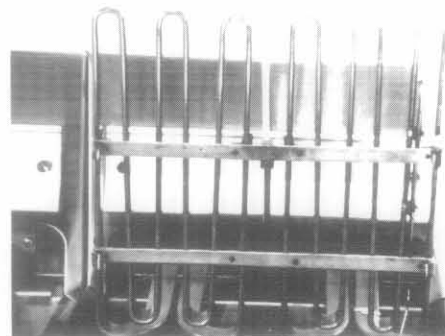


Figure 43

8. Remove the hi-limit thermostat by pulling the capillary bulb through the tilt plate panel.
9. Replace by reversing the above procedures.

Procedure 5: Replacing Interface Board

1. Remove two control panel screws.
2. Control panel is hinged at the bottom and will swing open from the top.
3. Unplug wiring harness at plug on back of controller.

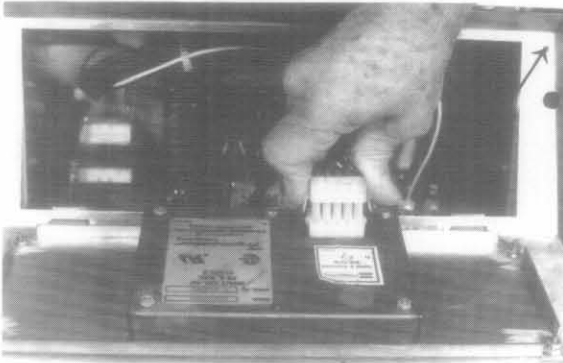


Figure 44

4. Control panel, including controller, can be removed by lifting the assembly from the hinged slots in the control frame.
5. Remove two screws from control panel frame.



Figure 45

6. Remove screws from front of top cap.
7. Slide control panel frame down to clear top cap and remove from unit.

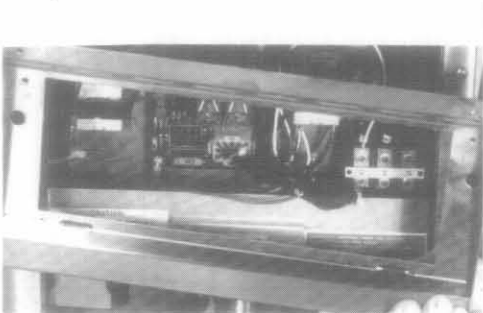


Figure 46

8. Remove two screws from each side of component box.



Figure 47

9. Let component box drop down enough so that wire harness can be unplugged from back of component box.

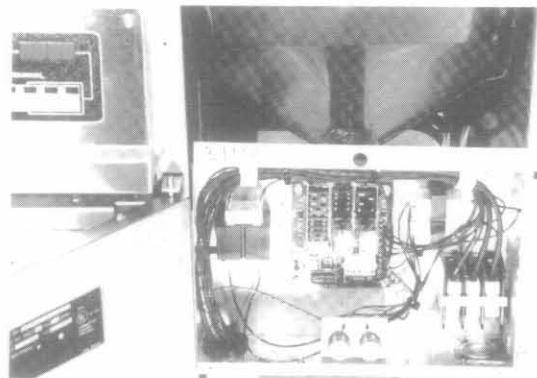


Figure 48

10. Remove wiring from terminals of interface board, marking each wire for ease of reassembly.

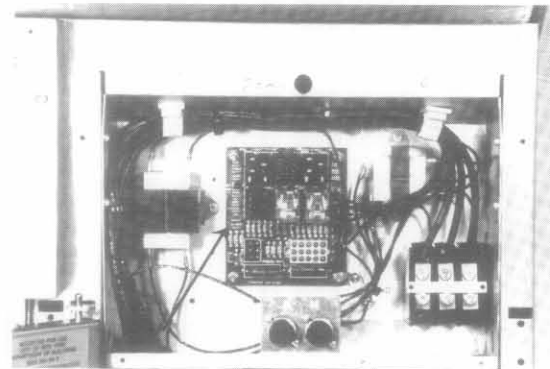


Figure 49

11. Remove the nuts at each corner of the interface board and slide board from studs. Retain the spacers employed to provide the proper distance between the interface board and component box.

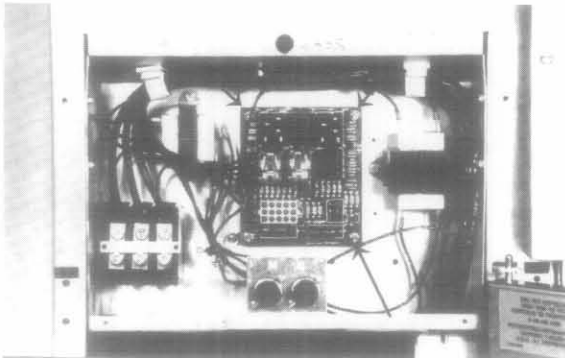


Figure 50

12. Install the replacement interface board by reversing the above procedure. There should be two spacers per mounting stud located between interface board and component box.

Procedure 6: Replacing Frypot

1. Drain shortening from frypot.
2. Remove frypot cover if installed.
3. Remove two control panel screws.
4. Control panel is hinged at the bottom and will swing open from the top.
5. Unplug wiring harness at plug on back of controller.

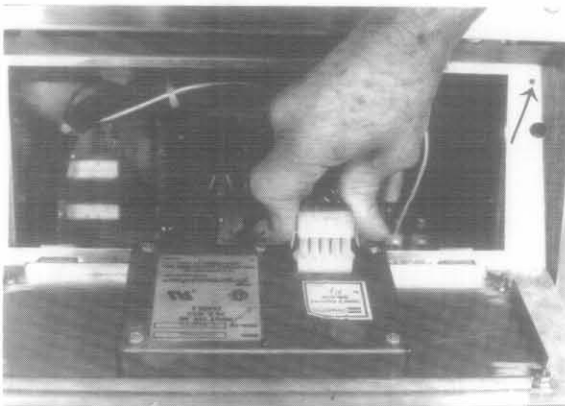


Figure 51

6. Control panel including controller can be removed by lifting the assembly from the hinged slots in the control frame.
7. Remove screws from front of top cap and lift off top cap.

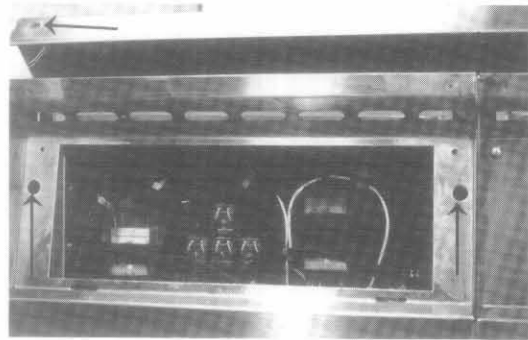


Figure 52

8. Remove two screws from control panel frame and lift frame from fryer.

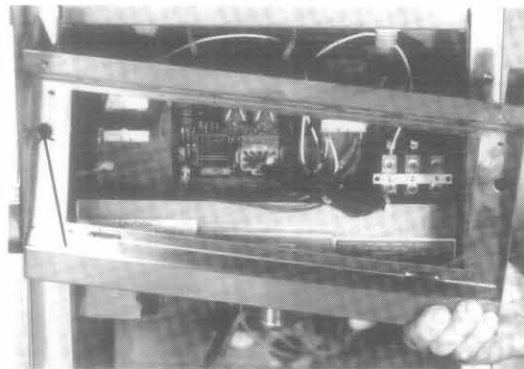


Figure 53

9. Remove two screws from each side of component box.



Figure 54

10. Let component box drop down enough so that wire harness can be unplugged from back of component box.

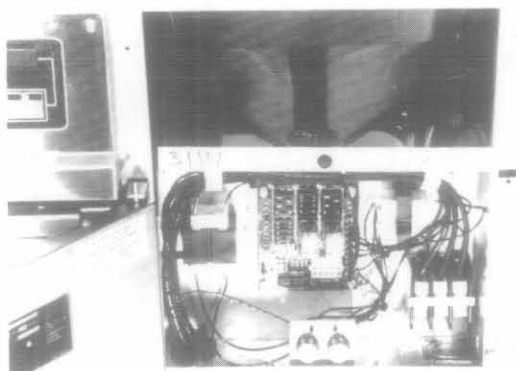


Figure 55

11. Let component box drop down and rest on front frame of fryers.

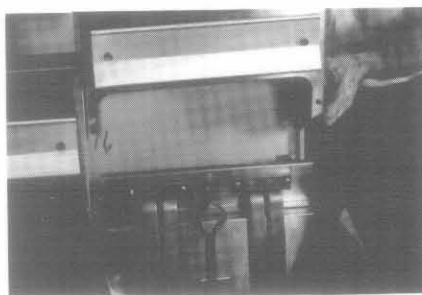


Figure 58

15. Remove the one screw securing the contactor box cover located at rear of fryer.



Figure 56

12. Remove the two screws from the front of tilt housing cover.
13. Remove the screws at the rear of the tilt housing cover.

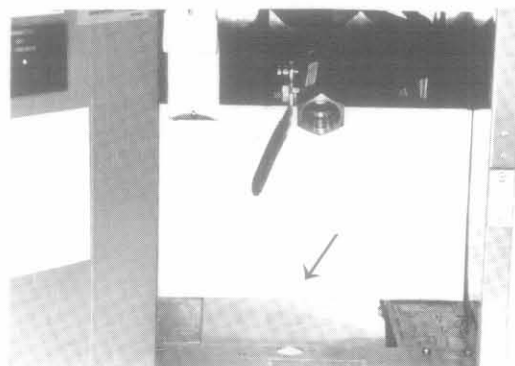


Figure 59

16. Remove cover from box by pulling out at bottom edge.

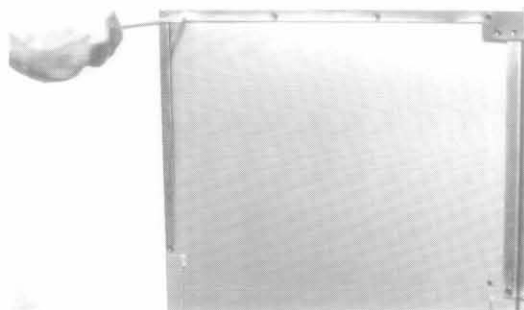


Figure 57

14. Remove housing cover by lifting upward.

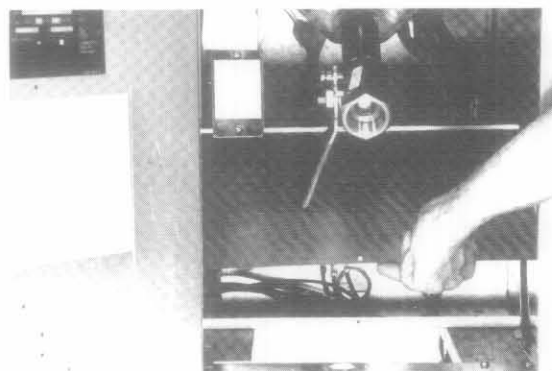


Figure 60

17. Remove the heating element wires from the contactor, marking each wire for ease of reassembly.

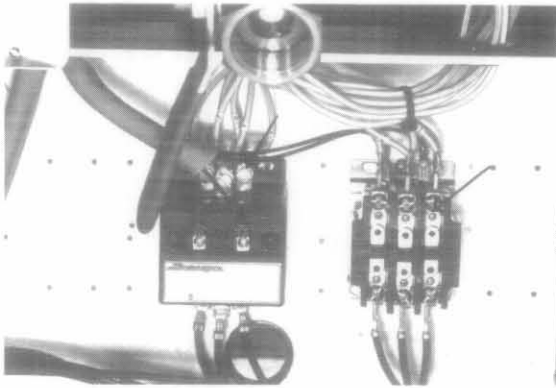


Figure 61

18. Disconnect the wires from the hi-limit control, marking each wire for ease of reassembly.



Figure 62

19. Remove frypot front hold-down assembly screws.
NOTE: For Filter Magic or FootPrint filter fryers, disconnect plumbing from frypot.

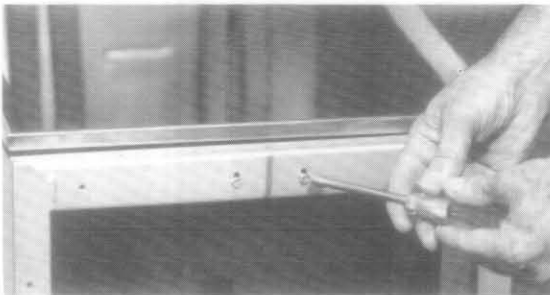


Figure 63

20. Lift frypot assembly from cabinet.

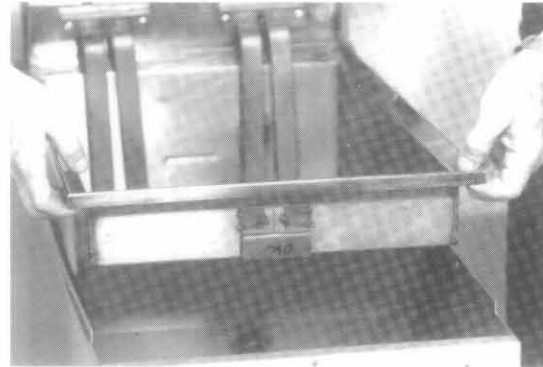


Figure 64

21. Remove temperature probe and install on new frypot.

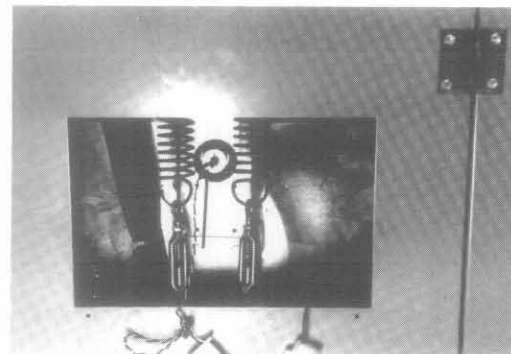


Figure 65

22. Remove drain valve from old frypot and install on new frypot.

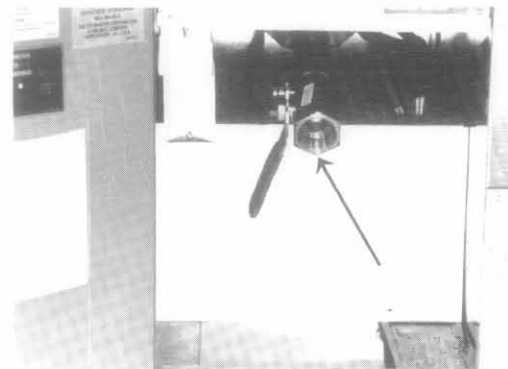


Figure 66

23. Disconnect the tilt plate spring and turnbuckle from old frypot.

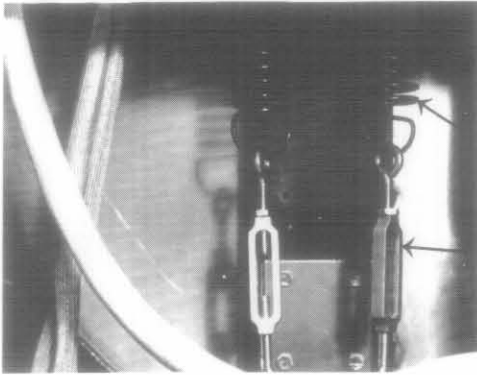


Figure 67

24. Remove four screws from tilt plate and lift the tilt plate heating element assembly from old frypot and install on new frypot.
25. Reverse disassembly procedure to install new frypot.

NOTE: Apply Loc-tite Sealant PST 567 to all pipe fittings, and temperature probe threads prior to reinstallation.

Procedure 7: Spring Adjustment — Tilt Plate

1. Remove screws securing access cover on rear of fryer and remove cover.
2. Loosen locking nut on turnbuckle(s).

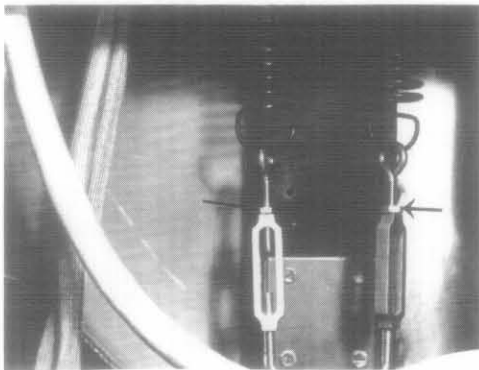


Figure 68

3. If element(s) will not remain in raised position, turn the turnbuckle(s) to the left to increase the spring tension just enough to hold the element(s) in the up position.

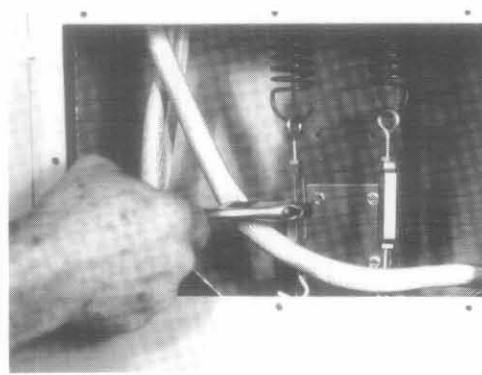


Figure 69

4. If the element(s) will not remain in the down position, turn the turnbuckle(s) to the right to decrease the spring tension just enough to allow the element(s) to stay in the down position.

