HENNY PENNY™
Global Foodservice Solutions

Henny Penny
Pressure Fryers
Model 500
Model 561
Model 600

SERVICE MANUAL

Henny Penny Pressure Fryers

Electric Model 500
Electric Model 561

Gas Model 600

MANUFACTURED BY HENNY PENNY CORPORATION, EATON, OHIO 45320
Call 800/417-8417 toll-free in the U.S. except Ohio dial 800/762-2964 • TWX Number 810-450-2181

FMO1-186
Revised 9-00

LIMITED WARRANTY FOR HENNY PENNY APPLIANCES

Subject to the following conditions, Henny Penny Corporation makes the following limited warranties to the original purchaser only for Henny Penny appliances and replacement parts:

NEW EQUIPMENT: Any part of a new appliance, except lamps and fuses, which proves to be defective in material or workmanship within two (2) years from date of original installation, will be repaired or replaced without charge F.O.B. factory, Eaton, Ohio, or F.O.B. authorized distributor. To validate this warranty, the registration card for the appliance must be mailed to Henny Penny within ten (10) days after installation.

REPLACEMENT PARTS: Any appliance replacement part, except lamps and fuses, which proves to be defective in material or workmanship within ninety (90) days from date of original installation will be repaired or replaced without charge F.O.B. factory, Eaton, Ohio, or F.O.B. authorized distributor.

The warranty for new equipment and replacement parts covers only the repair or replacement of the defective part and does not include any labor charges for the removal and installation of any parts, travel or other expenses incidental to the repair or replacement of a part.

EXTENDED FRYPOT WARRANTY: Henny Penny will replace any frypot that fails due to manufacturing or workmanship issues for a period of up to seven (7) years from date of manufacture. This warranty shall not cover any frypot that fails due to any misuse or abuse, such as heating of the frypot without shortening.

0 TO 3 YEARS: During this time, any frypot that fails due to manufacturing or workmanship issues will be replaced at no charge for parts, labor, or freight. Henny Penny will either install a new frypot at no cost or provide a new or reconditioned replacement fryer at no cost.

3 TO 7 YEARS: During this time, any frypot that fails due to manufacturing or workmanship issues will be replaced at no charge for the frypot only. Any freight charges and labor costs to install the new frypot as well as the cost of any other parts replaced, such as insulation, thermal sensors, high limits, fittings, and hardware, will be the responsibility of the owner.

Any claim must be represented to either Henny Penny or the distributor from whom the appliance was purchased. No allowance will be granted for repairs made by anyone else without Henny Penny's written consent. If damage occurs during shipping, notify the sender at once so that a claim may be filed.

THE ABOVE LIMITED WARRANTY SETS FORTH THE SOLE REMEDY AGAINST HENNY PENNY FOR ANY BREACH OF WARRANTY OR OTHER TERM. BUYER AGREES THAT NO OTHER REMEDY (INCLUDING CLAIMS FOR ANY INCIDENTAL OR CONSQUENTIAL DAMAGES) SHALL BE AVAILABLE.

The above limited warranty does not apply (a) to damage resulting from accident, alteration, misuse, or abuse; (b) if the equipment's serial number is removed or defaced; or (c) for lamps and fuses. THE ABOVE LIMITED WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY AND FITNESS, AND ALL OTHER WARRANTIES ARE EXCLUDED. HENNY PENNY NEITHER ASSUMES NOR AUTHORIZES ANY PERSON TO ASSUME FOR IT ANY OTHER OBLIGATION OR LIABILITY.

WARNING

This manual should be retained in a convenient location for future reference.

A wiring diagram for this appliance is located on the rear shroud cover of the control panel.

Post in a prominent location, instructions to be followed in event user smells gas. This information shall be obtained by consulting the local gas supplier.

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

Keep appliance area free and clear from combustibles.

Do not obstruct the flow of combustion and ventilation air. Adequate clearance must be left all around appliance for sufficient air to the combustion chamber.

NOTE

The Model 600 Fryer is equipped with a continuous pilot. But Fryer can not be operated with out electric power. Fryer will automatically return to normal operation when power is restored.

WARNING

WARNING: **Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death. Read the installation, operating and maintenance instructions thoroughly before installing or servicing this equipment.**

Technical Data for CE Marked Products

Nominal Heat Input: (Net)	Natural (I_{2H}) = 21,1 KW (72,000 Btu/h) Liquid Propane (I_{3P}) = 21,1 KW (72,000 Btu/h)
Nominal Heat Input: (Gross)	Natural (I_{2H}) = 23,4 KW (80,000 Btu/h) Liquid Propane (I_{3P}) = 23,4 KW (80,000 Btu/h)
Supply Pressure:	Natural (I_{2H}) = 20 mbar Liquid Propane (I_{3P}) = 37 mbar
Test Point Pressure:	Natural (I_{2H}) = 8,7 mbar Liquid Propane (I_{3P}) = 25 mbar
Injector Size:	Natural (I_{2H}) = 0,66 mm Liquid Propane (I_{3P}) = 1,04 mm

This appliance must be installed in accordance with the manufacturers instructions and the regulations in force and only used in a suitable ventilated location. Read the instructions fully before installing or using the appliance.

Datos Tecnicos Para Products CE

Consumo Calorico Nominal: (Neto)	Gas Natural (I_{2H}) = 21,1 KW (72,000 Btu/h) Propano Licuado (I_{3P}) = 21,1 KW (72,000 Btu/h)
Consumo Calorico Nominal: (Bruto)	Gas Natural (I_{2H}) = 21,1 KW (80,000 Btu/h) Propano Licuado (I_{3P}) = 21,1 KW (80,000 Btu/h)
Presion De Alimentacion:	Gas Natural (I_{2H}) = 20 mbar Propano Licuado (I_{3P}) = 37 mbar
Presion En Ez Punto De Prueba:	Gas Natural (I_{2H}) = 8,7 mbar Propano Licuado (I_{3P}) = 25 mbar
Diámetro Boquilla:	Gas Natural (I_{2H}) = 0,66 mm Propano Licuado (I_{3P}) = 1,04 mm

Este equipo debe instalarse únicamente en un recinto adecuadameute ventilado y conforme a las indicaciones del fabricante y a las normas vigentes. Lea completamente las instrucciones antes de instalar o usar este equipo.

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Section **Page**

SECTION 1. INTRODUCTION

1-1. PRESSURE FRYER

The Henny Penny Pressure Fryer is a basic unit of food processing equipment. It has found wide application in institutional and commercial food service operations.

P-H-T

A combination of Pressure, Heat, and Time is automatically controlled to produce the optimum in a tasty, appealing product.

Pressure

Pressure is basic to this method of food preparation. This pressure is developed from the natural moisture of the food. The patented lid traps this moisture and uses it as steam. Because the steam builds rapidly, the greater part of the natural juices are retained within the food. An exclusive operating valve vents excess steam from the pot and maintains constant low, live steam pressure.

Heat

Heat generated is another important factor of the pressure fryer. The normal suggested frying operation is between 315 and 325°F. This results in energy savings and extends the frying life of the shortening. Energy savings is realized due to the unit's short frying time, low temperature, and heat retention of the stainless steel frypot.

Time

Time is important because the shorter the time involved in frying foods results in additional economies for the user. Foods are table ready in less time than it would take to fry them in a conventional open-type fryer.

1-2. PROPER CARE

As in any unit of food service equipment, the Henny Penny Pressure Fryer does require care and maintenance. Suggestions for this maintenance and cleaning are contained in this manual and must become a regular part of the operation of the unit.

1-2. PROPER CARE

For your convenience, this manual consists of the following sections:

- Table of Contents
- Introduction
- Installation
- Operation
- Troubleshooting
- Maintenance
- Wiring Diagrams
- Illustrated Parts List
- Distributor List

The conscientious use of the recommended procedures, coupled with regular maintenance, should minimize the need for repairs to the equipment. When such repairs are required, they may be accomplished by following the repair steps contained in this manual.

1-3. ASSISTANCE

Should you require outside assistance, just call your local independent distributor. (Refer to distributor list in rear of this manual.)

In addition, feel free to contact our corporate headquarters in Eaton, Ohio. Dial 1-800-417-8405 toll free, or 937-456-8405.

1-4. MODEL VARIATIONS

This manual covers both gas and electric models, as well as, various options and major accessories. Where information pertains to only one model, it is so noted.

1-5. SAFETY

The Henny Penny Pressure Fryer has may safety features incorporated. However, the only way to ensure a safe operation is to fully understand the proper installation, operation, and maintenance procedures, which are contained in this manual.

1-5. SAFETY (continued)

words NOTE, CAUTION, or WARNING are used. Their usage is described below:

The word DANGER indicates an imminent hazard which will result in highly serious injury such as second or third degree burns.

WARNING

The word WARNING is used to alert you to a procedure, that if not performed properly, might cause personal injury.

CAUTION

The word CAUTION is used to alert you to a procedure that, if not performed properly, may damage the fryer.

NOTE

The word NOTE is used to highlight especially important information.

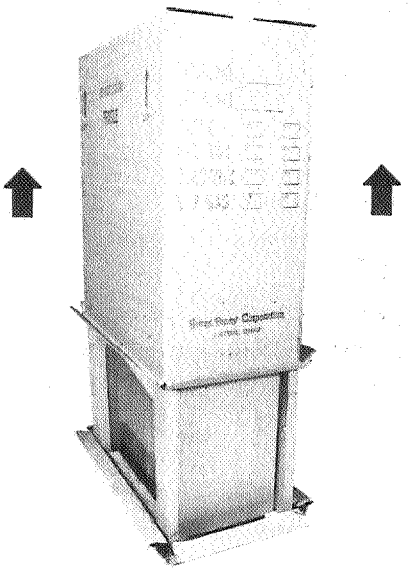
SECTION 2. INSTALLATION

2-1. INTRODUCTION

This section provides the installation instructions for the electric and gas models of Henny Penny Pressure Fryers.

2-2. UNPACKING

The fryer is shipped bolted to a wooden base and covered with a cardboard container. Both gas and electric models are shipped completely assembled. If ordered, optional casters are packaged and shipped separately.

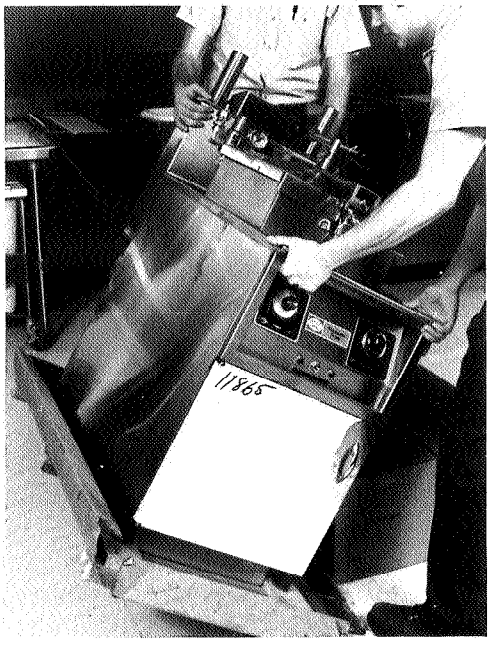


Step 2

1. Cut the band from around the bottom of the carton.

2. Lift the carton from the fryer.

3. Open the lid of the fryer and remove the basket plus all accessories.



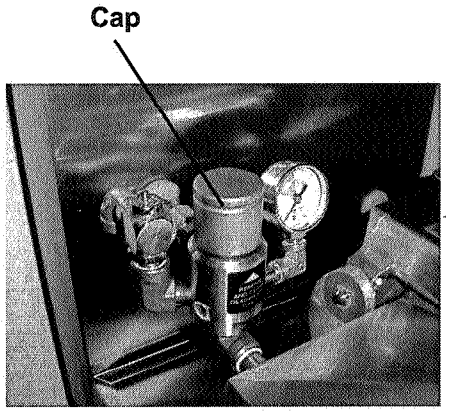
Step 4

4. Lay the fryer on its side, resting it in supports.

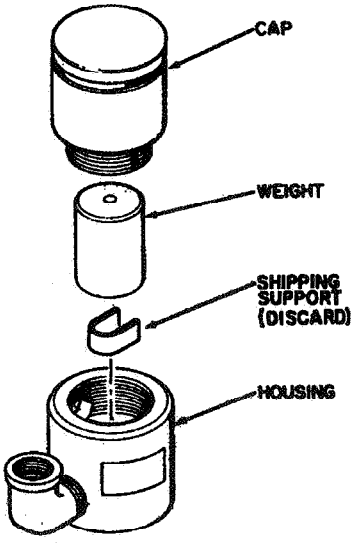
WARNING

The fryer weighs approximately 300 pounds. Care should be taken when lifting to prevent personal injury.

2-2. UNPACKING (Continued)



Step 8



5. Remove the four leg bolts from the wooden shipping base. Remove and discard the wooden base.

6. Thread the shipping bolts back into the legs to provide leveling adjustment feet. If ordered, install casters into the legs, with the locking casters in front.

7. Place fryer in an upright position.

WARNING

The fryer weighs approximately 300 pounds (136 kg). Use care when lifting to prevent personal injury.

8. Unthread the cap from the operating valve.

NOTE

A metal shipping support is placed within the operating valve housing to protect the orifice and weight during shipment. This support must be removed prior to installation and start-up.

9. Remove the weight.

10. Remove and discard the metal shipping support.

11. Clean the orifice with a dry cloth.

12. Replace the weight and cap.

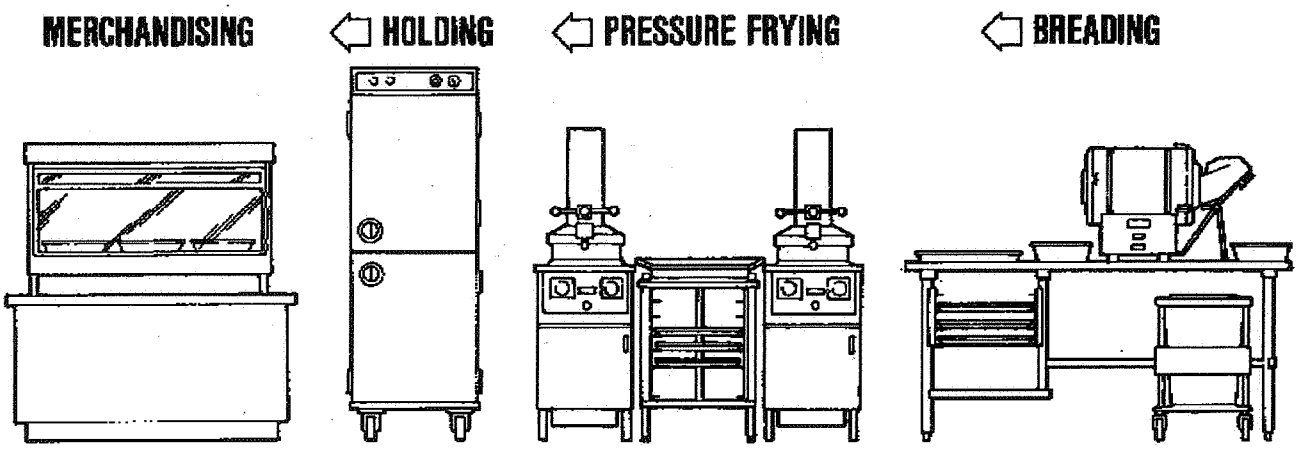
13. Remove the protective paper from the fryer cabinet and clean with cloth and detergent water.

2-3. SELECTING THE FRYER LOCATION

The proper location of the fryer is very important for operation, speed, and convenience. Choose a location which will provide easy loading and unloading without interfering with the final assembly of food orders. Operators have found that frying from raw to finish, and holding the product in warmers, provides fast continuous service. Landing or dumping tables should be provided next to, at least, one side of the fryer. Keep in mind the best efficiency will be obtained by a straight line operation, i.e. raw in one side and finished out the other side. Order assembly can be moved away with only a slight loss of efficiency.

The fryer should be installed in such a way as to prevent tipping or movement causing splashing of hot liquid shortening. This may be accomplished by the location of the fryer, or by restraining ties.

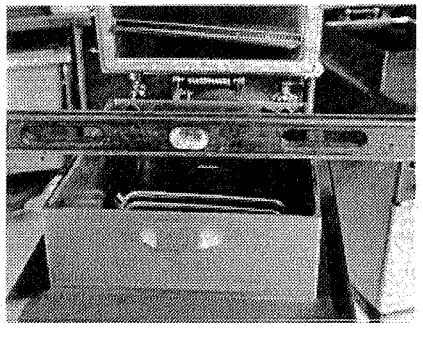
2-4. EXAMPLE OF KITCHEN SET-UP



CAUTION

The gas Model 600 Fryer is design certified by A.G.A. and C.G.A. for installation on combustible floors and adjacent to combustible walls. Fryer must be installed with minimum clearance from all combustible and noncombustible materials, 6 inches from side and 6 inches from back.

2-5. LEVELING THE FRYER



For proper operation, the fryer should be level from side to side and front to back. Sing a level placed on the flat areas around the frypot collar, adjust the leveling bolts or casters until the unit is level.

2-6. VENTILATION OF FRYERS

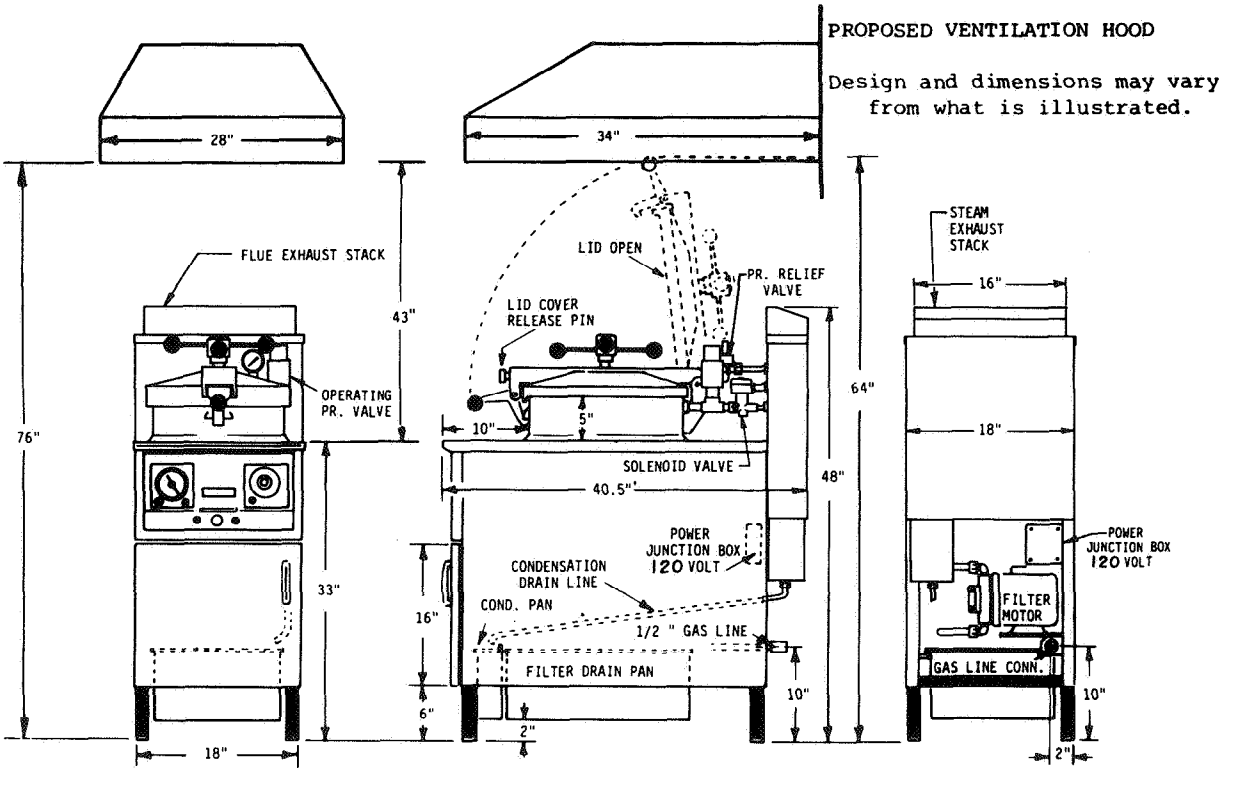
The fryer should be located with provision for venting into an adequate exhaust hood or ventilation system. This is essential to permit efficient removal of the steam exhaust and frying odors. Special precaution must be taken in designing an exhaust canopy to avoid interference with the operation of the fryer. Make certain the exhaust hood is designed high enough to allow for proper opening of the fryer lid. We recommend you consult a local ventilation or heating company to help in designing an adequate system.

NOTE

Ventilation must conform to local, state and national codes. Consult your local fire department or building authorities.

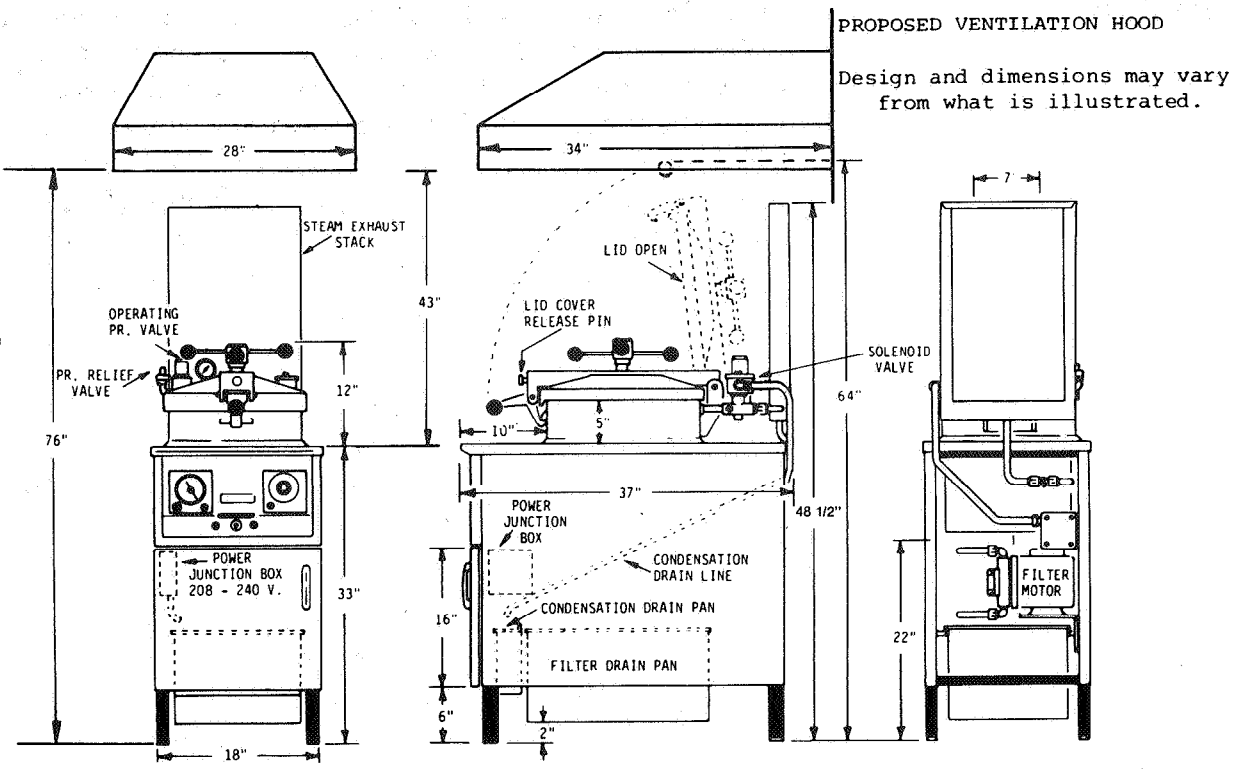
WARNING

When installing the gas fryer do not attach an extension to the gas flue exhaust stack. This may impair proper operation of the burner, causing malfunctions and possible negative back draft.



GAS MODEL 600

2-6. VENTILATION OF FRYERS (continued)



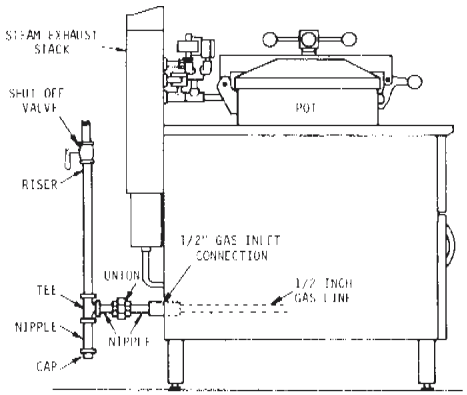
ELECTRIC MODEL 500

2-7. GAS SUPPLY

The gas fryer is factory available for either natural or propane gas. Check the data plate inside the front door of the cabinet to determine the proper gas supply requirements.

Do not attempt to use any gas other than that specified on the data plate. Conversion kits can be installed by your distributor if required. Incorrect gas supply could result in a fire or explosion resulting in severe injuries and/or property damage.

2-8. GAS PIPING



GAS FRYER, LEFT SIDE VIEW

Please refer to the illustration below for the recommended hookup of the fryer to the main gas line supply.

WARNING

To avoid possible serious personal injury:

- Installation must conform with American National Standard Z223.1-Latest Edition National Fuel Gas Code and the local municipal building codes. In Canada, installation must be in accordance with Standard CGA Bl49-1&2, Installation Codes Gas Burning Appliances and local codes. In Australia, installation must conform to Australian requirements.
- The fryer and its individual shutoff valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of 1/2 PSIG (3.45 KPA).
- The fryer must be isolated from the gas supply piping system by closing its individual manual shutoff valve during any pressure testing of the gas supply piping system at test pressures equal to or less than 1/2 PSIG. (3.45 KPA)
- A standard 1/2 inch, black steel pipe and malleable fittings should be used for gas service connections.
- Do not use cast iron fittings.
- Although 1/2 inch size pipe is recommended, piping should be of adequate size and installed to provide a supply of gas sufficient to meet the maximum demand without undue loss of pressure between the meter and the fryer. The pressure loss in the piping system should not exceed 0.3 inch water column.

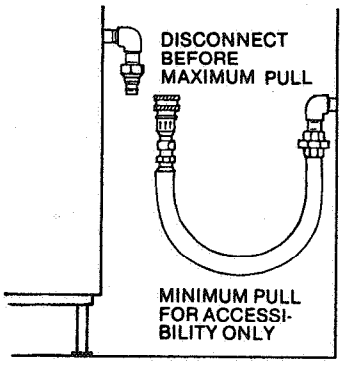
Provisions should be made for moving the fryer for cleaning and servicing. This may be accomplished by:

1. Installing a manual gas shut off valve and a disconnect union, or
2. Installing a heavy duty (design A.G.A. certified connector which complies with the Standard for Connectors for Moveable Gas Appliances, ANSI Z21.6, or CAN/CGA 6.16 with a quick disconnect coupling (Henny Penny Part No. 19921, which complies with ANSI standard Z21.41, or CAN 1-6.9. Also adequate means must be provided to limit the movement of the fryer without depending on the connector and quick-disconnect device or its associated piping to limit the fryer movement.
3. See The illustration on page 2-8 for the proper connections of the flexible gas line and cable restraint.

2-8. GAS PIPING (continued)

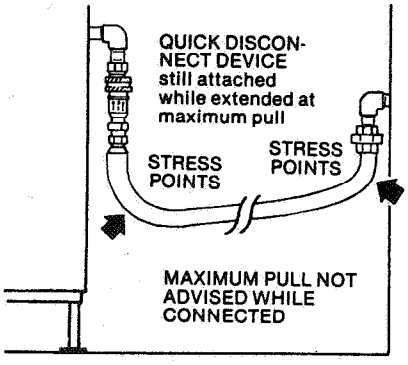
RIGHT

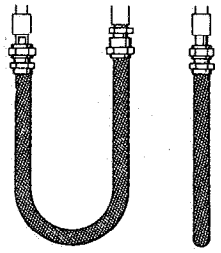
MINIMUM PULL of equipment away from wall permissible for accessibility to Quick Disconnect Device.



WRONG

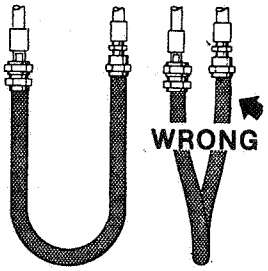
AVOID SHARP BENDS AND KINKS when pulling equipment away from wall. (Maximum pull will kink ends, even if installed properly, and reduce Connector life.)

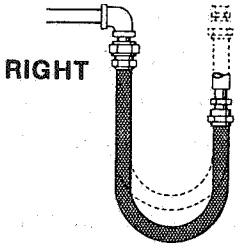




RIGHT

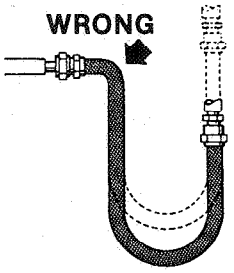
Couplings and hose should be installed in the same plane as shown at left. DO NOT OFFSET COUPLINGS—this causes torsional twisting and undue strain causing premature failure.

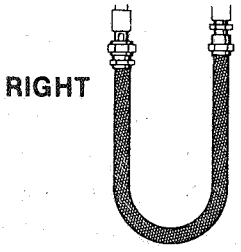




This is the correct way to install metal hose for vertical traverse. Note the single, natural loop.

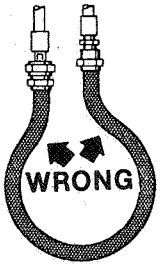
Allowing a sharp bend, as shown at right, strains and twists the metal hose to a point of early failure at the coupling.

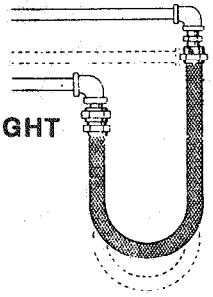




Maintain the minimum or larger bending diameter between the couplings for longest life.

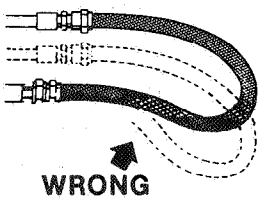
Closing in the diameter at the couplings, as shown at right, creates double bends causing work fatigue failure of the fittings.





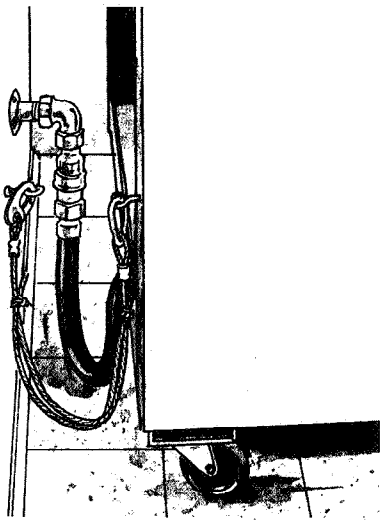
In all installations where "self-draining" is not necessary, connect metal hose in a vertical loop.

DO NOT CONNECT METAL HOSE HORIZONTALLY . . . unless "self-draining" is necessary, then use support on lower plane as shown at left.



2-8. CABLE RESTRAINT

Please refer to the illustration below when installing cable restraint on all moveable gas fryers.



I-bolt is to be secured to the building using acceptable building construction practices.

CAUTION

DRY WALL CONSTRUCTION

Secure I-bolt to a building stud. DO NOT attach to dry wall only. Also, locate the I-bolt at the same height as the gas service. Preferred installation is approximately six inches to either side of service. Cable restraint must be at least six inches shorter than flexible gas line.

CAUTION

Utilize elbows when necessary to avoid sharp kinks or excessive bending. For ease of movement, install with a "lazy" loop. Gas appliance must be disconnected *prior to maximum* movement. *(Minimum movement is permissible for hose disconnection).*

2-9. GAS LEAK TEST

NOTE

Prior to turning the gas supply on, be sure the gas dial cock on the fryer gas valve is in the OFF position.

After the piping and fittings have been installed, check for gas leaks. A simple checking method is to turn on the gas and brush all connections with a soap solution. If bubbles occur, it indicates escaping gas. In this event, the piping connection must be redone.

Never use a lighted match or open flame to test for gas leaks. Escaping gas could cause an explosion resulting in severe personal injury and/or property damage.

2-10. GAS PRESSURE REGULATOR SETTING

The gas pressure regulator on the automatic gas valve is factory set as follows:

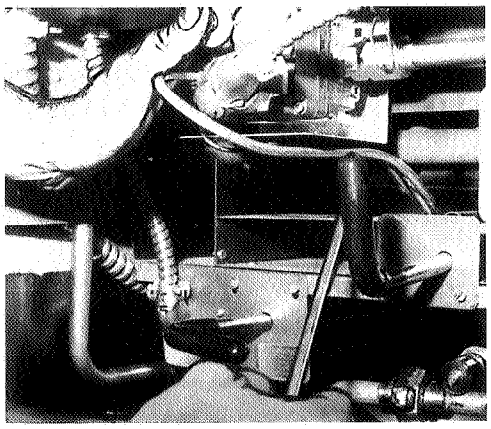
Natural: 3.5 inches water column
Propane: 10.0 inches water column

2-11. GAS PILOT LIGHTING PROCEDURE

The following steps provide the pilot lighting procedure:

1. The gas cock dial has a dual function.
   a. Complete control of gas to the pilot and main burner.
   b. When in the pilot position, it is the reset mechanism for the automatic pilot.
2. Partially depress and turn the control gas cock dial to the OFF position.
3. Wait a sufficient length of time to allow any gas which may have accumulated in the burner compartment to escape (at least 5 minutes).
4. Turn the main power switch and the thermostat knob to the OFF position.
5. Turn the gas cock dial to the PILOT position.

2-11. GAS PILOT LIGHTING PROCEDURE (continued)



Step 6

6. Depress and hold gas cock dial while lighting the pilot. Allow the pilot to burn approximately 30 seconds before releasing the gas cock dial. The pilot should remain lighted.

NOTE

If the pilot does not remain lighted, repeat steps 2 and 3, allowing a longer period of time before releasing the gas cock dial.

7. Turn the gas cock dial to the ON position.

8. With the lid open, turn the thermostat to a setting of 200°F.

9. Listen for the gas burner ignition.

- It will be an audible sound due to the gas igniting at the gas jets within the burner.

CAUTION

Do not leave the thermostat on for more than 10 seconds; damage to the frypot may result.

10. The frypot should be cleaned per the instructions in section 3.

11. The frypot must be filled to the proper level with shortening. Refer to paragraph 3-6.

12. The fryer is now ready for operation.

13. Turn the thermostat dial to the desired temperature.

2-12. PILOT FLAME ADJUSTMENT

The pilot flame is preset at the factory. If adjustment is necessary, refer to paragraph 5-18.

2-13. PRESSURE REGULATOR ADJUSTMENT (GAS ONLY)

The gas regulator is preset at the factory at 3.5 inch water column for natural gas (10.0 inch for propane). If adjustment is necessary, refer to paragraph 5-18.

2-14. ELECTRICAL REQUIREMENTS (ELECTRIC FRYER)

The electric fryer is available from the factory wired for 208, 220/240, or 440/480 volts, single or three phase, 60 Hertz service. The proper power service cable must be ordered as an accessory or provided at installation. Check the data plate on the inside of the fryer door to determine the correct power supply.

WARNING

This fryer must be adequately and safely grounded. Refer to local electrical codes for correct grounding procedures. If fryer is not adequately grounded, electrical shock could result.

A separate disconnect switch with proper capacity fuses or breakers must be installed at a convenient location between the fryer and the power source. (The field supply wiring to the fryer should be of the size indicated in the data table.) It should be an insulated copper conductor rated for 600 volts and 90°C. For runs longer than 50 feet, use the next larger size wire.

Data Table
Supply Wiring and Fusing for Electric Fryer

Volts	Phase	KW	Amps	Supply Wire Size	Min. Fuse Size
208	Single	11.25	54	4	70
208	Single	13.50	65	2	90
208	Three	11.25	31	8	40
208	Three	13.50	38	6	50
220/240	Single	11.25	51/56	4/4	70/70
220/240	Single	13.50	56/61	4/3	70/80
220/240	Three	11.25	30/32	8/8	40/40
220/240	Three	13.50	33/35	6/6	50/50
440/480	Three	11.25	13/14	12/12	20/20
440/480	Three	13.50	18/16	12/12	20/20

2-15. ELECTRICAL REQUIREMENTS (GAS FRYER)

The gas fryer requires 120 volt, single phase, 60 Hertz, 10 amp, 3 wire grounded service. The gas fryer is factory equipped with a grounded cord and plug.