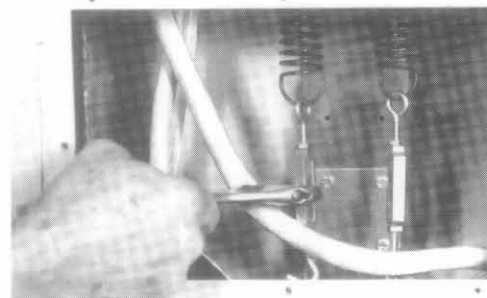


Figure 70

5. After the adjustment has been completed, tighten the locking nut on turnbuckle(s).

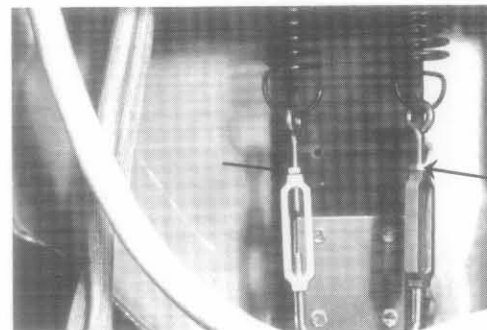


Figure 71

6. Replace access cover on rear of fryer.

Procedure 8: Replacing Contactor

1. Remove one screw securing the contactor box cover at rear of fryer.

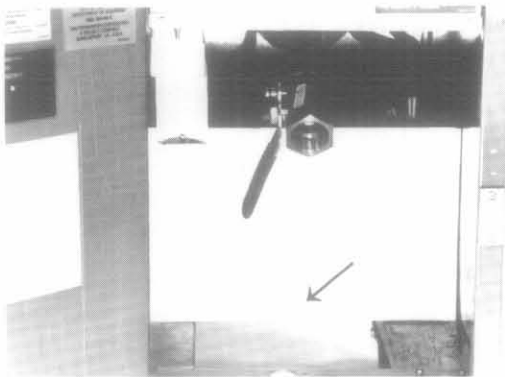


Figure 72

2. Remove cover from box by pulling out at bottom edge.

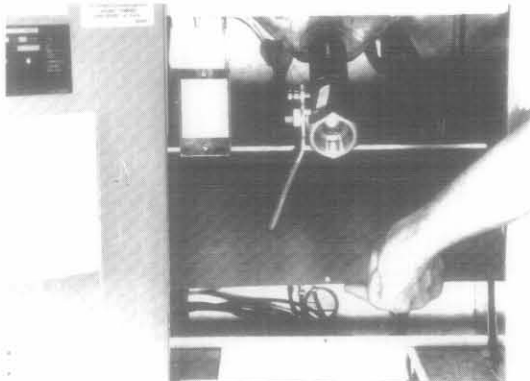


Figure 73

3. Disconnect wires from contactor if applicable. On contactor with permanent wire leads, disconnect wires from terminal block(s). Mark each wire for ease of reassembly.

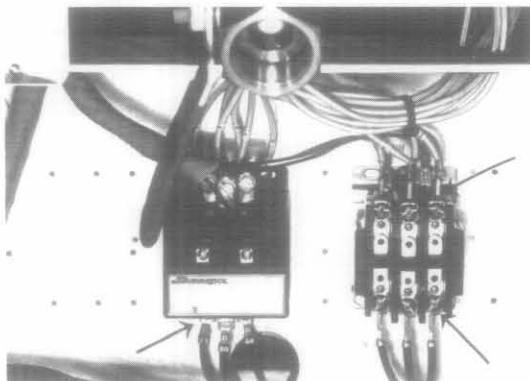


Figure 74

4. Remove contactor mounting screws and remove contactor.

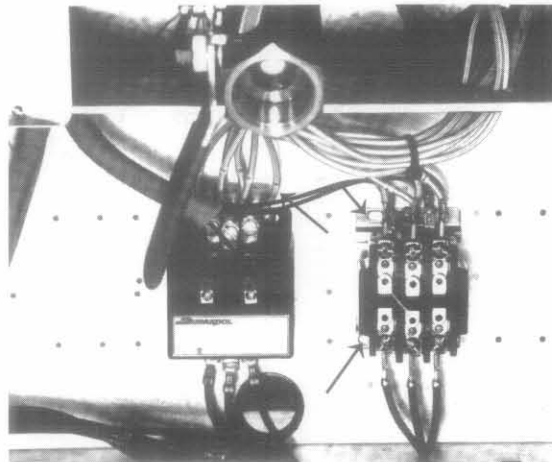


Figure 75

5. Install replacement contactor by reversing the above procedure.

Procedure 9: Replacing Transformers

1. Unscrew and remove two control panel screws.
2. Control panel is hinged at the bottom and will swing open from the top.

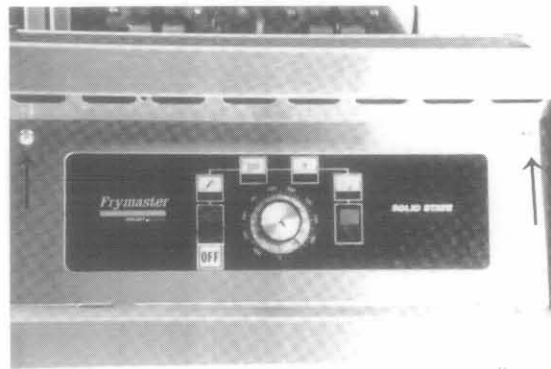


Figure 76

3. Unplug wiring harness at plug on back of controller.
4. Control panel including controller can be removed by lifting the assembly from the hinged slots in the control frame.

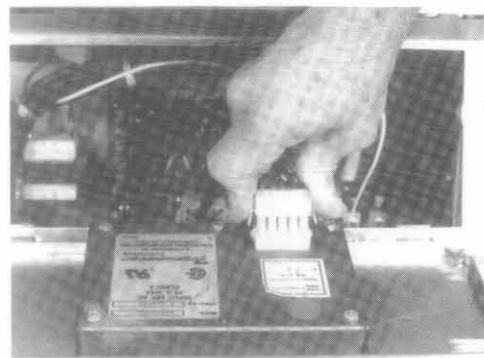


Figure 77

5. Remove two screws from control panel frame.
6. Remove screws from front of top cap.

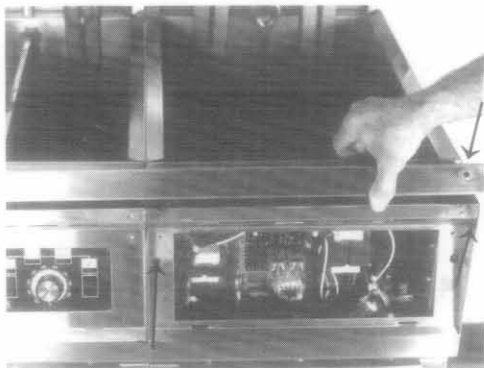


Figure 78

7. Slide control panel frame down to clear top cap and remove from unit.

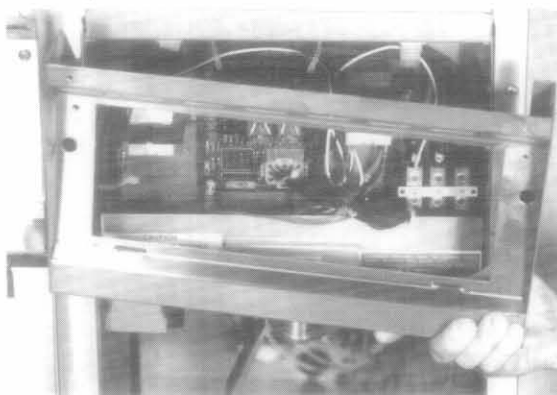


Figure 79

8. Disconnect wires from transformer marking each wire for ease of reassembly.

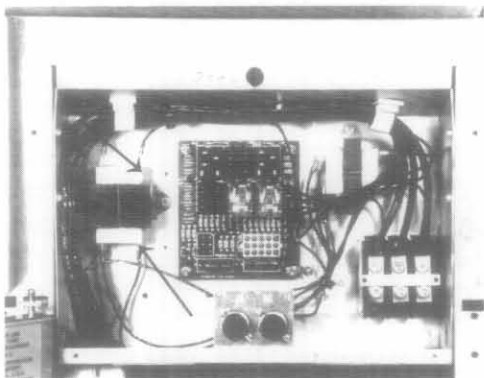


Figure 80

9. Remove the transformer mounting screws and remove transformer.

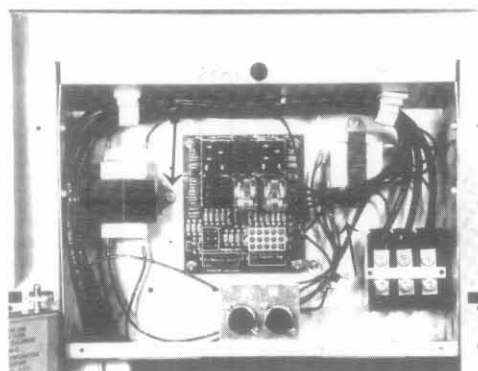


Figure 81

10. Reverse disassembly procedure to install new component.

Procedure 10: Replacing Control Fuses

1. Remove metal cover below controller.



Figure 82

2. Remove fuse cartridge cover.

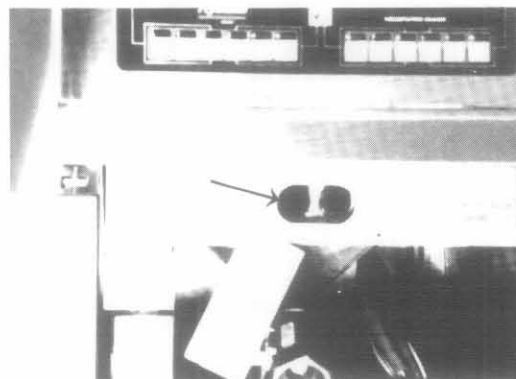


Figure 83

3. Replace fuse.

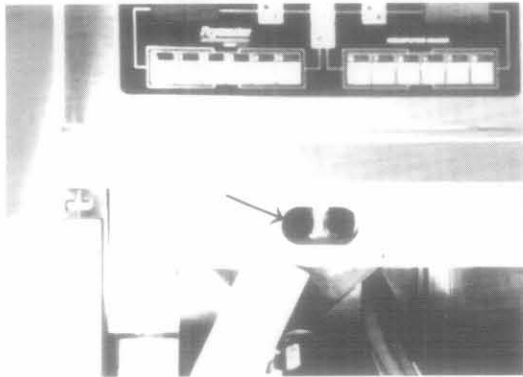


Figure 84

4. Reverse procedure to reassemble.

**Procedure 11: Replacing Triac Board -
EPRI Fryers Only**

1. Pull fryer(s) out away from wall or hood enclosure.
2. Remove access cover from triac board and latch contactor box at rear of fryer.
3. Remove wires from triac board and mark for ease of reconnection.
4. Remove triac board mounting screws.
5. Lift triac board out of box.
6. Reverse the preceding steps to install new triac board.

NOTE: Apply heat sink compound P/N 815-0554 (included with replacement board) between the triacs and heat sink when mounting triac board to heat sink.

**Procedure 12: Replacing Latch Contactor -
EPRI Fryers Only**

1. Pull fryer(s) out away from wall or hood enclosure.
2. Remove access cover from triac and contactor box at rear of fryer.
3. Remove wires from latch contactor and mark for ease of reconnection.
4. Remove screws from contactor mounting flange and lift out of box.

5. Reverse the preceding steps to install new contactor.

18. PREVENTIVE MAINTENANCE

1. **CLEANING FRYPOT AND HEATING ELEMENTS** — Once a week.

WARNING

NEVER operate the fryer(s) with an empty frypot.

To clean the frypot and heating elements, refer to Section 6, and "BOIL-OUT INSTRUCTIONS" in Section 5.

2. **CLEANING INSIDE AND OUTSIDE THE FRYER CABINET** — Daily

To clean inside of the fryer cabinet, use a dry, clean cloth and wipe all accessible metal surfaces and components to remove accumulated film of shortening and dust.

To clean outside of fryer cabinet, use a clean, damp cloth soaked with dishwashing detergent and wipe clean of all shortening, dust, and lint. Rinse with a clean, damp cloth.

3. **CLEANING OF DETACHABLE PARTS AND ACCESSORIES** — Once a week

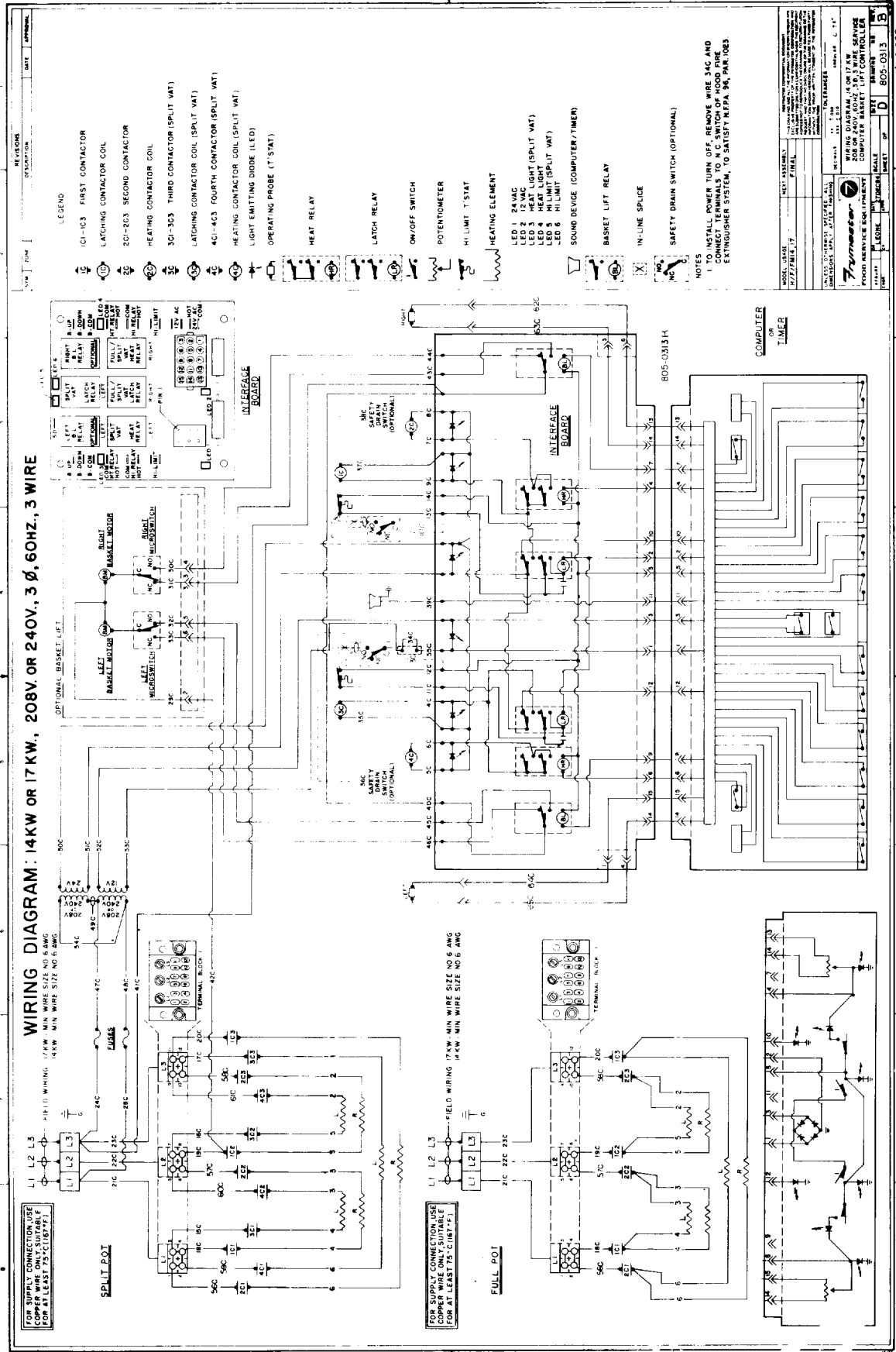
Wipe all detachable parts and accessories with a clean, dry cloth. If a heavy film of carbonized shortening has accumulated on the detachable parts and accessories, a clean cloth saturated with Frymaster Fryer 'N' Griddle Cleaner may be used to remove the film. Rinse the parts and accessories thoroughly with clean water and wipe dry before reinstalling on fryer(s).

4. **CHECK CALIBRATION OF FRYER(S) WITH SOLID STATE THERMOSTAT CONTROL PANEL ONLY** — Once a month

To check calibration, refer to THERMOSTAT CALIBRATION, Section 8.

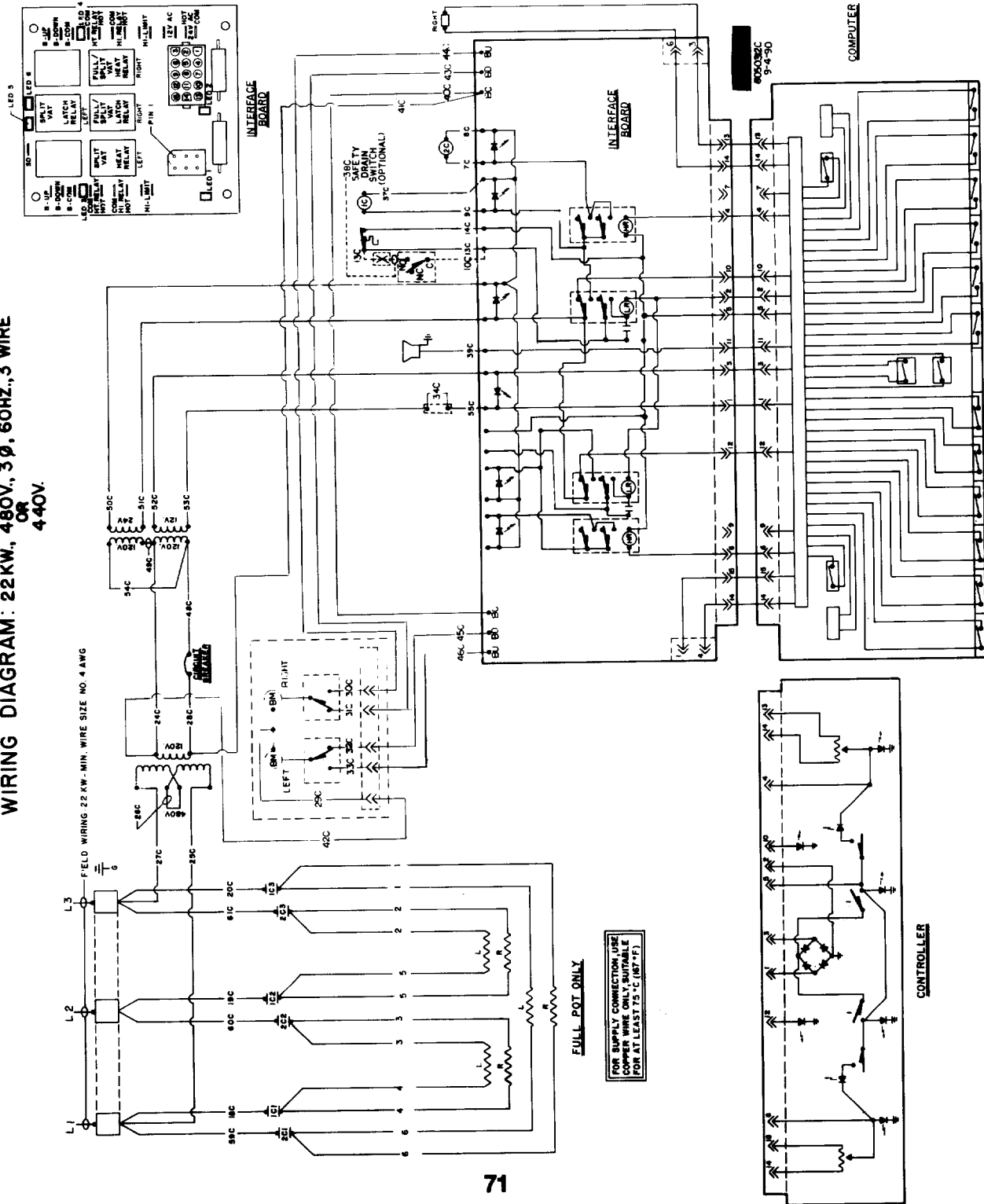
H14, 17 208V/240V, 60 Hz WITH CONTROLLER OR COMPUTER & BASKET LIFTS

19. Wiring Diagrams



H22 480V OR 440V, 60 Hz WITH CONTROLLER OR COMPUTER & BASKET LIFTS

WIRING DIAGRAM: 22KW., 480V., 3Ø, 60HZ., 3 WIRE
OR
440V.



LEGEND

- 1C1-1C3 FIRST CONTACTOR
- LATCHING CONTACTOR COIL
- 2C1-2C3 SECOND CONTACTOR
- HEATING CONTACTOR COIL
- 3C1-3C3 THIRD CONTACTOR (SPLIT VAT)
- LATCHING CONTACTOR COIL (SPLIT VAT)
- 4C1-4C3 FOURTH CONTACTOR (SPLIT VAT)
- HEATING CONTACTOR COIL (SPLIT VAT)
- LIGHT EMITTING DIODE (LED)
- OPERATING PROBE (T-STAT)

HEAT RELAY

LATCH RELAY

ON/OFF SWITCH

POTENTIOMETER

HI LIMIT T-STAT

HEATING ELEMENT

LED 1 24 VAC

LED 2 12 VAC

LED 3 HEAT LIGHT (SPLIT VAT)

LED 4 HEAT LIGHT

LED 5 HI LIMIT (SPLIT VAT)

LED 6 HI LIMIT

SOUND DEVICE (COMPUTER/TIMER)

IN-LINE SPLICE

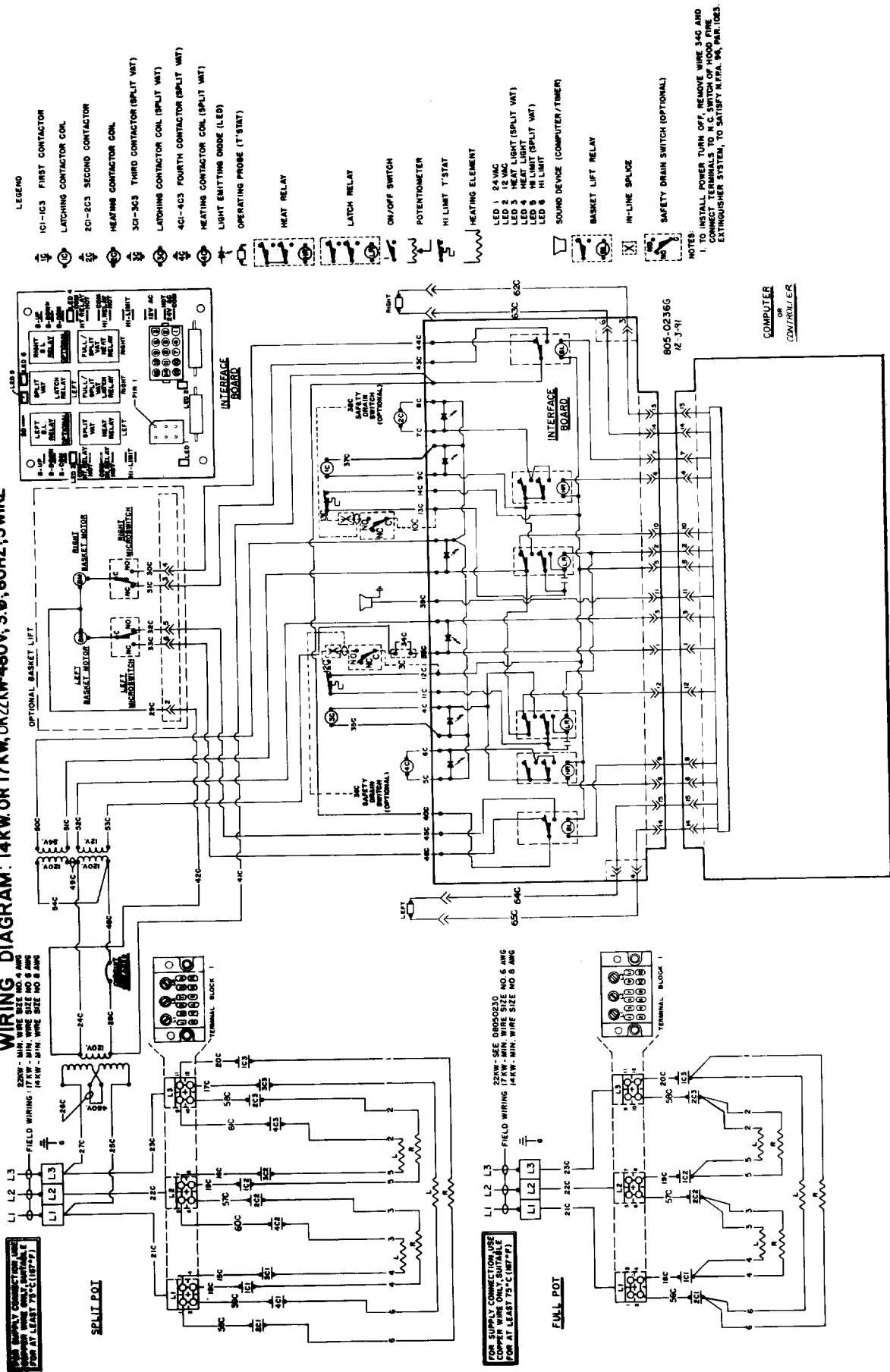
SAFETY DRAIN SWITCH (OPTIONAL)

NOTES:

1. TO INSTALL, POWER TURN OFF, REMOVE WIRE 34C AND CONNECT TERMINALS TO N.C. SWITCH OF HOOD FIRE EXTINGUISHER SYSTEM, TO SATISFY N.F.P.A. 94, PAR. 1023.

H14, H17, OR H22 480V, 60 Hz WITH COMPUTER, & BASKET LIFTS

WIRING DIAGRAM: 14KW OR 17KW, OR 22KW 480V, 3.0, 60HZ, 3 WIRE

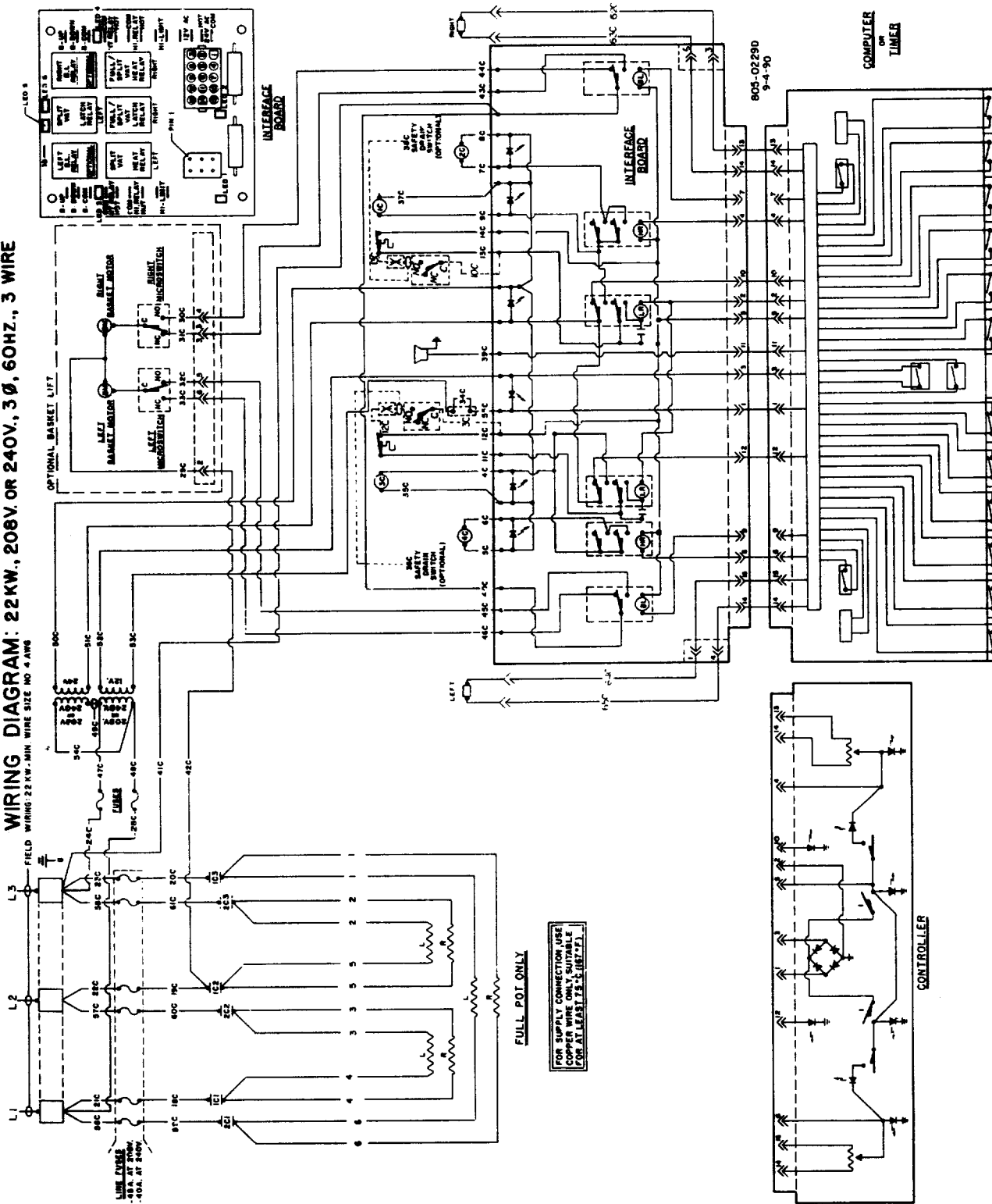


**WIRING DIAGRAM: 22KW., 480V., 3Ø, 60HZ., 3 WIRE
OR
440V.**



H22 208V OR 240V, 60 Hz WITH CONTROLLER OR COMPUTER & BASKET LIFTS

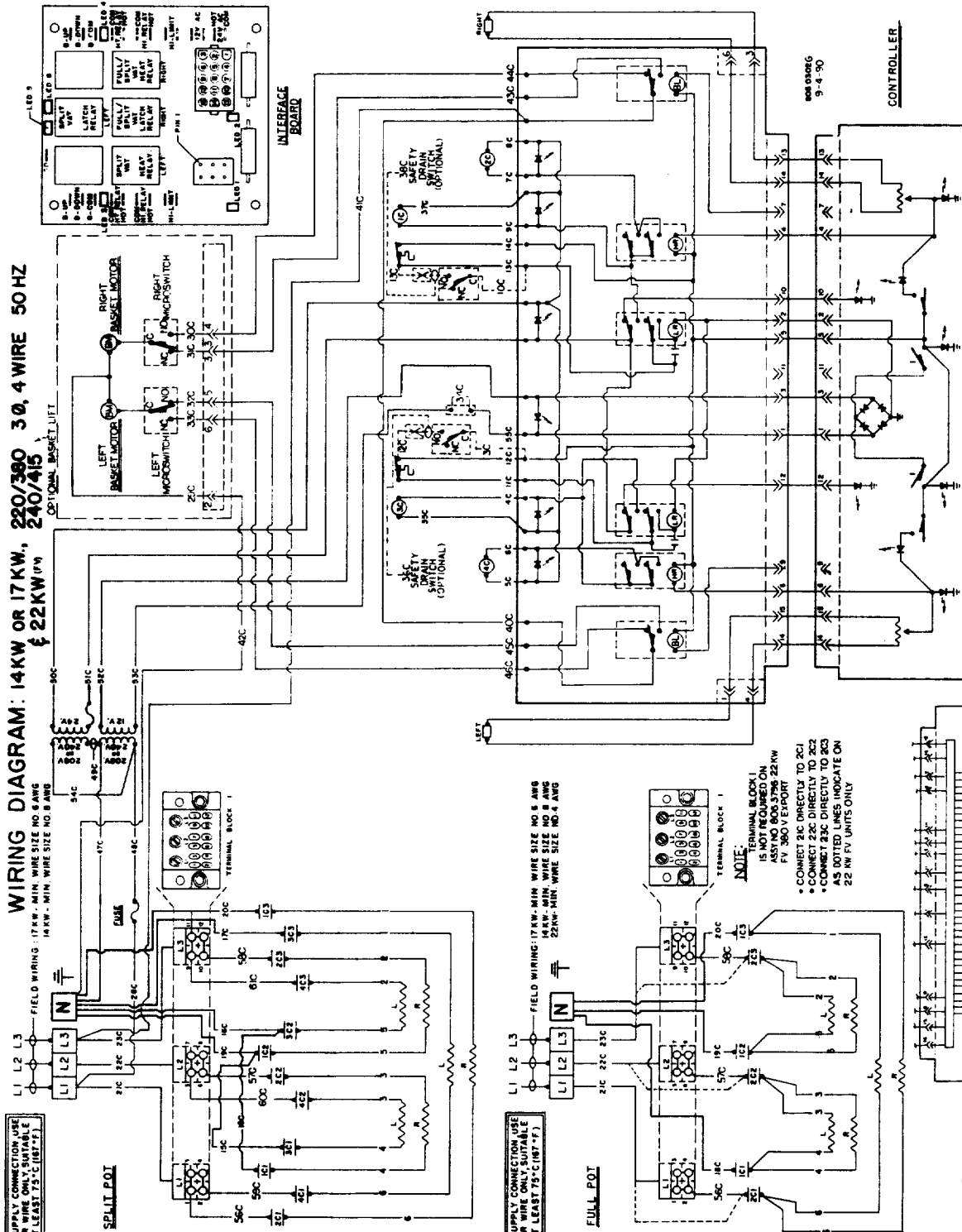
WIRING DIAGRAM: 22KW., 208V. OR 240V., 3 Ø, 60HZ., 3 WIRE



H14, H17, OR H22 220/380V OR 240/415V, 50 Hz WITH CONTROLLER OR COMPUTER & BASKET LIFTS

WIRING DIAGRAM: 14KW OR 17KW, 220/380 3Ø, 4 WIRE 50HZ
14KW - MIN. WIRE SIZE NO. 8 AWG
17KW - MIN. WIRE SIZE NO. 6 AWG

FOR SUPPLY CONNECTION, USE
COPPER WIRE ONLY, SUITABLE
FOR AT LEAST 75°C (167°F)



FOR SUPPLY CONNECTION, USE
COPPER WIRE ONLY, SUITABLE
FOR AT LEAST 75°C (167°F)