WARNING

DO NOT DISCONNECT THE GROUND PLUG. This fryer MUST be adequately and safely grounded or electrical shock could result. Refer to local electrical codes for correct grounding procedures or in absence of local codes, with The National Electrical Code, ANSI/NFPA No. 70-Latest Edition. Canadian models are supplied with a terminal box, suitable for conduit connection. In Canada, all electrical connections are to be made in accordance with CSA C22.1, Canadian Electrical Code Part 1, and/or local codes.

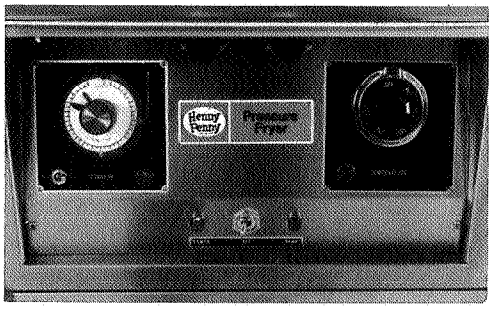
2-16. TESTING THE FRYER

Each Henny Penny pressure fryer was completely checked and tested prior to shipment. However, it is good practice to check the unit again after installation.

CAUTION

Any deviation from the following steps may result in damage to the fryer.

2-17. CONTROL PANEL SETTINGS

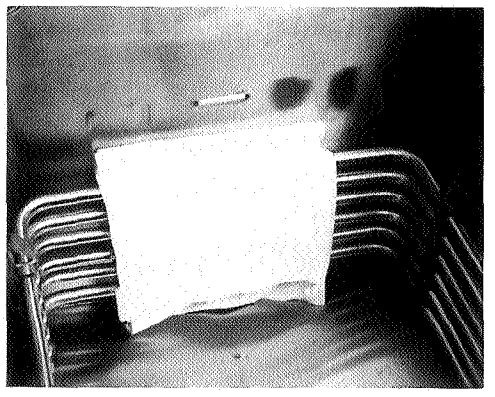


Step 5

1. Move all switches and controls to the OFF position.
2. Raise the lid.
3. Remove all items including basket from the frypot.
4. Turn on the main power supply to the fryer using the main circuit breaker.
5. Move the main power switch on the fryer control panel to the POWER position.

- The RED indicator light will illuminate showing power is present at the fryer.

2-18. CHECKING THE HEATING ELEMENTS (ELECTRIC FRYER)



Step 1

1. Place a cool, damp cloth on the heating elements.
2. With the lid open, momentarily turn the thermostat to a setting of 200°F.

CAUTION

Do not leave the thermostat on for more than 10 seconds whenever the elements are not covered with shortening or the elements might be damaged.

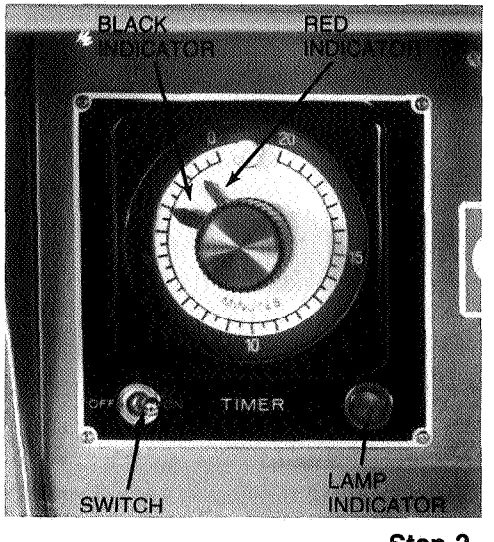
3. Remove the cloth and check for warmth.
4. If the cloth is warm, the heating elements are functioning.

DANGER

Do not touch the heating elements with your fingers or hands, or severe burns will result.

5. If the heating elements are OK, clean the frypot per section 3.
6. Fill frypot with shortening per section 3.

2-19. CHECKING THE TIMER



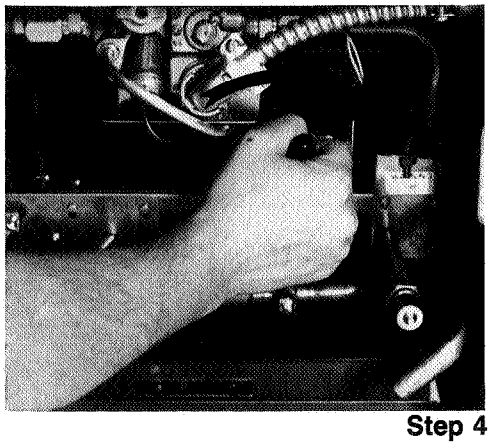
Step 2

1. Turn the timer knob until the black arrow reaches three minutes.
2. Move the timer switch to the ON position.
   - When the switch is turned on, you will hear a metallic "click" sound from the solenoid valve (item 24, figure 3-1). This sound tells you the valve is energized and in the "closed" operating position.
   - The timer indicator light will illuminate.
   - The red arrow will move toward "0".

2-19. CHECKING THE TIMER (continued)

3. When the red arrow reaches "0":
   - A buzzer will sound.
   - The timer indicator light will go off.
   - You will once again hear the metallic "click" sound from the solenoid valve. This will indicate it has de-energized and is in the "open" position.
4. Move the timer switch to the OFF position.
   - The buzzer will stop.
   - The red arrow will return to the original present time — in this case three (3) minutes.

2-20. CHECKING THE FILTER PUMP



Step 4

1. Open the front door of the fryer.
2. Loosen the filter union connection (item 28, figure 3-1).
3. Turn the main power switch to the PUMP position. Open the filter valve. You will hear the electric motor running.

CAUTION

Only run the pump for a few seconds.

4. Place your thumb over the open filter union flare. You should feel suction. Close the filter valve. Turn off the pump.

2-21. MOTOR BEARINGS

The electric motor bearings are permanently lubricated. DO NOT LUBRICATE.

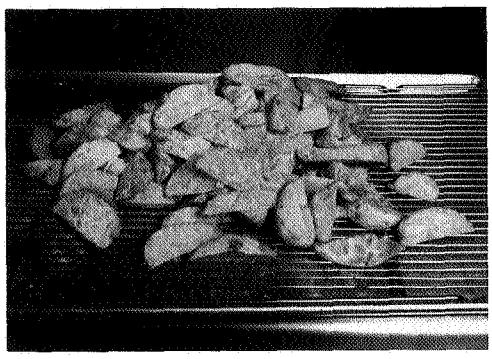
This completes the testing cycle. If any of the functions did not occur, recheck the installation. If a problem persists, refer to other sections of this manual or call an authorized Henny Penny distributor.

2-22. FINAL INSTALLATION CHECK — TEST FRYING

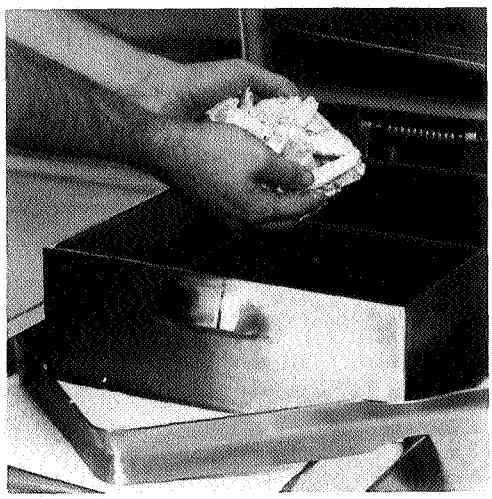
The final check to insure a proper installation involves test frying. This gives the installer an opportunity to observe the actual cooking operation of the pressure fryer.

NOTE

Before the actual cooking operation and adding shortening to the frypot, be sure frypot, filter screen assembly, and drain pan are cleaned. Filter screen assembly and drain pan should be cleaned with soap and hot water and thoroughly dried before reassembling. At this time the frypot should also be cleaned. Refer to paragraphs 3-15 & 3-16 in the "Operation" section of this manual.



Step 5



Step 8

1. Set the thermostat knob at 320°F.
   - The temperature indicator light will go off when the shortening is up to the temperature setting.
2. Set the main timer to eight minutes.
3. Cut up 3 to 5 pounds of unpeeled potatoes into ½ to ¾ inch wedges.
4. Place the wedges in a pan of water.
5. Drain off the water and bread the wedges — breading is normally available at the store.
6. Thoroughly stir the shortening for even heating.
7. Place the standard fry basket into the frypot.
8. Carefully drop the breaded wedges into the hot shortening.

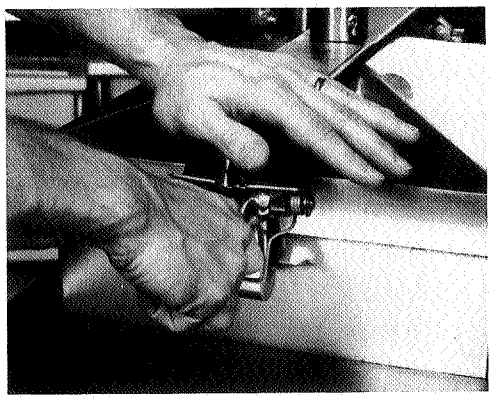
WARNING

Use care to prevent burns caused by splashing shortening.

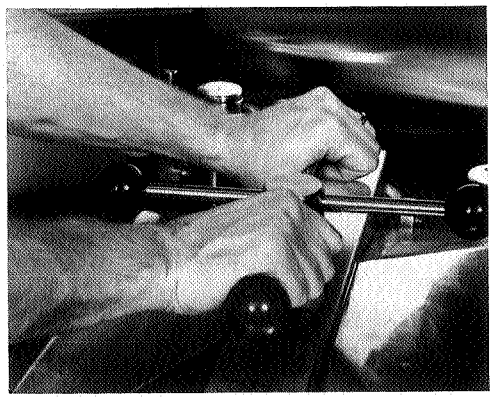
NOTE

Do not place the potato wedges into the fry basket, then into the shortening. To do so will cause the breaded wedges to stick together.

2-22. FINAL INSTALLATION CHECK — TEST FRYING (continued)



Step 9



Step 10

9. Close the lid. Be sure the lid has been securely latched.

10. Turn the spindle clockwise until the lid is securely sealed. The two red knobs should line up in front.

DANGER

Lid must be latched properly and red balls aligned, or severe burns will result.

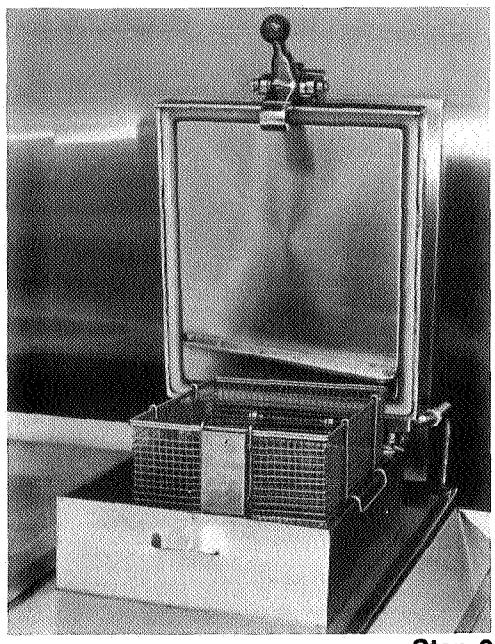
11. Turn main timer on.

You have completed the steps to start the cooking process. The following operations should be observed.

2-23. OPERATIONAL CHECKS

1. Check to see that the indicator needle in the pressure gauge is reading in the "Operating Zone."
   - If pressure does not build, see the possible causes listed in Section 4 Troubleshooting.
2. Check the drain valve and filter valve for leaks.
3. At the end of eight minutes:
   - The timer buzzer will sound.
   - The fryer will automatically depressurize.

2-23. OPERATIONAL CHECKS (continued)



Step 6

4. Turn the timer switch to the OFF position.

   - The red arrow will reset to the previous time setting, in this case 8 minutes.

5. When all the steam pressure has exhausted (observe pressure gauge) open the lid.

6. Hang the fry basket on the side of the pot to drain.

7. After draining 3-5 seconds, dump potato wedges on a tray.

8. Replace the fry basket back into the shortening.

If all the above functions have performed satisfactorily, the fryer is ready for operation.

WARNING

All operators, as well as management personnel, must thoroughly read and understand the Operation Section prior to putting the fryer into operation. Failure to adhere to these instructions could result in serious bodily injury or property damage.

SECTION 3. OPERATING INSTRUCTIONS

3-1. INTRODUCTION

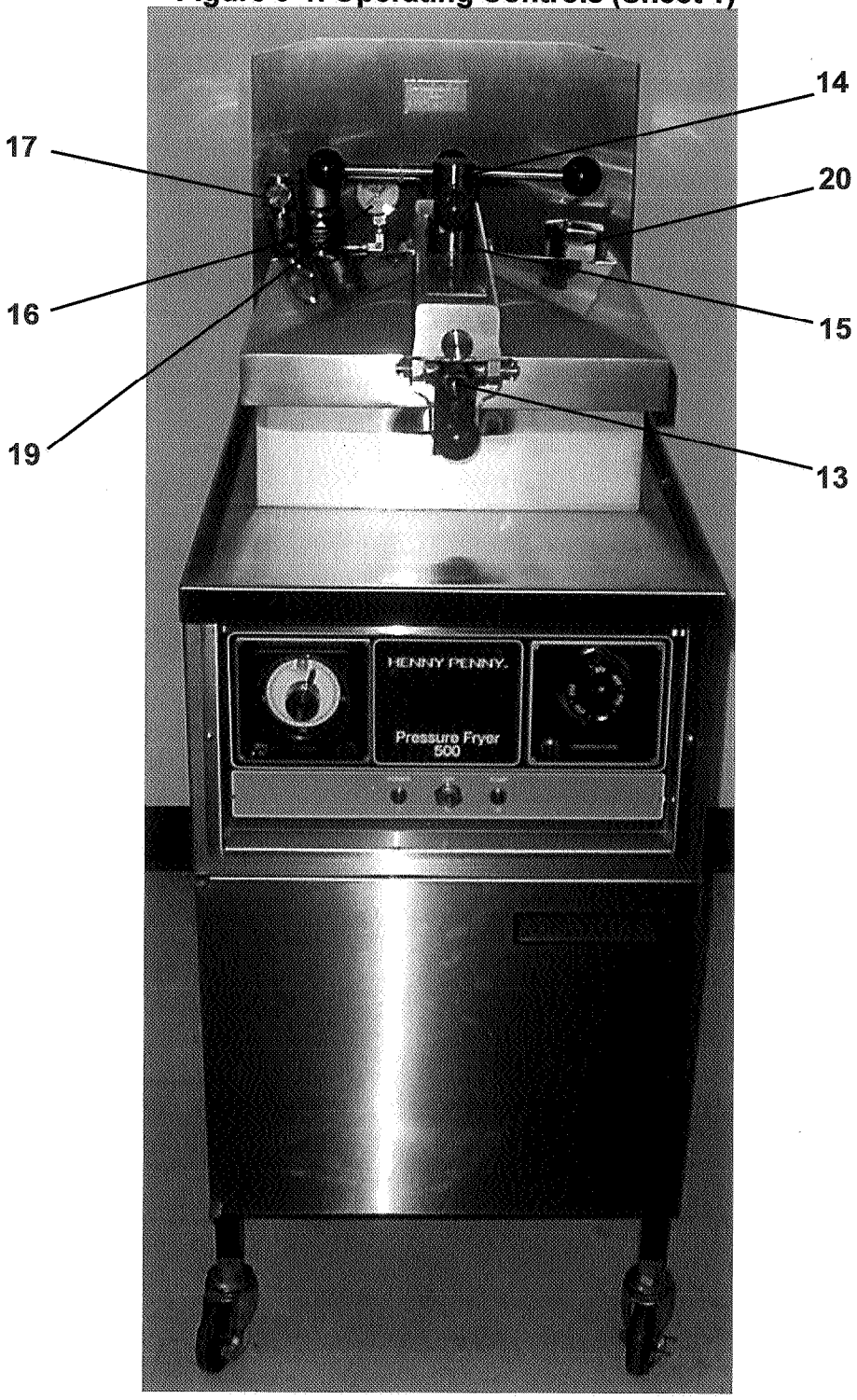
This section provides the daily operating procedure for your pressure fryer. Read Section 1 and this section before operating the fryer. Also, refer to Section 2 to be sure the fryer has been properly installed and tested. The arrangement of this section is:

- An illustration and explanation of all operating controls.
- Step-by-step operating procedures.
- Daily maintenance procedures.
- Food preparation recipes.

3-2. OPERATING CONTROLS

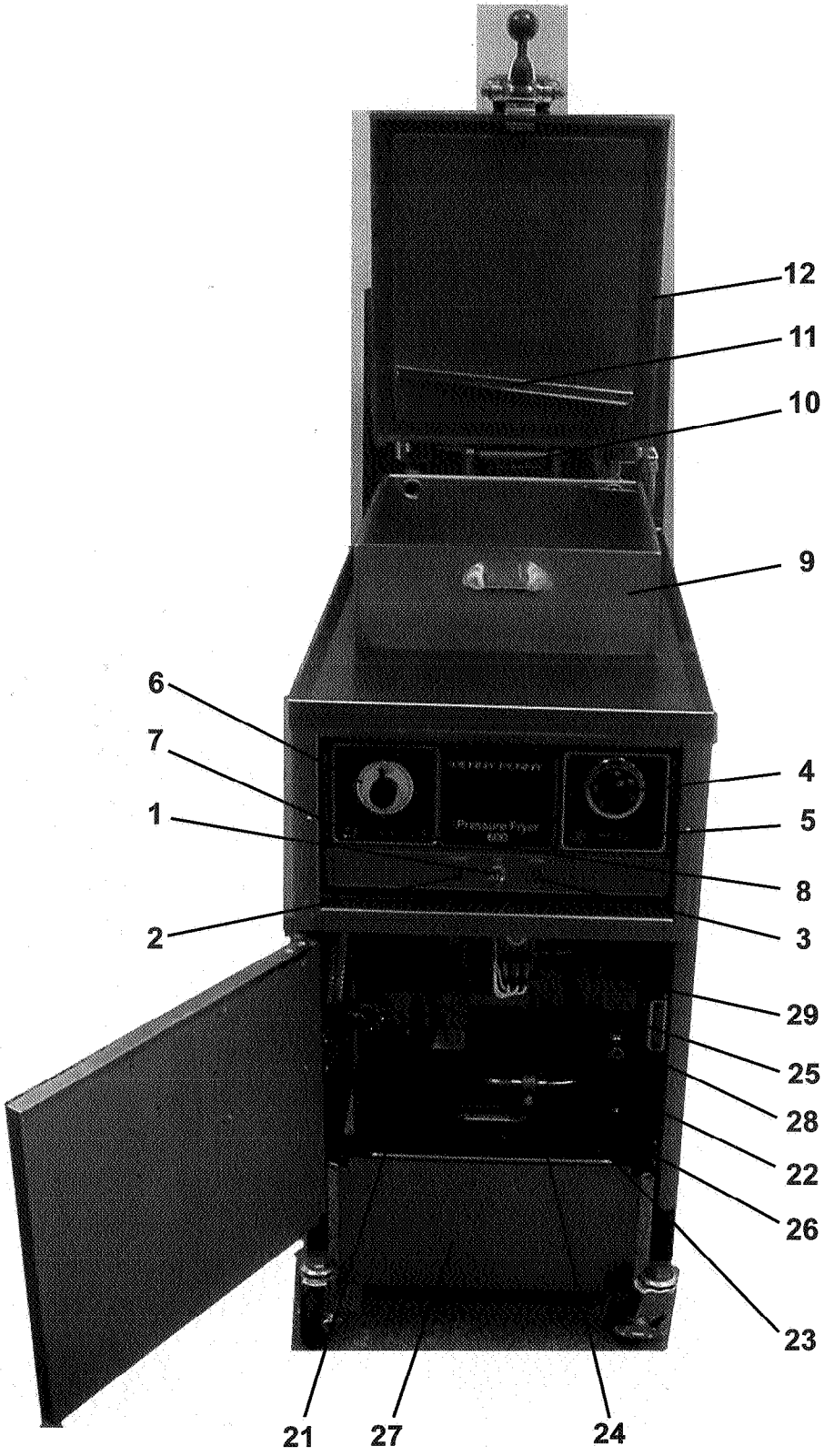
Figure 3-1 identifies and describes the function of all the operator controls and the major components of the pressure fryer.

Figure 3-1. Operating Controls (Sheet 1)



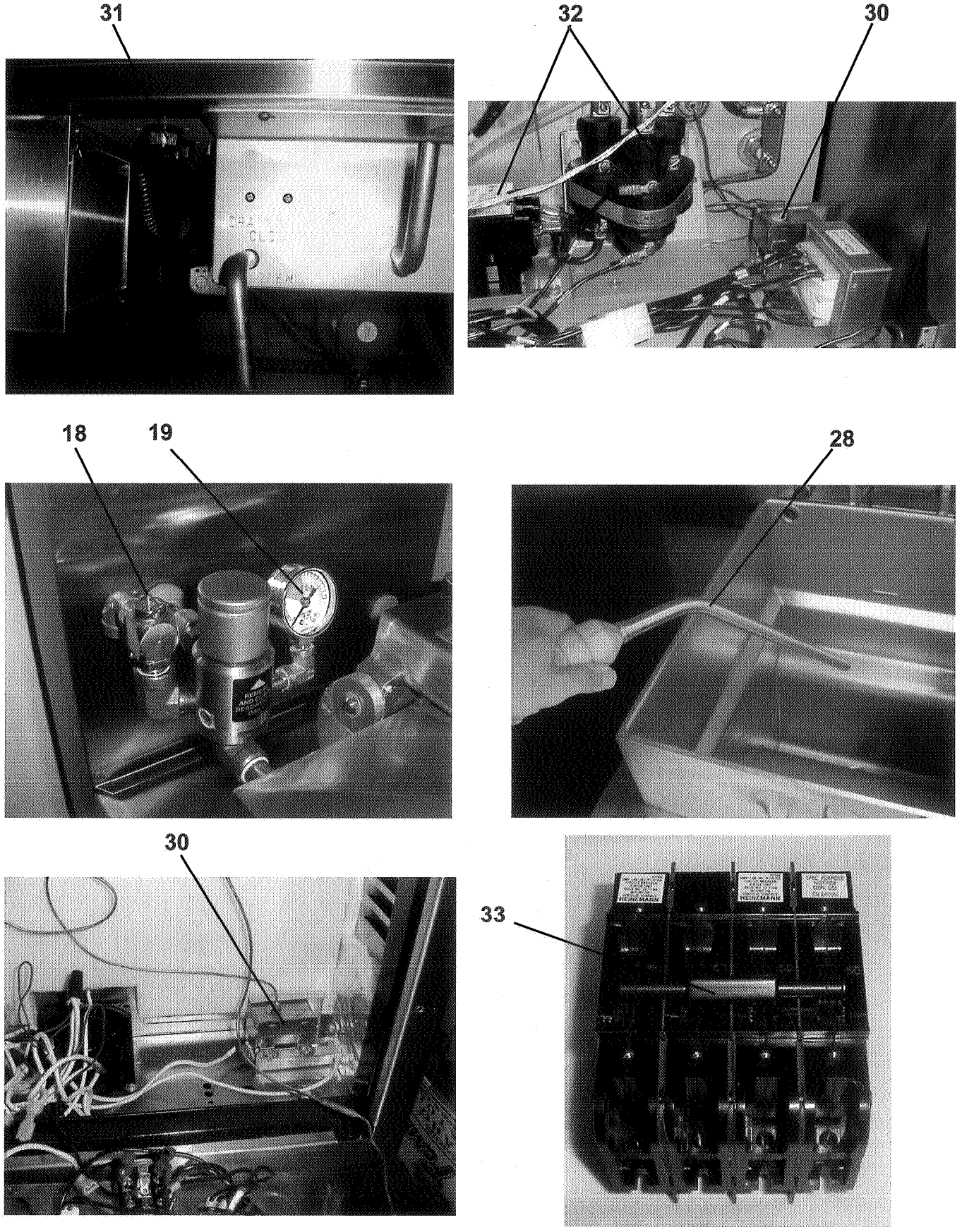
ELECTRIC MODEL

Figure 3-1. Operating Controls (Sheet 2)



GAS MODEL

Figure 3-1. Operating Controls (Sheet 3)



Item	Description	Function
1	Main Power Switch (Power/Off/Pump)	A three-way switch with center OFF position. Move the switch to the POWER position (left) to operate the fryer. Move the switch to the PUMP position (right) to operate the filter pump. Certain prior conditions, covered later in this section, must be met before operating the filter pump.
2	POWER Light	A light indicating the power switch is in the POWER position, and the fryer is ready for use, or in use.
3	PUMP Light	A light indicating the power switch is in the PUMP position, and the filter pump is in use.
4	Thermostat	An electromechanical device used to regulate temperature. Turn the knob to set the desired frying temperature.
5	Temperature Light	A light indicating the shortening temperature is below the thermostat temperature setting, and goes off when the shortening temperature reaches the set temperature.
6	Timer	An electromechanical device that controls the length of the frying cycle. The timer controls the solenoid valve (item 20) and activates the buzzer when the frying cycle is complete. Turn the knob to set the black arrow at the desired frying time. The red arrow resets back to the black arrow when the ON/OFF switch is moved to OFF.

Item	Description	Function
7	Timer/ON/OFF Switch	Move the switch to ON to start timer, and OFF to stop buzzer at end of frying cycle. The switch automatically resets back to original setting.
8	Timer Light	A light indicating the timer is on.
9	Frypot	Holds the cooking shortening.
10	Lid Spring	It assists in raising the lid, and then holds it open. (It is covered with a shield)
11	Condensation Drain Channel	This channels the moisture, that is formed on the lid liner when the lid is opened, into the drain line, and prevents the moisture droplets from falling into the shortening.
12	Lid Gasket	Provides the pressure seal for the frypot chamber.

Item	Description	Function
13	Lid Latch	It is spring loaded, and provides a positive latch to hold the lid closed. This latch, along with the spindle assembly, and lid gasket, provides a pressure sealed frypot chamber.
14	Spindle Assembly	It is tightened after the lid is latched, and applies pressure to the top of the lid. The lid gasket then applies pressure against the frypot rim. After one pound of internal pressure, the lid liner pushes a locking pin up into the locking collar, and prevents the spindle from being turned while the frypot is pressurized.
15	Lid Limit Stop	It is a threaded adjustable collar, used to obtain the proper tightness between the lid gasket and the frypot rim. It does this by controlling the number of clockwise rotations of the spindle.
16	Operating Valve	This dead weight style, pressure relief valve, maintains a constant level of steam pressure within the frypot. Excess steam is vented through the exhaust stack.
17	Safety Relief Valve	This is an ASME approved spring loaded valve, set at 14.5 psi. If the operating valve is clogged, this safety valve releases excess pressure, keeping the frypot chamber at 14.5 psi. If this occurs, turn the main power switch to OFF to release all pressure from the frypot. DO NOT use fryer. Immediately have the fryer serviced, or serious burns and injures could result.

Item	Description	Function
18	Safety Relief Valve Ring	This ring IS NOT to be pulled.  Severe burns will result.
19	Gauge	The pressure gauge indicates the pressure inside the frypot.
20	Solenoid Valve	The solenoid valve is an electromechanical device that causes pressure to be held in the frypot. The solenoid valve closes at the beginning of the frying cycle and is opened automatically by the timer at the end of the frying cycle. If this valve should become dirty or the teflon seat nicked, pressure will not build up and it must be repaired per the maintenance section.
21	Drain Valve (Only the Handle is Shown)	A two-way ball valve that is normally closed. Turn the handle to drain the shortening from the cookpot into the filter drain pan.  DO NOT OPEN THE DRAIN VALVE WHILE COOKPOT IS UNDER PRESSURE. Hot shortening will exhaust from this valve, and severe burns will result.
22	Drain Interlock Switch	A microswitch, providing protection for the cookpot in the event an operator inadvertently drains the shortening from the cookpot while the POWER is on. The switch automatically shuts off the heat when the drain valve is opened.

Item	Description	Function
23	Filter Drain Pan	The removable pan that houses the filter and catches the shortening when it is drained from the cookpot. It is also used to remove and discard old shortening.  When hot shortening is in this pan, use extreme care to avoid burns.
24	Filter Union	Connects the filter to the filter pump, and allows easy removal of the filter and drain pan.
25	Filter Valve	When the power switch in the PUMP position, this two-way valve directs filtered shortening from the drain pan, back into the frypot.
26	Condensation Drain Line	It is a length of hose, used to route the condensation, collected within the steam exhaust system, to the condensation pan.
27	Condensation Drain Pan	The collection point for the condensation, formed within the steam exhaust system. Remove and empty periodically.

Item	Description	Function
28	Rinse Hose (Optional)	This hand-held hose is used to rinse food particles from the frypot into the filter pan, and is attached to a quick disconnect fitting.
29	Gas Control Valve (Gas Models Only)	Controls the gas flow to the burner. The pilot is lit manually.
30	High Temperature Control	A control that senses the temperature of the shortening. If the temperature of the shortening exceeds the safe operating limit, this control opens and shuts off the heat to the frypot. When the temperature of the shortening drops to a safe operation limit, the control must be manually reset.
31	Fuses (Electric Models Only)	A protective device which breaks the circuit when the current exceeds the rated value.
32	Contactors (Electric Models Only)	Relays that route power to the heating elements. One relay is in series with the high limit, the other one is in series with the controls. The standard units uses 2 electromechanical contactors, while the computer controlled units, have one electromechancal and one mercury contactor.
33	Circuit Breaker (Single Phase Only)	It opens the electrical circuit, and removes power to elements.

3-3. OPERATING PROCEDURES

3-4. PREPARATION

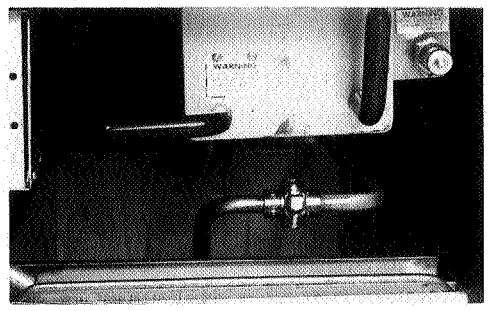
1. The first step in the use of Henny Penny Pressure Fryer is to learn the use of the controls, as described in figure 3-1.

2. The second step is to determine the time and temperature settings. Paragraphs 3-8 and 3-9 list various food products with recommended time and temperature settings. All times and temperatures listed are approximate and will vary with the size and quantity of the raw product. The maximum product batch load is 11 lbs. (5 kg.).

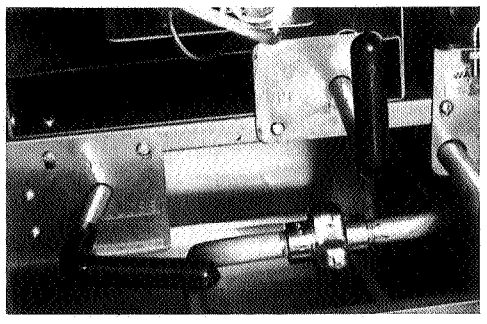
3. The third step is to use the highest quality foods, properly cut and trimmed of excess fat. Whenever possible, use fresh foods.

4. The fourth step is to choose a breading that will give a delicious, golden brown crust.

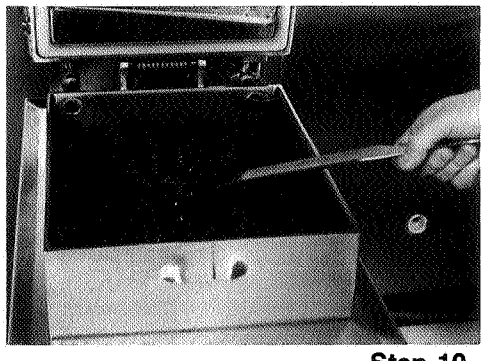
3-5. START-UP (PREHEAT) PROCEDURES



VALVES CLOSED (ELECTRIC)



VALVES CLOSED (GAS)



Step 10

The following procedures should be followed on the initial start-up of the fryer and each time the fryer is brought from a cold or shut-down condition back into operation:

1. Check to see that all of the control switches are turned OFF.
2. Be sure the drain valve and filter valve are CLOSED.
3. Remove the fry basket from the frypot. Leave the lid up.
4. Fill the frypot to the level indicator line with shortening. Refer to paragraph 3-6.
5. Connect power to the fryer.
6. On gas models, light the pilot. Refer to the installation section.
7. Move the main power switch to the position marked POWER.
8. Turn the thermostat knob to 325°F. The temperature light will go on.
9. When the shortening temperature reaches 325°F the temperature light will go off.
10. Thoroughly stir the shortening to stabilize the temperature throughout. Make sure the shortening in the bottom of the pot is agitated and evenly heated.
11. After the shortening temperature has stabilized for a minimum of 30 minutes, check the shortening temperature using a good deep fat thermometer (Henny Penny part number 12106). If off more than 5°F, refer to the maintenance section.

3-5. START-UP PROCEDURES (continued)

12. If the shortening was not filtered the night before at shut-down, it should be filtered now, after the shortening reaches the frying temperature (325°F) and before the fryer is used. Refer to paragraph 3-13.

If the shortening temperature exceeds 420°F, immediately shut off the power at the main circuit breaker and have the fryer repaired. If shortening (temperature) exceeds its flashpoint, fire will occur, resulting in severe burns and/or property damage.

13. Lower the empty basket into the frypot. (Food will be added later.)

14. Turn the thermostat to your selected frying temperature.

15. Turn the TIMER to your selected frying time. You are now ready to start frying.

NOTE

Do not permit the fryer to set for an extended period of time at a high temperature (325°F or above), because the shortening will break down much sooner. When the fryer is not being used for frying, set the thermostat back to 275°F or below.

3-6. FILLING OR ADDING SHORTENING

1. It is recommended that a high quality liquid frying shortening be used in the pressure fryer. Some low grade shortenings have a high moisture content and will cause foaming and boiling over.

2. If a solid shortening is used, it must be melted to a liquid first, then poured into the frypot. Attempting to melt solid shortening in the frypot may cause burning or scorching of the fresh shortening.

WARNING

Gloves should be worn and care must be taken when pouring hot shortening into unit. Severe burns could result. Also, when adding fresh shortening to existing shortening, care must be

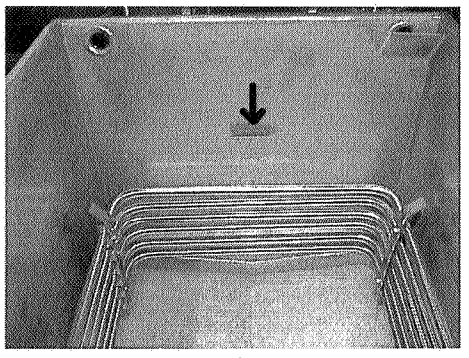
3-6. FILLING OR ADDING SHORTENING (continued)

taken to avoid splashing or severe burns could result.

3. The electric model requires 48 lbs. of liquid shortening. The gas model requires 43 lbs. Both models have a level indicator line inscribed on the rear wall of the frypot which shows when the heated shortening is at the proper level.

NOTE

CE units will have two level indicators lines on the rear wall of the frypot. The lower line is the level for cold shortening, the upper line is for hot shortening.



STEP 4

4. Cold shortening should be filled to the bottom indicator line. The shortening will expand when heated and should be at the top indicator when the shortening is hot.

3-7. CARE OF THE SHORTENING

1. To protect the shortening when the fryer is not in immediate use, the thermostat temperature should be lowered to 275° F or below.

2. Frying breaded food products requires frequent filtering to keep the shortening clean. The shortening should be filtered after every 3 to 6 frying cycles. For the best quality product, DO NOT EXCEED 6 CYCLES WITHOUT FILTERING. Refer to paragraph 3-13 for the filtering procedure.

3. Maintain the shortening at the proper frying level, adding fresh shortening as needed.

4. Taste the cold shortening daily for signs of bad flavor. Shortening which has a bad flavor or shows signs of foaming or boiling should be discarded. KEEP THE FRYPOT CLEAN.