FULL POT

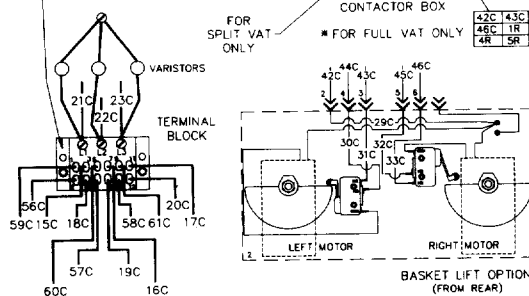
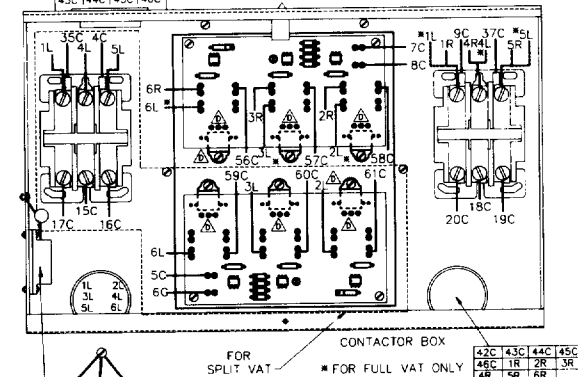
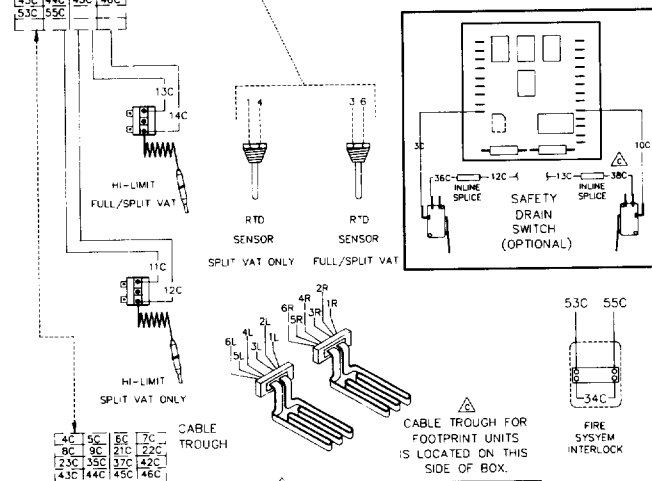
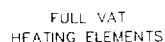
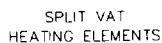
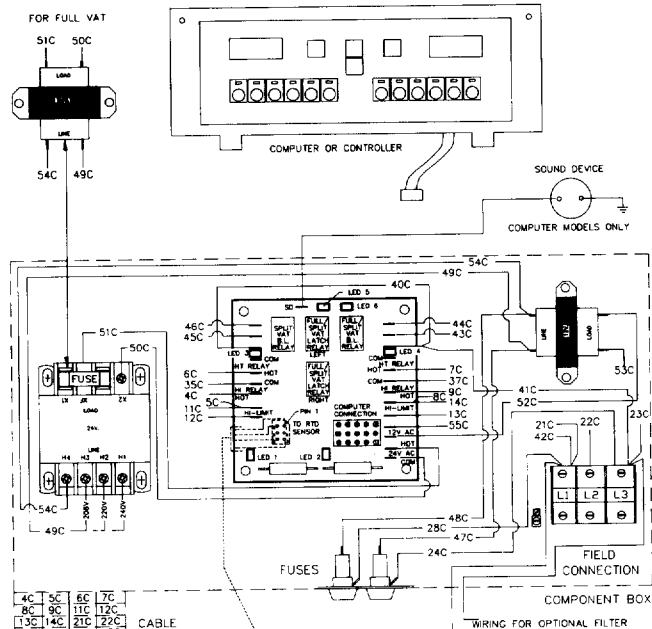
NOTE:

- TERMINAL BLOCK 1 IS NOT FOR USE ON 220V 50Hz SYSTEMS
- CONNECT 34C DIRECTLY TO 2C1
- CONNECT 23C DIRECTLY TO 2C2
- CONNECT 23C DIRECTLY TO 2C3
- AS DOTTED LINES INDICATE ON 220V 50Hz SYSTEMS ONLY

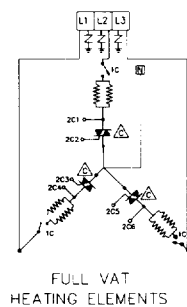
COMPUTER OR
TIMER WITH
BASKET LIFT
OPTION



SCHEMATIC



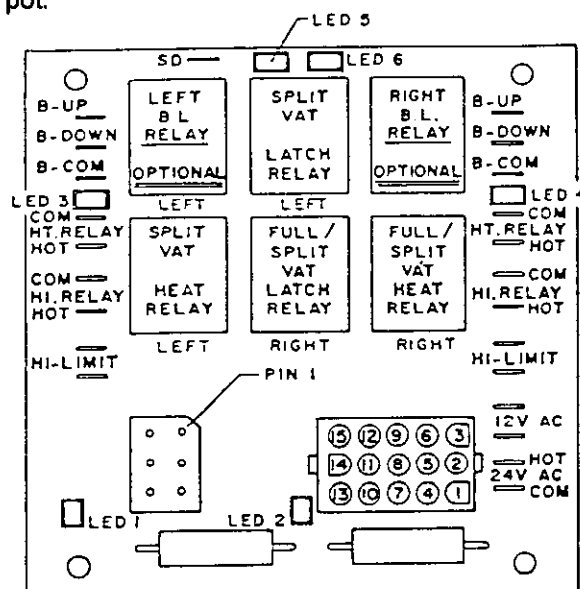
SCHEMATIC



(NOT AVAILABLE ON FOOTPRINT MODELS)

INTERFACE BOARD TEST-POINT CHART **H.E. ELECTRIC SERIES FRYERS**

Electric hi-efficiency fryer interface board terminal and pin test points. Use right side terminals for full pot. Use both sides for split pot.



- LED 1 - Fryer 24VAC Power
- LED 2 - Fryer 12VAC Power
- LED 3 - Heat Contactor Coil 24VAC Split Pot Left Side
- LED 4 - Heat Contactor Coil 24VAC Full Pot & Split Pot Right Side
- LED 5 - Hi-Limit Closed Split Pot Left Side
- LED 6 - Hi-Limit Closed Full Pot & Split Pot Right Side

TESTING

Disconnect 15-Pin Control Panel Plug When Using Ohmmeter

Terminals Right Side

COM & HOT Ht Relay
(Coil of Heat Contactor)

COM & HOT Hi Relay
(Coil of Latch Contactor)

Hi-Limit Across Both Term

COM & HOT 12 VAC

COM & HOT 24VAC

Pins 13 & 14 (15-Pin Plug) or

Pins 3 & 6 (6-Pin Plug)

Results

13 to 15 ohms (DURAKOOL)

6 to 9 ohms (FURNAS)

4 to 5 ohms (KLOCKNER MOELLER)

5.6 ohms (TELEMECANIQUE)

0 ohms

12 to 16VAC

12 to 30VAC

*Temperature Probe

Meter Setting

R X 1 ohms

R X 1 ohms

R X 1 ohms

50 Volts AC

50 Volts AC

R X 1000 ohms

Terminal Left Side

COM & HOT Ht Relay
(Coil of Heat Contactor)

Hi-Limit Across Both Term

COM & HOT Hi-Relay

Results

13 to 15 ohms (DURAKOOL)

0 ohms

6 to 9 ohms (FURNAS)

5.6 ohms (TELEMECANIQUE)

*Temperature Probe

Meter Setting

R X 1 ohms

R X 1 ohms

R X 1 ohms

R X 1000 ohms

***(OHMS Average On Temperature)**

1095 OHMS - Temp 78°F 1602 OHMS - Temp 325°F

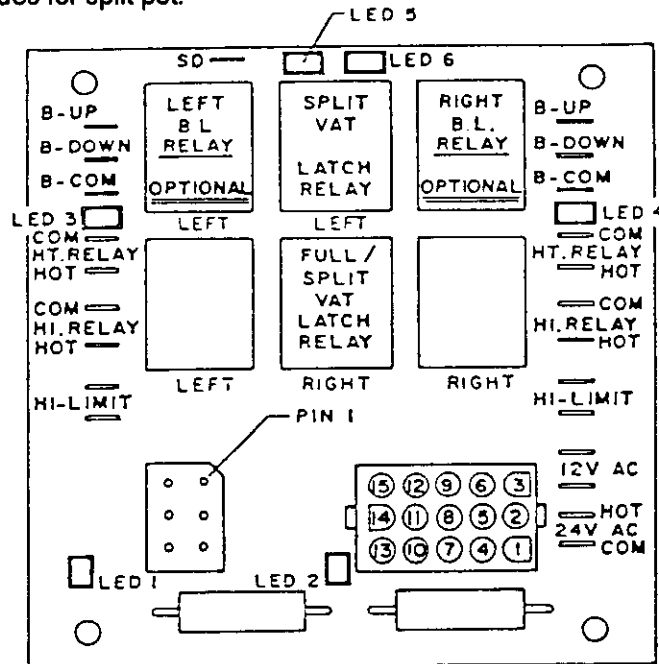
1501 OHMS - Temp 275°F 1652 OHMS - Temp 350°F

1551 OHMS - Temp 300°F 1702 OHMS - Temp 375°F

(If within + or - 5°F (8 to 10 OHMS))

EPRI FRYERS
INTERFACE BOARD TEST-POINT CHART
H.E. ELECTRIC SERIES FRYERS WITH TRIAC CONTROL

Electric high-efficiency fryer interface board terminal and pin test points. Use right side terminals for full pot. Use both sides for split pot.



LED 1 - Fryer 24VAC Power
 LED 2 - Fryer 12VAC Power
 LED 3 - Not Used
 LED 4 - Not Used
 LED 5 - Hi-Limit Closed Split Pot Left Side
 LED 6 - Hi- Limit Closed Full Pot & Split Pot Right Side

TESTING

Disconnect 15-Pin Control Panel Plug When Using Ohmmeter

Terminals Right Side	Results	Meter Setting
COM & HOT Hi Relay (Coil of Latch Contactor)	6 to 9 ohms (FURNAS)	R X 1 ohms
Hi-Limit Across Both Term.	0 ohms	R X 1 ohms
COM & HOT 12VAC	12 to 16 VAC	50 Volts AC
COM & HOT 24VAC	24 to 30 VAC	50 volts AC
Pins 13 & 14 (15 Pin Plug) or Pins 3 & 6 (6-Pin Plug)	*Temperature Probe	R X 1000 ohms
Terminals Left Side	Results	Meter Setting
Hi-Limit Across Both Term.	0 ohms	R X 1 ohms
COM & HOT Hi-Relay	6 to 9 ohms (FURNAS)	R X 1 ohms
Pins 14 & 15 (15-Pin Plug) or Pins 1 & 4 (6-Pin Plug)	*Temperature Probe	R X 1000 ohms

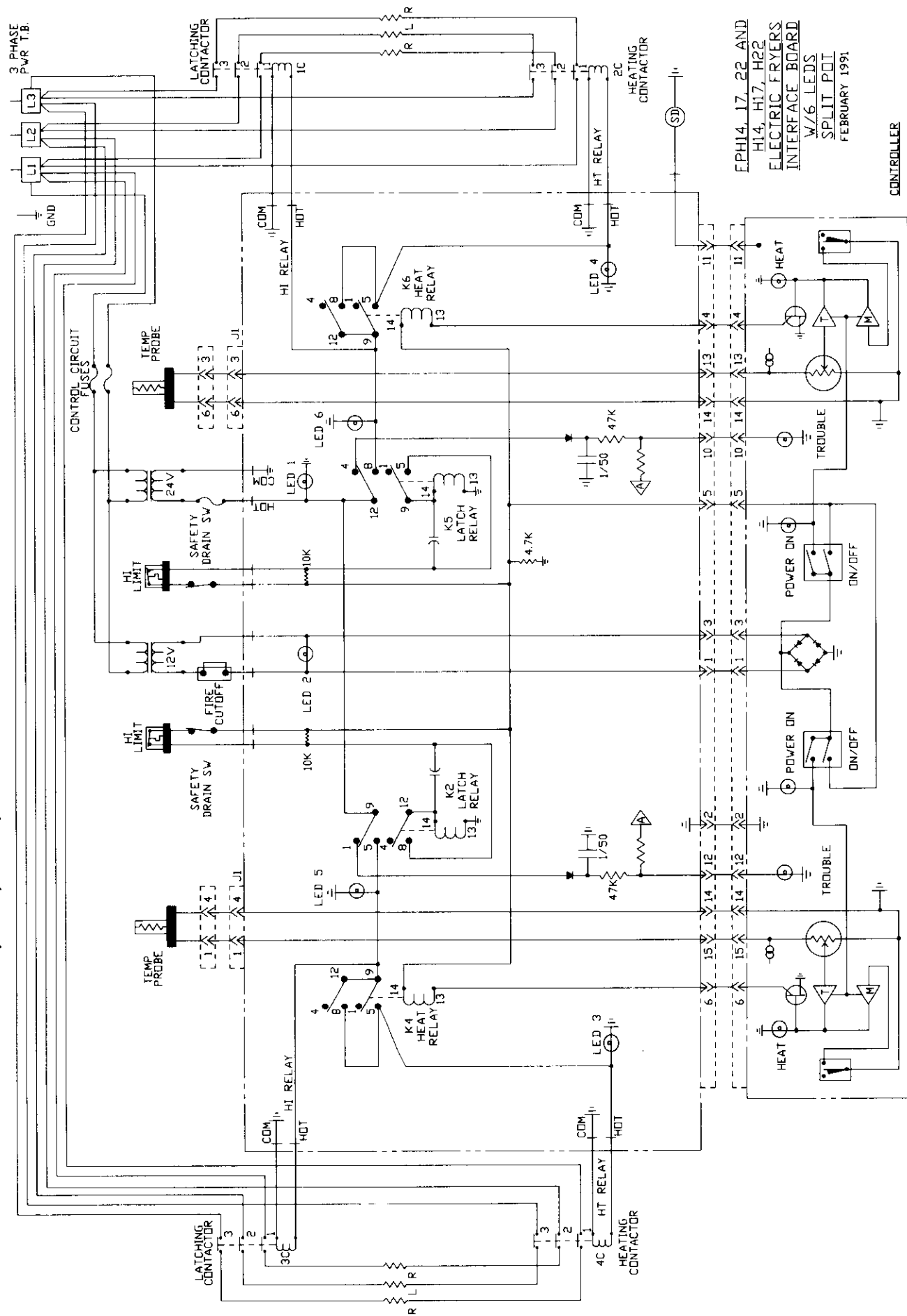
***(OHMS Average On Temperature)**

1095 OHMS - Temp 78°F 1602 OHMS - Temp. 325°F
 1501 OHMS - Temp 275°F 1652 OHMS - Temp. 350°F
 1551 OHMS - Temp 300°F 1702 OHMS - Temp. 375°F
 (If within + or -5°F (8 to 10 OHMS))

EPH14, H17, H22 AND
H14, H17, H22
ELECTRIC FRYERS
FULL POT
DECEMBER 1991



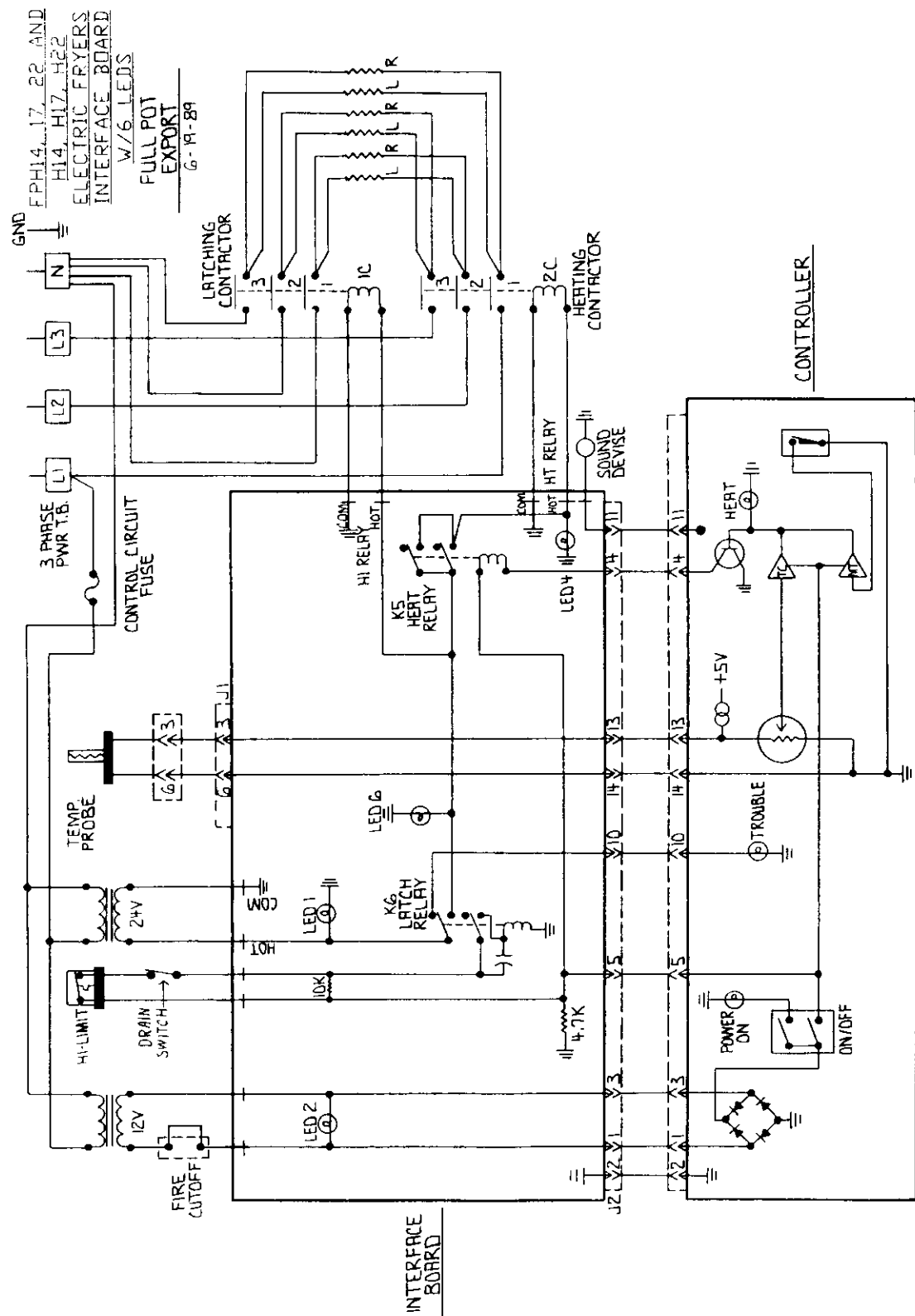
COMMON SIMPLIFIED WIRING DIAGRAM FOR ALL FPH14, FPH17, FPH22, H14, H17, & H22 SPLIT POT FRYERS EXCEPT EXPORT



EPH14, 17, 22 AND
H14, H17, H22
ELECTRIC FRYERS
INTERFACE BOARD
W/6 LEADS
SPLIT POT
FEBRUARY 1991

CONTROLLER

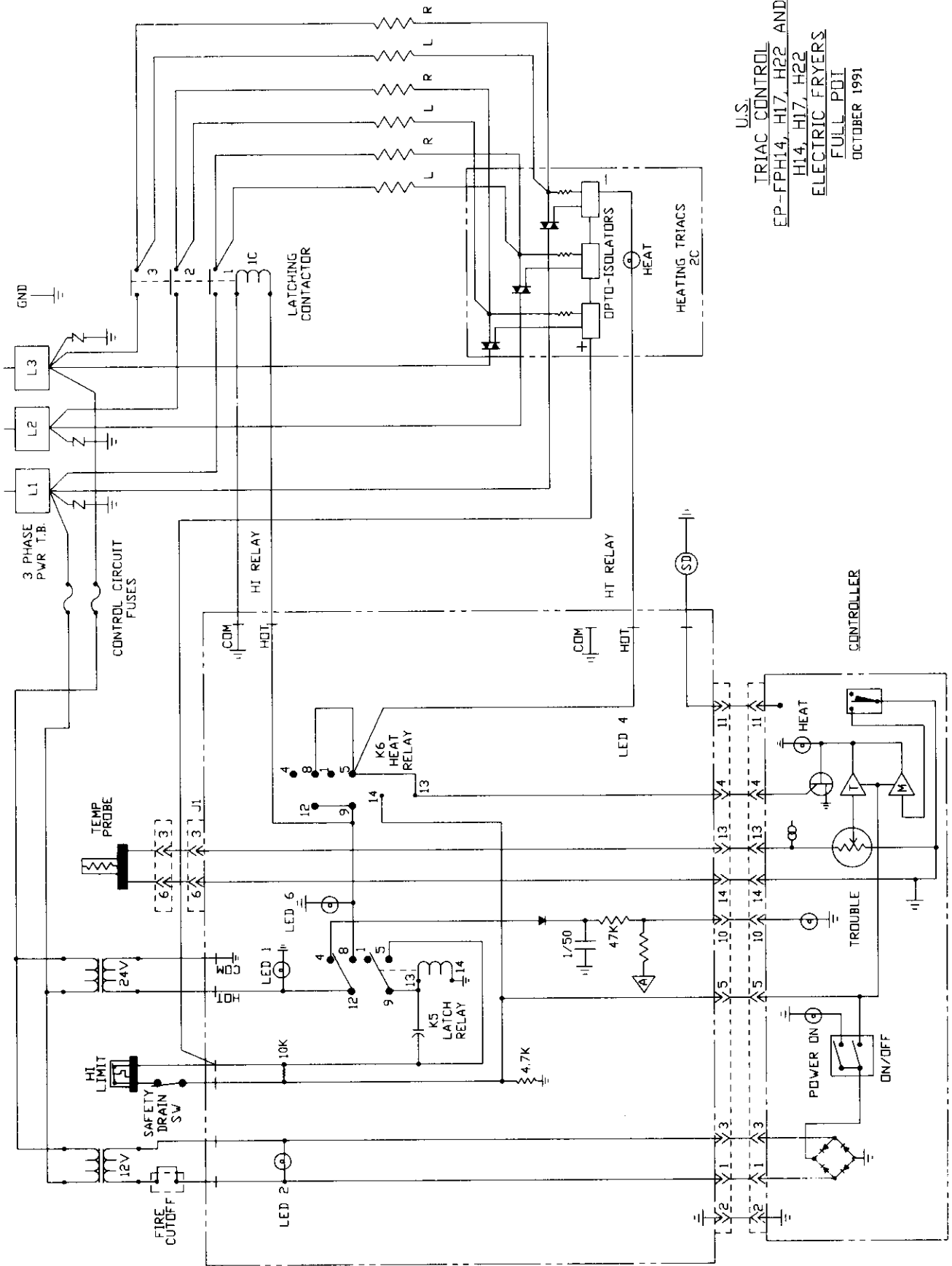
COMMON SIMPLIFIED WIRING DIAGRAM FOR ALL FPH14, FPH17, FPH22, H14, H17, & H22 FULL POT EXPORT FRYERS



[illegible]

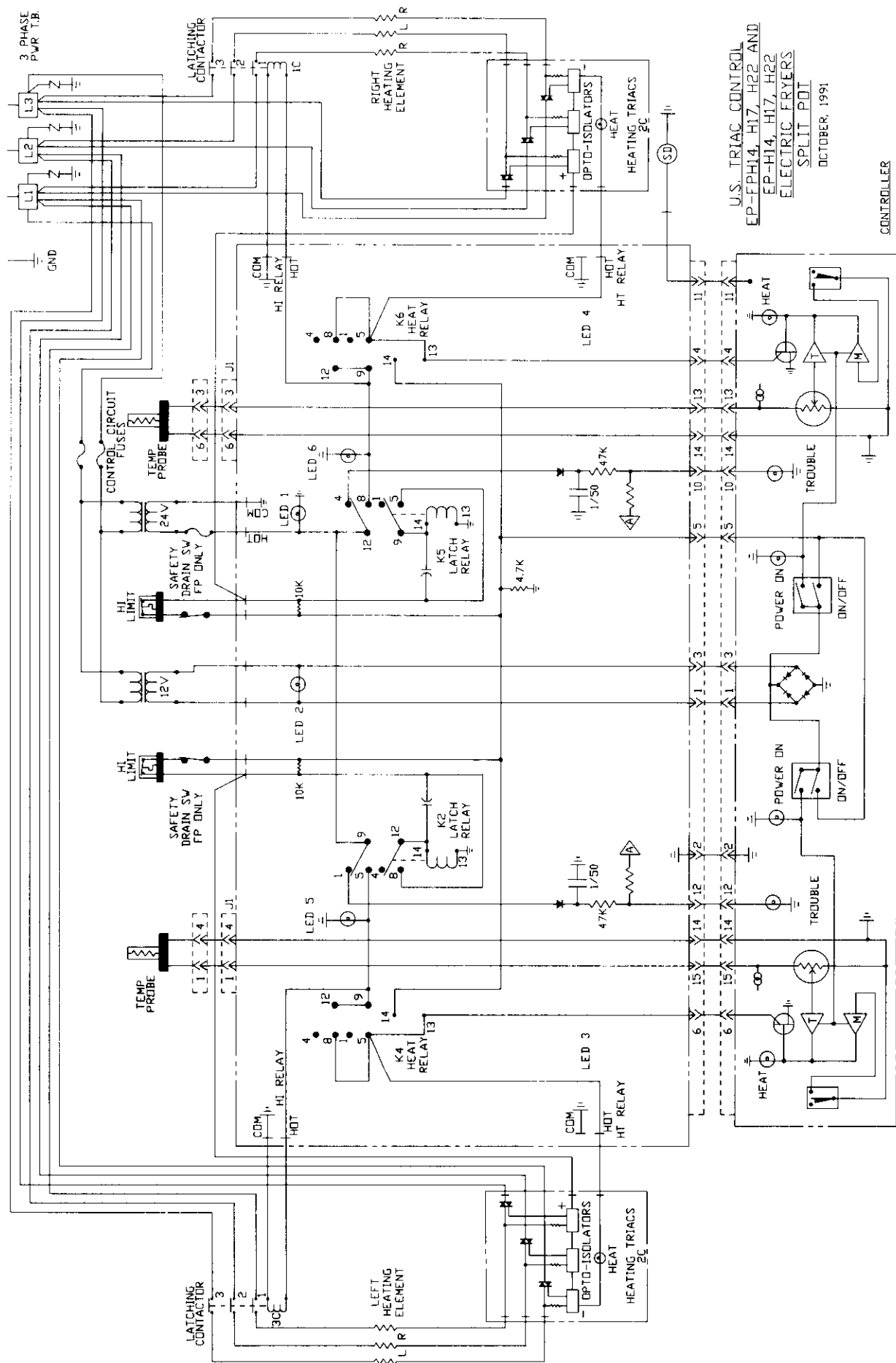
CONTROLLER

**EPRI FRYER COMMON SIMPLIFIED WIRING DIAGRAM FOR EPH14 & EPH17 SERIES U. S.
AND DOMESTIC FULL POT 208V OR 240V**

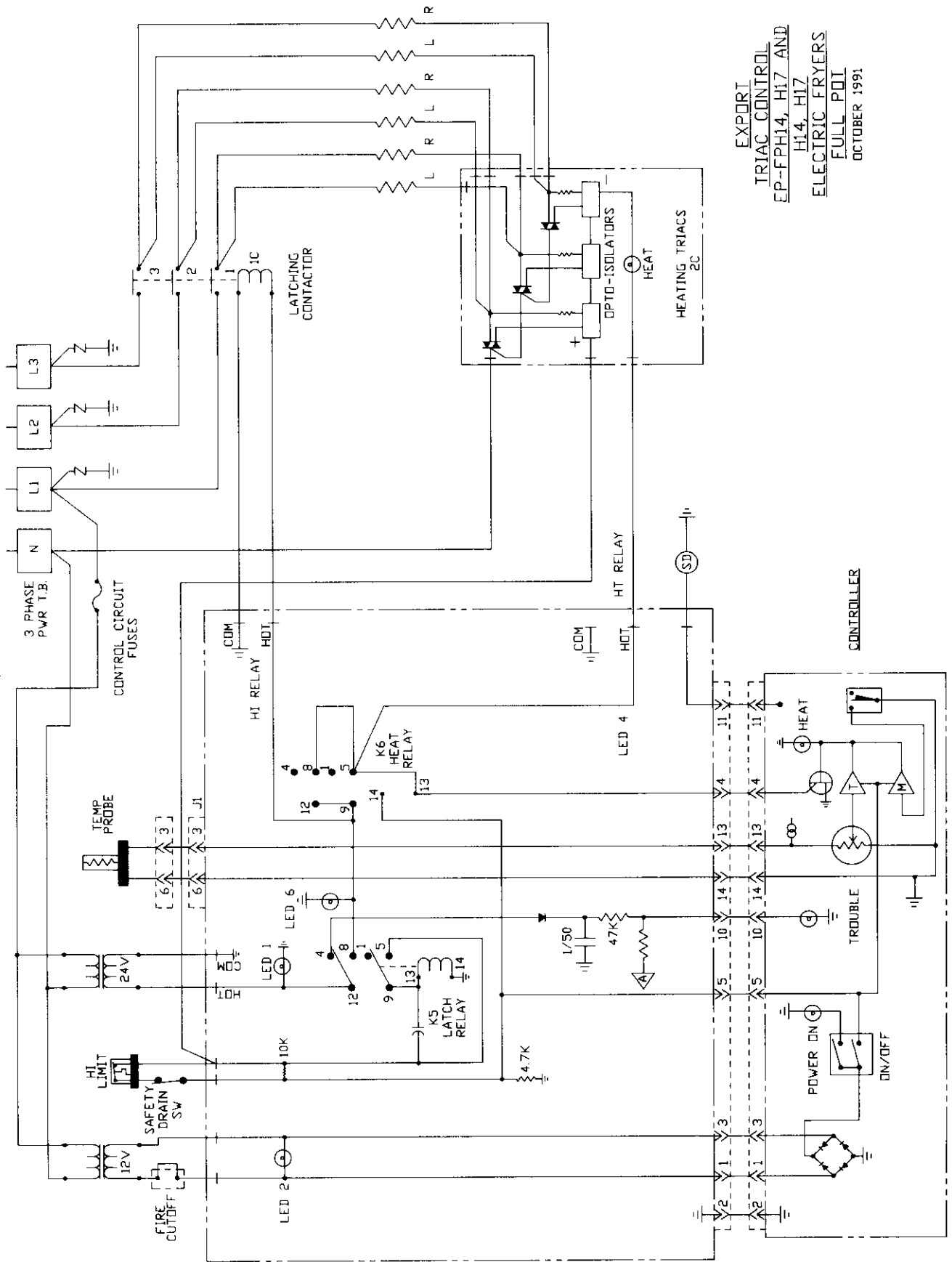


U.S.
TRIAC CONTROL
EP-FPH14, H17, H22 AND
H14, H17, H22
ELECTRIC FRYERS
FULL POT
OCTOBER 1991

EPRI FRYER COMMON SIMPLIFIED WIRING DIAGRAM FOR EPH14 & EPH17 SERIES U. S. AND DOMESTIC SPLIT POT 208V OR 240V



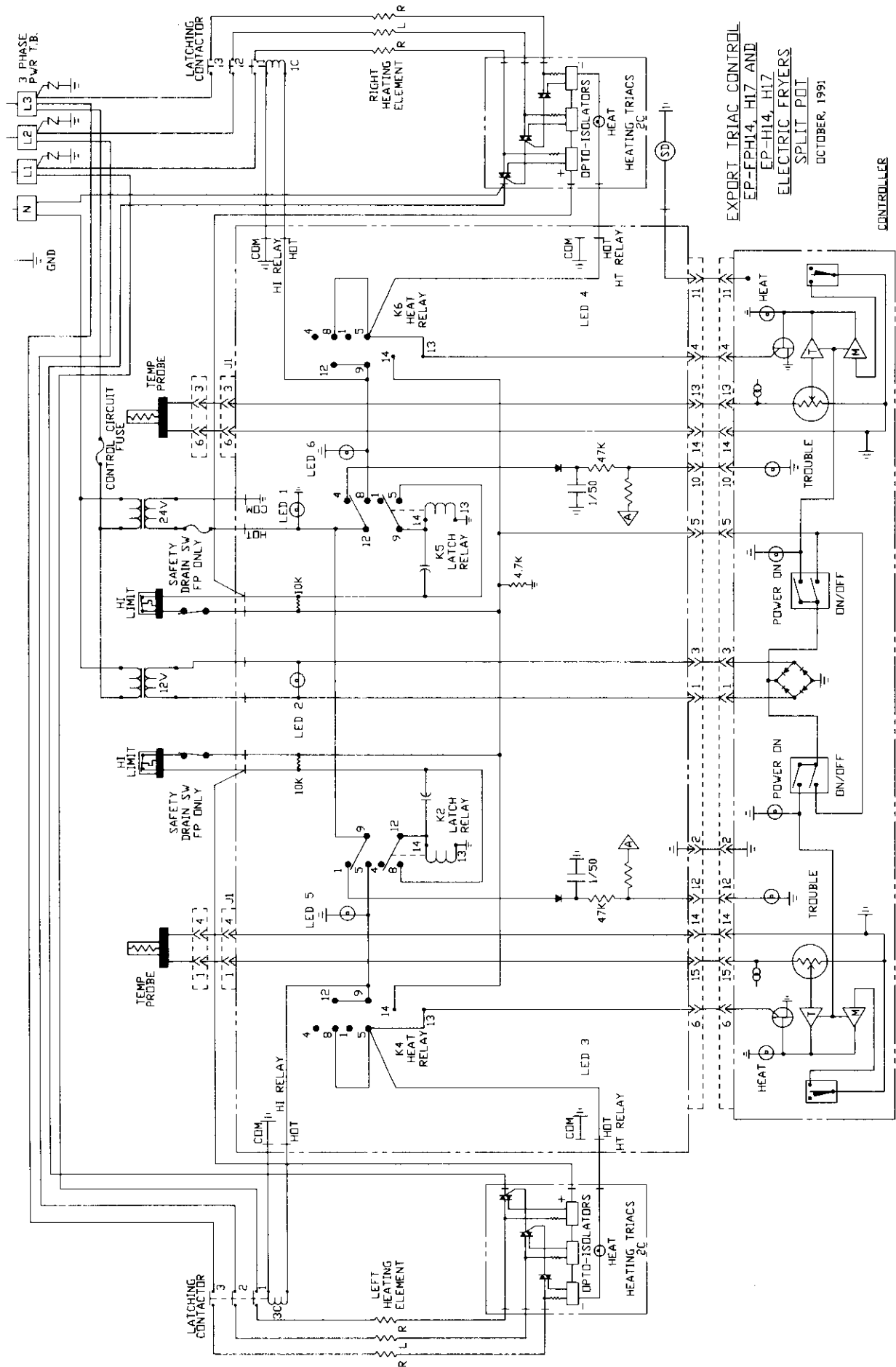
EPRI FRYER COMMON SIMPLIFIED WIRING DIAGRAM FOR EPH14 & EPH17 SERIES FOR
EXPORT FULL POT 220/380V OR 240/415V



EXPORT
TRIAC CONTROL
EP-FPH14, H17 AND
H14, H17
ELECTRIC FRYERS
FULL POT
OCTOBER 1991

INTERFACE
BOARD

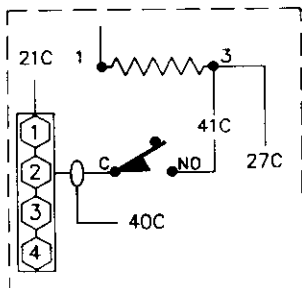
EPRI FRYER COMMON SIMPLIFIED WIRING DIAGRAM FOR EPH14 & EPH17 SERIES FOR EXPORT SPLIT POT 220/380V OR 240/415V



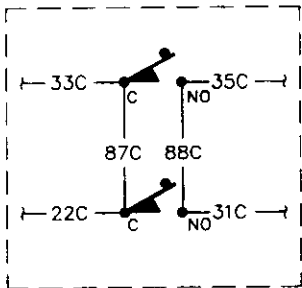
EXPORT TRIAC CONTROL
EP-EPH14, H17 AND
EP-H14, H17
ELECTRIC FRYERS
SPLIT POT
OCTOBER, 1991