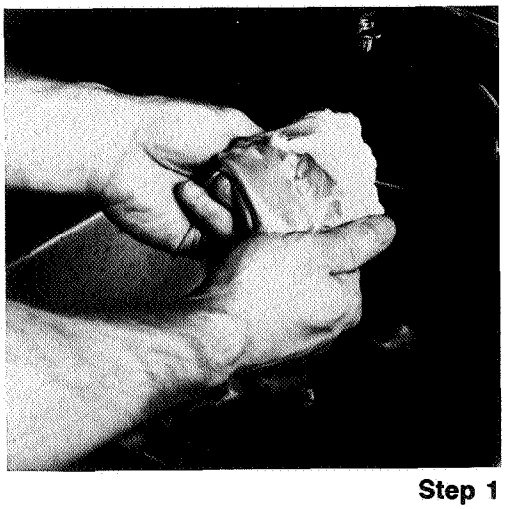
3-8. SINGLE STAGE FRYING PROCEDURE

This single stage frying method is our recommended way to FRY using the Henny Penny Pressure Fryer combined with our special blends of PHT Fryer Breading Mixes. The following table provides the suggested frying times and temperatures for single-stage cooking:

Product (size per peice)	Temperature	Time
Chicken (2¼ pounds, cut into 8 or 9 pieces)	315°F	10-11 Min.
Fish (4 ounces)	315°F	3½ Min
Shrimp	315°F	2 Min
Trout (10 to 16 ounces)	315°F	5 Min
Pork Chops (4 to 5 ounces, ½ to ¾ inches thick)	315°F	5 Min
Ribs (2½ pound rack)	275°F	14 Min
Cubed Steak (6 to 10 ounces, ¼ to 1 inch thick)	315°F	5 Min
Veal Cutlet (4 ounces)	315°F	4 Min
Potatoes (10 pounds, cut in wedges)	315°F	8 Min

NOTE

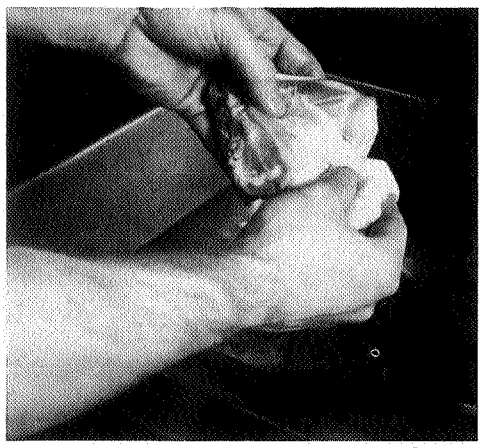
All the suggested time and temperature settings are for a 10 pound load.



Step 1

1. Take the chicken parts, either 4 or 5 cut-up chickens, from the cooler and place in a scullery sink. Wash the chicken and at this point break the thigh from the joint of the backbone.

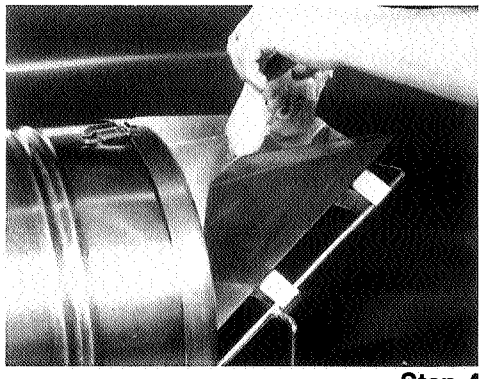
3-8. SINGLE STAGE FRYING PROCEDURE (continued)



Step 2

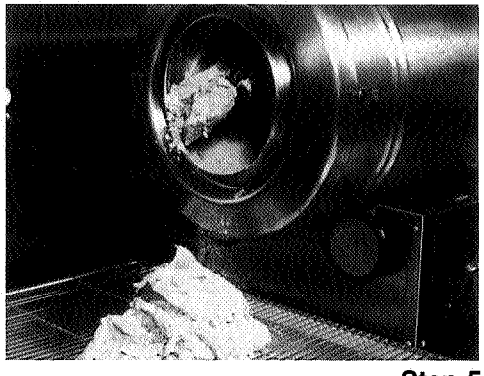
2. Remove any excess fat from the thigh.

3. Remove the chicken from the water and drain slightly, but allow the parts to remain moist.



Step 4

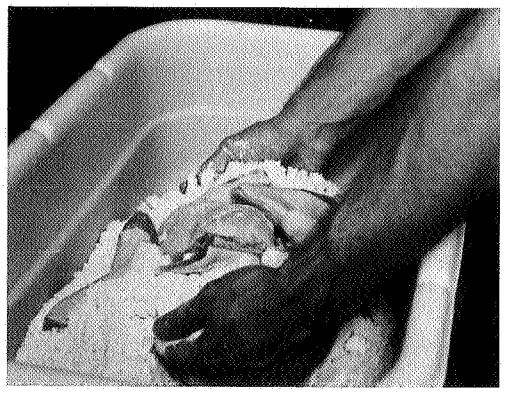
4. If a breading machine is used, fill the breading drum with approximately 8 to 10 pounds of PHT Fryer Mix. Feed the moist but drained pieces into the chute at one end of the breader.



Step 5

5. Allow the breaded pieces to fall onto a tray as they come out of the breader drum.

3-8. SINGLE STAGE FRYING PROCEDURE (continued)



Step 6

6. If a breading machine is not used, the food should be placed in the dry mix and hand tumbled so that each piece of food is completely covered.

7. Knock off any excess breading and place the breaded product on a tray for cooler storage. Place a damp cloth over the breaded food to retain moisture. The breaded food should be held for a minimum of 30 minutes before frying so that it can absorb spices from the breading and so that breading can better adhere to the product.

8. Prepare the fryer per paragraph 3-5.

9. Stir the hot shortening.

10. Place the empty fry basket into the shortening.

11. Determinè the time and temperature settings according to the type of product to be fried.

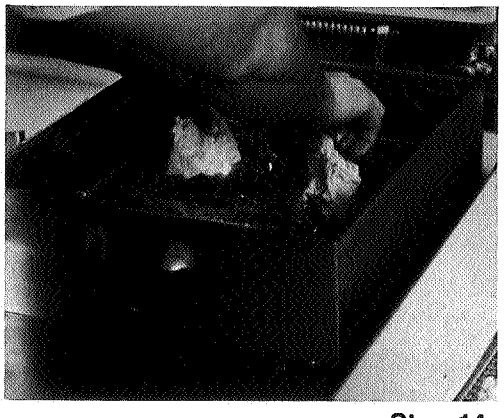
12. Set the thermostat to the desired temperature.

13. Set the TIMER dial, but do not turn on yet.

NOTE

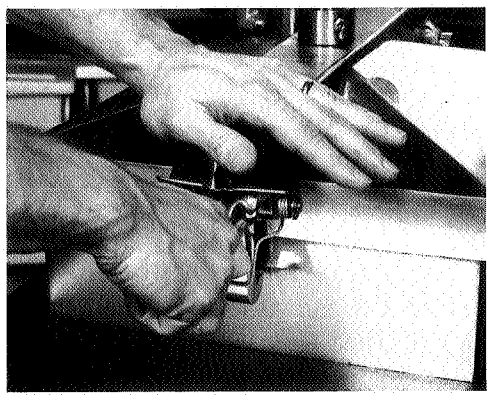
Before placing the product into the basket, make certain that the shortening is at the correct frying temperature for the type of product. Also check that the TEMPERATURE light is off.

14. Place the food into the submerged basket by first putting in the largest pieces (thighs and drumsticks). This gives the large and more difficult pieces time to fry a few extra seconds in the shortening. Leave the lid open.

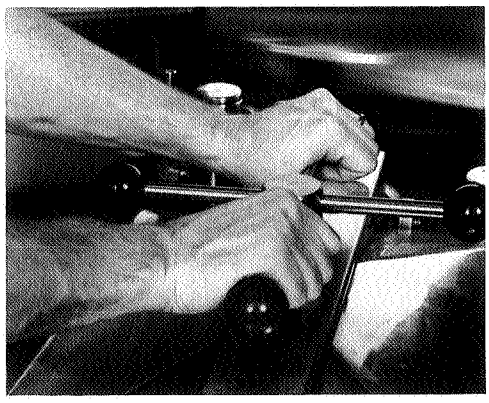


Step 14

3-8. SINGLE STAGE FRYING PROCEDURE (continued)



Step 16



Step 17

15. Lift the basket slightly out of the shortening and shake it, causing the pieces to separate. Return the basket to the shortening. Doing this will prevent white spots on the finished product.

16. Remove the basket handle and close the lid quickly. Latch the lid with the lid latch.

17. Tighten the lid spindle clockwise to properly secure and seal the lid. Align the red knob on the spindle with the red knob on the lid latch.

Lid must be latched properly and red balls aligned, or severe burns will result.

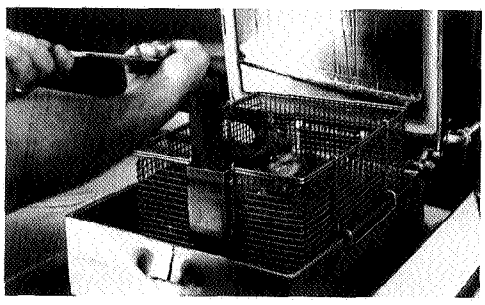
18. Turn the TIMER ON/OFF switch to ON.

19. Within a few minutes, the pressure gauge should increase to the OPERATING ZONE. If it does not, recheck the procedures and then refer to the troubleshooting section.

20. At the end of the frying cycle (the TIMER reaches zero), the fryer will automatically depressurize, the TIMER buzzer will sound, and the TIMER light will go off. Turn the TIMER switch to OFF. The TIMER will automatically reset to the previously selected time setting.

Check the pressure gauge reading. Do not attempt to turn the spindle or open the lid until the pressure drops to zero. Opening the lid when the frypot is pressurized will allow hot shortening and moisture to escape from the frypot resulting in severe burns to the operator.

3-8. SINGLE STAGE FRYING PROCEDURE (continued)



Step 23

21. After the pressure drops to zero, turn the spindle counterclockwise approximately one turn.

CAUTION

Do not flip or spin the spindle cross arm when opening because it could damage the acme nut inside the cross bar.

22. Raise the lid promptly to allow most of the condensation on the lid to drain down and out through the drain channel and not back into the shortening.

CAUTION

Do not let the lid slam up against its backstop because this could damage the hinge.

23. Insert the handle into the basket. Lift the basket and hang it on the side of the frypot to drain. Allow the product to drain approximately 15 seconds before dumping it onto a tray.

24. Place the product into a warming cabinet immediately.

25. Before frying the next load, allow time for the shortening to reheat. (Wait until the TEMPERATURE light goes off.)

3-9. TWO STAGE FRYING PROCEDURE (USING A STANDARD FRYER)

The Henny Penny Pressure Fryer is a versatile piece of equipment because it pressure fries not only a variety of different products, but in many cases can perform different kinds of frying operations. To prepare fried chicken with a softer finish crust and tender moist meat, we suggest using a two-stage frying procedure. This method of frying produces a softer type chicken, that can be held in a warming cabinet for longer periods of time in comparison to our single stage frying procedure which produces a crisper, less greasy product, more suitable for immediate serving. The following table provides the suggested frying times and temperatures for two-stage cooking:

NOTE

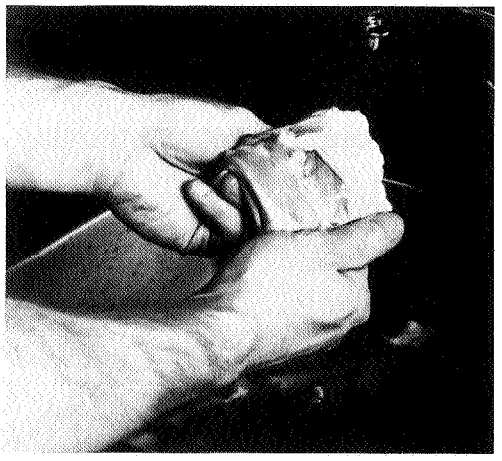
All the suggested time and temperature settings are for a 10 pound load.

Product (size per piece)	Start Temp.	Time Setting	Temp Setting After 1 Min
Chicken (2¼ pounds, 4 or 5 birds)	375°F	12 Min	275°F
Chicken (2¼ pounds, 2 birds)	340°F	12 Min	275°F
Pork Chops (4 to 5 ounces, ½ inch thick)	325°F	7 Min	280°F
Spare Ribs (2½ pound rack)	325°F	12 Min	275°F
Cubed Steak (6 to 8 ounces, ¾ to 1 inch thick)	325°F	7 Min	280°F

NOTE

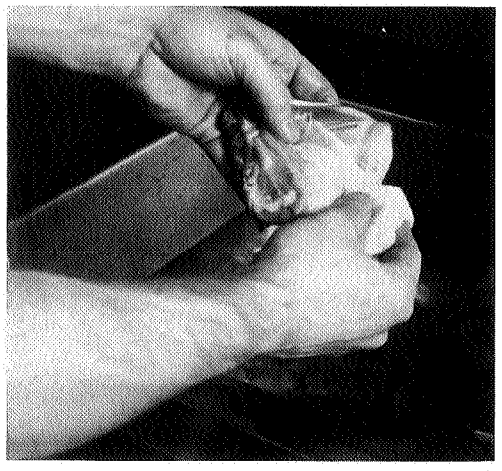
To obtain a softer finish crust or "Southern Style" fried chicken when frying the Two Stage Temperature method, we recommend using a special blend of soft wheat flour seasoned with salt, pepper, and other spice ingredients.

3-9. TWO STAGE FRYING PROCEDURE (continued)



Step 1

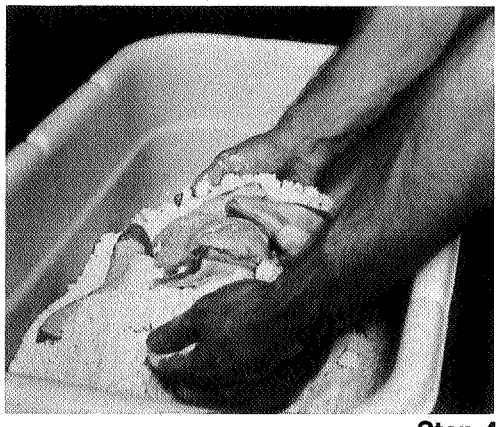
1. Take the chicken parts, either 4 or 5 cut-up chickens, from the cooler and place in a scullery sink. Wash the chicken and at this point break the thigh from the joint of the backbone.



Step 2

2. Remove any excess fat from thigh.

3. Remove the chicken from the water and drain slightly, but allow the parts to remain moist. (If an eggwash dip is used, place the chicken in the dip before breading.)



Step 4

4. Dump the chicken parts into the seasoned flour mix and hand tumble them so that each piece is completely covered. Remove the parts from the breading. Do not knock off the excess flour. Place them on the holding tray. The chicken should be fried immediately after breading.

3-9. TWO STAGE FRYING PROCEDURE (continued)

5. Prepare the fryer per paragraph 3-5.
6. Stir the hot shortening.
7. Place the empty fry basket into the shortening.
8. Set the thermostat to 375°F for frying a 4 or 5 chicken load. For a 2 chicken load set the thermostat to 340°F.
9. Set the TIMER to 12 minutes, but do not turn on yet.

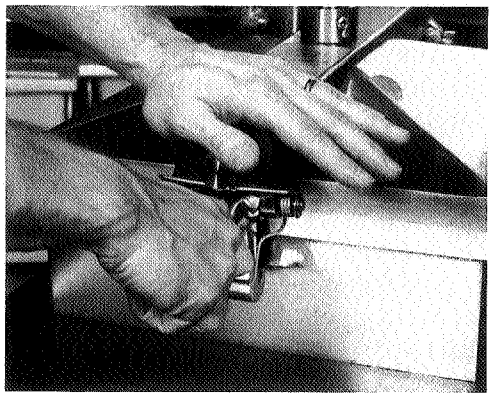
NOTE

Before dropping the product into the basket, make certain the shortening is at the correct frying temperature. Also check that the TEMPERATURE light is off.

Step 10

10. Place the food into the submerged basket by first dropping in the largest pieces (thighs and drumsticks). This gives the large and more difficult pieces time to fry a few extra seconds in the shortening. Leave the lid open.

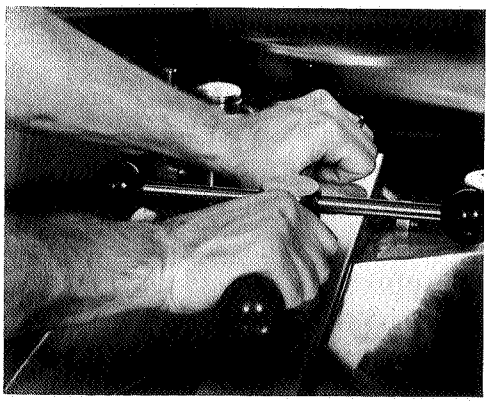
11. Lift the basket slightly out of the shortening and shake it, causing the pieces to separate. Return the basket to the shortening. Doing this will prevent white spots on the finished product.



Step 12

12. Remove the basket handle and close the lid quickly. Latch the lid with the lid latch.

3-9. TWO STAGE FRYING PROCEDURE (continued)



Step 13

13. Tighten the lid spindle clockwise to properly secure and seal the lid. Align the red knob on the spindle with the red knob on the lid latch.

Lid must be latched properly and red balls aligned, or severe burns will result.

14. Turn the TIMER ON/OFF switch to ON position.

15. When the pressure in the frypot reaches the OPERATING ZONE (approximately 1 minute) manually turn the THERMOSTAT back to 275°F and leave it there for the remainder of the frying cycle.

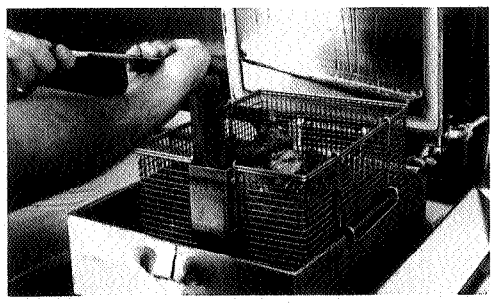
16. At the end of the frying cycle (the TIMER reaches zero), the fryer will automatically depressurize, timer buzzer will sound, and the TIMER light will go off. Turn the TIMER switch to OFF. The TIMER will automatically reset to the previously selected time setting.

Check the pressure gauge reading. Do not attempt to turn the spindle or open the lid until the pressure drops to zero. Opening the lid when the frypot is pressurized will allow hot shortening and moisture to escape from the frypot, resulting in severe burns.

17. After the pressure drops to zero, turn the spindle counterclockwise approximately one turn.

Do not flip or spin the spindle cross arm when operating, because it could damage the acme nut inside the cross bar.

3-9. TWO STAGE FRYING PROCEDURE (continued)



Step 19

18. Raise the lid promptly to allow most of the condensation on the lid to drain down and out through the drain channel and not back into the shortening.

CAUTION

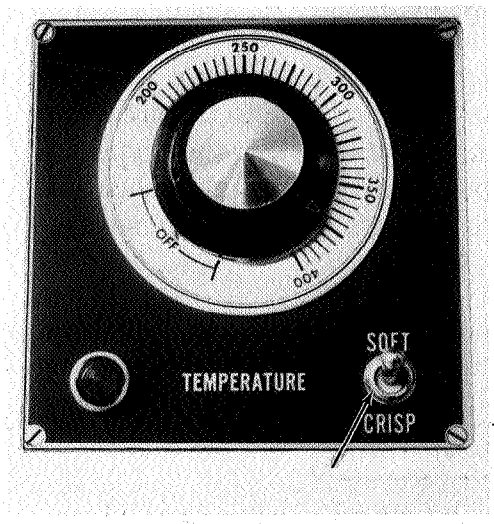
Do not let the lid slam up against its backstop because this could damage the hinge.

19. Insert the handle into the basket. Lift the basket and hang it on the side of the frypot to drain. Allow the product to drain approximately 15 seconds before dumping it onto a holding tray.

20. Place the product in a warming cabinet immediately.

21. Before frying the next load, return the thermostat back to 375°F and allow time for the shortening to reheat (wait until the TEMPERATURE light goes off).

3-10. TWO STAGE FRYING USING AN OPTIONAL TWO-STAGE THERMOSTAT



Step 1

If your fryer is equipped with the optional two-stage thermostat, it will also have a SOFT/CRISP switch and a delay timer. These optional features enable you to fry using the two-stage procedure. This two-stage frying is the "SOFT" mode and is performed as follows:

1. Place the SOFT/CRISP switch in the SOFT position.

2. Prepare the chicken and the fryer per the steps of paragraph 3-9, except skip steps 15 and 21 because they will be performed automatically.

NOTE

The two-stage thermostat will start the frying cycle at the set temperature. When the delay timer runs out, the two-stage thermostat will automatically switch to its lower setting for the balance of the frying cycle. The delay timer is inside the control panel and is factory set.

3-11. DAILY MAINTENANCE

As in all food service equipment, the Henny Penny pressure fryer does require care and proper maintenance. the table below provides a summary of scheduled maintenance. The following paragraphs provide step-by-step maintenance procedures to be performed by the operator.

Procedure	Para.	Frequency
Filtering of shortening	3-13	Every 3 to 6 frying cycles
Changing of shortening	3-13	As required
Changing the filter envelope	3-15	As required
Cleaning the operating valve	3-17	Daily
Cleaning the frypot	3-16	As required
Cleaning the exhaust tubes	3-18	Daily
Check optional rinse hose for deterioration	—	Weekly
Check optional crumb filter basket	—	As required

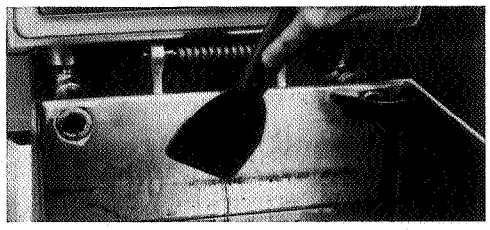
3-12. FILTERING OF SHORTENING

Frying breaded food requires frequent filtering. Taste the cold shortening every day for flavor. Watch the shortening for foaming during frying cycles. Discard the shortening as soon as it shows signs of foaming. Clean the frypot as follows each time the shortening is changed or filtered:

1. Turn the thermostat and the main power switch to the OFF position. Remove and clean the fry basket in soap and water. Rinse thoroughly.

NOTE

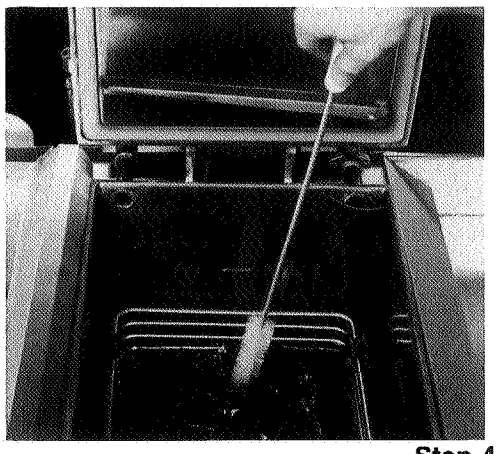
The best results are obtained when the shortening is filtered at the normal frying temperature.



Step 2

2. Use a metal spatula to scrape any build-up from the sides of the frypot. Do not scrape Heating Element.

The filter pan must be in the proper position beneath the drain valve. This will prevent the splashing of shortening on the floor. This splashing could result in severe burns. When using optional crumb filter basket, care must be taken to avoid splashing of hot shortening. Basket must be situated directly under the drain valve and basket handle supports directly on drain pan. Severe burns could result. Also the crumb filter basket must be emptied as required. Failure to do so will result in splashing and severe burns.

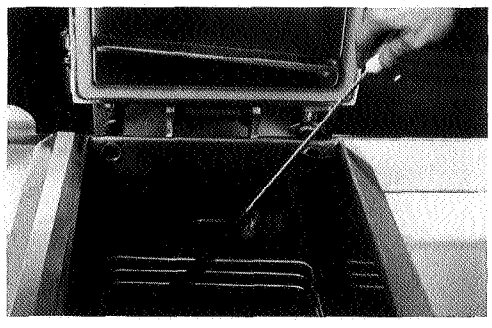


Step 4

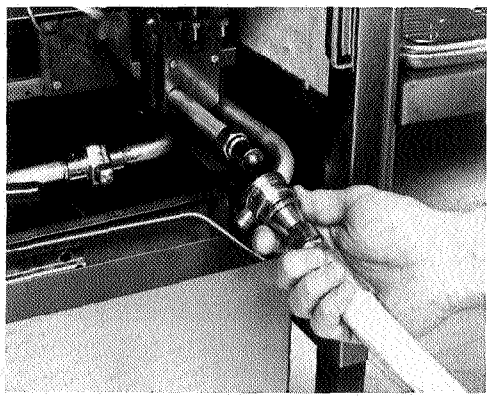
3. Open the drain valve very slowly, half a turn at first and then slowly to the full open position. This will prevent excessive splashing of the hot shortening as it drains into the filter drain pan.

4. As the shortening drains from the frypot, use brushes (Henny Penny part number 12105 includes both brushes) to scrape and clean the side of the frypot and the heating elements. If the drain fills with breading, use the white brush to push the breading into the filter pan.

3-12. FILTERING OF SHORTENING (continued)



Step 6e



Step 7a

5. When all of the shortening has drained, scrape or brush the sides and the bottom of the frypot.

6. Rinse the frypot as follows:

   a. Close the drain valve.

   b. Open the filter valve.

Hold the lid closed so that the very first surge of the shortening will not splash up or over the top of the frypot, causing severe burns.

   c. Move the main power switch to the PUMP position. Carefully open the lid to see if shortening is returning properly. Fill frypot 1/3 full, then turn off pump.

If there are air bubbles coming up in the shortening, it is possible that the filter connecting union on the filter tube line is not tightened properly. If so, turn off the pump. Use gloves to tighten the union. Severe burns could result.

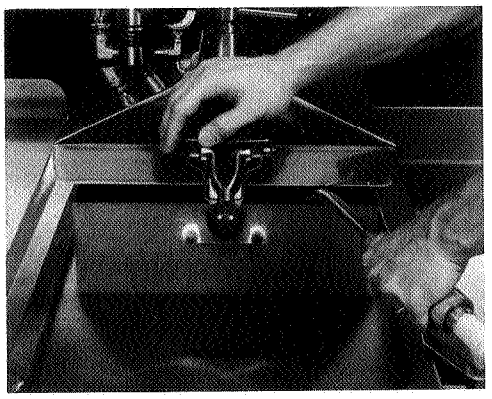
   e. Wash down and scrub the sides of the frypot. Use "L" brush to clean the heating elements.

   f. After the sides and bottom are cleaned, open the drain valve.

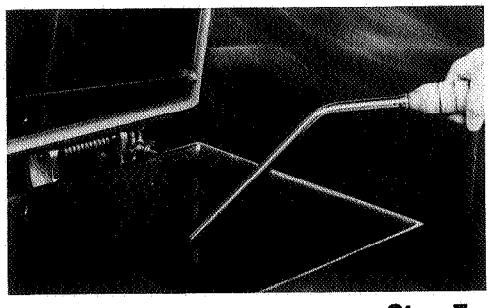
7. If an optional filter rinse hose is available on your fryer, the following cleaning procedure may be used.

   a. Attach the filter rinse hose with its quick disconnect fitting to the male fitting inside the door next to the filter valve handle. To do this, slide back the spring ring on the female side of the quick disconnect fitting and let it snap into place over the male half of the fitting.

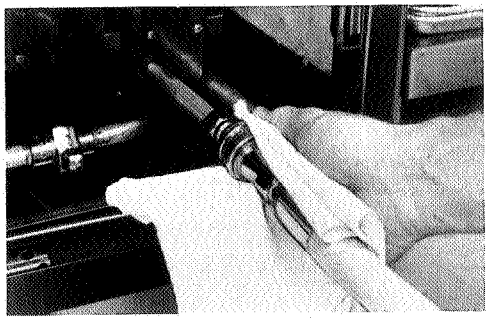
3-12. FILTERING OF SHORTENING (continued)



Step 7b



Step 7c



Step 7f

b. Make sure the hose nozzle is pointed down into the bottom of the frypot. Pull the lid down over the nozzle, close the filter valve and move the main power switch to the PUMP position. Hold nozzle carefully to avoid excessive splashing.

WARNING

Use caution to prevent burns by splashing of hot shortening.

c. Rinse the frypot interior. Especially work on hard to clean areas, like the frypot bottom. On electric models clean around heating elements.

d. After sufficient rinsing with shortening, close the drain valve.

e. Turn the main power switch to the OFF position.

DANGER

Only connect and disconnect the filter rinse hose when the main power switch is in the OFF position. Also, use a dry cloth or glove to avoid burns. Failure to do this could result in severe burns from hot shortening spraying from the male fitting.

f. Detach the hose. Raise the fitting end of hose high for a minute to allow the remaining shortening in the hose to drain into the frypot.

8. Pump all the shortening out of the filter pan and back into the frypot. Close lid during first surge of pumping.

3-12. FILTERING OF SHORTENING (continued)

Step 9

9. When the pump is pumping air only, the shortening in the frypot will appear to be boiling. Close the filter valve first and then move the main power switch from PUMP to OFF. This will keep the filter pump and lines from filling up with shortening.

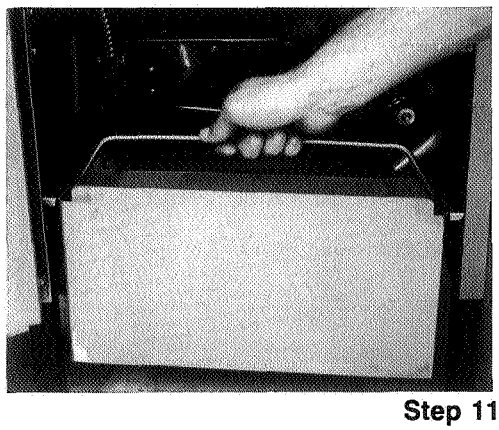
NOTE

When the appearance of boiling occurs, immediately close the filter valve. This will prevent aeration of the shortening, therefore increasing shortening life.

10. Check the level of the shortening if necessary, until it reaches the level indicator line on the rear wall of the frypot.

NOTE

Approximately 10 to 12 filterings can be made with one charcoal filter, depending on several conditions; the quantity and type of product fried and filtered, the type of breading used, and the amount of crumb accumulation left inside the drain pan. When the filter becomes clogged, and pumping flow rate slows down, clean the filter and change the charcoal filter. (Refer to the Changing the Charcoal Filter procedure given in paragraph 3-15.)



Step 11

11. After completing the filtering operation, empty and replace the condensation drain pan.

12. If frying is to be continued at this time, move the main power switch back to the ON position, and allow time for reheating of the shortening.

3-13. FILTER PUMP PROBLEM PREVENTION

The following steps will help prevent filter pump problems:

1. Make certain the charcoal filter is installed with the smooth side down and the arms on the frame are clamped down over the protrusions on the outside of the frame.

3-13. FILTER PUMP PROBLEM PREVENTION (Continued)

2. The filter valve is to be closed at all times during frying.

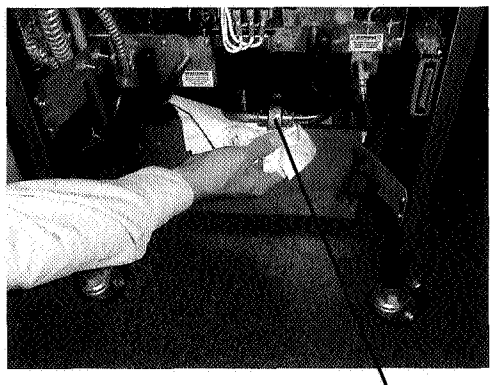
3. Pump all the shortening from the filter lines by running the filter pump motor until the shortening in the frypot appears to be bubbling or boiling.

3-14. CHANGING THE FILTER ENVELOPE

The filter envelope should be changed after 10-12 filterings or whenever it becomes clogged with crumbs. Proceed as follows:

1. Move the main power switch to the OFF position.

2. Remove and empty the condensation drain pan.

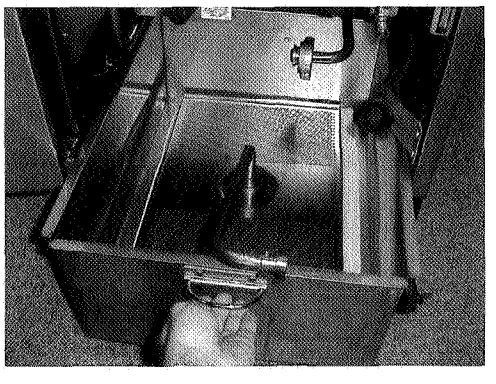


Step 3

3. Disconnect the filter union and remove the drain pan from under the frypot.

This union will be hot! Use protective gloves or cloth, or severe burns will result.

4. If available, a drain pan may have casters attached to it, allowing easy transport of filter pan and filter assembly.



Step 4

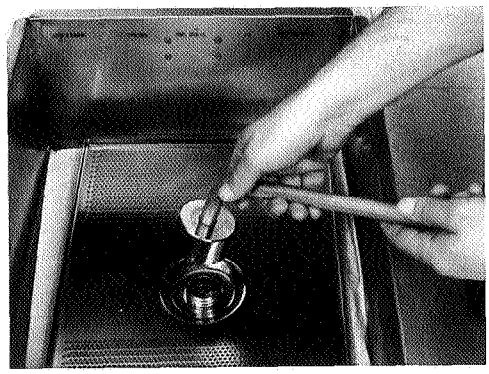
WARNING

Use care to prevent splashing, or burns could result.

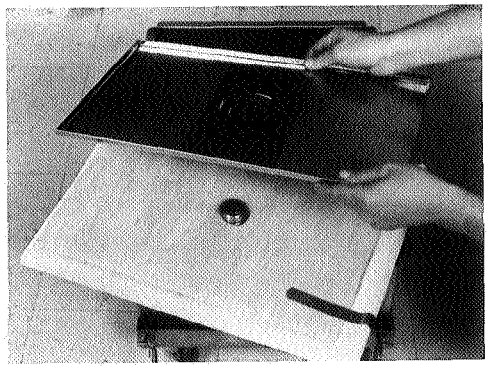
5. Lift the screen assembly from the drain pan.

6. Wipe the shortening and crumbs from the drain pan. Clean the drain pan with soap and water, then thoroughly rinse with hot water.

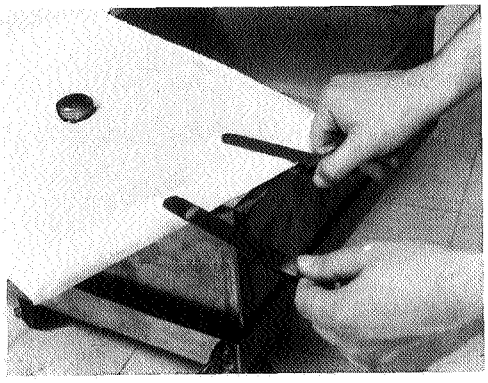
3-14. CHANGING THE FILTER ENVELOPE (continued)



Step 7



Step 8



Step 9

7. Unthread the suction standpipe from the screen assembly.

8. Remove the crumb catcher and clean thoroughly with soap and water. Rinse thoroughly with hot water.

9. Remove the filter clips and discard the filter envelope.

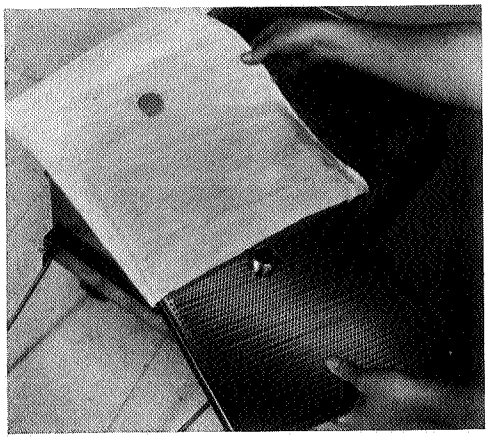
10. Clean the top and bottom filter screen with soap and water. Rinse thoroughly with hot water.

CAUTION

Be sure that the filter screens, crumb catcher, filter clips, and the suction standpipe are thoroughly dry before assembly of filter envelope as water will dissolve the filter paper.

11. Assemble the top filter screen to the bottom filter screen.

3-14. CHANGING THE FILTER ENVLEOPE (continued)



Step 12

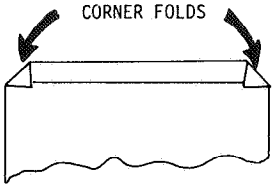
12. Slide the screens into a clean filter envelope.

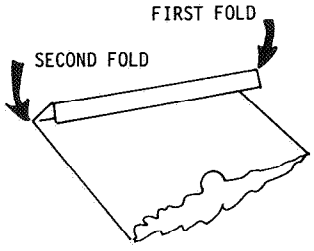
13. Fold the corners in and then double fold the open end.