CONTROLLER

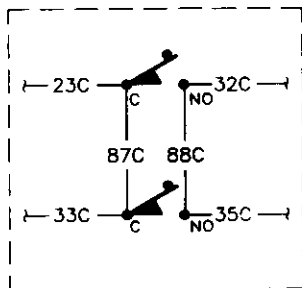
PLAN WIRING DIAGRAM FOR FILTER MAGIC II



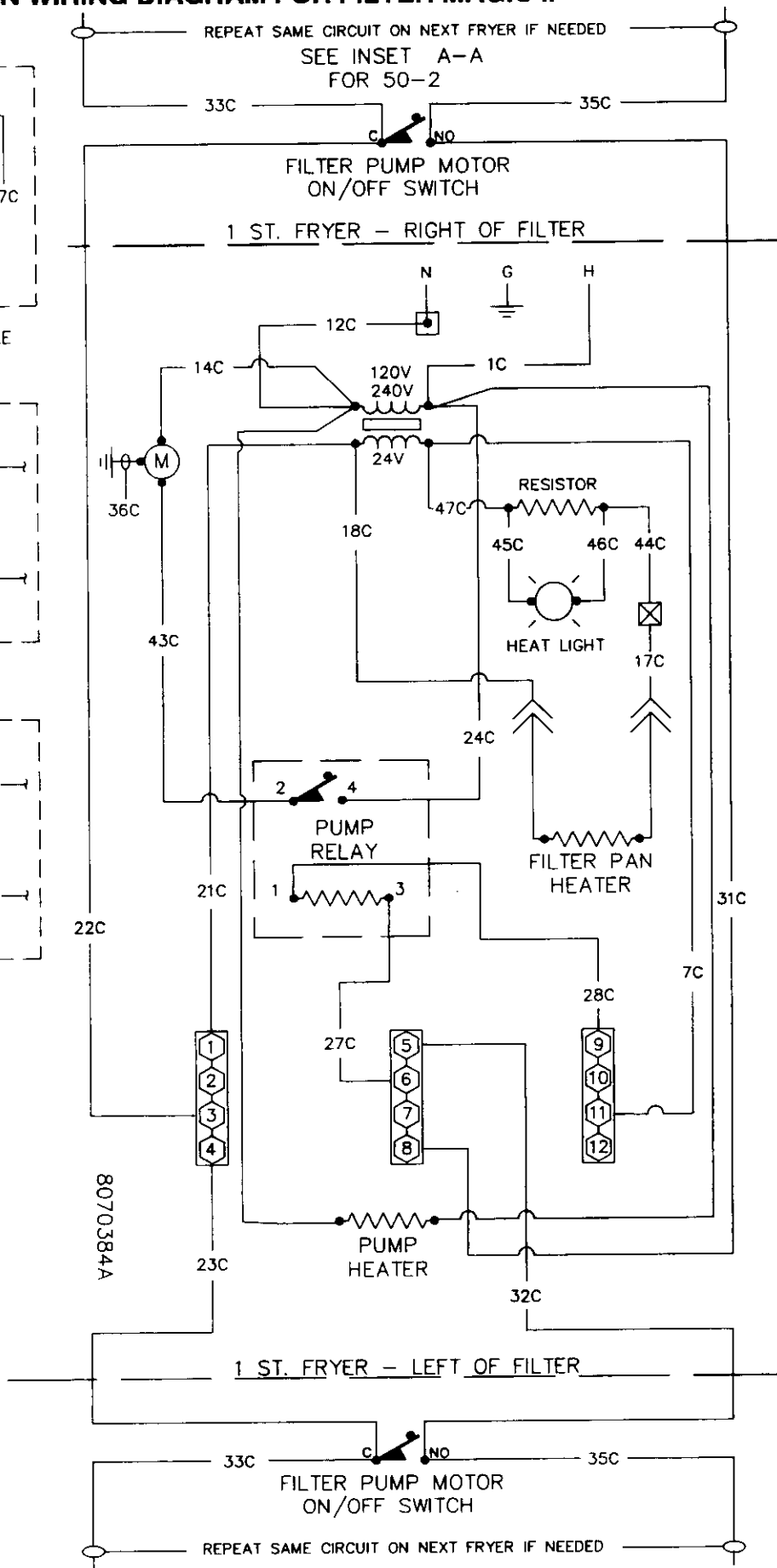
FOR POLISHING CYCLE
(OPTIONAL)



INSET A-A



INSET B-B



SEE INSET B-B
FOR 50-2



20. SPECIFICATIONS

Frymaster®

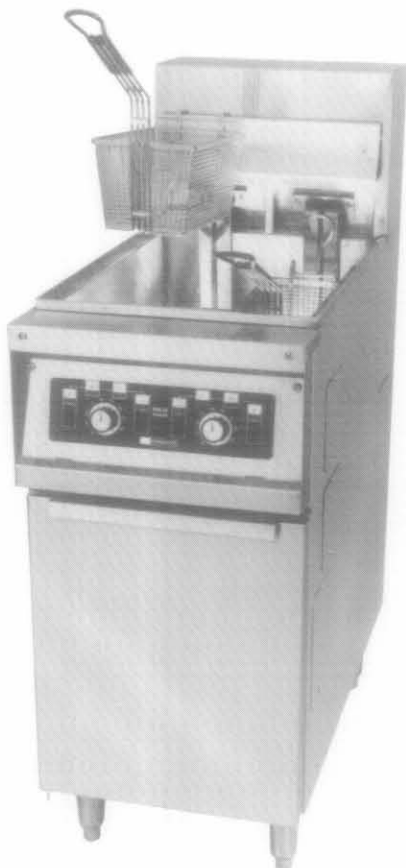
A WELBILT Company

ITEM NO. _____

H-14 Electric Fryers

Specifically designed
for high volume frying

AMA File No. 35-C-11



- Centerline temperature sensor, 7 to 10 second response to loads, no temperature overshoot
- Deep cold zone, 1-1/4 in. (32 mm) IPS ball type drain valve
- Swing-up rib-type, low watt density, long life heating elements (37 watts per sq. inch)
- Open pot design (split or single)
- Lifetime limited warranty on stainless frypot
- Solid state controller with automatic melt cycle
- Boil out mode for easy cleaning

The H-14 has a minimum 40 lbs. (22 l.) and maximum 50 lbs. (27 l.) shortening capacity. The frying area is 14 x 15-1/2 in. (356 x 406 mm). The solid state controller assures pinpoint accuracy of shortening temperature, extending shortening life and producing a uniformly cooked product. Centerline temperature sensor mounting permits quick response to load (7 to 10 seconds). Counterbalanced, swing-up electric self-cleaning elements extend element life. Every inch of the stainless steel frypot and cold zone can be cleaned and wiped down by hand. The large cold zone catches crumbs and sediment from the frying area. These particles are trapped in the cold zone where they do not carbonize, contaminate shortening or cling to fried products.

This model will accommodate additional accessories including frying computers (single or multiproduct), automatic basket lifts and the Filter Magic® System. Up to six H-14 fryers can be battered with a single Filter Magic System.

Distributed in Canada by GARLAND COMMERCIAL RANGES, LTD., 1177 Kamato, Mississauga, Ontario L4W 1X4.

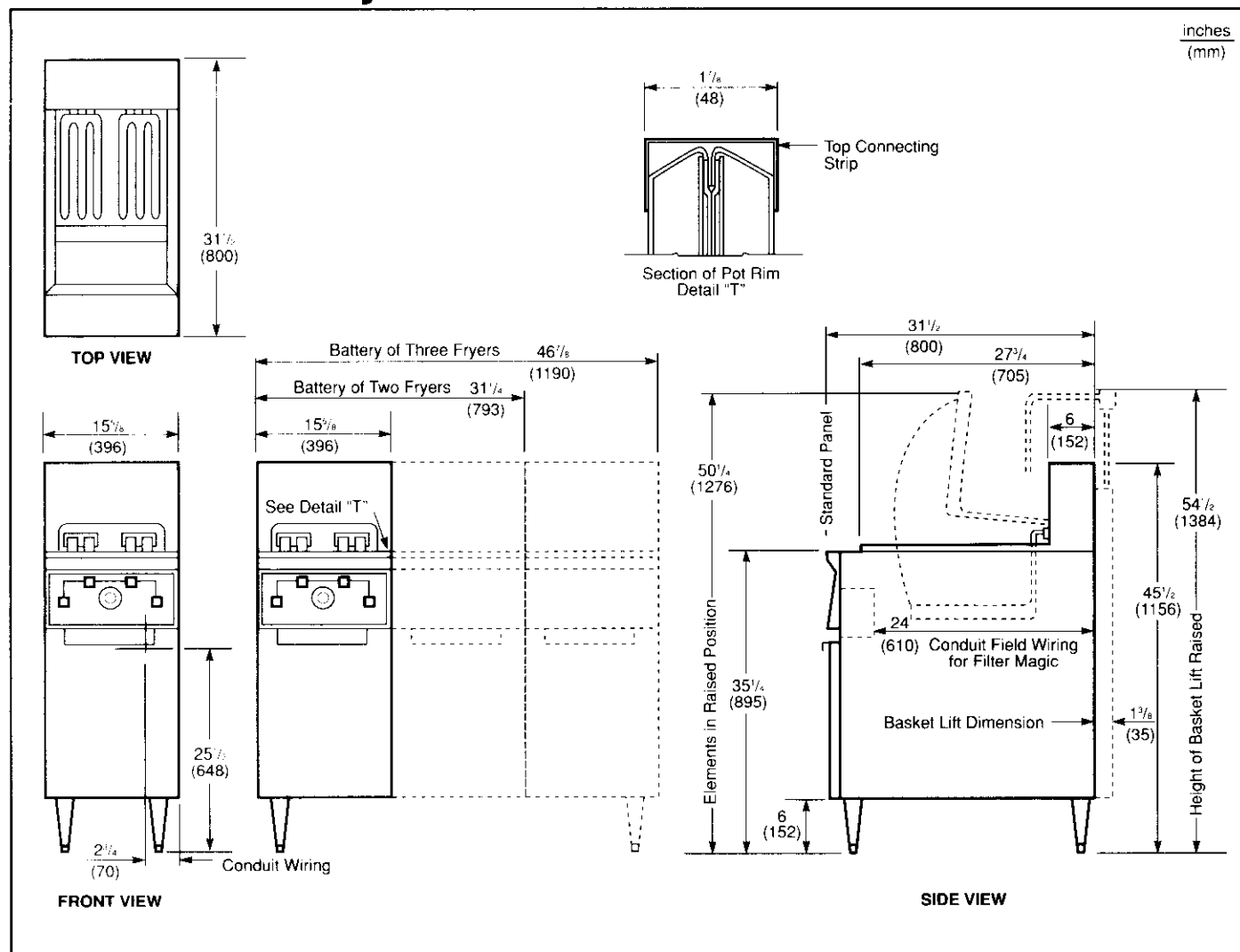


THE FRYMASTER CORPORATION

A Welbilt Company
8700 Line Avenue, P.O. Box 51000
Shreveport, Louisiana U.S.A. 71135-1000
Phone 318-865-1711, Fax 318-868-5987

TOLL FREE 1-800-221-4583

H-14 Electric Fryers



NOTES

14 kw input per fryer
 Filter Magic dimensions same as fryer cabinet
 1-1/4" (32 mm) conduit for field wiring
EACH UNIT MUST BE FIELD WIRED. NO CORD AND PLUG PROVIDED.
 Single Fryer Unit Weight – 165 lbs. (75 kg)
 Shipping Weight – 209 lbs. (95 kg) Class 85
 Shipping Dimensions – 46"H x 21"W x 35"L (1168 x 533 x 889 mm)

For electrical connections use copper wire.

NOMINAL AMPS PER LINE			Min. Wire Size
208V	240V	480V	
3 phase (3 wire)*	3 phase (3 wire)*	3 phase (3 wire)*	208V – 6
39	34	17	240V – 6
			480V – 8

*plus ground wire

HOW TO SPECIFY

- H-14** Controller Model with exposed temperature sensor knob, "ON/OFF" and melt cycle switches
- SD** Stainless steel pot and door – enamel cabinet
- SC** Stainless steel pot, door and cabinet

OPTIONS AND ACCESSORIES

Filter Magic® System – Up to six fryers can be battered to Filter Magic unit

Automatic Basket Lifts (computer or electronic timer operated)

Frying computer (single or multiproduct)

Spreader drain (for use between two fryers)

Stainless steel apron drain with basket (interchangeable right or left side)

6" (152 mm) casters

THE FRYMASTER CORPORATION

A Welbilt Company

8700 Line Avenue, P.O. Box 51000, Shreveport, Louisiana U.S.A. 71135-1000, Phone 318-865-1711
 Toll free 1-800-221-4583, Fax 318-868-5987

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Frymaster®

A WELBILT Company

ITEM NO.

H-17 Electric Fryers

Specifically designed
for all-purpose frying



- Centerline temperature sensor, 7 to 10 second response to loads, no temperature overshoot
- Deep cold zone, 1-1/4 in. (32 mm) IPS ball type drain valve
- Swing-up rib-type, low watt density, long life heating elements (37 watts per sq. inch)
- Open pot design (split or single)
- Lifetime limited warranty on stainless frypot
- Solid state controller with automatic melt cycle
- Boil out mode for easy cleaning

The H-17 has a minimum 40 lbs. (22 l.) and maximum 50 lbs. (27 l.) shortening capacity. The frying area is 14 x 15-1/2 in. (356 x 406 mm). The solid state controller assures pinpoint accuracy of shortening temperature, extending shortening life and producing a uniformly cooked product. Centerline temperature sensor mounting permits quick response to load (7 to 10 seconds). Counterbalanced, swing-up electric self-cleaning elements extend element life. Every inch of the stainless steel frypot and cold zone can be cleaned and wiped down by hand.

The large cold zone catches crumbs and sediment from the frying area. These particles are trapped in the cold zone where they do not carbonize, contaminate shortening or cling to fried products.

This model will accommodate additional accessories including frying computers (single or multiproduct), automatic basket lifts and the Filter Magic® System. Up to six H-17 fryers can be battered with a single Filter Magic System.

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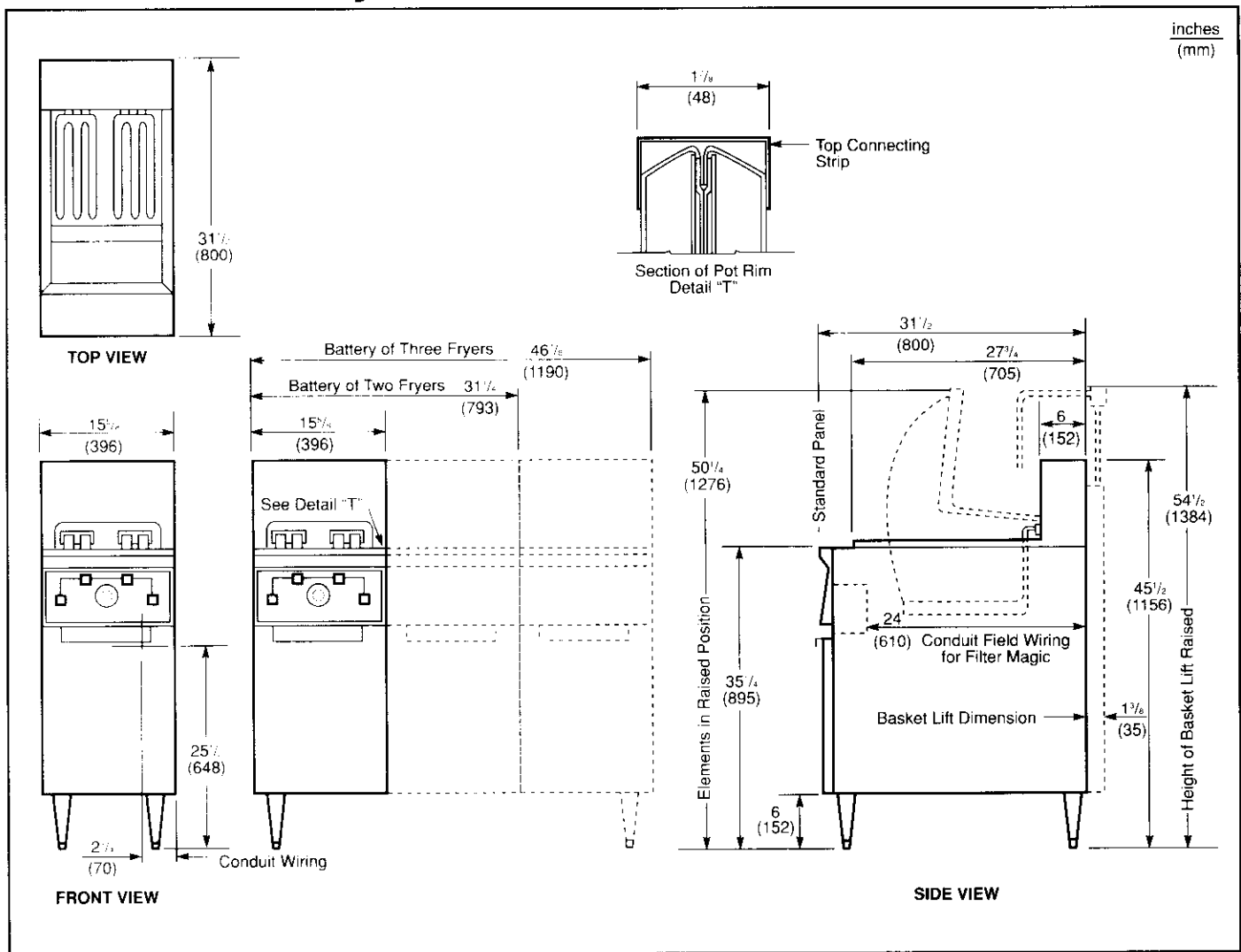
THE FRYMASTER CORPORATION

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TOLL FREE 1-800-221-4583

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H-17 Electric Fryers



NOTES

17 kw input per fryer
 Filter Magic dimensions same as fryer cabinet
 1-1/4" (32 mm) conduit for field wiring
 EACH UNIT MUST BE FIELD WIRED. NO CORD AND PLUG PROVIDED.
 Single Fryer Unit Weight – 130 lbs. (59 kg)
 Shipping Weight – 166 lbs. (75 kg) Class 85
 Shipping Dimensions – 46"H x 21"W x 35"L (1168 x 533 x 889 mm)

For electrical connections use copper wire.

NOMINAL AMPS PER LINE			Min. Wire Size
208V	240V	480V	
3 phase (3 wire)*	3 phase (3 wire)*	3 phase (3 wire)*	208V – 6
48	41	21	240V – 6
			480V – 8

*plus ground wire

HOW TO SPECIFY

- H-17** Controller Model with exposed temperature sensor knob, "ON/OFF" and melt cycle switches
- SD** Stainless steel pot and door – enamel cabinet
- SC** Stainless steel pot, door and cabinet

OPTIONS AND ACCESSORIES

Filter Magic™ System – Up to six fryers can be battered to Filter Magic unit

Automatic Basket Lifts (computer or electronic timer operated)

Frying computer (single or multiproduct)

Spreader drain (for use between two fryers)

Stainless steel apron drain with basket (interchangeable right or left side)

6" (152 mm) casters

THE FRYMASTER CORPORATION

A Welbilt Company

8700 Line Avenue, P.O. Box 51000, Shreveport, Louisiana U.S.A. 71135-1000, Phone 318-865-1711
 Toll free 1-800-221-4583, Fax 318-868-5987

Frymaster®

A WELBILT Company

ITEM NO. _____

H22 Electric Fryers

Specifically designed
for high-volume frying

AJA File No. 35 C 11



- *Centerline temperature sensor, 7 to 10 second response to loads, no temperature overshoot*
- *Deep cold zone, 1-1/4 in. (32 mm) IPS ball-type drain valve*
- *Swing-up, rib-type, low watt density, long life heating elements (47 watts per sq. inch)*
- *Open-pot design (split or full)*
- *Lifetime limited warranty on stainless frypot*
- *Solid-state controller with automatic melt cycle*
- *Boil-out mode for easy cleaning*

The H22 has a minimum 40-lbs. (22 litres) and maximum 50-lbs. (27 litres) shortening capacity. The frying area is 14 x 15-1/2 in. (356 x 406 mm). The solid-state controller assures pinpoint accuracy of shortening temperature, extending shortening life and producing a uniformly-cooked product. Centerline temperature sensor mounting permits quick response to load (7 to 10 seconds). Counterbalanced, swing-up self-cleaning electric elements extend element life. Every inch of the stainless steel frypot and cold zone can be cleaned and wiped down by hand.

The large cold zone catches crumbs and sediment from the frying area. These particles are trapped in the cold zone where they do not carbonize, contaminate shortening or cling to fried products.

This model will accommodate additional accessories including frying computers (multiproduct), automatic basket lifts, the Filter Magic® System and the FootPrint® Filtration System. Up to six H22 fryers can be battered with a single Filter Magic System.

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THE FRYMASTER CORPORATION

A Welbilt Company

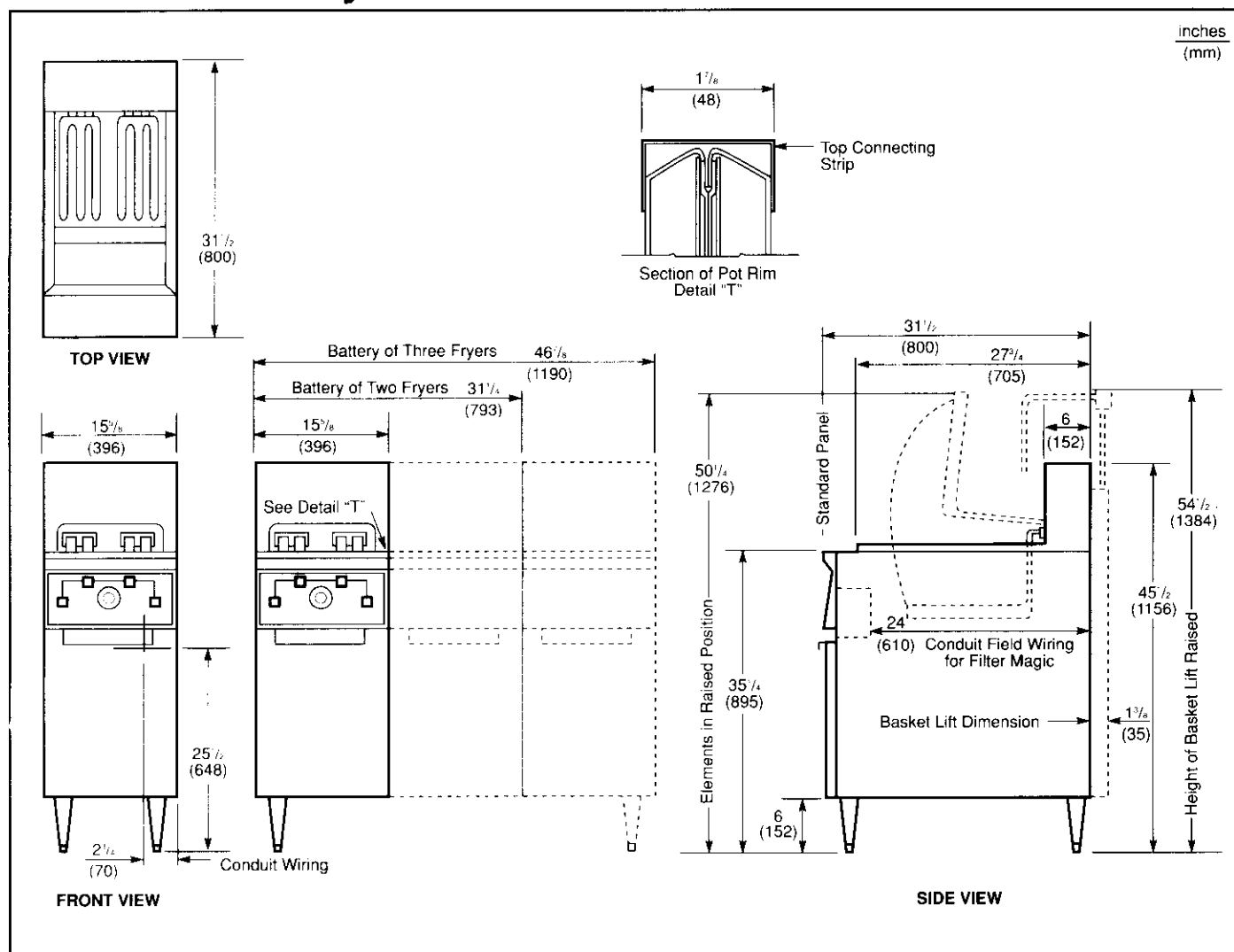
8700 Line Avenue, P.O. Box 51000

Shreveport, Louisiana U.S.A. 71135-1000

Phone 318-865-1711, Fax 318-868-5987

TOLL FREE 1-800-221-4583

H22 Electric Fryers



NOTES

22 kw input per fryer
 Filter Magic dimensions same as fryer cabinet
 1-1/4" (32 mm) conduit for field wiring
EACH UNIT MUST BE FIELD WIRED. NO CORD AND PLUG PROVIDED.
 Single Fryer Unit Weight – 160 lbs. (73 kg)
 Shipping Weight – 200 lbs. (91 kg) Class 85
 Shipping Dimensions – 46"H x 21"W x 35"L (1168 x 533 x 889 mm)

For electrical connections, use an approved, flexible, metallic or rubber covered, electrical cable and plug with copper wire only.

NOMINAL AMPS PER LINE					MIN. WIRE SIZE AWG (mm²)
208V	240V	480V	EXPORT ONLY		
3 phase (3 wire)*	3 phase (3 wire)*	3 phase (3 wire)*	220/380V	240/415V	208V – 4 (25)
			3 phase (4 wire)*	3 phase (4 wire)*	240V – 4 (25)
61	53	27			480V – 6 (16)
			34	31	220/380V – 6 (16)
					240/415V – 6 (16)

*plus ground wire

HOW TO SPECIFY

H22 Solid-state controller model with exposed temperature sensor knob, "ON/OFF" and melt cycle switches

SD Stainless steel pot and door - enamel cabinet

SC Stainless steel pot, door and cabinet

OPTIONS AND ACCESSORIES

Filter Magic™ System – Up to six fryers can be battered to Filter Magic unit

FootPrint™ Filtration System – Up to six fryers can be battered to FootPrint System

Automatic Basket Lifts (computer or electronic timer operated)

Frying computer (single or multiproduct)

Spreader drain (for use between two fryers)

Stainless steel apron drain with basket (interchangeable right or left side)

6" (152 mm) casters

THE FRYMASTER CORPORATION

A Welbilt Company

8700 Line Avenue, P.O. Box 51000, Shreveport, Louisiana U.S.A. 71135-1000, Phone 318-865-1711
 Toll free 1-800-221-4583, Fax 318-866-5987

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EPRI FRYER SPECIFICATIONS

		MODEL NUMBER	
		EPH-14	EPH-17
Working Dimensions	Width	15 5/8" (397 mm)	15 5/8" (397 mm)
	Depth	31 1/2" (800 mm)	31 1/2" (800 mm)
	Height	45 1/2" (1156 mm)	45 1/2" (11156 mm)
Frying Area		14" x 15 1/2" (356 x 394 mm)	14" x 15 1/2") (356 x 394 mm)
Shortening Capacity (min.-max.)	40-50 lbs. (18-23 kg)		40-50 lbs. 18-23 kg)
Input KW	14		17
Nominal Amps Per Line (3 phase)			
	208	39	48
	240	34	41
	220/380	21	26
	240/415	20	24
Minimum Wire Size	208	6	6
	240	6	6
	220/380	6	6
	240/415	6	6
Approximate Shipping Weight		214 lbs. (97 kg)	214 lbs. (979 kg)

This product was developed in cooperation with EPRI, the Electric Power Research Institute.

FILTER MAGIC II AND FOOT-PRINT II FILTER OPERATING INSTRUCTIONS

PREPARING THE FILTER UNIT FOR USE

1. Remove the filter unit from the cabinet.
2. Remove the crumb tray and the paper hold-down ring.

NOTE: Be sure the inside of the pan is free of all food and breading particles that could prevent the paper from sealing against the bottom of the pan and clogging the Power Shower with crumbs.

3. Position the support screen in the pan with the 90° lip down.
4. Position the filter paper on top of the support screen with the edges evenly distributed.
5. Insert the paper hold-down ring and push down against outer edges of paper until ring is against bottom of pan. Add powder per instructions on package and insert the crumb tray in the filter pan.
6. Slide the filter pan back into the fryer cabinet, making sure that it is positioned all the way to the back of the cabinet. When the filter pan is properly positioned, the green system ready light located on the filter control panel will come on.

OPERATION OF THE FILTER UNIT

CAUTION:

Never operate the filter unit unless the fryers have been brought up to cooking temperature.

To filter the fryer, turn the fryer power OFF, open the drain valve on the fryer you have selected to be filtered, and use the Fryer's Friend steel rod to free the drain from inside the frypot as necessary.

NOTE: Exercise care when using the Fryer's Friend to prevent damage to the frypot and drain valve.

CAUTION: Do not drain more than one fryer at a time. To do so, will cause overfilling of the filter pan.

2. Snap Power Shower into the frypot connection.

NOTE: Power Shower is an optional item.

3. Engage the filter lever to start pump. Hot shortening will jet over the inside surface of the frypot flushing crumbs and sediment into the filtering system.

NOTE: On fryers with the rear-flush option, the control lever is located on the square drain. You can select Power Shower or cold zone flush. The cold zone flush will wash sediment from the bottom of the frypot.

NOTE: Filter pump is equipped with a manual reset switch in case the filter motor overheats or an electrical fault occurs.

WARNING

Turn off power to filter system and allow pump motor to cool 20 minutes before attempting to reset switch on pump motor.

4. After shortening is completely filtered, close the drain valve and allow the fryer to fill before disengaging the filter lever to turn off the filter pump.

NOTE: When using solid shortening, allow the filtering system to run five (5) to ten (10) seconds after bubbles appear in order to clear the lines and in order to prevent solid shortening from hardening in the line and clogging the filter.

5. Remove the Power Shower assembly.
6. Turn the fryer ON to start the cooking operation.

CAUTION:

Extreme care must be exercised when working with hot shortening. Never use the filter pan to dispose of used shortening. Use an SDU (Shortening Disposal Unit) or stock pot to transport used shortening to the disposal area.

CHANGING THE FILTER PAPER

NOTE: Allow filter pan to cool completely before attempting to change the paper.

1. Remove the filter pan from the fryer cabinet.
2. Remove and clean the crumb tray.
3. Remove the hold-down ring from the filter pan.

4. Remove and discard the used (old) filter paper.
5. Remove filter paper screen and clean.
6. Clean all breadings and food particles from the filter pan.
NOTE: Inner pan may be removed from the outer pan assembly for cleaning.
7. Refer to the section Preparing the Filter Unit For Use for the next operation.

CARE AND CLEANING OF FRYER FILTERING SYSTEM

CAUTION:

Never operate the fryer or filtering system without shortening in the system.

The shortening should be filtered as often as needed. If a heavy volume of breaded food is fried, it may be necessary to filter as often as every hour. This will increase the life of the shortening and produce a better-tasting product. The best rule to follow is to filter before you think it is needed. Even with a product such as french fries, you should filter two (2) to three (3) times per day for best results.

Also, the frypot should be cleaned periodically. This operation, combined with the disposing of the used shortening, enhances the flavor of the food product. After the fryer has been emptied, the frypot should be drained and the drain valve closed. Fill the frypot to the oil-level line with water and the correct amount of Frymaster Fryer N' Griddle Cleaner, then put the baskets into the frypot and bring the solution to a simmer condition for one (1) hour. Then turn OFF the fryer, drain the solution, and wipe the frypot clean and dry.

NOTE: Do not drain water into the filter pan. Water will damage the filter pump, necessitating replacement. Use a stock pot or bucket. The inner and outer filter pan must be cleaned on initial startup and periodically thereafter.

1. To clean the inner filter pan, remove from outer pan and take to a sink filled with warm water and grease-cutting detergent.
2. Scrub the inner pan with a nylon pot brush.

3. When clean, rinse thoroughly to remove all detergent and wipe dry with a clean, dry cloth or paper towels.
4. To clean the outer filter pan, pour one (1) quart (one (1) liter) of warm water mixed with grease-cutting detergent into the pan. Scrub the pan thoroughly inside ONLY with the pot brush until clean.
5. Pour the solution from the outer pan into kitchen drain or sink.
6. Rinse with clean water and drain into kitchen drain or sink.
7. Turn the pan upside down and slightly elevate on sink drain board to allow all water to drain from suction tube.

Caution:

All water must be removed from the suction tube before inserting inner pan.

8. After suction tube is free of water, wipe inside and outside with a clean, dry cloth or paper towels.
9. Insert inner pan back into outer pan and refer to Step 3 of PREPARING THE FILTER UNIT FOR USE.

POWER SHOWER CARE AND CLEANING

The stainless steel Power Shower assembly practically cleans itself as the hot shortening is forced through the tubing during the filtration process. However, the operator must be sure to drain the Power Shower thoroughly once it is removed from the fryer, after the filtering operation is completed.

To check for any stoppage in the tubing:

1. Remove the plugs at each corner of the Power Shower frame.
2. Insert a long, narrow bottle brush into the tube to dislodge any particles. Hot water and grease-cutting detergent may be used in conjunction with the bottle brush to clean inside the Power Shower tube.

NOTE: When hot water and detergent are used to clean the Power Shower, the Power Shower must be rinsed, thoroughly dried, and plugs reinserted before reusing.

FILTER SYSTEM TROUBLESHOOTING

PROBLEM	PROBABLE CAUSE	CORRECTIVE ACTION
Filter heat light does not glow.	A. Filter pan not in position. B. Loose wire. C. Defective light. D. Defective heater. E. Contactor broken or misaligned. F. Defective transformer.	A. Position pan properly. B. Replace wire. C. Replace light. D. Replace heater. E. Replace or realign. F. Replace transformer.
Filter heater will not heat.	A. Pan not in position. B. Contactor broken or misaligned. C. Heater defective. D. Defective transformer.	A. Position pan properly. B. Replace or realign. C. Replace heater. D. Replace transformer.
Pump will not pump.	A. Pan not in position. B. Broken o-ring on fitting. C. Shortening solidified in pan. D. Pump microswitch broken or not adjusted. E. Pump relay defective. F. Thermo overload tripped.	A. Position pan properly. B. Replace o-ring. C. Allow heater to melt shortening. D. Replace or realign. E. Replace relay. F. Reset.
Fryer trouble light ON or computer shows "IGNITION FAILURE."	A. Drain switch not closed. B. Loose wire. C. Defective drain valve microswitch. D. Microswitch out of adjustment.	A. Close drain valve. B. Replace wire. C. Replace switch. D. Adjust switch.
Drain tube leaking.	A. Defective gasket. B. Loose connection.	A. Replace gasket. B. Tighten connection.
Filter Power Shower not spraying properly.	A. Stoppage in tubing. B. Filter pan connection not properly engaged. C. Shower assembly not properly installed. D. O-ring lost or defective.	A. Disassemble Power Shower and clean. B. Position pan properly. C. Install properly. D. Replace o-ring.

BASKET LIFT

INSTALLATION INSTRUCTIONS

For convenience in shipping your fryer, the basket hanger assemblies are shipped in the "down" position. Before starting your fryer, install the basket rest arms. For fryers equipped with computers or basket lift timer controllers, basket lift rods will come up automatically when unit is plugged into electrical outlet.

After fryer has reached the programmed cooking temperature, press the desired product button(s) on the computer or basket lift timer controller. The basket(s) will be lowered into the shortening. At the completion of the timed cycle, the baskets will automatically be raised. To repeat the cycle, simply depress the desired product button to lower the baskets.

OPERATING INSTRUCTIONS

Fryers Equipped With Computers or Basket Lift Timer Controllers:

To change the time cycle on fryers equipped with Computer or Basket Lift Timer Controller:

Refer to Computer Programming Section page 11 or Electronic Timer Controller Section Page 16 of this manual.