14. Clamp the envelope in place with the two filter retaining clips.

15. Replace the crumb catcher screen on top of the filter paper. Screw on the suction standpipe assembly.

16. Place complete filter screen assembly back into filter drain pan and slide pan back into place beneath the fryer.

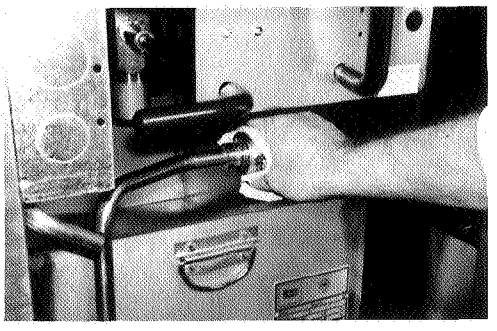




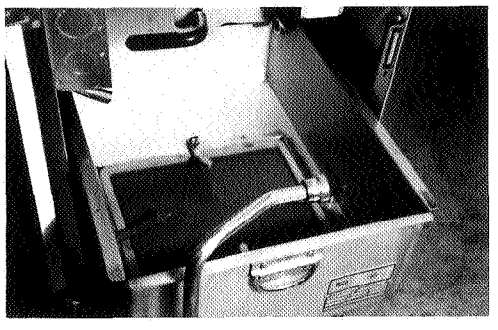
17. Connect the filter union by hand. Do not use a wrench to tighten.

18. Slide the condensation drain pan back into place. The fryer is now ready to operate.

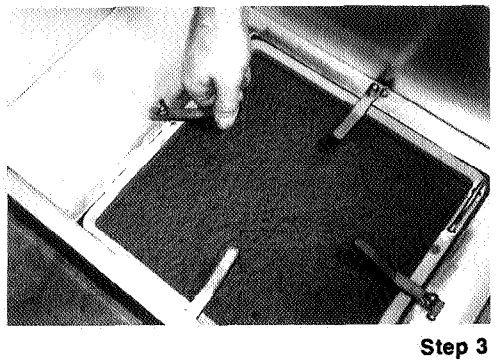
3-15. CHANGING THE CHARCOAL FILTER



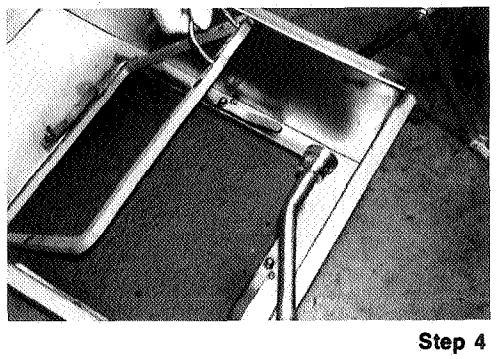
Step 1



Step 2



Step 3



Step 4

The charcoal filter **must** be changed every day or whenever it becomes clogged with crumbs. Proceed as follows:

1. Move the main power switch to the OFF position.
2. Remove and empty the condensation drain pan.
3. Disconnect the filter union and remove the filter drain pan from beneath the frypot.

This union will be hot. Use protective glove or cloth, or severe burns will result. Do not use the filter tube as a handle to pull the pan from the unit. Damage to the tube could result.

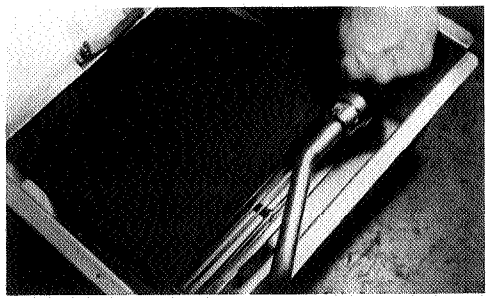
4. An optional filter pan dolly (Henny Penny part number 03279) can be used to safely transport filter pan filled with hot shortening.

WARNING

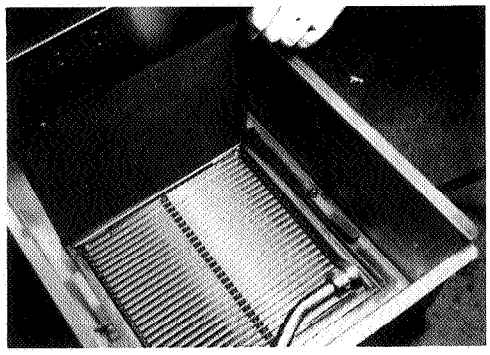
Use care to prevent burns caused by splashing of hot shortening.

5. Discard shortening, or pump shortening back into cook pot.
6. Turn handles, on inside of filter pan, to free filter pad frame from pan.

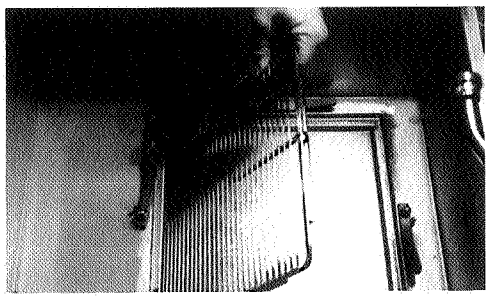
3-15. CHANGING THE CHARCOAL FILTER (continued)



Step 5



Step 6



Step 7

These handles will be hot. Use protective glove or cloth, or severe burns will result.

7. Remove and discard old filter pad. Clean and dry pan, frame, and grid thoroughly.

8. Place grid and new charcoal filter pad in frame with smooth side down and secure in drain pan with handles. Be sure the handles press down on the protrusions on the frame, or the filter may not function properly.

9. Slide the drain pan back into place under the fryer and connect the filter union by hand. Do not use a wrench to tighten.

10. Slide the condensation drain pan back into place. The fryer is now ready to operate.

3-16. CLEANING THE FRYPOT

After the initial installation of the fryer, as well as before every change of shortening, the frypot should be thoroughly cleaned as follows:

1. Turn the main power switch OFF.

The filter drain pan must be in position under the drain valve to prevent splashing or spilling of hot liquids. Failure to do so will result in splashing and severe burns.

3-17. CLEANING THE FRYPOT (continued)

CHEMICAL SPLASH GOGGLES

CHEMICAL RESISTANT GLOVES

2. If hot shortening is present in the frypot, it must be drained by slowly opening the drain valve handle one half turn. Leave for a few minutes, then slowly open the valve to the full open position.

3. Close the drain valve. Discard the shortening in the filter pan. Then install the filter drain pan under the fryer., leaving out the filter screen assembly.

WARNING

Moving the frypot with hot shortening in the frypot or filter pan is not recommended. Hot shortening can splash out. Severe burns could result.

4. Fill the frypot to the level indicator with hot water. Add 4 to 6 ounces of fryer cleaner (Henny Penny part number 12101) to the water and mix thoroughly. The fry basket can be placed inside frypot for cleaning.

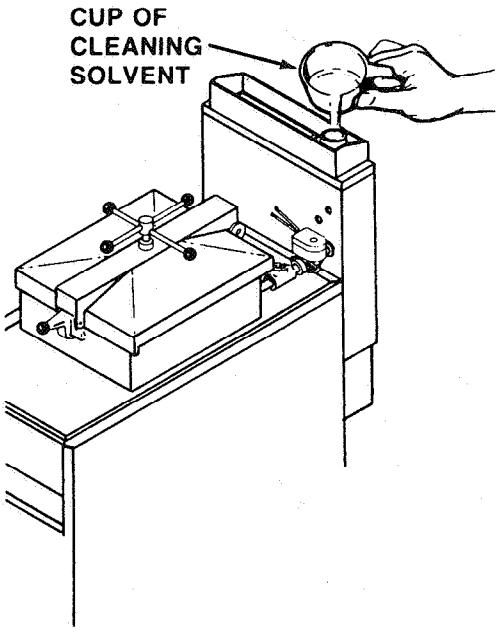
WARNING

Always wear chemical splash goggles or face shield and protective rubber gloves when cleaning the frypot as the cleaning solution is highly alkaline. Avoid splashing or other contact of the solution with your eyes or skin. Severe burns and possible bindness will result. Carefully read the instructions on the cleaner. If solution comes in contact with your eyes, rinse thoroughly with cool water and see a physician immediately.

5. Set the thermostat to 195°F and turn main power switch to the POWER position.

NEVER PRESSURIZE FRYER TO CLEAN. Leave the lid open. Water under pressure is super heated and will cause severe burns if it comes in contact with skin.

3-16. CLEANING THE FRYPOT (continued)



6. When the heat light goes out and solution temperature is at 195° F, immediately move the main power switch to OFF.

CAUTION

Watch the cleaning solution constantly to make sure it does NOT boil over causing damage to controls.

WARNING

If the cleaning solution in the frypot starts to foam and boil over, DO NOT TRY TO CONTAIN IT BY CLOSING THE FRYER LID, or severe burns could result.

NOTE

Pour a cup of hot cleaning solution (taken from the frypot) into the condensation tower to keep it free and clean.

7. Let the cleaning solution stand for 15 to 20 minutes with the thermostat off.

S. Using the fryer brush (Henny Penny part number 12105), never use steel wool, scrub the inside of the frypot, the lid liner, and around the countertop of the fryer.

CAUTION

Do Not use the cleaning solution on the lid or the lid hinge. These parts are aluminum and will corrode if the PHT cleaner comes in contact with them. Also, **Do Not** use abrasive cleaners or cleaner containing chlorine, bromine, iodine, or ammonia chemicals on the stainless steel, as these will deteriorate the stainless steel.

9. After cleaning, turn off the main power switch. Open the drain valve and drain the cleaning solution from the frypot into the drain pan and discard.

10. Replace the empty drain pan, close the drain valve and refill the frypot with plain hot water to proper level.

11. Add approximately 8 ounces of distilled vinegar and bring the solution to 195° F.

12. Using a clean brush, scrub the interior of the frypot and lid liner. This will neutralize the alkaline left by the cleaning compound.

3-16. CLEANING THE FRYPOT (continued)

14. Drain the vinegar rinse water and discard.

15. Rinse down the frypot, using clean hot water.

16. Thoroughly dry the drain pan, and the frypot interior.

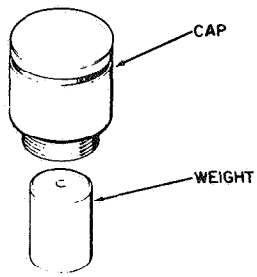
NOTE

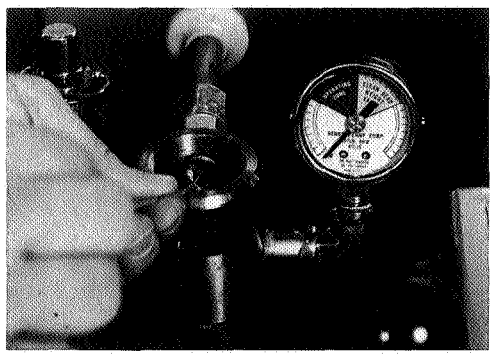
Make sure the inside of the frypot, the drain valve opening, and all the parts that will come in contact with the new shortening are as dry as possible.

17. Replace the clean filter assembly in the drain pan and install under fryer.

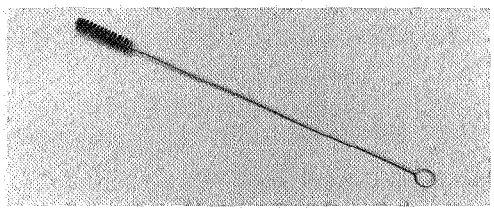
18. Refill the fryer with fresh shortening.

3-17. CLEANING THE OPERATING VALVE





Step 4



At the end of each day, the operating valve must be cleaned as follows:

1. Turn the main power switch off. Be sure all pressure has been released and open the lid.

2. Unscrew the valve cap and remove the cap and weight.

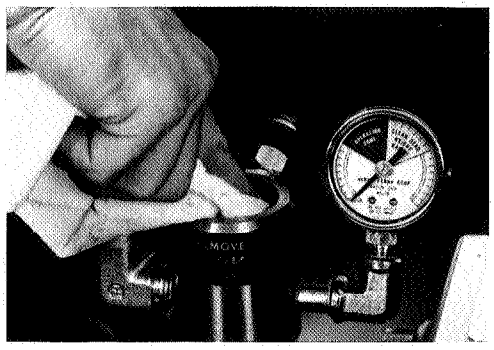
WARNING

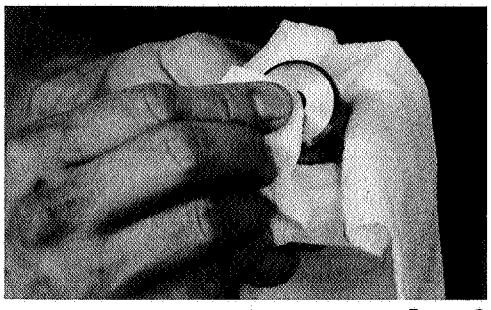
Use gloves. Valve cap may be hot. Burns could result.

3. Clean the cap and weight in hot detergent water. Make certain to thoroughly clean the inside of the valve cap and the weight.

4. Clean the exhaust tube with stainless steel brush (Henny Penny part number 12147).

3-17. CLEANING THE OPERATING VALVE (continued)





Step 6

5. Clean the orifice and the inside of the valve body with a clean lint-free cloth.

6. Dry the weight and valve cap.

7. Replace weight and valve cap. Hand tighten the cap.

3-18. CLEANING THE EXHAUST TUBE (OPERATING VALVE)

At the end of each day, the fryer exhaust tubes must be cleaned. The procedure is stated in paragraph 3-17 step 4.

3-19. NIGHT CLOSING PROCEDURES

At the end of each day or shift, perform the following procedures:

1. Filter the shortening per paragraph 3-13.
2. Move the main power switch and the thermostat switch to OFF.
3. Place the fryer basket in a sink for cleaning.
4. Clean the operating valve per paragraph 3-17.
5. Dump the water from the condensation drain pan.

CAUTION

If disconnection of the cable restraint is necessary, be sure to reconnect the restraint after the fryer has been returned to its originally installed position.

3-20. SEASONAL SHUTDOWN

1. Drain and clean the frypot per paragraph 3-16.
2. Turn the main circuit breaker off and unplug the electrical cord if possible.
3. On gas models turn the gas valve to OFF. Shut off the gas valve on the main gas supply line.
4. Close the lid but do not tighten the spindle.
5. Remove and clean the condensation drain pan.
6. Clean the inside of the steam exhaust tank on gas models.

3-21. FOOD PREPARATION RECIPIES

Please note, all the times on this list are approximate and will vary with the size and quantity of the raw product. After frying a quantity of sea food or pork, the shortening should be filtered and then freshened by frying and discarding a few cut-up potatoes, or the frypot may be drained, cleaned, and fresh shortening added.

3-22. CUT-UP FRIED CHICKEN

1. Cut 2½ to 2¾ pound net weight birds into 8 or 9 pieces. Nine pieces allows you to serve 3 three-piece dinners from each bird.
2. Wash the chicken parts and drain thoroughly. Break the thigh bone from the front of the backbone and remove excess fat from the thigh.
3. Bread the pieces in advance (if using Henny Penny Fryer Breading Mix) so that the breaded chicken will be held at least 30 minutes before frying. Breading in advance will give the breading an opportunity to permeate the meat and adhere better to the product. The pieces can be breaded and held refrigerated for as long as 24 hours before frying. This procedure eliminates continuous breading and will save labor.
4. Frying temperature for best results is 320°F for 10 to 11 minutes.

3-23. CHICKEN QUARTERS	Follow the "Cut-up Fried Chicken" procedure above, allowing an additional 2 to 3 minutes for frying. The portions are larger and will need the additional frying time.
3-24. BARBECUED CHICKEN	1. Whole halves (2 to 2¼ lbs. less giblets): Prepare the birds by washing and draining thoroughly. 2. Place them into the fryer whole or cut into halves. 3. The frying temperature is 310°F for 12 minutes for halves. The whole birds should be fried at 310°F for 15 minutes. 4. After the frying has been completed, place the halves or whole birds into a pan of warm barbecue sauce. For best results, allow a minimum of 30 minutes in barbecue sauce before serving.
3-25. FRIED PORK CHPS/ VEAL CUTLETS	1. Wash and drain the chops thoroughly. 2. Bread the pork chops (4 oz. portion, ½ to ¾ inch thick) with the Fryer Mix. 3. Fry at 315°F for 5 minutes. If the chops are larger, allow an additional minute for each 2 ounce increase per portion.
3-26. BARBECUED PORK CHOPS	1. Fry the chops (4 oz. portion) for 5 minutes at 305°F. 2. After frying has been completed, place the chops in warm barbecue sauce. 3. The chops should remain in the barbecue sauce for 30 minutes prior to serving at 150°F minimum.
3-27. BARBECUED RIBS	1. Prepare racks of ribs (racks of 2½ pounds and under) by trimming excessive fat. 2. Cut the ribs into proper portions for serving before preparing. (Ribs lightly breaded with Fryer Mix before frying gives additional flavor.)

3-27. BARBECUED RIBS (continued)	3. The ribs should be fried for 13 minutes at 275°F. 4. Ribs should then be brushed well on both sides with barbecue sauce, or placed in a pan of warm sauce. 5. Hold ribs in a sauce at 150°F, for 30 minutes so flavor can permeate. 6. Racks of ribs that exceed 2½ pounds will need additional time for frying. Use approximately 15 minutes for 3-pound racks.
3-28. TOP SIRLOIN STEAK AND FILET MIGNON	1. For steak (6 to 8 oz. portions normal thickness) that is to be served brown outside with pink inside, fry for 4 minutes at 315°F. 2. To serve a steak with brown outside and no pink inside, fry for 7 to 8 minutes at 315°F.
3-29. FISH FILLETS	1. Clean, wash and drain. Use 4 oz. size pieces. 2. Marinate or bread. 3. Fry for 3½ minutes at 315°F.
3-30. FROG LEGS	1. Clean, wash, and drain. 2. Marinate or bread. 3. Fry for 7 minutes at 315°F.
3-31. OYSTERS	1. Clean, wash, and drain. Remove shell particles. 2. Bread. 3. Fry at 2 minutes at 315°F.
3-32. SHRIMP	1. Clean, wash, and drain. 2. Bread. 3. Fry for 3 minutes at 315°F.

3-33. ROCK LOBSTER TAIL	1. Clean, wash, and drain. 2. Fry for 6 minutes at 315°F.
3-34. POTATOES	1. Use U.S. No. 1 grade Idaho potatoes, unpeeled. Wash and cut into 8 wedges. Drain and bread. 2. Fry for 8 minutes at 315°F. If smaller potatoes are used, time may be reduced.
3-35. CORN ON THE COB	1. Clean, wash, and drain. 2. Fry for 4 minutes at 315°F.
3-36. CAULIFLOWER	1. Clean, wash, and drain. 2. Cut into 1 inch pieces. 3. Bread. 4. Fry for 2 minutes at 315°F.

SECTION 4. TROUBLESHOOTING

4-1. INTRODUCTION

This section provides troubleshooting information in the form of an easy to read table.

If a problem occurs during the first operation of a new fryer, recheck the installation per Section 2 of this manual.

Before troubleshooting, always recheck the operating procedure per Section 3 of this manual.

4-2. TROUBLESHOOTING

To isolate a malfunction, proceed as follows:

1. Clearly define the problem (or symptom) and when it occurs.
2. Locate the problem in the troubleshooting table.
3. Review all possible causes. Then, one-at-a-time work through the list of corrections until the problem is solved.

WARNING

Refer to the maintenance procedures in Section 5 to safely and properly make the checkout and repair needed. If maintenance procedures are not followed correctly, injuries and/or property damage could result.

PROBLEM	CAUSE	CORRECTION
	COOKING SECTION	
Product Color Not Correct:		
A. Too Dark	• Temperature too high.	• Reduce thermostat setting. • Check thermostat calibration. • Remove and replace defective thermostat per paragraph 5-11.
	• Shortening too old.	• Change shortening.
	• Shortening too dark.	• Filter shortening. • Shortening taste test, see paragraph 3-7. • Change shortening.
	• Dip solution too strong for product.	• Use correct dip solution or shorten product immersion time.
	• Breading product too far in advance.	• Bread product closer to actual frying period.
	• (Optional) Delay Timer inoperative.	• Check and/or replace per paragraph 5-2.
B. Too Light	• Temperature too low.	• Increase temperature. • Check calibration of thermostat. • Remove and replace defective thermostat per paragraph 5-11.
	• Dip solution too weak.	• Correct dip solution.
	• Fryer incorrect preheat.	• Allow proper preheat time per paragraph 3-5. • Stir shortening prior to dropping product into frypot.
	• Frypot overloaded with product.	• Reduce cooking load.
	• Slow fryer heatup/recovery.	• Refer to burner or heating elements in the maintenance section.

PROBLEM	CAUSE	CORRECTION
	COOKING SECTION (continued)	
C. Product Greasy	• Shortening old.	• Replace shortening.
	• Temperature too low.	• Increase thermostat setting. • Temperature not recovered when product was dropped in frypot basket. • Check thermostat calibration. • Replace thermostat if needed.
	• Frypot overloaded.	• Reduce cooking load.
	• Product not removed from frypot immediately after depressurization.	• Remove product immediately after depressurization of the frypot.
D. Spotted Product	• Improper separation of the product.	• Refer to paragraph 3-8 steps 14 and 15.
	• Product was incorrectly dipped.	• Agitate product during the dipping procedure.
	• Breading not uniform on the product.	• Sift breading regularly. • Separate product during breading. • Refer to paragraph 3-8 steps 4 thru 6.
	• Burned breading particles on product.	• Filter the shortening more frequently.
	• Product sticking together.	• Separate product prior to pressure cooking, per paragraph 3-8 step 14.
E. Dryness of Product	• Moisture loss prior to cooking.	• Use fresh products. • Keep product covered with a moist cloth to reduce evaporation.
	• Over cooking the product.	• Reduce cooking time. • Reduce cooking temperature.

PROBLEM	CAUSE	CORRECTION
	COOKING SECTION (continued)	
E. Dryness of Product (continued)	• Low operating pressure.	• Check pressure gauge reading, check for pressure leaks.
	• Too small of a load being cooked.	• Increase quantity to obtain correct operating pressure and product quality.
Product Flavor (Taste):		
A. Salty taste	• Breading mixture is too salty.	• Sift breading after each use. • Incorrect breading mixture. • Discard old breading.
	• Marination mixture too concentrated.	• Reduce the concentration of the marination mixture.
	• Incorrect choice of breading.	• Use breading designed for the desired product.
B. Burned taste	• Burned shortening flavor.	• Replace shortening.
	• Shortening needs filtering.	• Filter shortening more frequently.
	• Frypot not properly cleaned.	• Drain and clean frypot.
C. Bland taste	• Raw product not fresh.	• Use fresh raw products.
	• Breading mixture incorrect for product (spice content too low).	• Use breading designed for desired product.
	• Cooking temperature too high (spice flavors lost).	• Use correct temperature for breading used.
	• Breading does not adhere to product.	• Use correct dip and breading, and use correct procedure for the product.

PROBLEM	CAUSE	CORRECTION
	COOKING SECTION (continued)	
D. Rancid taste	• Shortening too old.	• Replace shortening, and follow recommended care and use of shortening paragraph 3-7.
	• Non compatible products cooked within the same shortening.	• Replace shortening. • Use compatible products, and follow recommended care and use of shortening, paragraph 3-7.
	• Infrequent filtering.	• Replace shortening, and follow recommended care and use of shortening, paragraph 3-7.
	• Raw product not fresh.	• Use fresh product.
General:		
A. Meat separation from bone	• Incorrect meat cut.	• Use correct meat cutting procedures.
	• Overcooking.	• Reduce cooking time.
	• Raw product contains too much water.	• Allow product to drain after marinating.
	• Product not fresh.	• Use fresh product.
B. Bone color not proper	• Using frozen product (black bone).	• Use fresh product.
	• Improper processing of product (black bone).	• Use proper processing procedure for product.
	• Product not thoroughly cooked (red bone).	• Increase cooking time.

PROBLEM	CAUSE	CORRECTION
	COOKING SECTION (continued)	
C. Breading falls off	• Incorrect breading procedures.	• Use correct breading procedure per paragraph 3-8 steps 4 through 6.
	• Product partially frozen during breading.	• Thoroughly thaw the product, before breading.
	• Improper handling of cooked product.	• Handle cooked product carefully.
	• Excessive stirring of product prior to closing the lid.	• Separate the product per paragraph 3-8 step 14.
D. Product sticking together	• Product breaded too long prior to cooking.	• Refer to breading and frying instructions.
	• Improper separation procedures prior to closing the lid.	• Separate the product per paragraph 3-8 step 14.
	• Frypot overloaded with product.	• Reduce the cooking load.
	• Improper loading procedure.	• Load product in frypot per paragraph 3-8 step 13.
	POWER SECTION	
With switch in POWER position, the fryer is completely inoperative (NO POWER)	• Open circuit.	• Check to see that unit is plugged in. • Check breaker or fuse at supply box. • Check control panel fuses per paragraph 5-19. (electric model only) • Check voltage at wall receptacle. • Check MAIN POWER switch per paragraph 5-19. Replace if defective. • Check cord and plug per paragraph 5-19. • Check circuit breaker on single phase fryers.

PROBLEM	CAUSE	CORRECTION
	PRESSURE SECTION	
Pressure will not exhaust at end of frying cycle	• Exhaust line from solenoid valve to expansion tank clogged.	• Release pressure from frypot; clean all pressure lines, exhaust stacks, and expansion tank on gas model.
	• Solenoid valve clogged.	• Check and clean solenoid valve per paragraph 5-21.
Operating pressure too high	• Dead weight clogged.	• Release pressure from frypot; remove dead weight and clean.
	• Exhaust line to stack clogged.	• Clean exhaust line to stack.
Pressure does not build	• Not enough product in fryer or product not moist.	• Place proper quantity of moist product within frypot to generate steam.
	• Metal shipping spacer not removed from dead weight.	• Remove shipping spacer per paragraph 2-2.
	• Lid open or not latched.	• Close and latch lid.
	• Solenoid valve leaking or not closing.	• Check or clean solenoid valve per paragraph 5-21.
	• Dead weight valve leaking.	• Repair per paragraph 5-21.
	• Main timer not closing solenoid.	• Check main timer per paragraph 5-20.
	• Soft/Crisp switch.	• On KC Models only, the Soft/Crisp switch must be in SOFT position.
	• Lid gasket leaking.	• Adjust lid limit stop. If this does not correct the problem, reverse the lid gasket. If this fails to correct the problem, replace the lid gasket.
	• Safety relief valve leaking.	• Check and replace if necessary per paragraph 5-21.

PROBLEM	CAUSE	CORRECTION
	FILTER SYSTEM SECTION	
Filter motor runs but pumps shortening slowly	• Filter valve not open.	• Open filter valve.
	• Pump clogged.	• Remove and clean pump per paragraph 5-22.
	• Filter frame not properly assembled.	• Handles must put pressure on filter.
	• Filter line connections loose.	• Tighten all filter line connections.
	• Solidified shortening in lines.	• Clear all filter lines of solidified shortening.
	• Charcoal filter clogged.	• Change charcoal filter.
Pump switch ON, motor does not run	• Defective switch.	• Check/replace switch per paragraph 5-19.
	• Defective motor.	• Check/replace motor per paragraph 5-22.
	• Motor thermal protector tripped.	• Reset thermal switch per paragraph 5-22.

PROBLEM	CAUSE	CORRECTION
	FILTER SYSTEM SECTION (continued)	
Motor hums but will not pump	• Clogged lines or pump.	• Remove and clean pump and lines per paragraph 5-22. • Replace pump seal, rotor and rollers per paragraph 5-22.
	HEATING OF SHORTENING SECTION	
Shortening will not heat (Electric Model)	• Blown fuse or tripped circuit breaker at supply box or control panel.	• Reset breaker or replace fuse.
	• Blown fuse at control panel.	• Check fuse per paragraph 5-19.
	• Faulty main switch.	• Check main switch, per paragraph 5-19.
	• Check cord and plug. Check power at receptacle.	• Check cord and plug and power at wall receptacle per paragraph 5-19.
	• Faulty contactor.	• Check contactor, per paragraph 5-15.
	• High limit control switch open.	• Press red high limit reset button per paragraph 5-12.
	• Faulty thermostat.	• Check thermostat per paragraph 5-10.
	• Faulty high limit control switch.	• Check high limit control switch per paragraph 5-12.
Heating of shortening too slow (Electric Model)	• Low or improper voltage.	• Use a meter and check the receptacle against data plate.
	• Weak or burnt out element(s).	• Check heating element(s) per paragraph 5-14.
	• Points in contactor bad.	• Check contactor per paragraph 5-15.
	• Wire(s) loose.	• Tighten.
	• Burnt or charred wire connection.	• Replace wire and clean connectors.

PROBLEM	CAUSE	CORRECTION
	HEATING OF SHORTENING SECTION	
Shortening overheating (Electric Model)	• Check thermostat.	• Calibrate thermostat per paragraph 5-7. • Check faulty thermostat per paragraph 5-10.
	• Check contactor for not opening.	• Check faulty contactor per paragraph 5-15.
Shortening will not heat (Gas Model)	• Pilot not lit.	• Light pilot per paragraph 2-11.
A. Pilot will not light	• Plugged pilot orifice, and/or pilot supply tube.	• Unplug pilot orifice and/or pilot supply tube.
	• Gas supply off.	• Turn ON gas supply.
	• Faulty gas control valve.	• Replace gas control valve.
	• Air in gas supply line.	• Bleed air from supply line.
B. Pilot will not stay lit	• Faulty thermocouple.	• Replace thermocouple per paragraph 5-17.
	• Pilot magnetic plug.	• Service per paragraph 5-18.
C. Burner will not light, pilot lit (Gas Model)	• Drain valve open.	• Close drain valve.
	• High limit control switch open.	• Press red high limit reset button per paragraph 5-12.
	• Faulty high limit control switch.	• With power removed from fryer, check across high limit switch terminals with ohmmeter. Replace if no reading is indicated on meter.
	• Possible faulty gas control valve.	• With power removed from fryer, check across electrical leads of gas control valve with ohmmeter, and gas valve in ON position. Ohm reading should be 350 ohms resistance. Replace the control valve if not within 10%.

PROBLEM	CAUSE	CORRECTION
	HEATING OF SHORTENING SECTION (continued)	
C. Burner will not light, pilot lit (Gas Model) (continued)	• Possible faulty thermostat.	• Check thermostat per paragraph 5-10. Replace thermostat if found to be faulty.
Heating of shortening too slow (Gas Model)	• Supply line too small - low gas volume.	• Increase supply line size. Refer to installation instructions.
	• Incorrect jet size.	• Replace with proper size jet for type of gas, and altitude (contact factory).
	• Improper ventilation system.	• Refer to paragraph 2-6, installation.
Shortening overheating (Gas Model)	• Possible faulty thermostat.	• Calibrate thermostat per paragraph 5-7. • Replace faulty thermostat.
	SHORTENING FOAMING/DRAINING	
Foaming or boiling over of shortening (Gas/Electric Models)	• Water in shortening.	• At end of frying cycle, drain shortening and clean frypot. Add fresh shortening, and check procedure for raising lid.
	• Condensation line stopped up.	• Remove and clean condensation line.
	• Improper or bad shortening.	• Use recommended shortening.
	• Improper filtering.	• Refer to the procedure covering filtering the shortening.
	• Improper rinsing after cleaning the fryer.	• Clean and neutralize the frypot. Rinse with vinegar to remove the alkaline then rinse with hot water, and dry frypot.

PROBLEM	CAUSE	CORRECTION
	SHORTENING FOAMING/DRAINING (continued)	
Shortening will not drain from frypot (All Models)	• Drain valve clogged with crumbs.	• Open valve - force cleaning brush through drain opening.
	• Drain valve will not open by turning handle.	• Replace cotter pins in valve coupling.
	MAIN TIMER SECTION	
Timer fails to run	• No power input.	• Check timer switch. • Check timer motor.
Buzzer continues to buzz	• Timer set at zero.	• Set timer indicator to a setting other than zero.
	• Faulty micro switch.	• Check and replace faulty micro switch per paragraph 5-20.
Buzzer will not buzz	• Possible faulty buzzer.	• Check buzzer per paragraph 5-20. Replace if faulty.
	• Timer indicator not returning to zero.	• Replace timer per paragraph 5-20.
Timer will not reset	• Faulty timer.	• Replace timer.
Timer light out	• Faulty lamp.	• Replace lamp per paragraph 5-20.
	LID SECTION	
Gasket coming out of lid liner	• Crumbs under gasket.	• Remove gasket and clean per paragraph 5-21. • Clean top rim of frypot. • Replace worn or damaged gasket per paragraph 5-21.
Lid spindle will not turn or turns hard with lid open	• Spindle dry.	• Lubricate spindle per paragraph 5-21.
	• Worn acme nut.	• Replace acme nut per paragraph 5-21.

PROBLEM	CAUSE	CORRECTION
	LID SECTION (continued)	
Lid will not unlatch from closed position	• Lid gasket not seated properly or idle nut not adjusted.	• To check the problem, perform the following procedures: 1. Remove pressure from frypot. 2. Turn main switch to off position. 3. Drain shortening from frypot. **CAUTION** The next procedure must be performed while holding the lid closed until the lid latch is free from the crossarm. Failure to hold down the lid will result in the lid springing back to a full open position. Damage to the hinge may result. 4. Remove Tru-Arc ring. Drive latch pin out. Lid will open. 5. Raise lid slowly. 6. Reinstall latch. 7. Adjust idle nut, per paragraph 5-21, step 6. 8. Lid gasket should be properly seated in lid liner.

SECTION 5. MAINTENANCE

5-1. INTRODUCTION

This section provides procedures for the checkout and replacement of the various parts used within the fryer. Before replacing any parts, refer to Section 4, Troubleshooting. It will aid you in determining the cause of the malfunction.

5-2. ARRANGEMENT

This section is arranged in groupings of the components that work together within the fryer. The general groups are listed below. Refer to the Table of Contents in the front of this manual if more details are needed.

- Removing the Control Panel
- Temperature Regulation
- Electrical Components
- Timing Control
- Pressure Regulation
- Filtering System
- Fryer Conversion Procedures

5-3. MAINTENANCE HINTS

1. You may use two test instruments to check the electric components.

   - A continuity light.
   - An ohmmeter.

2. When the manual refers to the circuit being closed, the continuity light will be illuminated or the ohmmeter should read zero unless otherwise noted.

3. When the manual refers to the circuit being open, the continuity light will not illuminate or the ohmmeter will read 1 (one).

NOTE

A continuity tester cannot be used to check coils or motors.

5-4. PREVENTIVE MAINTENANCE SCHEDULE

To ensure a long life of the fryers and their components, regular maintenance should be performed. Refer to the chart below.

Frequency	Action
Daily (3-4 loads)	Filter shortening
Daily	Clean dead weight valve cap, weight, and orifice.
30 Days	Check thermostat calibration
30 Days	Lubricate spindle threads and ball seat
90 Days	Reverse lid gasket
90 Days	Check limit stop adjustment

5-5. REMOVING THE CONTROL PANEL

Removal

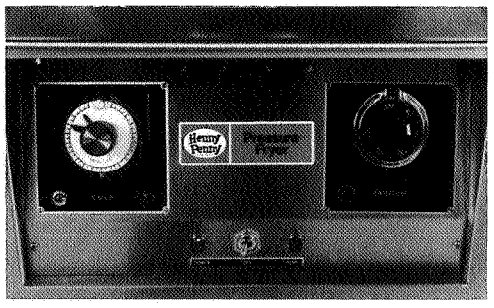
To replace parts inside the fryer you will often need to remove the control panel. The following steps provide the correct procedure:

1. Place the main power switch to the OFF position. (This switch is labeled POWER/OFF/PUMP.)

WARNING

Remove all the electrical power supplied to the fryer by unplugging the power cord or by opening the wall circuit breaker, or electrical shock could result.

2. Remove the two screws from the bottom of the control panel.

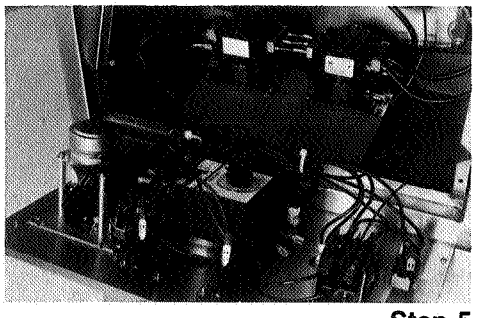


Step 3

NOTE

If the control panel has a dual indicating thermostat, there are two additional screws located at the upper left and right hand corners of the panel.

3. Carefully slide the control panel upward until it lifts off the metal hangers.



Step 5

4. With the fryer door closed, place the lower edge of the control panel in the slot between the door and the frame of the fryer.