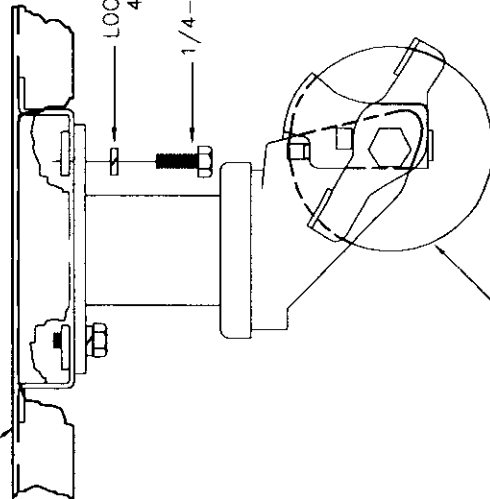
BASKET LIFT TROUBLESHOOTING

PROBLEM	PROBABLE CAUSE	CORRECTIVE ACTION
Lifts Continuously Travel Up and Down.	A. Microswitch out of adjustment. B. Microswitch broken. C. Defective basket lift relay on interface board.	A. Adjust microswitch to allow proper contact with bell crank B. Replace broken microswitch. C. Replace basket relay.
Basket Lift Timer or Computer Will Not Activate Gearmotor.	A. Loose or broken wire between interface board and gearmotor. B. Loose or broken wire connections at basket lift timer or computer. C. Wire loose in disconnect plug at rear of interface board. D. Defective basket lift timer or computer. E. Trace on interface board burned open. F. Defective timer or computer.	A. Repair or replace wire as necessary. B. Repair or replace wire connections as necessary. C. Push wires into disconnect to allow proper contact. D. Replace timer or computer. E. Replace interface board. F. Replace timer or computer.

PROBLEM	PROBABLE CAUSE	CORRECTIVE ACTION
Power To Gear-motor But Gearmotor Does Not Move.	A. Defective gearmotor. B. Basket lift rod jammed in rod bushings.	A. Replace gearmotor. B. Remove basket lift enclosure and clean rods and bushings.
Lift Arm Does Not Stop In The Raised Position — Lowers Back Into Pot and Stops.	A. Defective gears or brake in gear motor.	A. Replace gearmotor.
Basket Lift Rods Binding	A. Rod bushings need lubrication.	A. Grease basket lift rods and bushing with Lubriplate type grease.

FOOTPRINT FILTER CASTERS SEE 8195307 FOR LOCATION INSTRUCTIONS

BASE CHANNEL WITH CUT AWAY VIEW
SHOWING LEG PAD



LOCKWASHER (8090191)
4 EA. PER CASTER

1/4-20 X 3/4 HEX. HD. SCREW (8090131)
4 EA. PER CASTER

3" ϕ WHEEL WITH BRAKE (8100651)
(TO BE USED ON FRONT OF UNIT IN FILTER AREA)

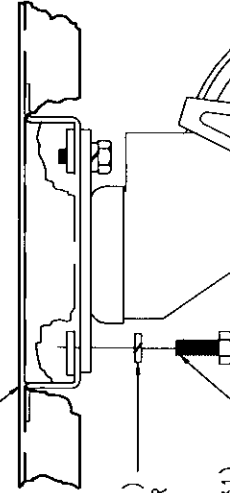
INSTRUCTIONS FOR INSTALLING CASTERS:

1. REMOVE UNIT FROM PALLET
2. CAREFULLY RAISE UNIT WITH FORKLIFT
3. INSTALL CASTERS IN LOCATIONS INDICATED ON DRAWING 8195307
4. CAREFULLY LOWER UNIT WITH FORKLIFT

IF NO FORKLIFT IS AVAILABLE:

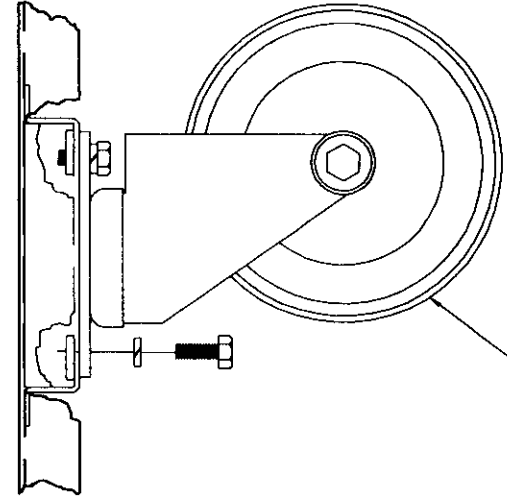
1. CAREFULLY LAY UNIT ON ITS BACK, PLACING BLOCKS UNDERNEATH TO PROTECT GAS LINE AND COMPUTER REMOTE CONNECTORS
2. INSTALL CASTERS IN LOCATIONS INDICATED ON DRAWING 8195307
3. CAREFULLY RAISE UNIT TO THE UPRIGHT POSITION ONCE CASTERS ARE INSTALLED

BASE CHANNEL WITH CUT AWAY VIEW
SHOWING LEG PAD



LOCKWASHER (8090191)
4 EA. PER CASTER

1/4-20 X 3/4 HEX. HD. SCREW (8090131)
4 EA. PER CASTER



5" ϕ WHEEL WITH BRAKE (8100357)
(ON FRONT OF UNIT IF CLEAR OF FILTER)

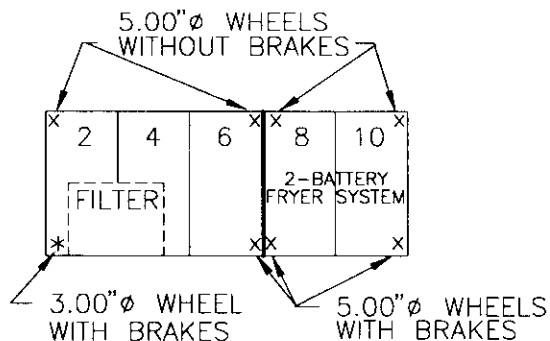
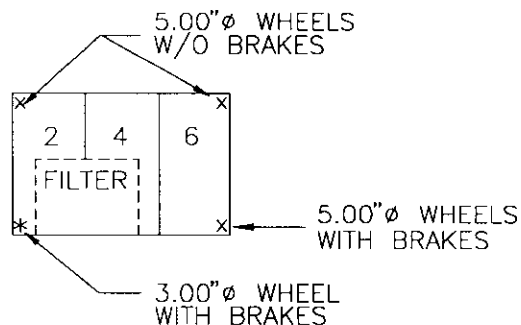
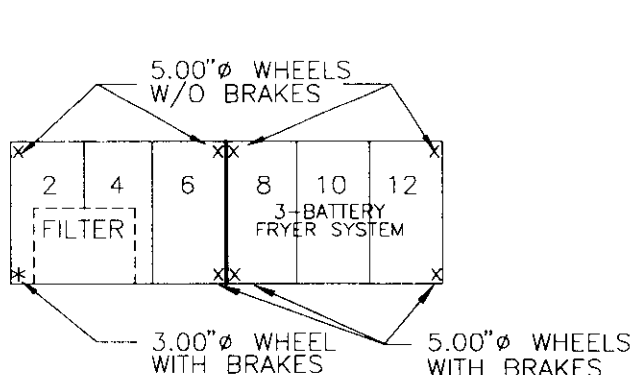
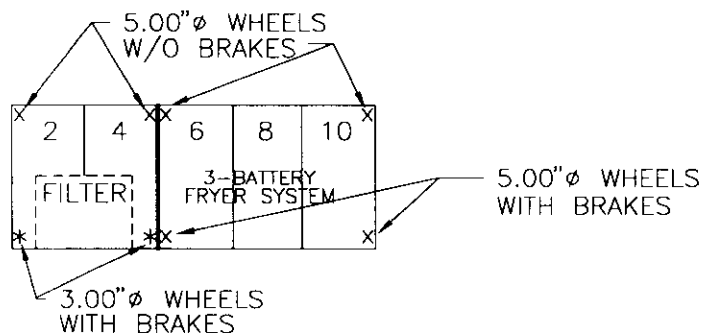
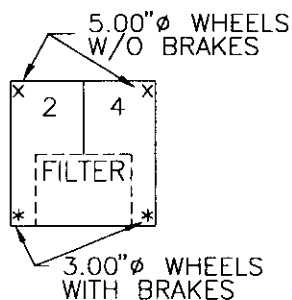
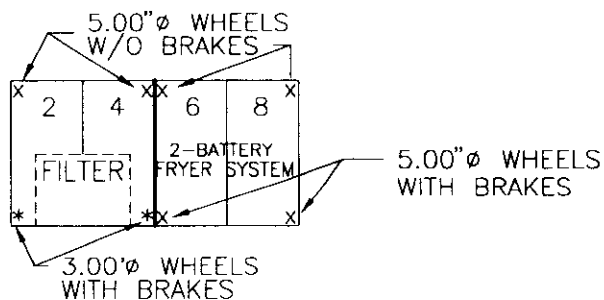
5" ϕ WHEEL WITHOUT BRAKE (8100356)
(ALWAYS ON BACK OF UNIT)

NOTE:

Torque each screw (8090131)
to 50 inch lbs.

FOOTPRINT FILTER CASTER LOCATION

SEE 8195367 FOR INSTALLATION INSTRUCTIONS



NOTE: ALL CASTERS, REGARDLESS OF WHEEL SIZE, PROVIDE 6" CLEARANCE TO FLOOR TO CONFORM TO NSF STANDARDS.

- 8100356-6.00" CASTER, 5.00" DIA. WHEEL W/O BRAKES
(USED ONLY ON BACK CASTER MOUNTS)
- 8100357-6.00" CASTER, 5.00" DIA. WHEEL W/ BRAKES
(USED ONLY ON FRONT CASTER MOUNTS)
- 8100651-6.00" CASTER, 3.00" DIA. WHEEL W/ BRAKES
(USED ONLY ON FRONT CASTER MOUNTS)

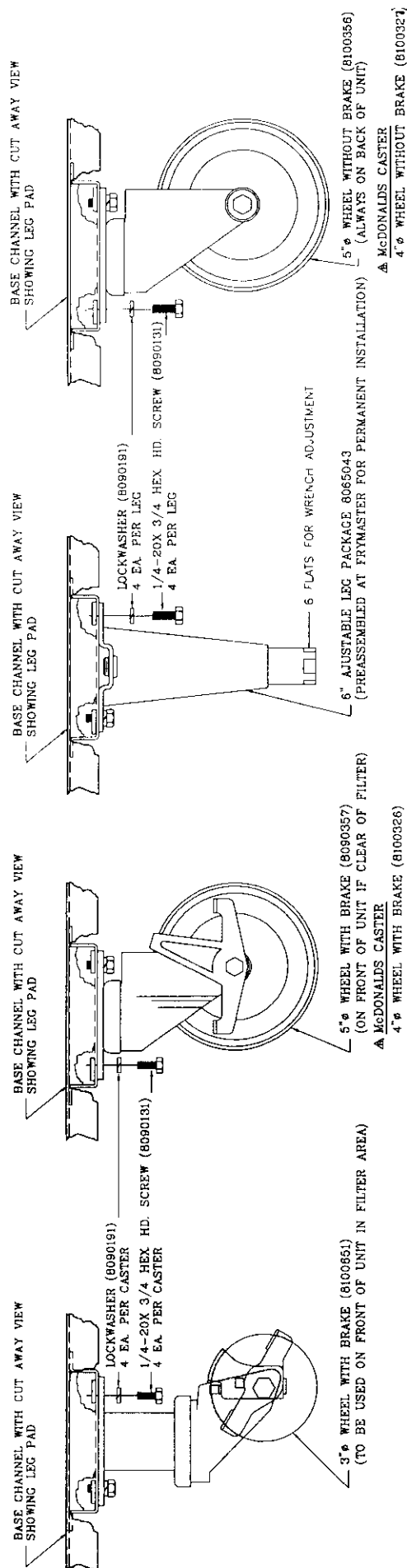
16.00" WIDE SIDE FILTER MAGIC CASTERS AND LEG INSTALLATION INSTRUCTIONS SEE 8195245 FOR LOCATION INSTRUCTIONS

INSTRUCTIONS FOR INSTALLING CASTERS:

1. REMOVE UNIT FROM PALLET
2. CAREFULLY RAISE UNIT WITH FORKLIFT
3. INSTALL CASTERS IN LOCATIONS INDICATED ON DRAWING 8195245
4. CAREFULLY LOWER UNIT WITH FORKLIFT

IF NO FORKLIFT IS AVAILABLE:

1. CAREFULLY LAY UNIT ON ITS BACK, PLACING BLOCKS UNDERNEATH TO PROTECT GAS LINE AND COMPUTER REMOTE CONNECTORS
2. INSTALL CASTERS IN LOCATIONS INDICATED ON DRAWING 8195245
3. CAREFULLY RAISE UNIT TO THE UPRIGHT POSITION ONCE CASTERS ARE INSTALLED



NOTE:

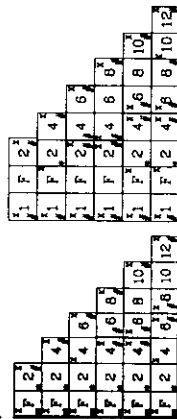
WHETHER INSTALLING CASTERS OR LEGS ALWAYS USE 4 EA. 1/4-20 X 3/4 HEX HD. SCREWS (8090131) WITH 4 EA. LOCKWASHERS (8090191) FOR EACH CASTER OR LEG ASSEMBLY AND TORQUE EACH SCREW TO 50 INCH LBS. MINIMUM. SEE ABOVE DIAGRAMS FOR PROPER LOCATION OF LOCKWASHER.

CASTER/LEG LOCATION INSTRUCTIONS FOR 16.00" WIDE SIDE FILTER MAGIC SEE 8195368 FOR INSTALLATION INSTRUCTIONS

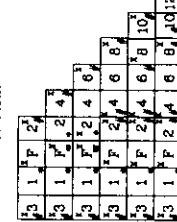
INCLUDES MODELS FM35, FM45, FMH50, FH14, FH17, FH22

(BOLD LINES INDICATE WHERE THE FRYERS ARE BATTERED TOGETHER)

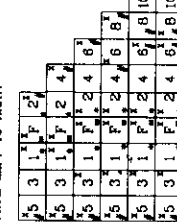
**FRYER SYSTEMS WITH FILTER
IN #1 MODULE AS READ
FROM LEFT TO RIGHT**



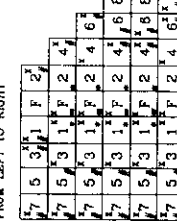
**FRYER SYSTEMS WITH FILTER
IN #2 MODULE AS READ
FROM LEFT TO RIGHT**



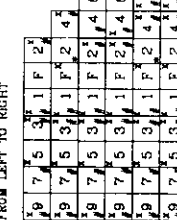
**FRYER SYSTEMS WITH FILTER
IN #3 MODULE AS READ
FROM LEFT TO RIGHT**



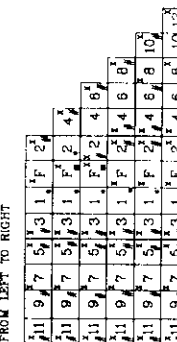
**FRYER SYSTEMS WITH FILTER
IN #4 MODULE AS READ
FROM LEFT TO RIGHT**



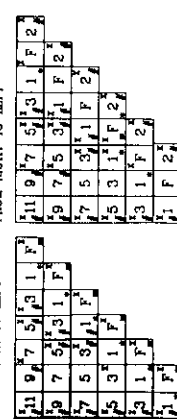
**FRYER SYSTEMS WITH FILTER
IN #5 MODULE AS READ
FROM LEFT TO RIGHT**



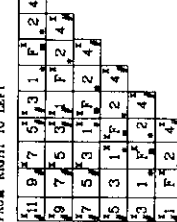
**FRYER SYSTEMS WITH FILTER
IN #7 MODULE AS READ
FROM LEFT TO RIGHT**



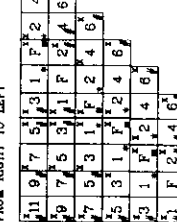
**FRYER SYSTEMS WITH FILTER
IN #1 MODULE AS READ
FROM RIGHT TO LEFT**



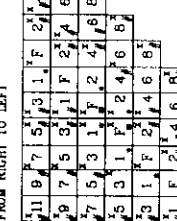
**FRYER SYSTEMS WITH FILTER
IN #2 MODULE AS READ
FROM RIGHT TO LEFT**



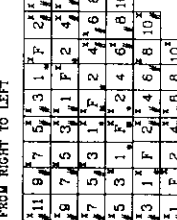
**FRYER SYSTEMS WITH FILTER
IN #3 MODULE AS READ
FROM RIGHT TO LEFT**



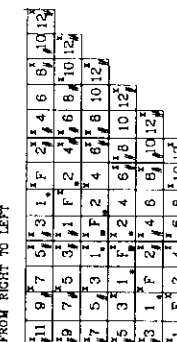
**FRYER SYSTEMS WITH FILTER
IN #4 MODULE AS READ
FROM RIGHT TO LEFT**



**FRYER SYSTEMS WITH FILTER
IN #5 MODULE AS READ
FROM RIGHT TO LEFT**



**FRYER SYSTEMS WITH FILTER
IN #7 MODULE AS READ
FROM RIGHT TO LEFT**



NOTES:

- X = P/N 8100356 = 6.00" CASTER, 5.00" DIA. WHEEL W/O BRAKES
- # = (USED ONLY ON BACK CASTER MOUNTS)
- * = P/N 8100357 = 6.00" CASTER, 5.00" DIA. WHEEL W/ BRAKES
- * = (USED ONLY ON FRONT CASTER MOUNTS)
- * = P/N 8100651 = 6.00" CASTER, 3.00" DIA. WHEEL W/ BRAKES
- * = (USED ONLY ON FRONT CASTER MOUNTS)
- * = P/N 8100007 = LEG ASSEMBLY

IF YOU CHOOSE THE LEGS-ONLY OPTION, USE 8065043 (SINGLE)
OR 8063811 (4 EA.) IN EVERY POSITION INDICATED FOR CASTERS.