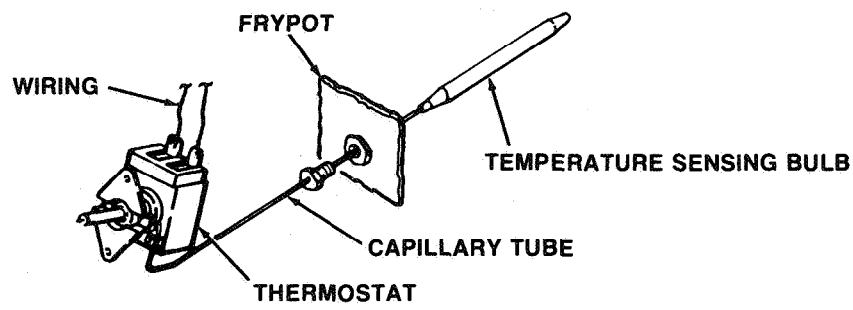
Installation

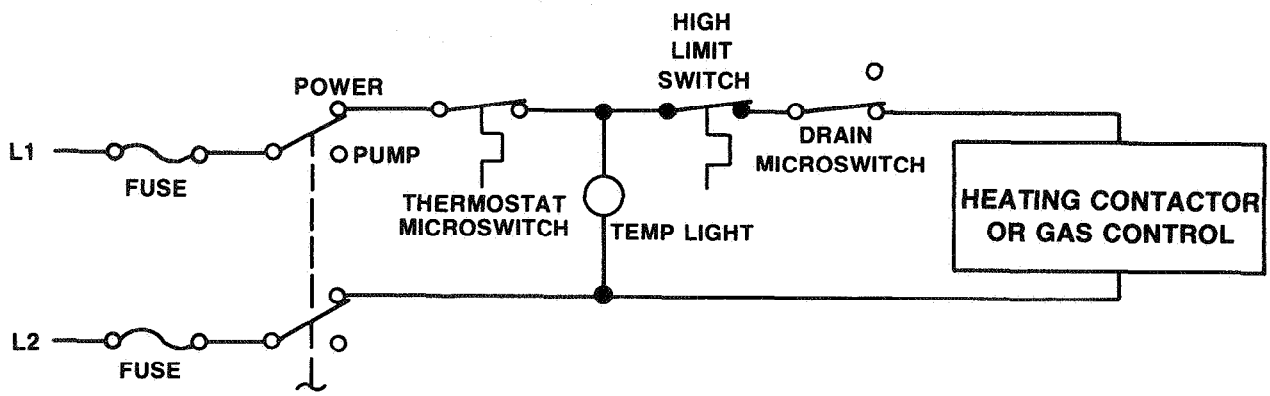
1. To install the control panel, hook it on the metal hangers that hold the top of the panel in place.
2. Install the two screws in the bottom of the panel.
3. Reconnect power to the fryer.

5-6. TEMPERATURE REGULATION (SINGLE STAGE)

Description

The cooking temperature is controlled by the front panel thermostat and monitored by its sensing bulb mounted just inside the frypot. Various thermostats are available, but all work on the same principle.





NOTE: THIS IS A TYPICAL CONTROL CIRCUIT. REFER TO WIRING DIAGRAMS FOR THE ACTUAL WIRING OF YOUR UNIT.

5-6. TEMPERATURE REGULATION (SINGLE STAGE) (continued)

Internal Operation

The thermostat bulb is connected to the thermostat by a thin capillary tube. When the temperature rises, the fluid inside the bulb expands (as in a thermometer) and pushes fluid through the tube into the control panel thermostat. When the frypot temperature is lower than the thermostat setting, the TEMP light is illuminated and frypot is being heated. When the temperature setting is reached, a switch inside the thermostat opens the circuit to the heat source and turns off the TEMP light. When the frypot starts to cool, the switch closes the circuit to the heat source.

Drain Microswitch

This interlock provides protection for the frypot in the event an operator inadvertently drains the shortening with the switch in the power position. The heat will automatically shut off when the drain valve is opened.

High Limit Control

The high limit control is mounted and connected in different places on different fryer models. However, in all models it provides the safety feature of interrupting the heat if the temperature ever exceeds the safe operating limits. On electric models it must be manually reset when the frypot cools. Refer to paragraph 5-12 or 5-13 for maintenance of the high limit switch.

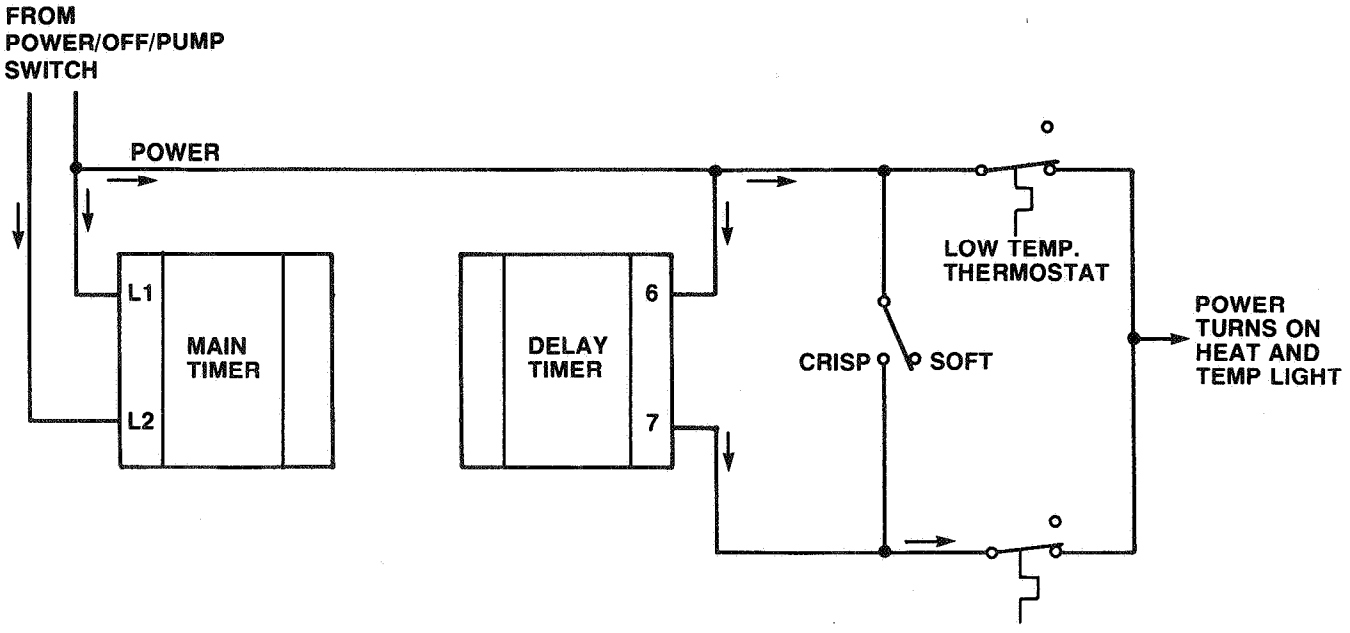
5-7. TEMPERATURE REGULATION (TWO STAGE) (OPTIONAL)

Description

The difference between two stage and single stage regulation is the addition of a dual thermostat, a delay timer, and a SOFT/CRISP select switch.

In the CRISP mode, the fryer operates as a standard single stage fryer, using only the high temperature thermostat.

In the SOFT mode, the delay timer automatically switches the cooking temperature to the lower thermostat setting at a preset time. This provides consistent control in cooking and relieves the operator from constant switching of temperature settings.



NOTE: THIS IS A TYPICAL CONTROL CIRCUIT. REFER TO WIRING DIAGRAMS FOR THE ACTUAL WIRING FOR YOUR UNIT.

5-7. TEMPERATURE REGULATION (TWO STAGE) (continued)

Internal Operation

As shown in the schematic above, power to the TEMPERATURE light and to the frypot heaters (or gas burner) can be controlled by either the low temperature (temp) thermostat or by the high temp thermostat. Because the thermostat outputs are wired together, either one can supply power.

In the CRISP mode, the SOFT/CRISP switch is closed which bypasses the delay timer and routes power to the high temp thermostat. In this case power will be supplied to continue heating the frypot until the high temp thermostat is satisfied, and opens.

In the SOFT mode, the SOFT/CRISP switch performs no function. The main timer supplies power to pins 1 and 2 of the delay timer as soon as the main timer is turned on. During the "on" time of the delay timer, it closes the connection between pins 6 and 7, routing power to the high temp thermostat.

When the delay timer turns off, the internal connection between pins 6 and 7 opens, and removes power from the high temp thermostat. The low temp thermostat is open, so no additional heat will be supplied to the frypot until it drops below the setting on the low temp thermostat.

5-8. CALIBRATING THE STANDARD SINGLE STAGE THERMOSTAT

Whenever the thermostat fails to maintain the selected temperature within ±5°F of the thermostat setting, it should be calibrated.

Procedure

To calibrate the thermostat, it is necessary to perform step increases in the temperature of the shortening. Follow this procedure:

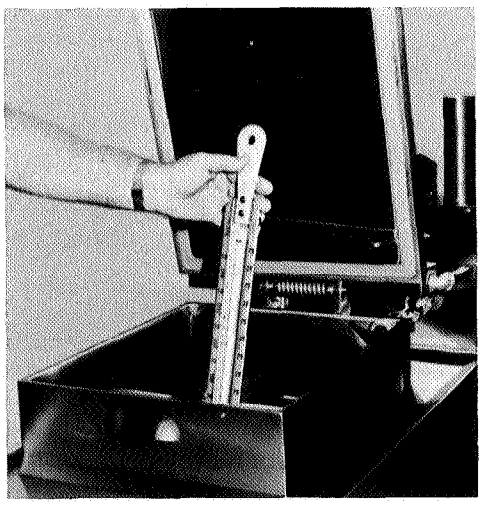
1. Place the main power switch in the POWER position. Be sure there is shortening in the frypot.

Check at 250°F

2. Set the thermostat knob to 250°F.

3. Allow enough time for the shortening to heat. When the shortening reaches the set temperature on the thermostat, the indicator light will go off. Usually, it will take no longer than 15 minutes for the shortening to heat to the set temperature.

5-8. CALIBRATING THE STANDARD SINGLE STAGE THERMOSTAT (continued)



Step 7

4. Remove the fry basket from the shortening.

5. Stir the shortening with the basket handle.

6. Measure the temperature of the shortening using an accurate, mercury tube type, deep fat thermometer capable of measuring temperatures in the 250°F to 400°F range. (Henny Penny part number 12106.)

7. Insert the thermometer near the center of the frypot to a depth of about 3 inches below the level of shortening.

8. Carefully stir the shortening with the thermometer.

9. Allow the mercury in the thermometer to rise to the temperature of the shortening. Hold the thermometer straight up and down.

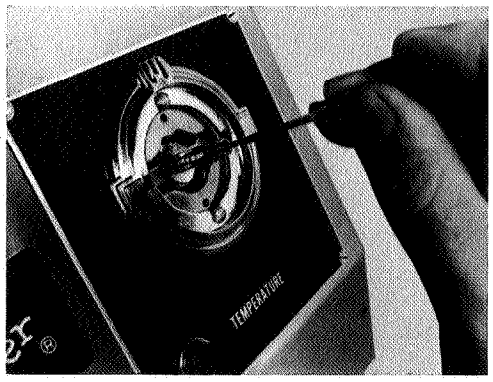
NOTE

The temperature reading is to be taken just as the TEMP indicator light goes off. This will give the correct temperature rather than an override temperature.

10. If the temperature is within 5°F of the temperature set on the thermostat, increase the thermostat setting approximately 25°F. Wait until the indicator light goes off, then again check the temperature of the shortening. If it is again within 5°F, the thermostat does not require calibration.

If the thermometer is accidentally broken, and mercury and pieces of broken glass fall into the shortening, discard the shortening and clean the frypot thoroughly. Mercury is highly poisonous.

5-8. CALIBRATING THE STANDARD SINGLE STAGE THERMOSTAT (continued)



Step 12

11. If the temperature indicated on the thermometer differs more than 5°F remove the thermostat knob by pulling it off its stem.

NOTE

Do not rotate the knob while removing it.

12. Turn the adjustment screw in the center of the hollow stem, using a small blade screwdriver. If the thermometer reading was higher than the setting, rotate the screw clockwise. If lower, counter-clockwise. For example:

setting:	250°F
reading:	275°F
adjustment:	¼ turn clockwise.

13. After adjusting the screw, install the knob and reset the thermostat to 250°F. Again, measure the temperature of the shortening with the deep fat thermometer. Wait a few moments for the shortening to reach the 250°F temperature setting, indicated on the thermometer. The indicator light should go off when the temperature reaches 250°F. Readjust screw if necessary.

14. Set the thermostat to 275°F.

15. Check the temperature of the shortening when the indicator light goes off.

16. If the temperature measured on the thermometer is not within 5°F of the thermostat setting, adjust for the correct temperature as in steps 12 and 13 of this procedure.

NOTE

Once the thermostat has been calibrated and set at the desired cooking temperature, do not use the thermostat to turn the fryer off. Use the ON-OFF switch.

5-9. CALIBRATING THE OPTIONAL TWO STAGE THERMOSTAT

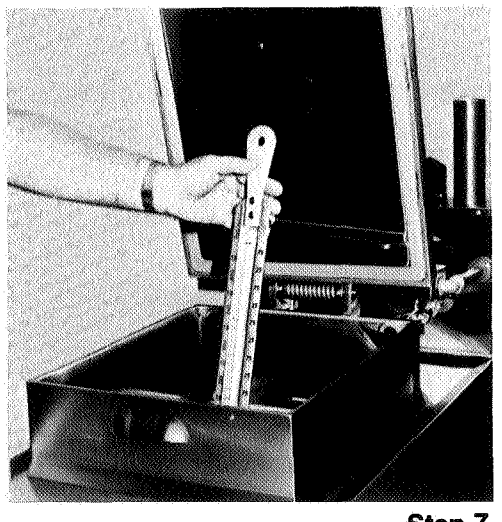
Procedure

Whenever the thermostat fails to maintain the selected temperature within ±5°F of the thermostat setting, it should be re-calibrated.

To calibrate the thermostat, it is necessary to perform step increases in the temperature of the shortening. Follow this procedure:

Check at 250°F

1. Place the SOFT/CRISP switch in the SOFT position and the main power switch in the POWER position. Be sure there is shortening in the frypot.
2. Set the thermostat knob to 250°F.
3. Allow enough time for the shortening to heat. When the shortening reaches the set temperature on the thermostat, the indicator light will go off. Usually, it will take no longer than 15 minutes for the shortening to heat to the set temperature.
4. Remove the fry basket from the shortening.
5. Stir the shortening with the basket handle.
6. Measure the temperature of the shortening using an accurate, mercury tube type, deep fat thermometer. It should be capable of measuring temperatures in the 250°F to 400°F range. (Henny Penny part number 12106.)
7. Insert the thermometer near the center of the frypot to a depth of about 3 inches below the level of shortening.
8. Carefully stir the shortening with the thermometer.
9. Allow the mercury in the thermometer to rise to the temperature of the shortening. Hold the thermometer straight up and down.

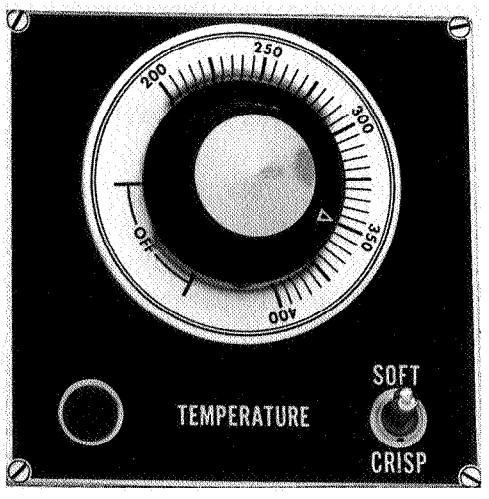


Step 7

NOTE

The temperature reading is to be taken just as the TEMP indicator light goes off. This will give the correct temperature rather than an override temperature.

5-9. CALIBRATING THE OPTIONAL TWO STAGE THERMOSTAT (continued)



Step 13

10. If the temperature is within 5°F of the temperature set on the thermostat, increase the thermostat setting approximately 25°F. Wait until the indicator light goes off, then again check the temperature of the shortening. If it is again within 5°F, the thermostat does not require calibration.

If the thermometer is accidentally broken, and mercury and pieces of broken glass fall into the shortening, discard the shortening and clean the frypot thoroughly. Mercury is highly poisonous.

11. If the temperature indicated on the thermometer differs more than 5°F remove the thermostat knob by pulling it off its stem.

NOTE

Do not rotate the knob while removing it.

12. Loosen the two screws holding the white calibration plate.

13. Replace the knob and turn the white calibration plate so that the indicator on the knob points to the temperature that was read on the thermometer when the temp light went off.

NOTE

Be careful not to turn the thermostat shaft when turning the white calibration plate.

14. Remove the knob and tighten the two screws on the white calibration plate.

15. Replace the knob.

16. Turn the main timer to maximum setting.

17. Move the timer switch to the ON position.

5-9. CALIBRATING THE OPTIONAL TWO STAGE THERMOSTAT (continued)

18. After the main timer has run for 2 minutes, turn the thermostat to the high setting used.

19. The fryer should now recover to the low setting.

NOTE

Once again, with a thermometer, check the temperature at which the heat light goes off.

20. If the low setting is too high or too low, remove the thermostat knob and place a small screwdriver in the hole at the 11 o'clock position on the white calibration plate. Each ½ turn equals 25 degrees. By turning the adjusting screw clockwise, the low setting is decreased. By turning the adjusting screw counterclockwise, the low setting is increased.

5-10. TESTING THE THERMOSTAT

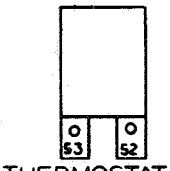
Procedure

If the thermostat fails to work properly and the calibration procedure does not correct the problem, perform the following checks before replacing the thermostat:

1. Remove electrical power supplied to the fryer.

   WARNING

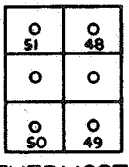
   Place POWER/OFF/PUMP switch to the OFF position, and unplug the power cord or open the wall circuit breaker, or electrical shock could result.
2. Remove the control panel.



THERMOSTAT
(PART NO. 18412)

3. With an ohmmeter or continuity light, check for continuity as follows.

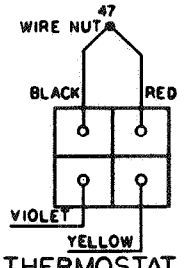
4. On a standard (single temperature) thermostat, check between terminals 52 and 53. Move the temperature knob from OFF to maximum.
   - At OFF, the circuit should be open.
   - At maximum, the circuit should be closed.



THERMOSTAT
(PART NO. 16751)

5. On the optional two stage thermostat, check between terminals 50 and 51. Move the temperature knob from OFF to maximum.
   - At OFF, the circuit should be open.
   - At maximum, the circuit should be closed.

   Next, check between terminals 48 and 49. The results should be the same as above.

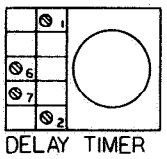


THERMOSTAT
(PART NO. 16632)

6. On the optional dual indicating thermostat, remove wire nut from terminal 47 and then check between terminal 47 and terminal 6 on delay timer. Move the green colored pointer from zero to maximum.
   - At zero, the circuit should be open.
   - At maximum, the circuit should be closed.

   Next, check between terminal 47 and terminal 7 on the delay timer while moving the red colored pointer. The results should be the same. Reconnect wire nut.

5-10. TESTING THE THERMOSTAT (continued)



DELAY TIMER

7. On the optional delay timer, note timer setting before moving dial, then check between terminals 1 and 2. The ohm reading should be:
   120V Delay Timer 465
   208V Delay Timer 1855
   240V Delay Timer 1877
   Then set timer at 1 minute and check between terminals 6 and 7. The circuit should be closed.

   Next, set timer at zero and check between terminals 6 and 7. The circuit should be open. Reset dial to proper time setting.

5-11. THERMOSTAT REPLACEMENT (ALL MODELS)

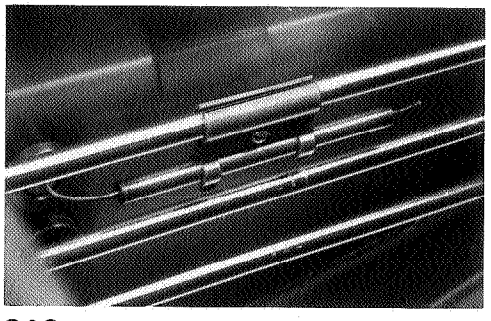
1. Remove electrical power supplied to the fryer.

WARNING

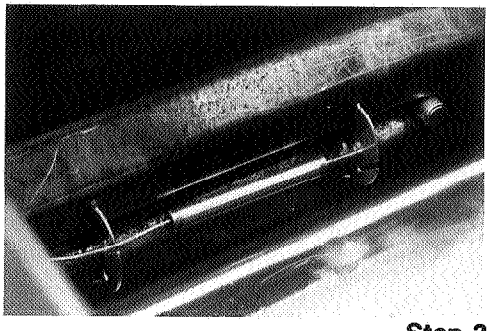
Place POWER/OFF/PUMP switch to the OFF position, and unplug the power cord or open the wall circuit breaker, or electrical shock could result.

2. Drain the shortening from the frypot.

ELECTRIC



GAS



Step 3

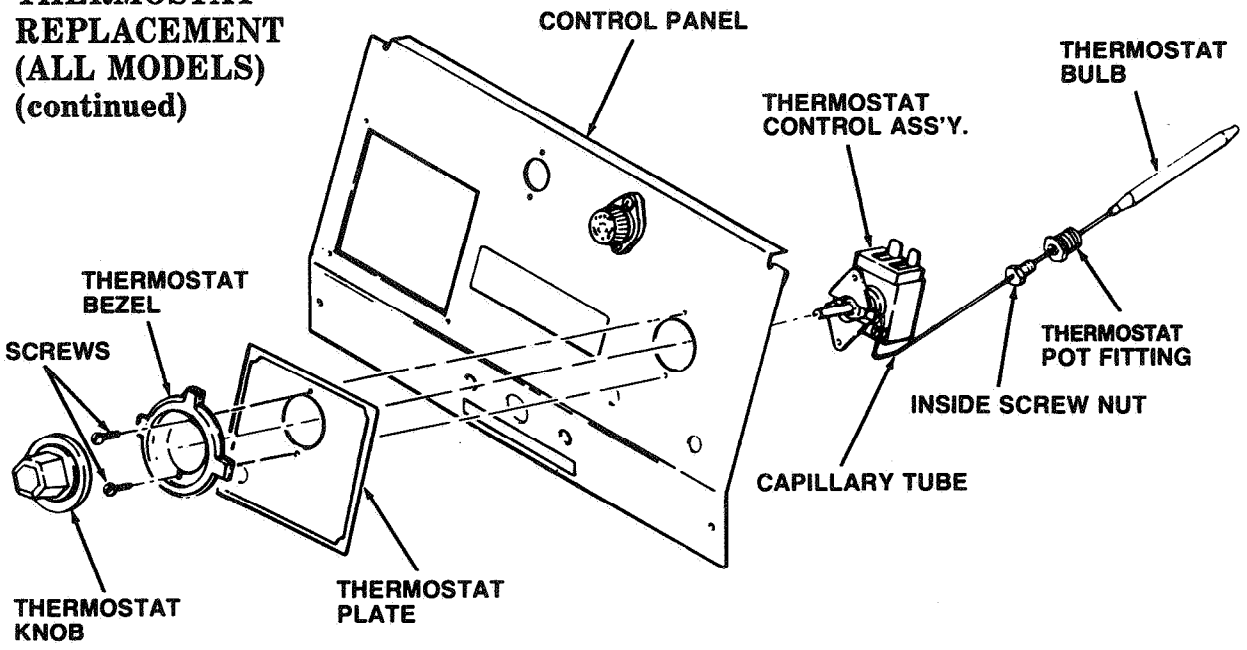
3. Remove the thermostat sensing bulb from the bulb holder inside the frypot.

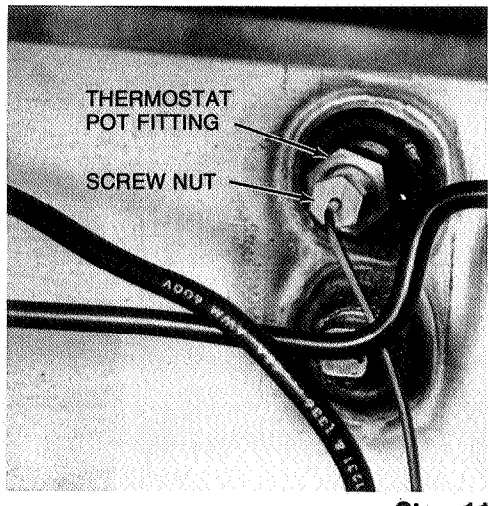
4. Place your thumb at the bend in the capillary tube, where it comes into the frypot, and straighten the bulb. The bulb should be extending out into the frypot.

5. Remove the two screws which secure the control panel to the frame of the fryer.

6. Lift the panel up and off the metal flanges.

5-11. THERMOSTAT REPLACEMENT (ALL MODELS) (continued)





Step 11

7. With the door of the fryer closed, put the bottom edge of the control panel in the slot between the door and the frame of the fryer.
8. Locate the thermostat on the back of the panel.
9. Remove the thermostat knob on the front of the control panel.
10. Remove the two screws which secure the thermostat to the back of the panel. Remove the thermostat bezel.
11. Remove the small inside screw nut which holds the capillary line.
12. Remove the thermostat pot fitting.
13. Label the wire connections to the thermostat for correct identification when the new thermostat is installed.
14. Disconnect the wires.
15. Remove the defective thermostat.
16. Install the new thermostat.

5-11. THERMOSTAT REPLACEMENT (ALL MODELS) (continued)

17. Connect the wires to the new thermostat.

CAUTION

Be careful not to cross the wires or thermostat will not operate properly.

18. Uncoil the capillary tube.

19. Insert the bulb through the wall of the frypot.

WARNING

To avoid electrical shock or other injury the capillary line must run under and away from all electrical power wires. The tube must never be in contact with the electrical power wires or terminals; electric shock could result.

20. Install the thermostat pot fitting into the wall of the frypot and tighten.

21. Replace the thermostat sensing bulb into the mounting bracket.

CAUTION

Do not bend the capillary tube where it connects to the sensing bulb, or damage to capillary will result.

22. ELECTRIC only: slip the bulb holder in place. With bulb in place, tighten the clamp screw.

23. Pull the excess capillary tube from the inside of the frypot.

24. Insert and tighten the inside screw nut into the thermostat pot fitting.

25. Install the two screws on the front of the control panel which secure the thermostat to the back of the panel. Install the thermostat bezel.

26. Install the thermostat knob.

27. Install the control panel over the metal flanges which hold the top of the panel in place.

5-11. THERMOSTAT REPLACEMENT (ALL MODELS) (continued)

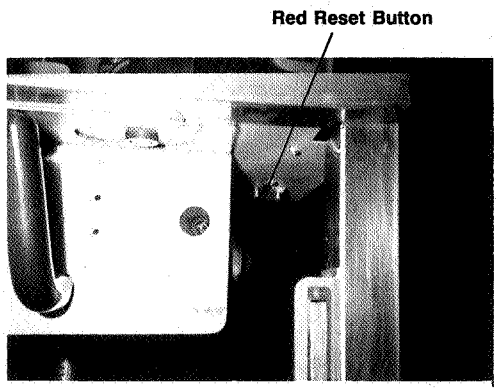
28. Secure the bottom of the control panel with the two screws.

29. Reconnect power to the fryer.

30. Calibrate the thermostat per paragraph 5-7, 5-8, or 5-9.

5-12. HIGH TEMPERATURE LIMIT CONTROL (ELECTRIC AND GAS MODELS)

Description



This high temperature control is a manual reset control which senses the temperature of the shortening. If the shortening temperature exceeds the safe operating limit, this control switch will open and shut off the heat to the frypot. When the temperature of the shortening drops to the safe operating limit, the control must manually be reset.

To locate the high limit reset button, open the door to the drain pan. Look up under the controls and to the right of the filter handle for a red reset button. (On the left for single phase units.)

Checkout

Before replacing a high temperature limit control, check to see that its circuit is closed.

NOTE

The shortening temperature must be below 380°F to accurately perform this check.

1. Remove electrical power supplied to the fryer.

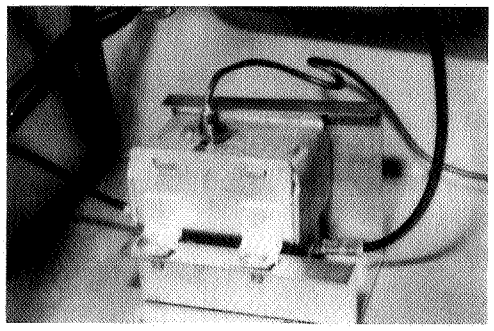
WARNING

Place POWER/OFF/PUMP switch to the OFF position, and unplug the power cord or open the wall circuit breaker, or electrical shock could result.

2. Remove the control panel and insert it in the slot above the door. Refer to paragraph 5-4.

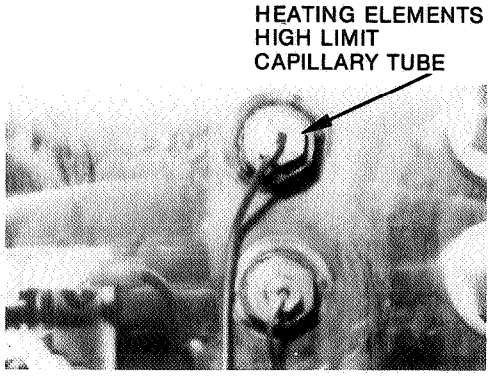
5-12. HIGH TEMPERATURE LIMIT CONTROL (ELECTRIC MODELS) (continued)

Checkout (continued)

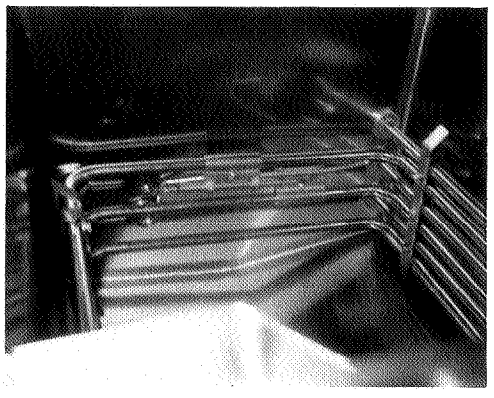


Step 3

Replacement



Step 1



3. Remove the two electrical wires from the high temperature limit control.
4. Check for continuity between the two terminals after resetting the control. If the circuit is open, replace the control, then continue with this procedure. (If the circuit is closed, the high limit is not defective. Reconnect the two electrical wires.)

WARNING

Before following these steps, place POWER/OFF/PUMP switch to the OFF position, and unplug the power cord or open the wall circuit breaker, or electrical shock could result.

1. If the tube is broken or cracked, the control will open, shutting off electrical power. The control cannot be reset.
2. Drain shortening from the frypot.
3. Remove control panel.
4. Loosen small inside screw nut on capillary tube.
5. Remove capillary bulb from bulb holder inside the frypot.
6. Straighten the capillary tube.
7. Remove larger outside nut that threads into pot wall.
8. Remove the two screws the secure the high limit to the high limit bracket.
9. Remove defective control from control panel area.
10. Insert new control and replace screws.
11. Uncoil capillary line, starting at capillary tube, and insert through frypot wall.

WARNING

To avoid electrical shock or other injury, the capillary line must run under and away from all electircal power wires and terminals. The tube must never be in such a position where it could accidentally touch the electrical power terminals.

12. Carefully bend the capillary bulb and tube toward bulb holder on heating elements.
13. Slip capillary bulb into bulb holder located on heating elements. Pull excess capillary line from pot and tighten nut into frypot wall.

5-12. HIGH TEMPERATURE LIMIT CONTROL (ELECTRIC AND GAS MODELS) (continued)

CAUTION

Be sure capillary bulb of high limit is located behind capillary bulb of thermostat. Both capillary bulbs and bulb holders should be positioned as not to interfere with basket or when cleaning the frypot wall, or damage to capillary tube could result.

14. With excess capillary line pulled out, tighten smaller nut.

15. Replace front panel.

16. Refill with shortening.

5-14. HEATING ELEMENTS (ELECTRIC MODELS)

Description

Each electric fryer uses three heating element assemblies.

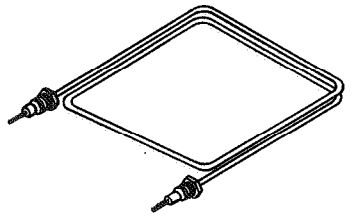
NOTE

Heating elements are available for 208, 220/240, or 440/480 voltage. Check the data plate inside the door to determine the correct voltage.

Maintenance Hint

If the shortening's temperature recovery is very slow, or at a slower rate than required, this may indicate defective heating element(s). An ohmmeter will quickly indicate if the elements are shorted or open.

Checkout



1. Remove electrical power supplied to the fryer.

WARNING

Place POWER/OFF/PUMP switch to the OFF position, and unplug the power cord or open the wall circuit breaker, or electrical shock could result.

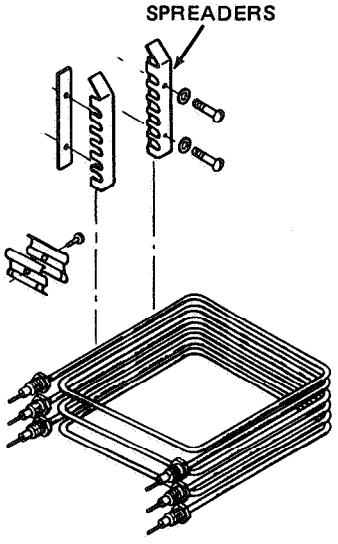
2. Remove the control panel and insert it in the slot above the door. Refer to paragraph 5-4.

3. Perform an ohm check on one heating element at a time, with wires disconnected from element. If the resistance is not within tolerance, replace the element.

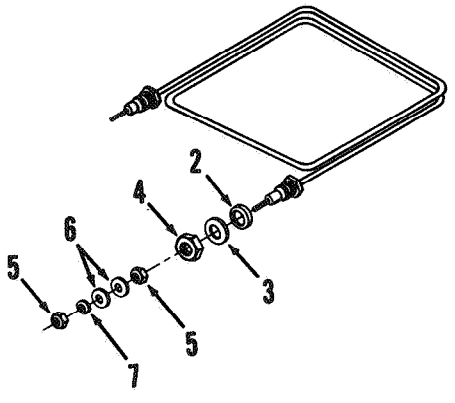
HEATER P/N	POWER	VOLTAGE	RESISTANCE IN OHMS (COLD)
18233-1	4500W	208VAC	9±1
18233-2	4500W	230VAC	11±1.5
18233-4	3750W	208VAC	11±1.5
18233-5	3750W	220VAC	12±2
18233-6	3750W	480VAC	60±5
18233-7	4500W	480VAC	50±4
18233-8	4500W	380VAC	32±3.5

5-14. HEATING ELEMENTS (ELECTRIC MODELS) (continued)

Replacement



(Reference Figure 6-22)



1. Drain the shortening.
2. Remove the thermostat bulb holder from the heating element inside the frypot.
3. Remove the heating element wires from the terminals by removing nuts (5) and washers (6 and 7). Label each so it can be replaced in the same position on the new element.
4. Loosen the bolts on the four element spreaders.
5. Slide the element spreaders to the center of the heating element.
6. Remove the brass nuts (4) and washers (3), which secure the ends of the elements through the frypot wall.
7. Remove the heating elements from the frypot as a group by lifting the far end and sliding them up and out toward the rear of the frypot.

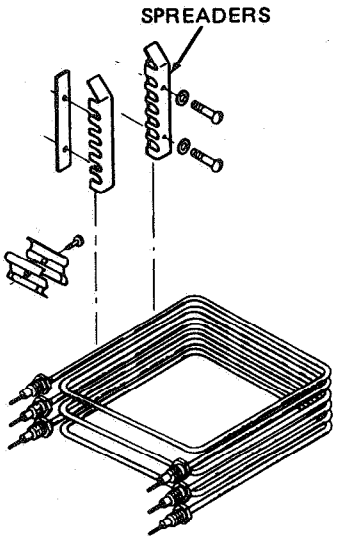
NOTE

Always install new rubber O rings (2) when installing heater elements.

8. Install new heating elements with new rubber O rings (2) mounted on terminal ends, and spreaders loosely mounted in the center of the stacked elements.
9. Replace the heating elements, terminal end first at approximately 45° angle, slipping the terminal ends through the front wall of the frypot.

5-14. HEATING ELEMENTS (ELECTRIC MODELS) (continued)

(Reference Figure 6-22)



10. Replace the brass nuts (4) and washers (3) on the heating element terminals. Tighten the brass nuts to 30 foot lbs of torque.

11. Move the element spreaders from the center of the element, into a position which will spread each element apart evenly on all four sides, and tighten.

12. Replace the thermostat bulb holder on the top element, and position the bulb between the top and second element midway from side to side, and tighten screw which holds the bulb in place.

13. Reconnect the wires to the appropriate terminal as labeled when they were removed.

14. Replace the front control panel.

15. Connect the power cord to the wall receptacle or close wall circuit breaker.

CAUTION

Heating elements should never be energized without shortening in the frypot, or damage to elements could result.

16. Check the heating elements as described in paragraph 2-18.

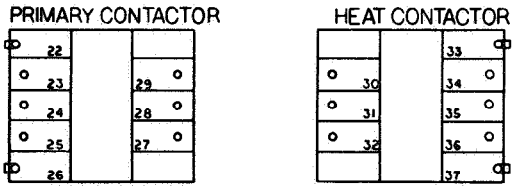
17. Replace the shortening in the frypot.

5-15. HEATING CONTACTORS (ELECTRIC MODELS)

Description

Each electric fryer requires two switching contactors. One is the primary contactor and the second in line is the heat contactor. When open, the primary contactor allows no power to flow to the heat contactor. When closed, the primary contactor completes the timer circuit and the high limit (heat) circuit. It also supplies power to the heat contactor which is controlled by the thermostat.

Checkout (power removed)



1. Remove electrical power supplied to the fryer.

WARNING

Place POWER/OFF/PUMP switch to the OFF position, and unplug the power cord or open the wall circuit breaker, or electrical shock could result.

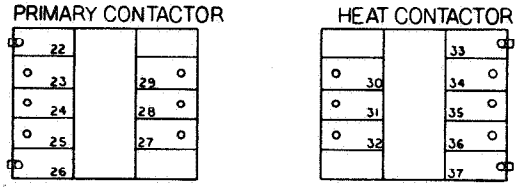
2. Remove the control panel and insert it in the slot above the door. Refer to paragraph 5-4.

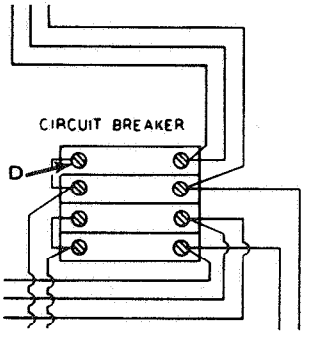
3. Perform a check on the contactor as follows:

Test Points	Results
from 23 to 29	open circuit
from 24 to 28	open circuit
from 25 to 27	open circuit
from 30 to 34	open circuit
from 31 to 35	open circuit
from 32 to 36	open circuit
from 22 to 26	ohm reading 415
from 33 to 37	ohm reading 415

5-15. HEATING CONTACTORS (ELECTRIC MODELS) (continued)

Checkout (power suppled)





WARNING

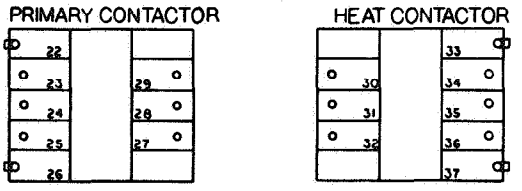
The following checks are performed with the wall circuit breaker closed and the main power switch in the ON position. Extreme caution should be taken. Make connections before applying power, take reading, and remove power before removing meter leads, or electrical shock could result.

1. With power re-applied, set the thermostat to its maximum temperature.

2. On fryers using single phase power, check voltage as follows:

Test Points	Results
from pin D on circuit breaker to: terminal 34 terminal 35 terminal 36 (If voltage is not present, check output of primary contactor at terminals 27, 28, and 29.)	The voltage should read the same at each terminal. It should correspond to the voltage rating stated on the data plate.

5-15. HEATING CONTACTORS (ELECTRIC MODELS) (continued)



3. On fryers using three phase power, check voltage as follows:

Test Points	Results
Heat contactor from terminal 34 to 35 from terminal 35 to 36 from terminal 34 to 36	The voltage should read the same at each terminal.
Primary contactor from terminal 27 to 28 from terminal 28 to 29 from terminal 27 to 29	It should correspond to the voltage rating stated on the data plate.

Replacement

If either contactor is defective it must be replaced as follows:

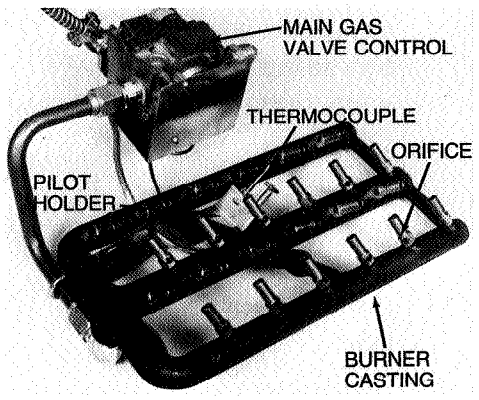
WARNING

Remove electrical power supplied to the fryer, by unplugging or opening the wall circuit breaker, or electrical shock could result.

1. Remove only those wires directly connected to the contactor being replaced. Label the wires.
2. Remove the two mounting screws on the base plate and remove contactor.
3. Install the new contactor and tighten the two mounting screws.
4. Connect the labeled wires to their respective positions.
5. Install the control panel per paragraph 5-4.
6. Reconnect power to the fryer and test the fryer for proper operation.

5-16. GAS BURNER ASSEMBLY (GAS MODELS)

Description



The Gas model fryer has a gas burner assembly consisting of a Burner Casting, Orifices, Thermocouple, Pilot Holder, and Main Gas Valve Control.

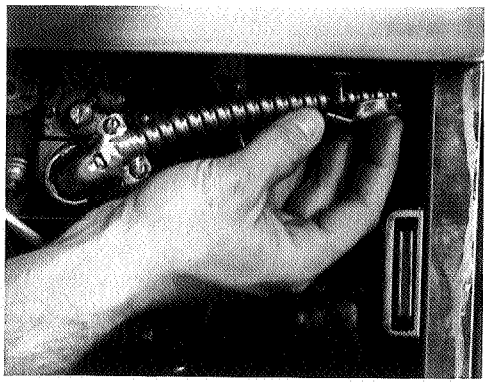
Safety Precautions

If converting from natural gas to propane gas or from propane gas to natural gas, conversion must be done by a qualified service technician.

To avoid personal injury or property damage, before starting this procedure, move the MAIN POWER switch to the OFF position. Disconnect the main circuit breakers at the circuit breaker box or unplug service cord from wall receptacle. Turn OFF the main gas supply to the fryer and disconnect and cap the main supply line to fryer, or possible explosion could result.

1. Remove the control panel per paragraph 5-4.
2. Label and remove the gas valve wires.
3. Place the control panel back in upright position, in the metal flanges.

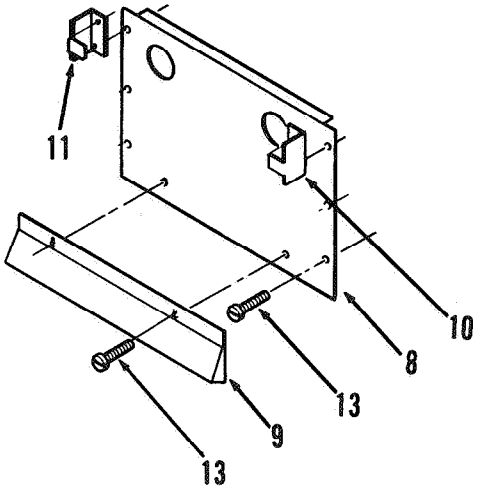
5-16. GAS BURNER ASSEMBLY (continued)



Step 4

4. Remove the flexible conduit from the 90° elbow on the metal heat shield.

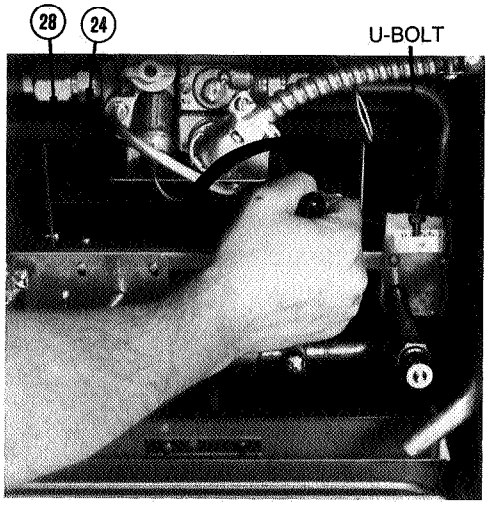
5. Disconnect gas supply line (28) from the connector (24) at control valve. (Refer to photo below.)



Steps 6 and 7

6. Loosen the two screws (13) on the Heat Shield Deflector (9), on the firebox and flue assembly and raise the deflector to its highest position.

7. Retighten screws (13) to hold the heat shield deflector in the high position.



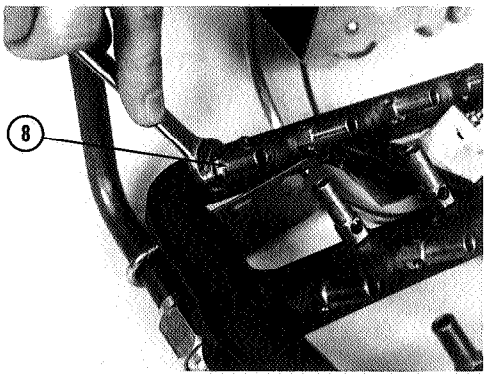
Steps 5, 8, and 9

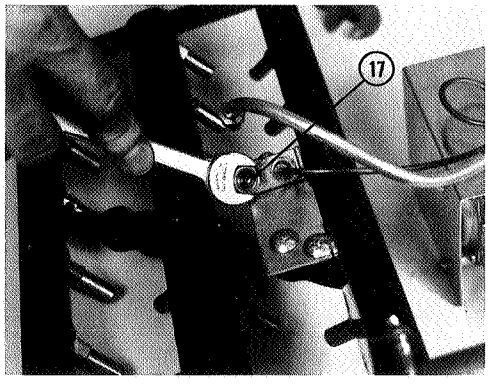
8. Turn the Filter Valve Rod to the OPEN position.

9. Remove U-Bolt from rinse hose bracket.

5-16. GAS BURNER ASSEMBLY (continued)

Step 10





Step 10c

10. Remove entire gas burner assembly, by lifting and pulling toward front of fryer.

    a. Replace thermocouple (19) as required, per paragraph 5-17.

    b. Repair or replace gas control valve (20) as required, per paragraph 5-18.

    c. Replace orifices (8 and 17) as required.

NOTE

There are 23 brass orifices and 1 stainless steel orifice. The stainless steel orifice is to be mounted adjacent to the pilot light.

11. Make other repairs or replacements as required.
12. Install entire gas burner assembly.
13. Install u-bolt to rinse hose bracket and gas line.
14. Turn the filter valve handle to the CLOSED position.
15. Loosen the two screws (23) which are holding the heat shield deflector in the high position, and lower it to the normal operating position.
16. Tighten the two screws on the heat shield.
17. Connect gas supply line (28) to the gas control valve connector (24).
18. Install the conduit and 90° elbow on the metal heat shield.

5-16. GAS BURNER ASSEMBLY (continued)

19. Remove control panel and install it in the slot above the door.
20. Connect the gas valve wires to the thermostat and high temperature limit control as labeled.
21. Install control panel per paragraph 5-4.
22. Uncap and reconnect the main gas supply line to the fryer. Turn on the main gas supply.

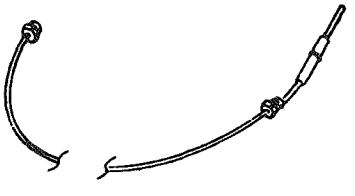
Check for leaks per paragraph 2-9. Leaking gas may cause an explosion.

23. Connect the service cord to the wall receptacle, or close circuit breakers.
24. Relight the gas pilot per the instructions in paragraph 2-11.

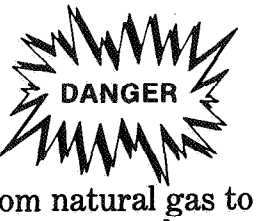
5-17. THERMOCOUPLE (GAS MODELS)

Description

The thermocouple controls the gas valve. It generates voltage in the millivolt. This voltage signals the gas control valve to remain open to the pilot and burner. When the voltage is not generated the gas valve will shut off, not allowing gas to the pilot and main burner.



Safety Precautions

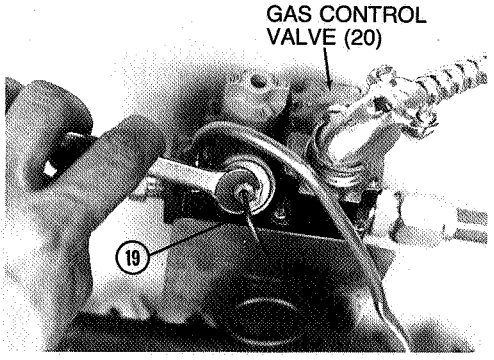


If converting from natural gas to propane gas or from propane gas to natural gas, conversion must be done by a qualified technician.

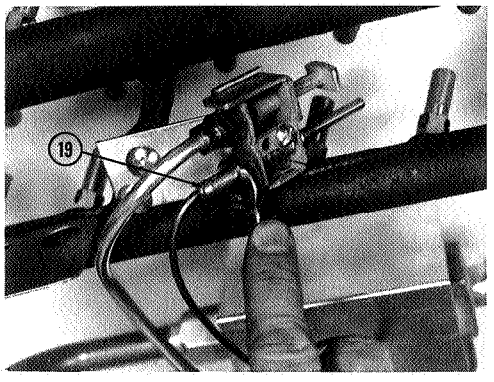
To avoid injury or property damage, before starting this procedure, move the MAIN POWER switch to the OFF position. Disconnect the main circuit breaker at the circuit breaker box or unplug the service cord at the wall receptacle. Turn off the main gas supply to the fryer and disconnect and cap the supply line to fryer, or possible explosion could result.

5-17. THERMOCOUPLE (GAS MODELS) (continued)

Replacement of Thermocouple

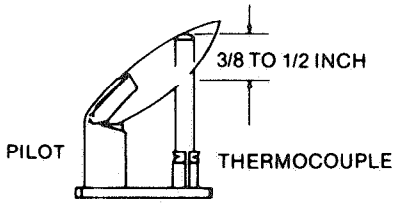


Step 1



Step 2

(Refer to figure 6-21)



Step 3

Removal of the THERMOCOUPLE is accomplished with the main gas supply shut off. The main burner may remain inside the fryer, but the work is more easily performed with the burner removed.

1. Remove the nut securing the thermocouple (19) in the gas control valve (20).

2. Remove the nut securing the thermocouple in the pilot holder.

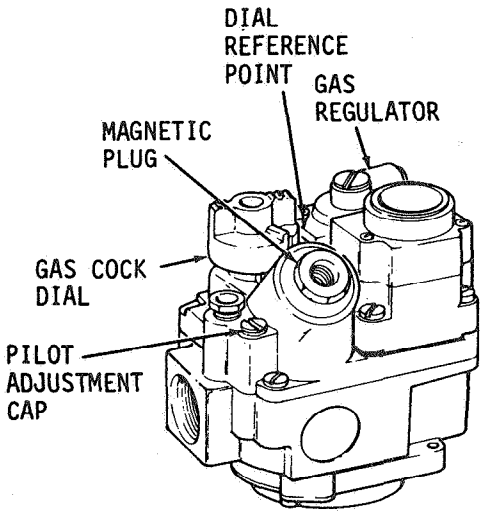
3. Install the new thermocouple, being careful not to create sharp bends in the tubing. When the pilot is lit, the flame must surround the top of the thermocouple.

4. Turn on the main gas supply and reconnect the electrical power.

5. Light the pilot per paragraph 2-11 and test the fryer for proper operation.

5-18. GAS CONTROL VALVE

Description



The gas control valve regulates the flow of gas to the pilot and the main burner. The valve consists of: gas regulator, magnetic plug, pilot gas tube, gas cock dial, pilot adjustment cap and screw, gas outlet and inlet ports, thermocouple connector, and electrical connection. The gas valve also has a dial reference point, - OFF/PILOT/ON.

The components of the gas valve can be serviced without removing the complete valve from the fryer.

Safety Precautions

If converting from natural gas to propane gas or from propane gas to natural gas, conversion must be done by a qualified technician.

To avoid injury or property damage, before starting this procedure, move the MAIN POWER switch to the OFF position. Disconnect the main circuit breaker at the circuit breaker box or unplug the service cord at the wall receptacle. Turn off the main gas supply to the fryer and disconnect and cap the supply line to fryer, or possible explosion could result.

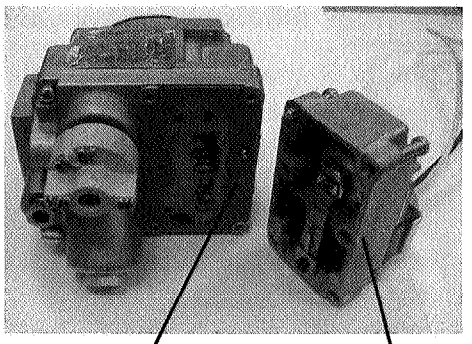
If the gas control valve must be replaced, remove per paragraph 5-16.

Operator Replacement

1. Depress the gas cock dial and turn to the OFF position.
2. Remove control panel per paragraph 5-4.
3. Label and remove the gas valve wires.

5-18. GAS CONTROL VALVE (continued)

Operator Replacement



Step 5

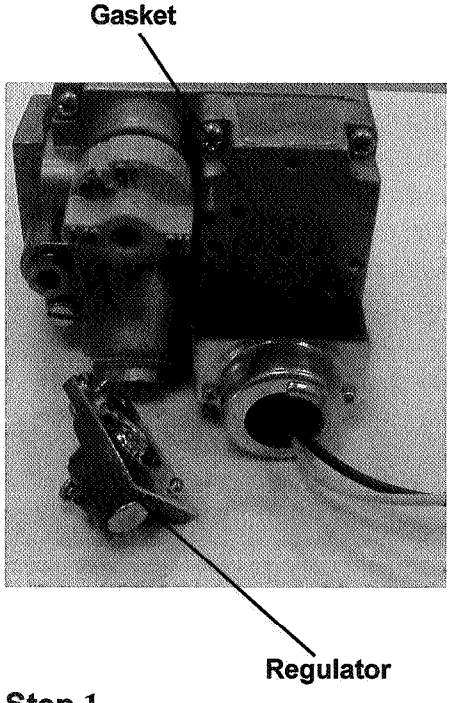
4. Remove the 90° connector and conduit from the old gas valve and install on the replacement gas valve.
5. Remove the four screws securing the operator and gasket.
6. Secure the new operator and gasket with the four screws provided.
7. Reconnect the gas valve wires.
8. Install the control panel per paragraph 5-4.

NOTE

Check Procedures

120 volt - 50/60 Hz - 235-ohms
208-240 volt - 50/60 Hz - 880-ohms
24 volt - 50/60 Hz - 7 ohms

Regulator Replacement

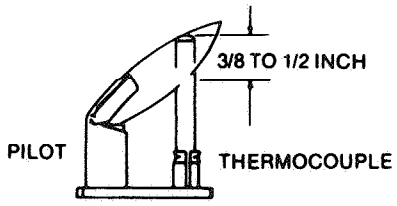


Step 1

1. Remove the two screws securing regulator to the operator.
2. Replace with the new gasket and regulator and secure with the two screws supplied.

5-18. GAS CONTROL VALVE (continued)

Adjusting Pilot Burner



NOTE

The following two procedures must be performed with the gas supply reconnected and turned on. The service cord must be plugged into the receptacle and the circuit breaker on.

1. The pilot burner is preset at the factory. It may require resetting at the time of installation.

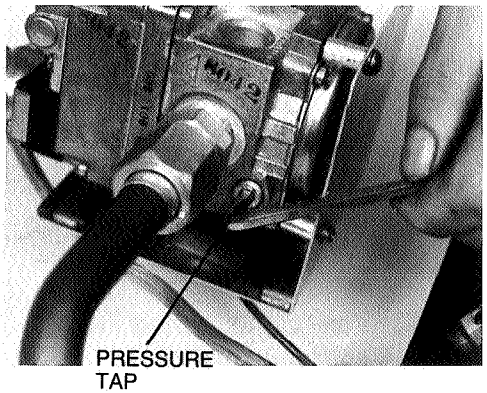
   a. Remove the pilot adjustment cap.

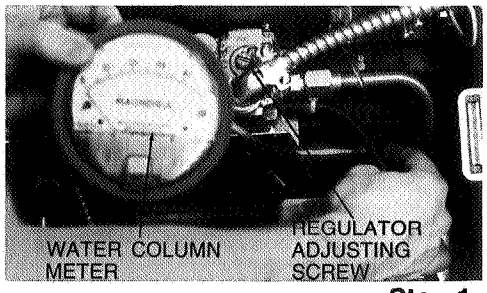
   b. Use a small flat screwdriver and rotate the adjustment screw counterclockwise to increase the size of the flame. Rotate clockwise the adjustment screw to decrease the size of the flame.

NOTE

The flame should be set high enough to surround the top of the thermocouple.

Adjusting Regulator





Step 1a

1. The pressure regulator is preset at the factory. It may require resetting at the time of installation.
   a. Turn gas cock dial to OFF position.
   b. Attach a manometer to the gas valve at the "Pressure Tap"
   c. Turn gas cock dial to "PILOT", light, and turn to ON.
   d. Remove the regulator adjustment screw cap.
   e. Rotate the adjustment screw counterclockwise to increase the column indicated on the manometer or rotate clockwise to lower the column indicated.
   f. Turn gas cock dial to OFF and remove manometer.
   g. Replace the regulator adjustment screw cap.
   h. Turn gas cock dial to PILOT and relight. Leak test with soap and water solution.

NOTE

Natural gas regulator is factory preset at 3½ inches water column.

Propane gas regulator is factory preset at 10.0 inches water column.

5-19. ELECTRICAL COMPONENTS

Adjusting Regulator (continued)

The following electrical components are described in this section.

1. Fan Assembly (Gas Models)
2. Drain Switch (Electric Models)
3. Drain Switch (Gas Models)
4. Main Power Switch (All Models)
5. Indicator Lights (All Models)
6. Fuse Holder (Electric Models)
7. Cord and Plug Check
8. Wall Receptacle (Voltage Check)

Safety Precautions

WARNING

DO NOT DISCONNECT THE GROUND PLUG. This fryer MUST be adequately and safely grounded, or possible electrical shock could result. Refer to local electrical codes for correct grounding procedures. Canadian models supplied with a terminal box, suitable for conduit connection.

NOTE

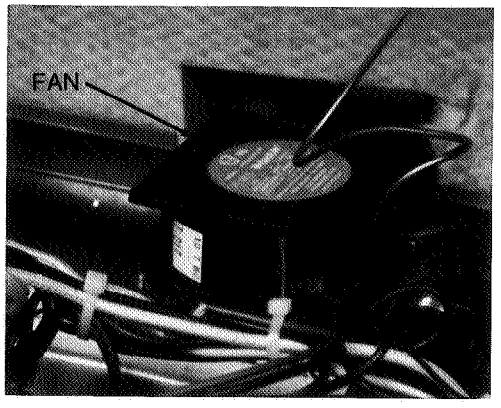
MOTOR BEARINGS. The electric motor bearings are permanently lubricated and do not require attention during the normal service life of this fryer.

Fan (Gas Models)

The gas model fryers have a fan in the circuit. This fan operates only with the MAIN POWER switch in the ON position. The fan helps keep the control panel cool by pulling out heat, from between the control panel and frypot.

5-19. ELECTRICAL COMPONENTS (continued)

Fan (Gas Models) (continued)



Step 2

The replacement of a faulty fan is accomplished using the following procedure:

WARNING

Before starting this procedure, move MAIN POWER switch to the OFF position. Disconnect main circuit breaker or unplug the service cord at the wall receptacle, or electrical shock could result.

1. Remove control panel per paragraph 5-4.
2. Label and disconnect fan motor wires.
3. Remove the four cap screws, washers and nuts securing the fan to the heat shield.
4. Remove the fan from the heat shield.
5. Install the new fan on the heat shield and secure with the four screws, washers, and nuts.
6. Reconnect the fan motor wires.
7. Install control panel per paragraph 5-4.

5-19. ELECTRICAL COMPONENTS (continued)

Drain Switch (Electric Models)

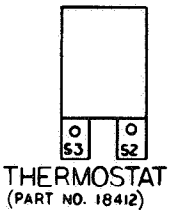
(See Electrical Schematic paragraph 5-27)

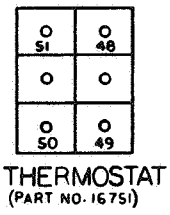
All model fryers have a drain micro-switch in line with the gas control valve or heat contactor and the thermostat. When the drain valve is opened to drain the shortening this causes the drain switch to open, shutting down the gas to the burners or shutting off electrical power to the heating elements.

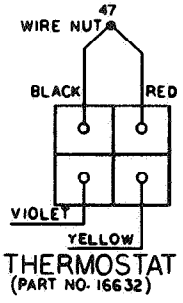
WARNING

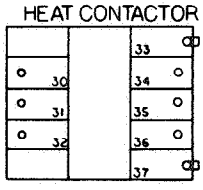
Before starting this procedure, move MAIN POWER switch to the OFF position. Disconnect main circuit breaker at the circuit breaker box and/or unplug service cord from wall receptacle, or electrical shock could result.

1. The following checks should be made to determine if the DRAIN SWITCH is defective. All checks should be made with the drain valve in the closed position.









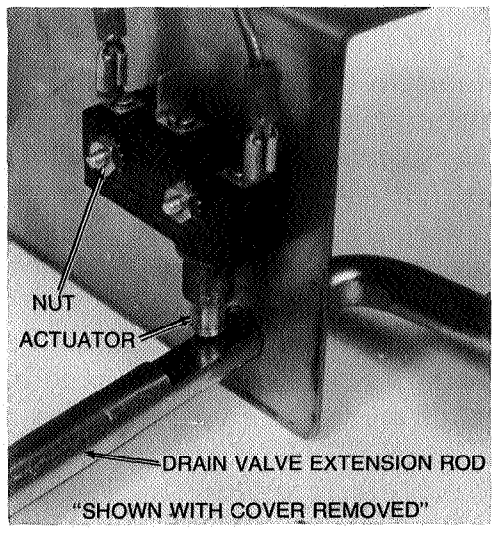
   a. Fryers with standard thermostat part number 18412, the continuity check shall be made between terminal 52 on the thermostat, and terminal 33 on the heat contactor. If the circuit is open, the DRAIN SWITCH is bad and needs to be replaced.

   b. Fryers with two stage thermostat part number 16751, the continuity check shall be made between terminal 48 on the thermostat, and terminal 33 on the heat contactor. If the circuit is open, the DRAIN SWITCH is bad and needs to be replaced.

   c. Fryers with dual indicating thermostats part number 16632, the continuity check shall be made between terminal 47 (remove wire nut) at the thermostat, and terminal 33 on the heat contactor. If the circuit is open, the DRAIN SWITCH is bad and needs to be replaced.

5-19. ELECTRICAL COMPONENTS (continued)

Drain Switch (Electric Models) (continued)



Step 2

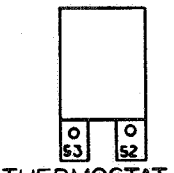
2. To replace the DRAIN SWITCH, remove the two screws and nuts securing switch and switch cover.
3. Label and disconnect wires.
4. Connect wires to new DRAIN SWITCH.
5. Position actuator and attach DRAIN SWITCH and switch cover with the two screws and nuts.
6. Test to see if drain valve extension rod actuates the switch.

NOTE

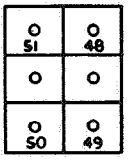
Listen for CLICK of switch while rotating drain valve extension rod.

5-19. ELECTRICAL COMPONENTS (continued)

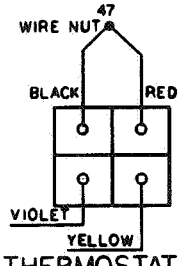
Drain Switch (Gas Models)



THERMOSTAT
(PART NO. 18412)



THERMOSTAT
(PART NO. 16751)



THERMOSTAT
(PART NO. 16632)

1. The following checks should be made to determine if the drain switch is defective. All checks should be made with the drain switch in the closed position and the power off.

   a. Fryers with standard thermostat part number 18412, the continuity check shall be made between terminal 52 on the thermostat, and wire nut between DRAIN SWITCH and gas control valve. If the circuit is open, the DRAIN SWITCH is bad and needs to be replaced.

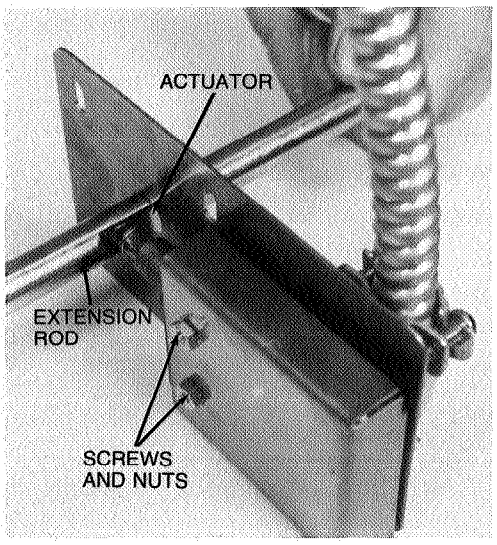
   b. Fryers with two stage thermostat part number 16751, the continuity check shall be made between terminal 48 on the thermostat, and wire nut between DRAIN SWITCH and gas control valve. If the circuit is open, the DRAIN SWITCH is bad and needs to be replaced.

   c. Fryers with dual indicating thermostat part number 16632, the continuity check shall be made between terminal 47 (remove wire nut), at the thermostat, and wire nut between DRAIN SWITCH and gas control valve.

2. If the circuit is open, the DRAIN SWITCH is bad and needs to be replaced.

5-19. ELECTRICAL COMPONENTS (continued)

Drain Switch (Gas Models) (continued)



Step 3

3. To replace the DRAIN SWITCH, remove the two screws and nuts securing the switch and switch cover.
4. Label and disconnect the wires.
5. Connect the wires to the new DRAIN SWITCH.
6. Position the actuator and attach the DRAIN SWITCH, and switch cover with the two screws and nuts.
7. Secure with the two screws and nuts.
8. Test to see if the drain valve extension rod actuates the switch.

NOTE

Listen for CLICK of switch while rotating drain valve extension rod.

5-19. ELECTRICAL COMPONENTS (continued)

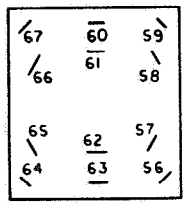
Main Power Switch (All Models)

The MAIN POWER switch is a three way switch with a center OFF position. With the switch in the POWER position the fryer will operate. With the switch in the PUMP position the filter pump will operate but the heating unit will not.

WARNING

Before starting this procedure, move MAIN POWER switch to the OFF position. Disconnect main circuit breaker at the circuit breaker box and/or unplug service cord from wall receptacle, or electrical shock could result.

Continuity Check Procedure



OFF POSITION:

Check from:	Result
#60 to #59 then #60 to #67	open circuit
#61 to #58 then #61 to #66	open circuit
#62 to #57 then #62 to #65	open circuit
#63 to #56 then #63 to #64	open circuit
#60 to #61	closed circuit
#62 to #63	closed circuit

POWER POSITION:

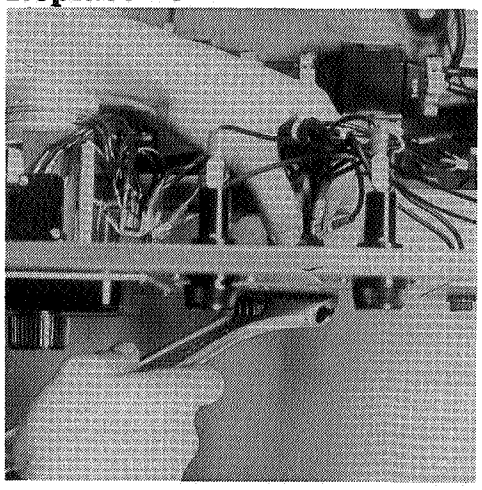
Check from:	Result
#60 to #59	closed circuit
#61 to #58	closed circuit
#62 to #57	closed circuit
#63 to #56	closed circuit

PUMP POSITION:

Check from:	Result
#60 to #67	closed circuit
#61 to #66	closed circuit
#62 to #65	closed circuit
#63 to #64	closed circuit

5-19. ELECTRICAL COMPONENTS (continued)

Replacement



Step 3

1. Remove control panel per paragraph 5-4.
2. Label wires at the main power switch and disconnect wires at switch.
3. Remove faulty switch and install new switch.
4. Reconnect wires to switch in same position as noted on labels.
5. Replace control panel per paragraph 5-4.

Indicator Lights (All Models)

The indicator lights for HEAT-PUMP-POWER, are identical assemblies consisting of a neon light and mounting clip, and are replaced as assemblies.

WARNING

Before starting this procedure, move MAIN POWER switch to the OFF position. Disconnect main circuit breaker at the circuit breaker box and/or unplug service cord from wall receptacle, or electrical shock could result.

1. Remove the control panel per paragraph 5-4.
2. Disconnect indicator light wires from the individual power source.
3. Squeeze the retaining clip while removing the indicator light and discard the light.
4. Install the new indicator light.
5. Connect the wires from the new indicator light.
6. Replace the control panel per paragraph 5-4.

5-19. ELECTRICAL COMPONENTS (continued)

Fuse Holder(s) (Electric Models)

There are two fuse holders on each model of the electric fryers. There are no fuse holder assemblies for the gas models other than that at the main power source.

WARNING

Before starting this procedure, move MAIN POWER switch to the OFF position. Disconnect MAIN CIRCUIT BREAKER at the circuit breaker box and/or unplug service cord at the wall receptacle, or electrical shock could result.

Checking Procedure for Fuses

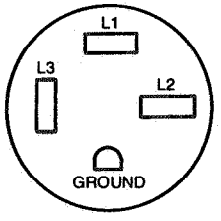
CONTROL PANEL FUSES 3 Phase

Check from #54 to #55 and #68 to #69 on fuse assembly. The circuit should be closed. If not, replace the fuse (HP EF02-007).

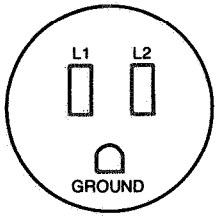
Cord and Plug Check

Perform a check on the cord and plug as follows. Test from each plug prong to the corresponding wire lead on the other end of the cord at junction box. The result should be a closed circuit on each line tested.

Wall Receptacle (Voltage Check)



Electric Fryer



Gas Fryer

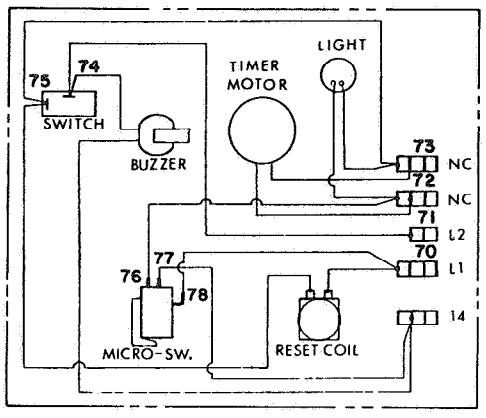
Check the voltage across the following lines: L1-L2; L2-L3, L1-L3.

The voltage should read the same for each line test. It should correspond to the voltage shown on the data plate.

Check the voltage across line L1 and L2.

The voltage should correspond to the voltage shown on the data plate.

5-20. TIMING CONTROL



The TIMER CONTROL consists of a microswitch, indicator light, buzzer, reset timer and timer motor.

WARNING

Before starting this procedure, move MAIN POWER switch to the OFF position. Disconnect main circuit breaker at circuit breaker box and/or unplug service cord at the wall receptacle, or electrical shock could result.

Checking Procedure

ON/OFF SWITCH	RESULT
Switch in OFF position	
Check from #74 to #75	open circuit
Switch in ON Position	
Check from #74 to #75	closed circuit

BUZZER COIL
Switch in OFF Position
Check from #14 to #74
120 volt 50/60 Hz .....1550 ohms
208-240 volt 50/60 Hz.....5880 ohms

MICROSWITCH	
Timer set at 10 Min.	
Check from #70 to #72	closed circuit
Check from #70 to #14	open circuit
Timer set at 0 Min.	
Check from #70 to #72	open circuit
Check from #70 to #14	closed circuit

MOTOR
Check from #72 to #73
120 volt 50/60 Hz .....290 ohms
208-240 volt 50/60 Hz.....3990 ohms

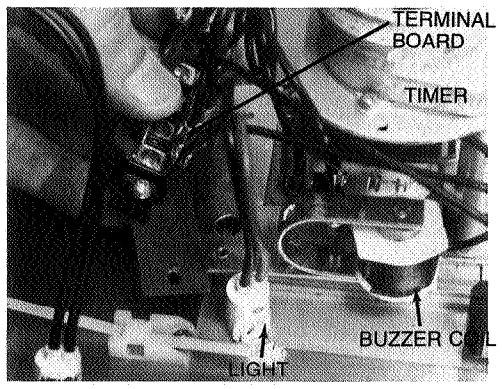
RESET COIL
Check from #70 to #75
120 volt 50/60 Hz .....280 ohms
208-240 volt 50/60 Hz.....3950 ohms

5-20. TIMING CONTROL (continued)

Replacement

1. Remove the control panel per paragraph 5-4.
2. Label the wires and remove them from the TIMER.
3. Remove the four screws securing the TIMER to the CONTROL PANEL.

Timer Light

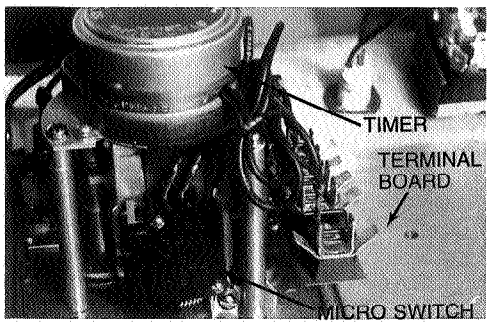


NOTE

Replacement of the TIMER may not be necessary if the lamp is burned out, or if the buzzer coil is burned open, or if the on-off switch is bad. Also timer motor & timer microswitch can be replaced separately.

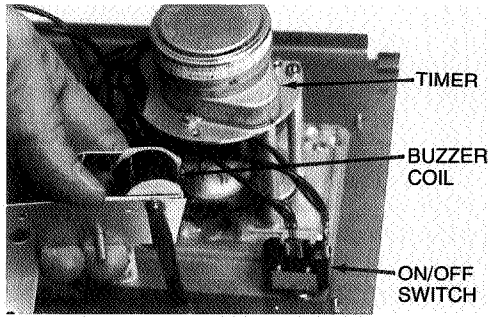
1. Disconnect light wires from terminal board.
2. Remove and discard the bad light assembly.
3. Install new light assembly allowing the retainers to snap into place.

Timer Switch



1. Connect light leads to terminal board of TIMER.
2. Remove switch nuts and remove switch from panel.
3. Disconnect switch wires from terminal board.
4. Install new switch on panel and secure with switch nut.
5. Connect switch wires to the terminal board of the TIMER.

Buzzer Coil



1. Remove buzzer and coil from TIMER.
2. Disconnect buzzer coil wires from terminal board of TIMER.
3. Install new buzzer and coil to TIMER.
4. Connect coil wires to terminal board of TIMER.
5. Install new or repaired TIMER on control panel and secure with four screws.

5-20. TIMING CONTROL (continued)

6. Attach wires to the TIMER in accordance with the labels attached.

7. Install control panel per paragraph 5-4.

Delay Timer (Optional)

Some models of the fryer utilize the following OPTIONAL EQUIPMENT - DELAY TIMER, DUAL INDICATING THERMOSTAT, or TWO STAGE THERMOSTAT, and a SOFT/CRISP switch. To replace anyone of these items the following instructions are provided.

WARNING

Before starting this procedure, move MAIN POWER switch to the OFF position. Disconnect main circuit breaker at the circuit breaker box and/or unplug service cord at the wall receptacle, or electrical shock could result.

Check Procedure

See paragraph 5-10 step 7.

Replacement

1. Remove control panel per paragraph 5-4.

2. Label and disconnect each wire connected to the DELAY TIMER.

3. Remove the two screws and nuts securing the timer to the panel.

4. Remove the DELAY TIMER from the control panel, do not attempt repair.

5. Install the new DELAY TIMER on the rear of the control panel.

6. Secure the timer with the two screws and nuts.

7. Connect the labeled wires to the proper terminals of the new timer.

8. Install the control panel per paragraph 5-4.

5-20. TIMING CONTROL (continued)

9. Replacement of the DUAL INDICATING THERMOSTAT is covered in paragraph 5-11.

10. Replacement of the SOFT/CRISP toggle switch is the same as the replacement for main power switch in paragraph 5-19.

5-21. PRESSURE REGULATION/ EXHAUST

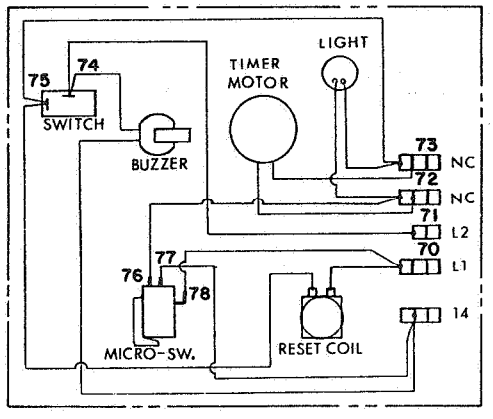
Solenoid Valve

This is an electro-mechanical device that causes pressure to be held in the frypot. The solenoid valve closes at the beginning of the frying cycle and is opened automatically by the timer at the end of the frying cycle. If this valve should become dirty or the teflon seat nicked, pressure will not build up. The solenoid valve used on all models is the same with the exception of the coil. The gas model fryer uses a 120 volt, 60 Hz, coil. The electric model fryer uses a 208/240 volt 60 Hz coil. The 440/480 volt electric model uses a transformer to drop voltage to 220/240 volts.

WARNING

Before starting repair procedures, move MAIN POWER switch to OFF position. Disconnect main circuit breaker at the circuit breaker box and/or unplug service cord from wall receptacle, or electrical shock could result.

Coil Check Procedure



1. Remove wires from terminals 73 and 72 and check across solenoid wires if without SOFT/CRISP switch.

	RESULT
120 volt 60 Hz	50 ohms
208-240 volt 60 Hz	150 ohms
208-240 volt 50 Hz	245 ohms

2. Remove wires from terminals 70 and 73 and check across solenoid wires with SOFT/CRISP switch in SOFT position.

	RESULT
120 volt 60 Hz	50 ohms
208-240 volt 60 Hz	150 ohms
208-240 volt 50 Hz	245 ohms.

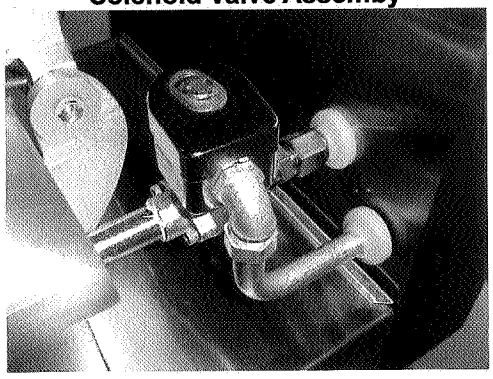
5-21. PRESSURE REGULATION (Continued)

Replacement:

1. Remove the "tru-arc" retaining clip on top of the coil housing.

2. Remove the nameplate and cover.

Solenoid Valve Assemby



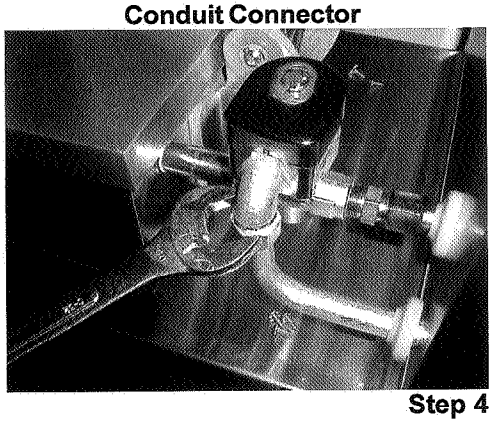
3. If only the coil is replaced, disconnect the two coil wires at the wire nuts in the coil housing, and remove the coil from the housing. Then replace the nameplate, cover, and "tru-arc" clip.

   If the complete solenoid, or seals are being replace, continue on to step 4.

NOTE

The wires may be connected in any order.

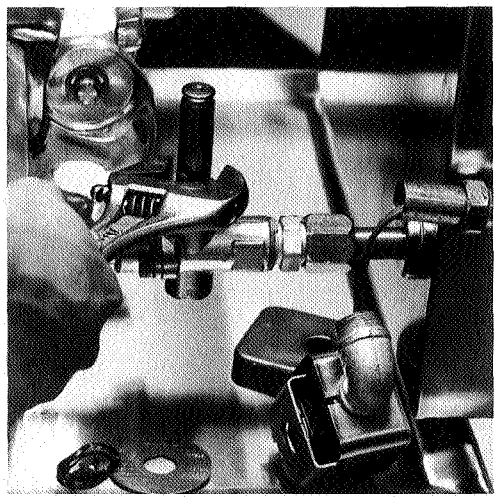
Conduit Connector



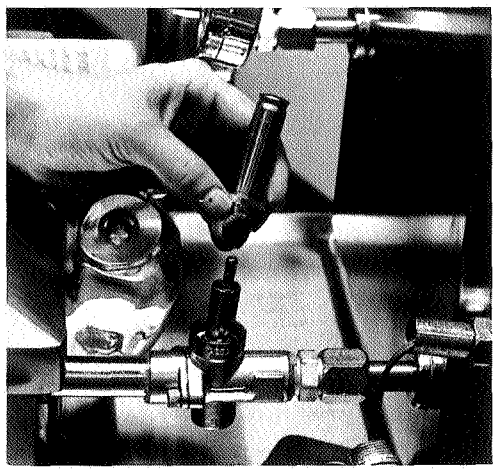
Step 4

4. Loosen the nut on the 1/2 inch connector and pull piping conduit from the valve case. Leave enough slack to remove the coil housing and yoke.

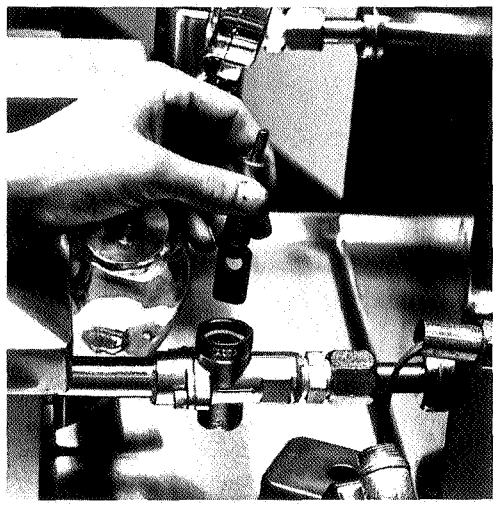
5-21. PRESSURE REGULATION (continued)



Step 5a



Step 5b



Step 5c

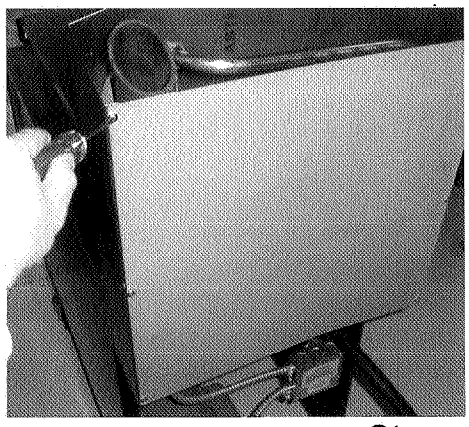
5. If the core-disc assembly is sticking due to buildup of shortening, breading and food particles proceed with the following steps.

a. Unscrew the solenoid bonnet assembly from the solenoid valve body.

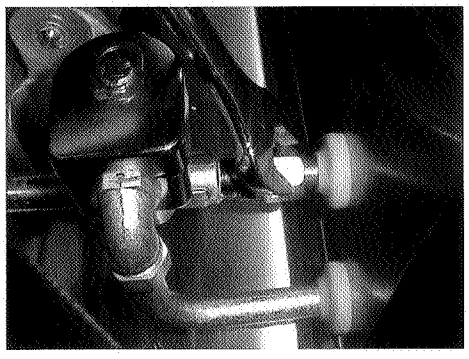
b. Remove the solenoid bonnet assembly and the bonnet gasket.

c. Remove the core-disc assembly, core spring retainer, and the core spring.

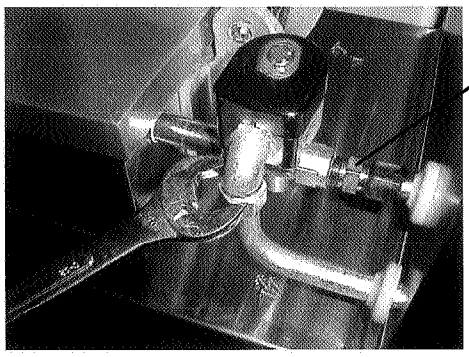
5-21. PRESSURE REGULATION (Continued)



Rear Cover Step a



Exhaust Fitting Step b



Conduit Fitting Step b

d. Wash all parts in soap and hot water.

NOTE

If replacing Teflon seals, or complete valve, proceed to step 6, otherwise, assemble in reverse order of disassembly.

Assemble valve core and blade (6), with the smooth side of the hole towards the disc spring guide (9).
(See drawing on next page)

6. A repair kit (Part No. 17120) is available if any of the seals are replaced. If any one seal is defective, all seals should be replaced.

NOTE

Remove the solenoid body from fryer to replace seals. Refer to exploded view of solenoid on page 6-16 to help identify all parts.

a. Remove back cover.

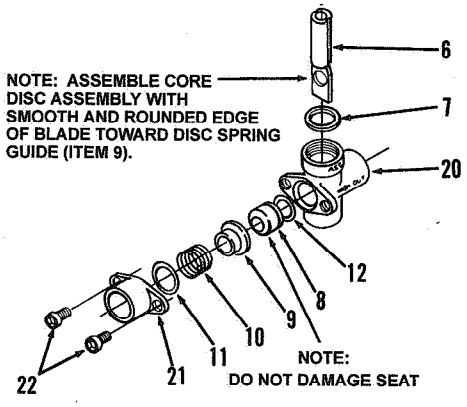
b. Loosen both conduit and exhaust fittings.

c. Remove nipple from solenoid body.

d. Unthread body from fryer.

e. A new solenoid can now be placed on the fryer, and reassembled in reverse order of previous steps, or continue onto step 7 to change the seals.

5-21. PRESSURE REGULATION (Continued)



7. To change seals:

   a. Remove the two adapter screws (22) which attach the pipe adapter (21) to the solenoid body (20).

   b. Remove the disc spring (10), guide (9), and Teflon seat (8).

   c. Clean the valve body.

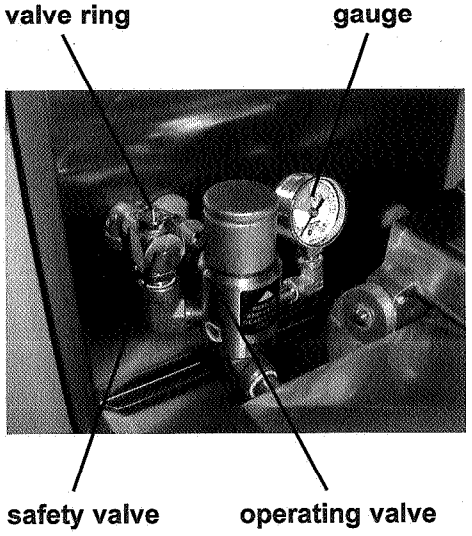
   d. Wet "O" ring (12) around seat with water and insert "O" ring assembly (flat side first) in valve, through "IN" side of body. Use a pencil eraser, and press in Teflon seat until it snaps into place. BE CAREFUL NOT TO MAR OR NICK THE SEAT.

NOTE

The smallest nick can cause a pressure leak. Replace all "O" ring seals, found in the parts kit, and reassemble valve.

5-21. PRESSURE REGULATION (Continued)

Operating Control Valve



Do not attempt to remove the valve cap while the fryer is operating, or severe burns, or other injuries could result.

The operating control valve and safety relief valve are located side by side at the back of the unit. The valve next to the pressure gauge is the operating control valve, and the other valve is a 14 1/2 lb. safety relief valve.

Valves are working properly, when "OPERATING ZONE" is indicated on the gauge by the pointer. The gauge pointer should not normally exceed the operating zone. At 14 1/2 psi, the safety relief valve opens to release steam pressure from the frypot.

Do not manually activate the safety relief valve. Hot steam releases from the valve when the ring is pulled. Keep body parts away from safety valve exhaust, or severe burns could result.

Cleaning Steps

1. Clean the operating control valve, at the end of each day. Turn OFF the fryer and release all the pressure. Open the led and then remove the dead weight valve cap and dead weight.

2. Place both the cap and weight in hot detergent water and clean. Make certain to thoroughly clean inside cap, the weigh seat, and around the valve orifice.

3. Rinse thoroughly with hot water. Dry parts and replace immediately to prevent damage or loss.

5-21. PRESSURE REGULATION (continued)

Removal of Safety Valve

Do not attempt to remove valve while fryer is operating, or severe burns or other injuries could result.

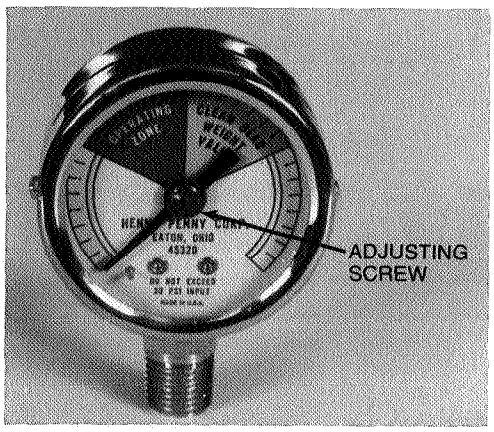
1. Use a wrench to loosen the valve from the pipe elbow, turn counterclockwise to remove.
2. Clean the inside of the pipe elbow with hot detergent.
3. Immerse the safety relief valve in a soap water solution for 24 hours. Use a 1 to 1 dilution rate. The valve cannot be disassembled. It is factory preset to open at 14½ pounds of pressure. If it does not open or close it must be replaced.

Do not disassemble or modify this valve. Tampering with this valve will void agency approvals and the appliance warranty, and could cause serious injuries.

Pressure Gauge

The pressure gauge can be recalibrated should it be out of adjustment.

Calibration Steps



Step 2

1. Remove the rim and glass.
2. If the indicating hand shows a pressure or vacuum reading when it should stand at "0", turn the recalibrator screw in the same direction in which the indicating hand is to be moved until the hand stands at proper "0" POSITION.
3. Replace the rim and glass.

5-21. PRESSURE REGULATION (Continued)

Cleaning Steps

1. Remove the gauge and check inside the pipe fittings from dead weight body. Make certain fittings are clean and open.

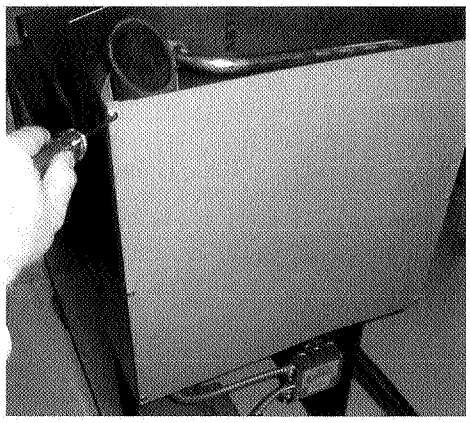
2. Clean and reinstall the gauge.

Steam Exhaust Tank

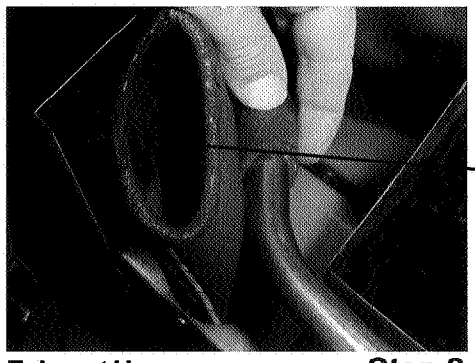
The dead weight valve and solenoid exhausts are directed into a condensation exhaust tank, located in the rear of the fryer. Should this tank become clogged, water would spew from the top of the tank. The tank can be cleaned by running a wire or long brush from the top of the tank, through the hole in the bottom of the tank, or the tank can be removed to clean.

Tank Removal

1. Remove rear cover of fryer.



Rear Cover Step 1



Exhaust Hose Step 2

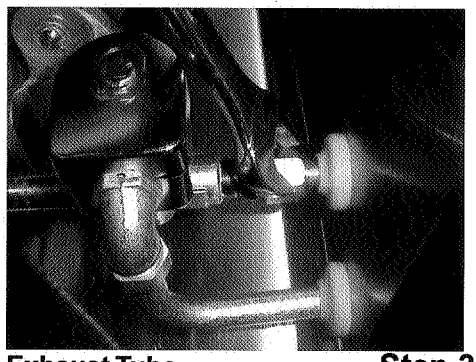
NOTE

When cleaning the frypot, (see section 3-16), pour a cup of cleaning solution into the large exhaust hose at the top of the exhaust tank. This helps prevent the tank from getting clogged.

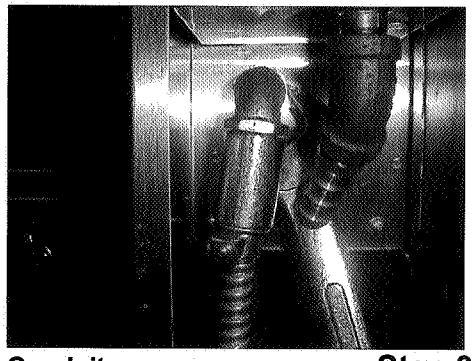
2. Pull condensation and exhaust hoses from the top and bottom of tank.

Condensation Hose Step 2

5-21. PRESSURE REGULATION (Continued)

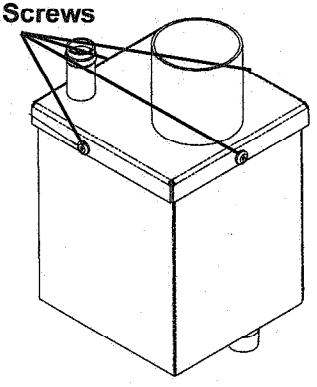


Exhaust Tube Step 3



Conduit Step 3

Remove Screws



Exhaust Tank Step 5

3. Loosen the compression fittings from the conduit in the rear of the tank, and the exhaust tube in the front of the tank.

4. Pull the tank from the rear of the fryer.

5. Remove the four screws securing the top of the tank.

6. Soak the parts in soap and water, and clean the outlet hole in the bottom of the tank.

7. Check the condensation hose for clogs and clean, or replace, if necessary.

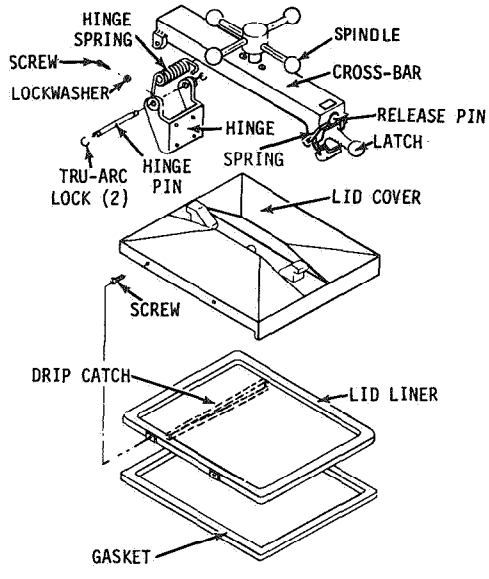
Lid Cover Assembly

The Henny Penny fryer relies on pressure to cook the product. The dead weight valve ensures the product is cooked under the right amount of pressure, depending upon:

- the amount and moisture content of the product
- the solenoid valve
- the dead weight valve
- the lid gasket

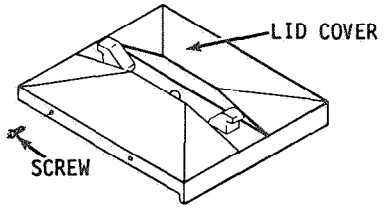
5-21. PRESSURE REGULATION (continued)

Description



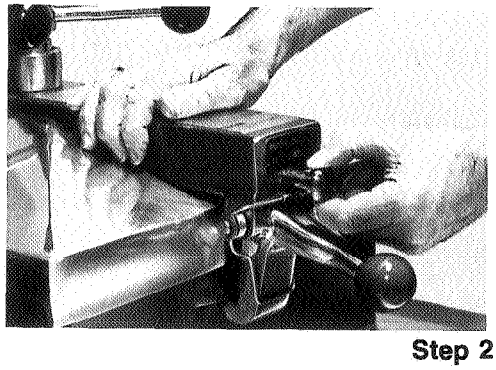
In general, the lid spindle, the limit stop, the cover, the hinge, the inner liner and the reversible gasket comprise the lid cover assembly.

Lid Cover Removal



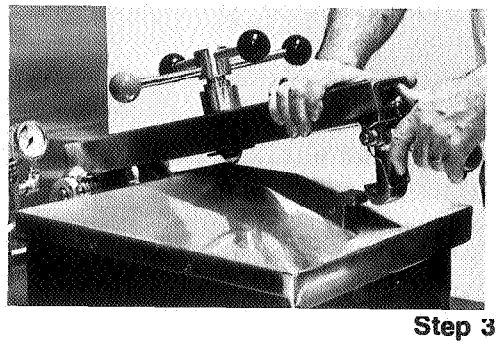
The lid cover is easily removable for cleaning or service.

1. Close the lid cover.



Step 2

2. Pull the lid release pin on front of crossbar, lift the latch, and raise the crossbar.

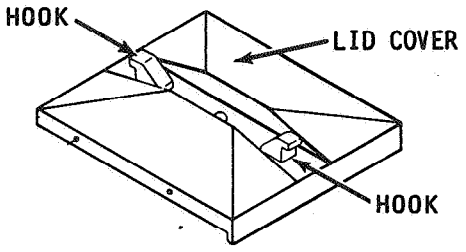


Step 3

3. The cover can now be removed from frypot.

5-21. PRESSURE REGULATION (continued)

Lid Cover Installation

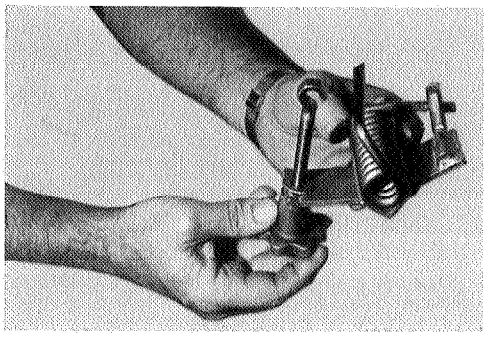


1. Place the lid cover on the frypot.
2. Thread the spindle counterclockwise until it is completely extended.
3. Align the rear retaining hook on the lid cover in the center slot of the crossbar. Push the crossbar down and pull out on the lid release pin.
4. Push the lid to rear of the frypot and latch the crossbar to the lid cover. Release the pin.
5. Check that lid cover is fastened properly before raising.

Lid Hinge Spring

The hinge spring needs to be replaced if it is broken, cracked or otherwise looses its tension. A special spring installation tool which greatly simplifies this procedure is available from the factory. (Henny Penny part number 16109)

1. Pull out on the retaining pin knob on the front of the cross arm to release lid cover. (Refer to lid cover removal instructions.)
2. Lift the cross arm up and away from the lid.
3. Remove the tru-arc locks and hinge pin if the spring is broken. If the spring is not broken, use spring tool as described in steps 5, 6, and 7, then remove the tru-arc lock and hinge pin.

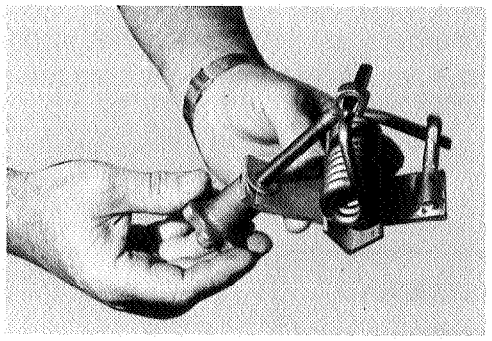


Step 5

4. Remove the broken spring.
5. The new spring is placed in the loading tool so that the spring coil is laying in the v-shaped center of the tool. The perpendicular shaft is placed in the stationary hook of the tool, and the parallel shaft is placed so the adjustable hook will tighten it down.

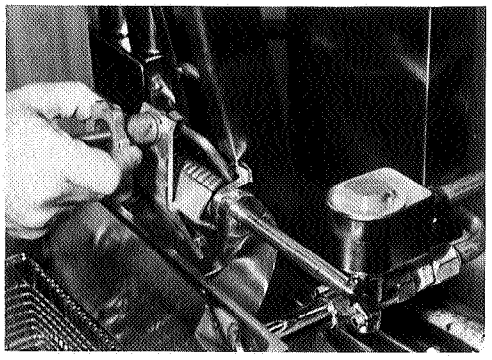
5-21. PRESSURE REGULATION (continued)

Lid Hinge Spring (continued)



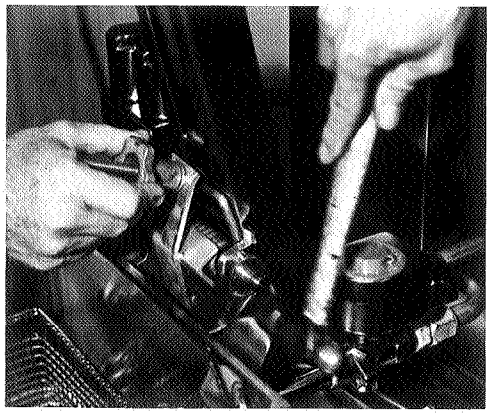
Step 6

6. Tighten the hand nut on the tool as far as it will go.



Step 7

7. Place the spring (loaded in the tool) into position so that the v-shaped center of the tool is toward the front of the fryer and the hand nut on the tool is toward the top of the fryer.



Step 8

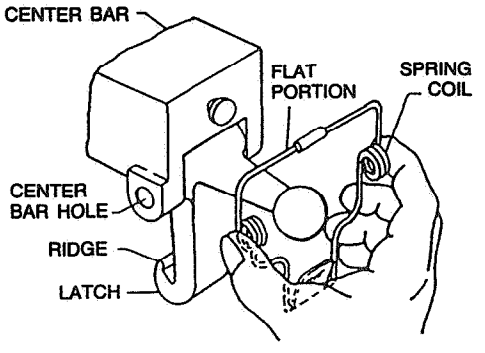
8. Replace the hinge pin and tru-arc locks. Loosen and remove the tool.

9. Refer to the lid installation procedure and reinstall the lid.

5-21. PRESSURE REGULATION (continued)

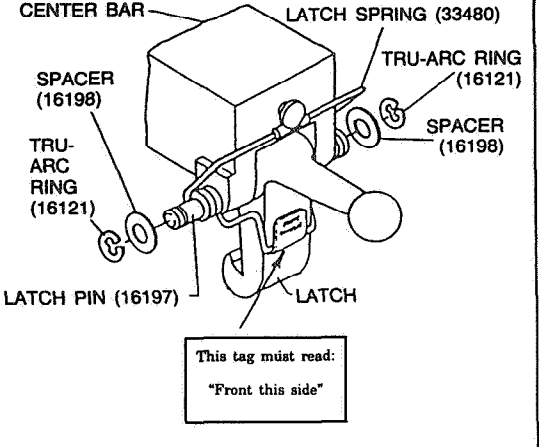
Latch Spring Installation

The latch on the crossbar must have the external coil-type latch spring mounted on the latch pin. If a latch spring is weak or broken, it must be replaced with a new spring, part number 16196.



WARNING

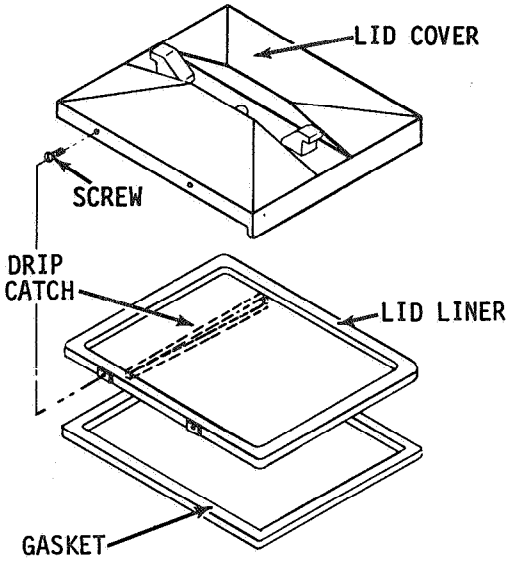
To ensure that the lid is secure during a cook cycle, the latch spring must be in good working order and properly installed. (Refer to illustrations at left.) If the latch spring is weak, broken, or mounted backwards, it will provide little force against the latch. Severe burns and injuries could result.



1. Release the crossbar from the lid. (Refer to previous steps on Lid Cover Removal).
2. With the crossbar in the upright position, remove one of the two tru-arc rings from latch pin.
3. Tap out pin from latch while grasping latch, and remove latch and latch spring.
4. Install new latch spring with the coils of spring **extending forward.** (Refer to illustrations at left.)
5. Secure spring in place with tru-arc ring.

5-21. PRESSURE REGULATION (continued)

Lid Liner



1. Remove the four lid liner screws.
2. Use a thin blade screwdriver to pry the lid liner from the cover.
3. Clean the liner and the inside of the cover. Replace the liner and screws.

Reversing the Lid Gasket

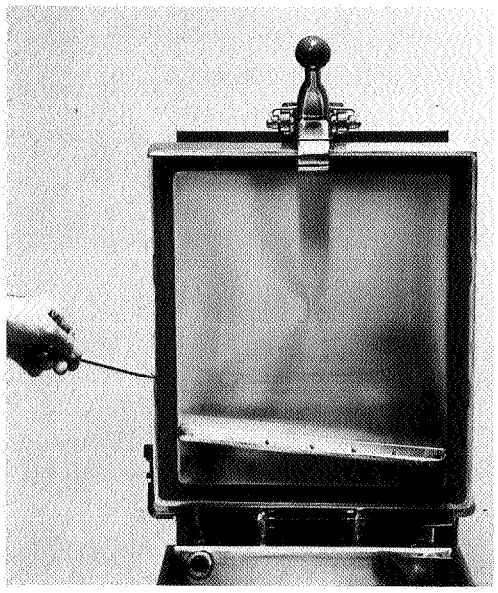
The gray rubber gasket surrounding the inside of the lid is designed to be reversed. Henny Penny recommends that this be done on a quarterly basis.

Purpose

Because of heat expansion and the pressure used for the cooking process, the gasket is constantly under extreme stress. Reversing the lid gasket on a quarterly basis will help to assure that the fryer will not lose pressure through leakage.

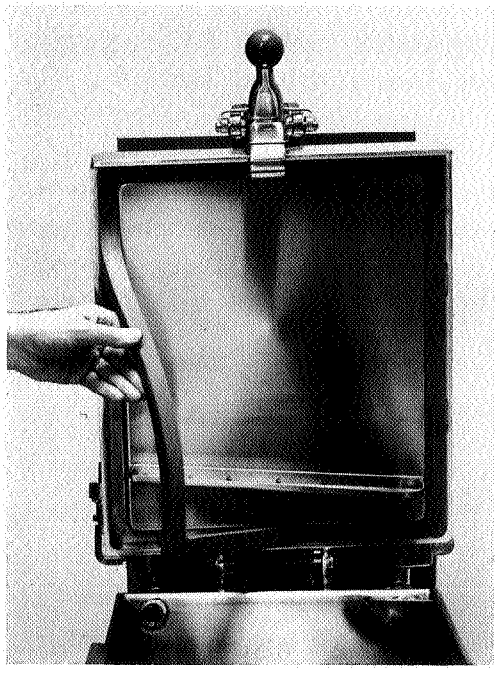
5-21. PRESSURE REGULATION (continued)

Reversing the Lid Gasket (continued)



Step 1

1. There are two lid liner screws on either side of the lid cover. Back these four screws out about ½ inch.



Step 2

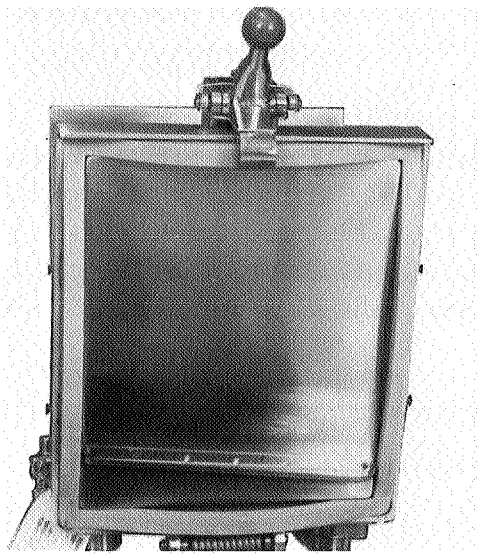
2. Using a thin blade screwdriver pry out the gasket at the corners. Remove the gasket.

3. Clean the gasket and gasket seat with hot water and cleaning detergent. Rinse with clean hot water.

4. Install the gasket with the good side facing out. Tighten the four screws.

5-21. PRESSURE REGULATION (continued)

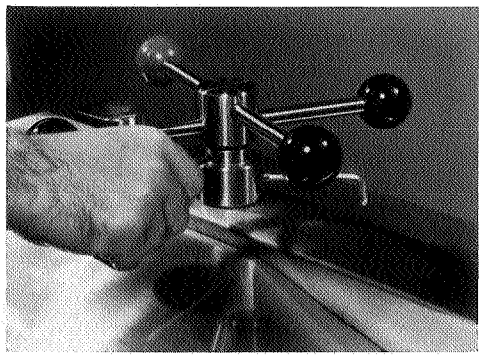
Reversing the Lid Gasket (continued)



NOTE

Begin the installation by installing the four corners of the lid gasket.

The lid limit stop, with proper adjustment, will prevent unnecessary overtightening of the spindle, and as a result, will extend the life of the lid gasket.



Step 1

1. Loosen the allen set screws on the bottom of the collar of the limit stop assembly. Turn limit stop clockwise as far as possible.

2. Close lid and turn spindle until lid gasket meets the top of the fry pot rim.

3. From this position, turn spindle at least ¾ of a turn, but not over one full turn.

4. After rotating spindle to this point, slightly extend the spindle past this position. The spindle should then be at the seven o'clock position.

NOTE

The seven o'clock position is only to allow slight additional turning of the spindle to relieve any side pressure that could hold the locking pin in the locking collar after all pressure has been released from the fry pot.

5-21. PRESSURE REGULATION (continued)

Lid Limit Stop Adjustment (continued)

It may be necessary to remove knobs and change their position in order to align the red knob with the red knob on the lid cover lid latch. When in the normal operating position, both red knobs should be aligned.

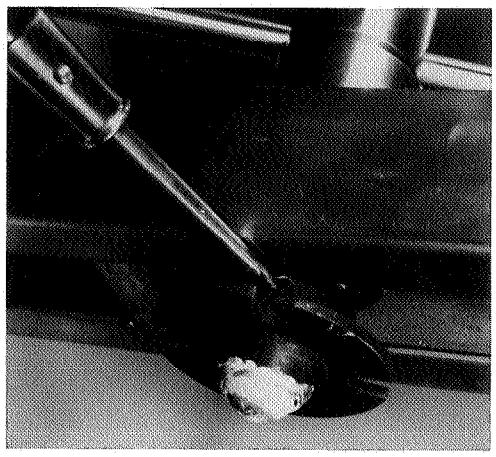
5. Adjust the limit stop by turning it counterclockwise until it stops against the bottom hub of the spindle.

6. Tighten allen set screws.

7. If the Lid Cover fails to seal properly, steam will escape around the gasket during the frying operation. The limit stop should be readjusted. This time turn the spindle screw one full turn after the initial contact of the lid gasket against top of the frypot rim.

Spindle Screw Assembly

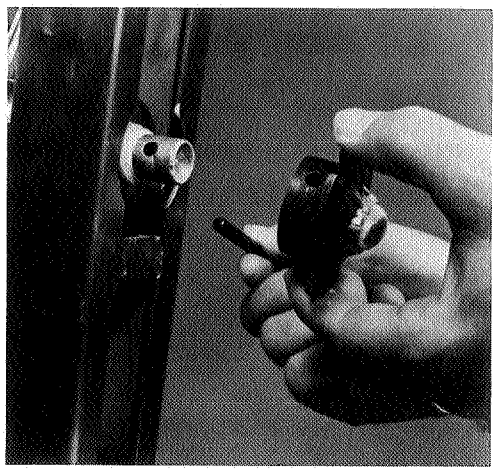
This assembly is used to tighten the lid cover against the frypot flange.



Step 3

1. Loosen the set screw in the limit stop collar and loosen the limit stop.

2. Disengage the crossbar from the lid cover as described in the "Lid Cover Removal". Leave the lid cover in position on the frypot rim with the crossbar in the upright position.



Step 4

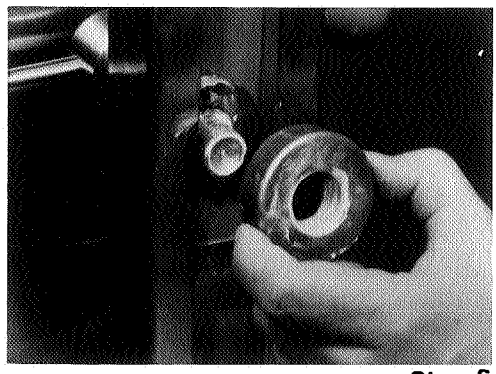
3. Turn the spindle so the pin in the locking collar will be exposed.

4. Remove pin and locking collar. Use a small diameter punch and a hammer to drive out the pin from the locking collar. Remove the locking collar.

5-21. PRESSURE REGULATION (continued)

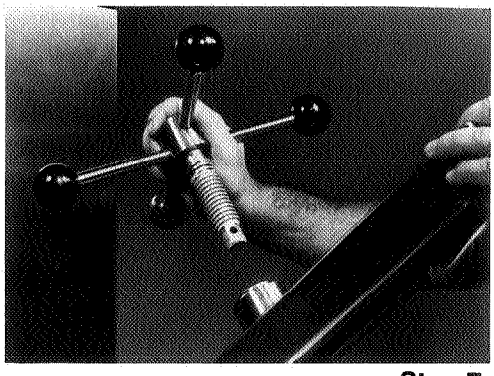
Step 5

5. Remove the ball from the locking collar. This may be accomplished by lightly tapping the steel ball with a hammer.



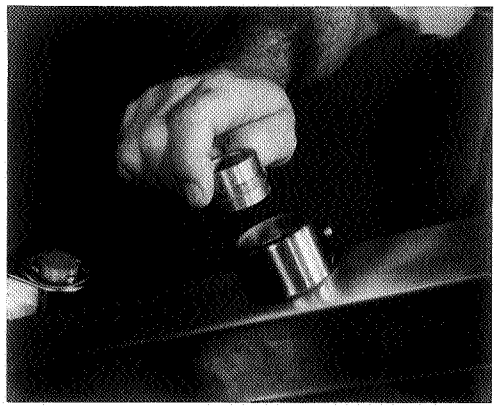
Step 6

6. Remove and inspect the idle nut.



Step 7

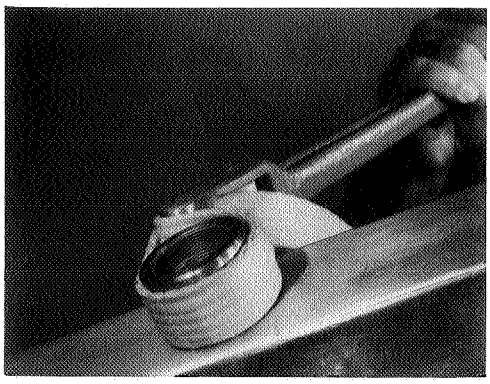
7. Thread the spindle out of the acme nut.



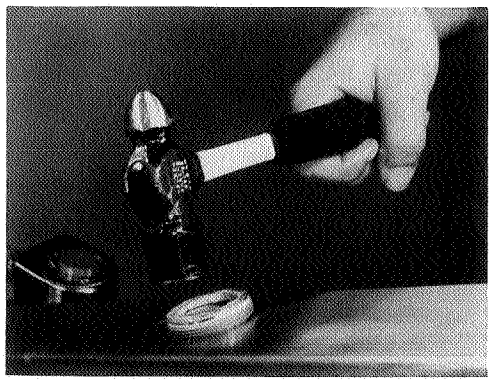
Step 8

8. Loosen the allen set screw in the outer ring of limit stop. Thread the inside portion up and down several times to check for ease of operation. If thread feels tight or must be forced, threads may be damaged. Discard and replace with new limit stop assembly.

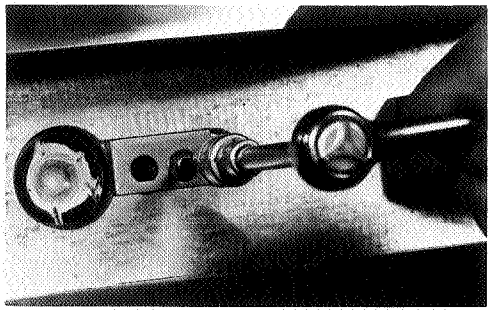
5-21. PRESSURE REGULATION (continued)

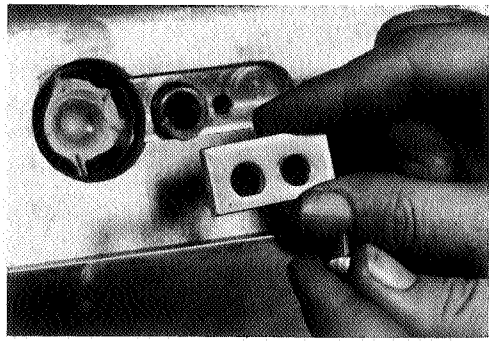


Step 9



Step 10





Step 11

NOTE

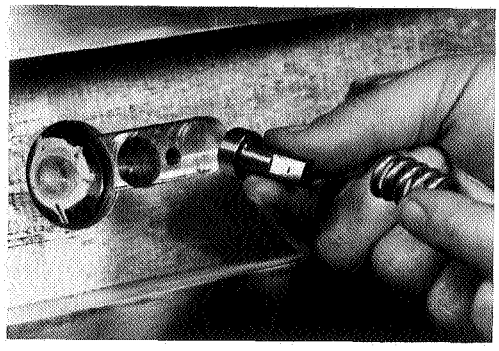
The acme nut must be changed when there is excessive play and movement between the spindle and the acme nut.

9. Using a nylon tape type wrench unthread the limit stop collar from the acme nut.

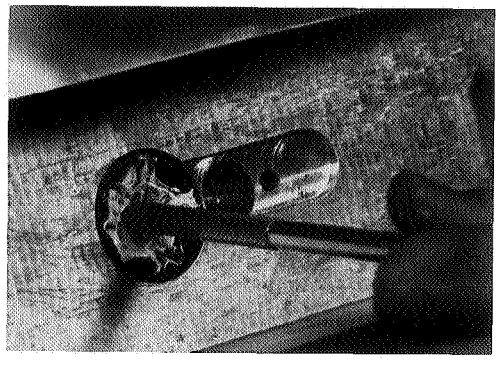
10. Gently tap the acme nut from the center crossbar. Inspect the acme nut for thread damage. If the threads are "thin and sharp or worn", replace with a new acme nut.

11. Use an allen wrench and ratchet to remove the retainer.

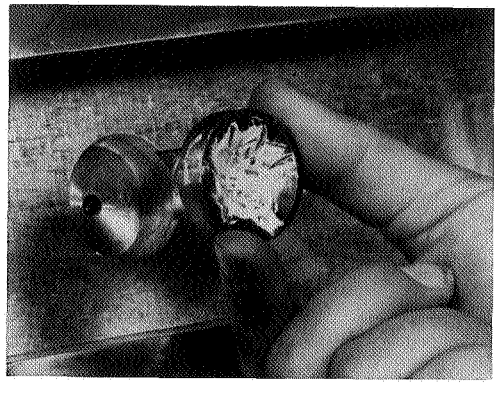
5-21. PRESSURE REGULATION (continued)



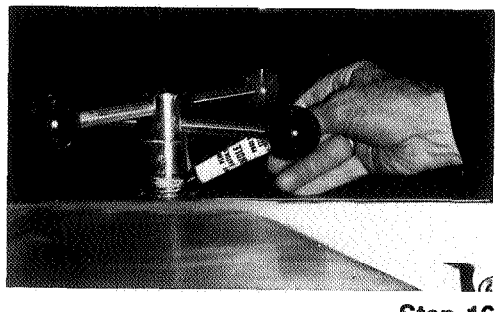
Step 12



Step 13



Step 13



Step 16

12. Remove the locking pin and spring. Inspect and replace if necessary.

NOTE

When reinstalling the locking pin, be certain it is put back in its original position. The angled side of the pin should be to the right.

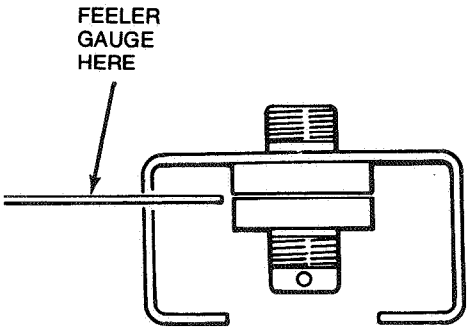
13. Use a magnet to remove the ball seat. Inspect and replace if necessary.

14. Install the acme nut and limit stop collar. Lubricate the acme nut with a special grease (product number 12124).

15. Thread the limit stop assembly into the limit stop collar.

16. Lubricate the spindle with special grease (product number 12124) every 30 days.

5-21. PRESSURE REGULATION (continued)



17. Slip the spindle thru the limit stop, hold the idle nut against the acme nut, and thread spindle thru both. There should be 20 to 60 thousandths between the acme nut and the idle nut. To increase dimension turn the idle nut counterclockwise; to decrease turn clockwise.

18. Install the locking collar, locking pin and ball. Install the ball seat in the lid. Install the retainer and spring.

19. Reassemble the crossbar to the lid cover according to the "Lid Cover Installation" procedure.

20. Readjust the lid limit stop during the test frying cycle.

5-22. FILTERING SYSTEM

The filtering system consists of the filter valve, motor and filter pump assembly, filter screen assembly, and tubing.

Description

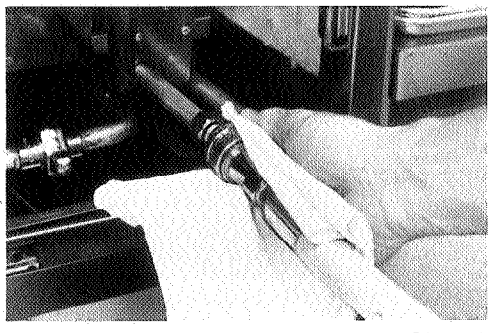
Filter Rinse Hose

Safety Precautions

Shortening with temperature in excess of 200°F flows through this filter rinse hose. Heat causes the rubber hose to age and deteriorate. The hose and fittings should be checked daily. If aging or discoloration is seen, the hose should not be used. Severe burns will result if this rinse hose assembly leaks or ruptures.

Removal

1. Close the filter valve.
2. Turn the pump switch to the OFF position.



Step 3

3. Detach the hose BEING CAREFUL, AS THE HOSE AND FITTING WILL BE HOT, USE GLOVES when following this procedure, or severe burns could result.

NOTE

This hose is not connected to the fryer during normal operation.

5-22. FILTERING SYSTEM (continued)

Installation

Step 1

1. Attach the filter rinse hose with its quick disconnect female fitting to the other half male fitting inside the door, next to the filter valve handle.
2. To do this slide back the spring ring on the female end of the quick disconnect fitting and let it snap into place over the other half male fitting.
3. With a quick tug on the hose, insure the quick disconnect is locked into position.

Filter Valve Description

The filter valve is a ⅜ inch two-way stainless steel ball valve. If this valve should develop leaks the entire valve must be replaced.

WARNING

Before starting this procedure, move MAIN POWER switch to OFF position. Disconnect main circuit breaker at the circuit breaker box and unplug service cord from wall receptacle, or electrical shock could result.

Removal

1. Drain the shortening from the frypot.
2. Remove the filter drain pan from the fryer.
3. Remove the cotter pin, handle, and extension rod.
4. Remove the pipe from between the filter pump and valve.

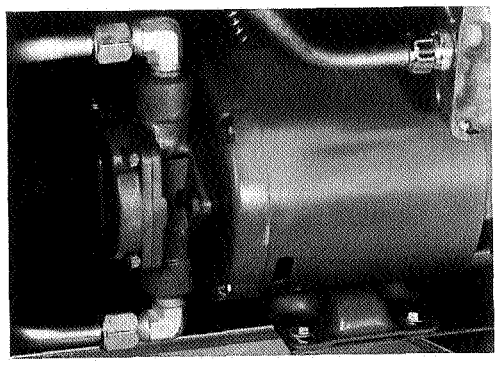
NOTE

If fryer is equipped with optional filter rinse hose attachment, disconnect pipe from filter valve.

5. Use an adjustable wrench and remove the valve.
6. Replace the valve and reassemble in reverse order.

5-22. FILTERING SYSTEM (continued)

Filter Pump Repair Description

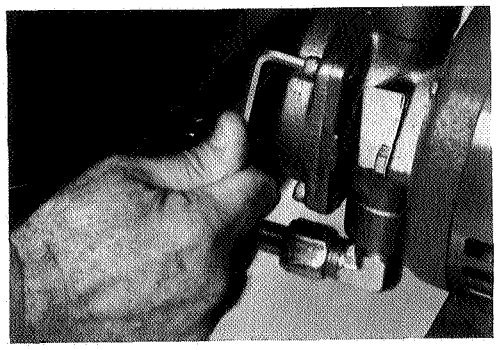


The two most common causes for a fryer's inability to pump shortening is that the pump is clogged with breading or solid shortening has cooled and solidified in the lines and pump.

WARNING

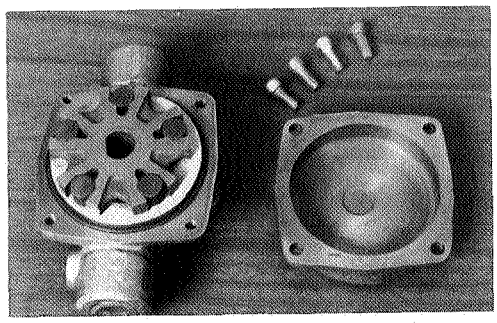
Before starting this procedure move MAIN POWER SWITCH to OFF position. Disconnect main circuit breaker at the circuit breaker box and unplug service cord from wall receptacle, or electrical shock could result.

Cover Removal



Step 1

1. Loosen the four allen head screws on the end of pump and remove the cover.



Step 2

2. The inside is now exposed leaving a rotor and five teflon rollers. Clean the rotor and rollers.

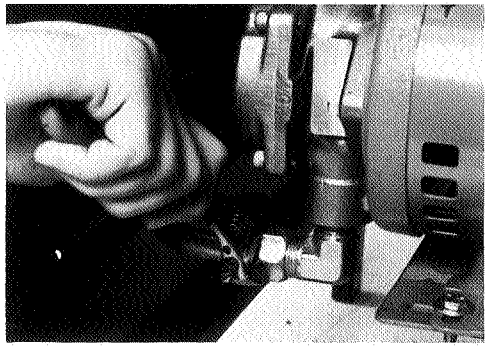
3. To reassemble, place rotor on drive shaft, and place roller into rotor.

NOTE

A small amount of grease might be needed to hold the bottom roller into place until cover plate is put on. Make sure O-ring is in proper position on plate.

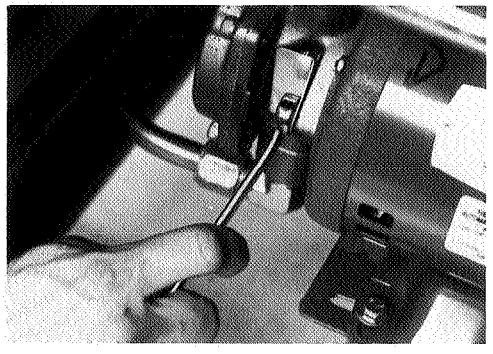
5-22. FILTERING SYSTEM (continued)

Pump Removal



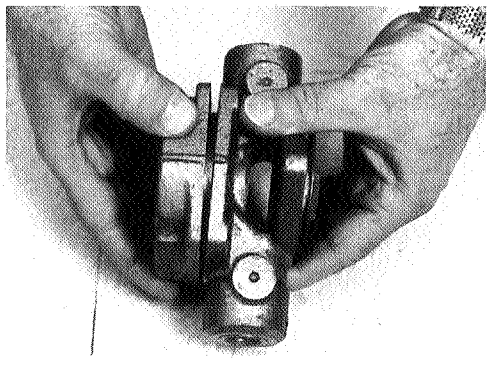
1. If the pump needs to be replaced, loosen one inch nuts from the outflow and inflow lines. Then remove the two bolts holding the pump to the motor with a ½ inch wrench.

2. The shaft seal should remain on the motor shaft, or if leaking, could be replaced at this time.



Step 2

3. To replace the pump, remove the four allen screws, front plate, rotor, and rollers from pump. Place the pump onto shaft and against the shaft seal. Place the two ½ inch bolts through the pump and into the motor and tighten. Then replace the rotor, rollers, front plate and tighten the allen screws.



CAUTION

CAUTION

When removing a pump from a motor note the positions of the INLET and OUTLET parts. Installation of the pump on the motor in any other position could cause damage to the fryer. There is an indicator on the side of the two halves of the pump, this mark must be together and face to the front of the fryer.

5-22. FILTERING SYSTEM (continued)

Pump Removal (continued)

4. To replace the pump and motor assembly, insure the main power has been removed from the fryer.

WARNING

Before starting this procedure move MAIN POWER SWITCH to OFF position. Disconnect main circuit breaker at the main circuit breaker box and unplug service cord from wall receptacle, or electrical shock could result.

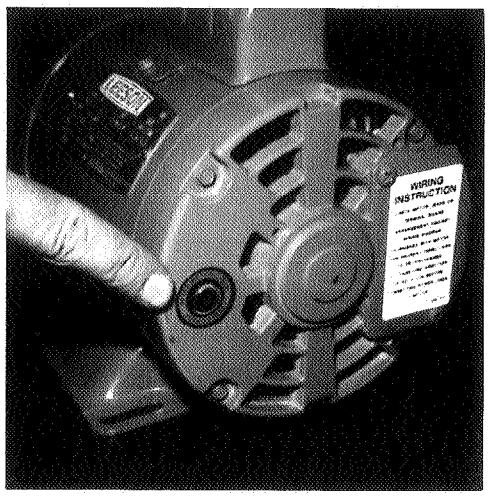
5. Remove the cover from the junction box and remove the wire nuts attaching wires leading into the flexible conduit going to the motor.

6. Loosen the two screws securing the flexible conduit to the 90° conduit connector (8).

7. Remove tubing to the pump. (Refer to figures 6-28 and 6-30).

8. Remove hardware attaching the motor to the motor base bracket (16, figure 6-28) and remove motor and pump assembly.

Filter Pump Motor Protector - "Manual Reset"



The filter pump motor is equipped with a manual reset button in the event the motor's thermal protector actuates. This reset button is located on the rear of the motor. Wait approximately 5 minutes before attempting to reset this protector device.

WARNING

To prevent burns caused by splashing shortening, the unit's main power switch must be in the OFF position before resetting the filter pump motor's manual reset protection device.

5-23. GAS CONVERSION

Introduction

Gas model fryers are factory available for either NATURAL GAS or PROPANE GAS. Factory conversion kits for natural gas and propane gas are available that require the burner jets, pilot jet and regulator assembly to be changed.

Refer to the MAINTENANCE MANUAL ILLUSTRATED PARTS BREAKDOWN for kit identification.

Conversion must be accomplished by an authorized Henny Penny dealer or service representative, or personal injury could result.

Service Hints

On NATURAL GAS installation, the gas pressure regulator on the automatic gas control valve is factory set at 3.5 inch water column.

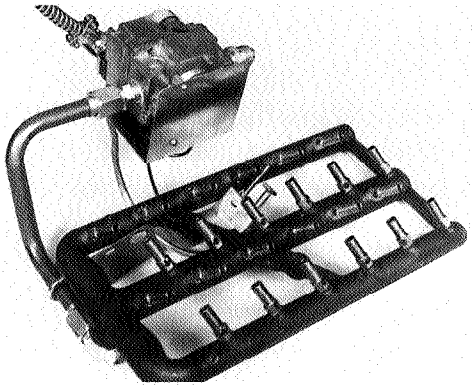
On PROPANE GAS installations, the gas pressure regulator on the automatic gas control valve is factory set at 10.0 inch water column.

After converting the fryer, turn on the gas supply and check for leaks. A simple method is to brush all the connections with soapy water, and watch for bubbles which indicate escaping gas.

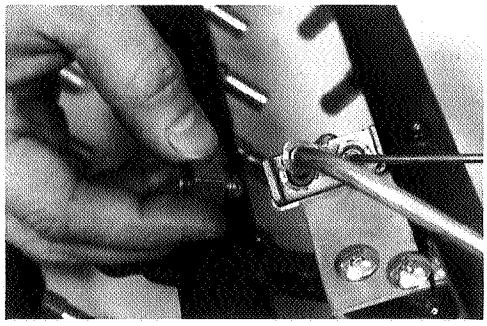
Never use an open flame to test for leaks. Escaping gas could cause an explosion, and personal injury or property damage could result.

5-23. GAS CONVERSION (continued)

Maintenance



Step 5



Step 6

WARNING

Before starting this procedure move MAIN POWER SWITCH to OFF position. Disconnect main circuit breaker at the main circuit breaker box and unplug service cord from wall receptacle, or electrical shock could result.

To convert from one type of gas to another the following procedure may be followed:

1. Turn the gas cock dial to the OFF position.
2. Close the main gas valve and disconnect fryer supply line.
3. Refer to figure 6-21 and remove gas control valve and burner assembly per paragraph 5-16.
4. Remove the burner orifices (24 each), and replace with orifices in gas conversion kit 16247 - natural to propane conversion or kit 16248 - propane to natural conversion kit.
5. Remove the pilot orifice and replace with the one from the kit being installed.
6. Remove the two screws securing the gas valve regulator, and remove regulator and diaphram, and replace with each from the kit being installed, per paragraph 5-18.
7. Install converted gas control valve and burner assembly per paragraph 5-16.
8. Connect the gas supply to the fryer.
9. Insure the power switch is in the OFF position, gas control valve in the OFF position.
10. Connect the electrical power to the fryer.

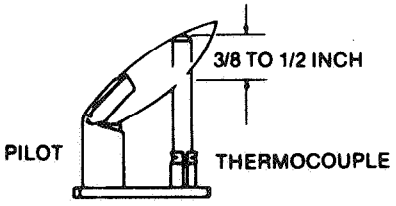
5-23. GAS CONVERSION (continued)

11. Check for gas leak at supply line as per service hints in this section.

12. Turn the main gas valve on and turn the gas control valve to the pilot position.

13. Check for gas leak at the gas control valve and main gas valve per step 11 of this section. If there are no leaks, continue to step 14.

If a leak is detected, shut off gas valves and repair leak. Escaping gas could cause an explosion, and personal injury and property damage could result.



14. With the gas cock dial at PILOT, depress the dial and light the pilot burner per paragraph 5-18.

5-24. ELECTRICAL CONVERSIONS

Description

On occasion, it may be necessary to make electrical conversion to a fryer. Factory conversion kits are available and should be used. The following procedures describe these conversions.

Procedures

208 Volts to 220/240 Volts:
The only change necessary is to remove the 208 volt heating elements and replace them with 220/240 volt heating elements. Delay timers must be changed on variable temperature models.

220/240 Volts to 208 Volts:
The only change necessary is to remove the 220/240 volt heating elements and replace them with 208 volt heating elements. Delay timers must be changed on variable temperature models.

Single Phase to Three Phase:
A factory conversion kit (part number 14034) is available for this conversion. This kit includes all necessary components and a wiring diagram.

5-24. ELECTRICAL CONVERSIONS (continued)

Three Phase to Single Phase:
A factory conversion kit (part number 14033) is available for this conversion. This kit includes all necessary components and a wiring diagram.

Refer to the proper figure in the illustrated parts listing (Section 6), and Section 5 for maintenance assistance for the fryer being converted *to* and *from*.

5-25. WIRING DIAGRAMS

5-26. INTRODUCTION

The following lists and illustrates the wiring diagrams of HENNY PENNY Model 500, Model 600 and Model 561 Pressure Fryers, built after November 1, 1980. If your unit was built prior to that, some differences may exist.

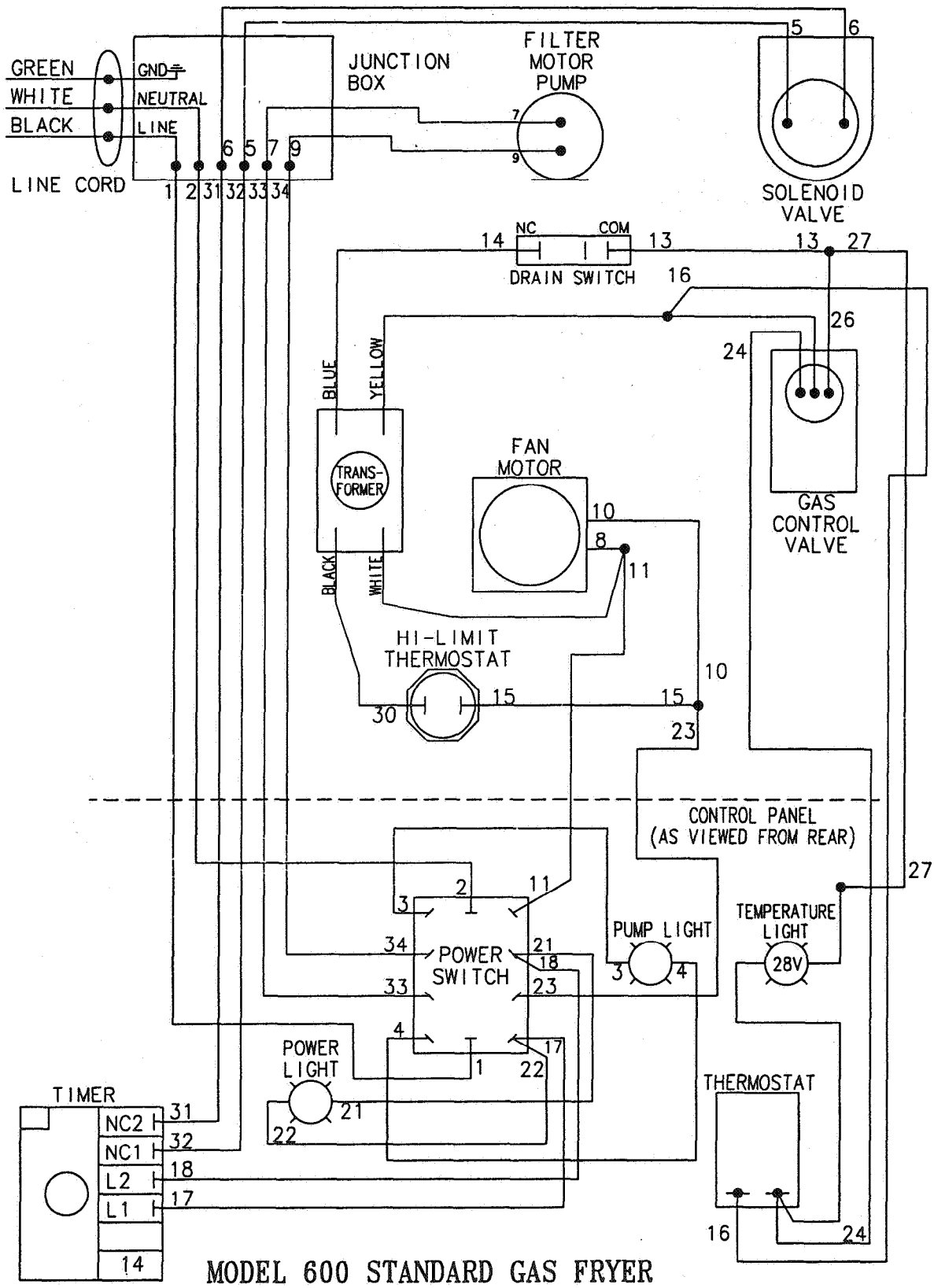
If there is any doubt, please contact your distributor. As with all contacts to the distributor, include the following from the data plate on your unit:
Model Number
Serial Number

5-27. GENUINE PARTS

Use only genuine HENNY PENNY parts in your fryer. Using a part of lesser quality or substitute design may result in fryer damage or personal injury.

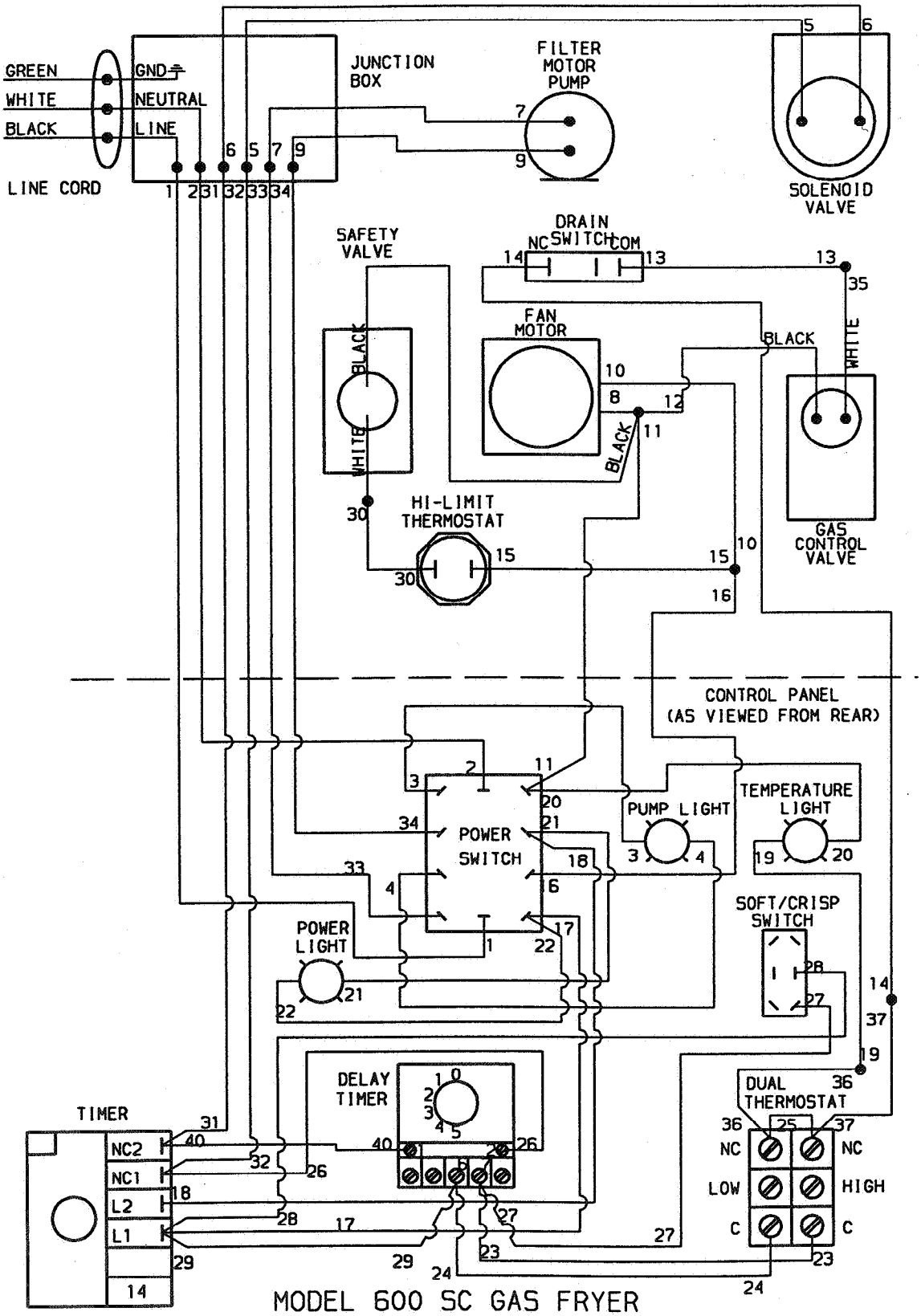
5-28. INDEX OF WIRING DIAGRAMS

5-28. INDEX OF WIRING DIAGRAMS (continued)



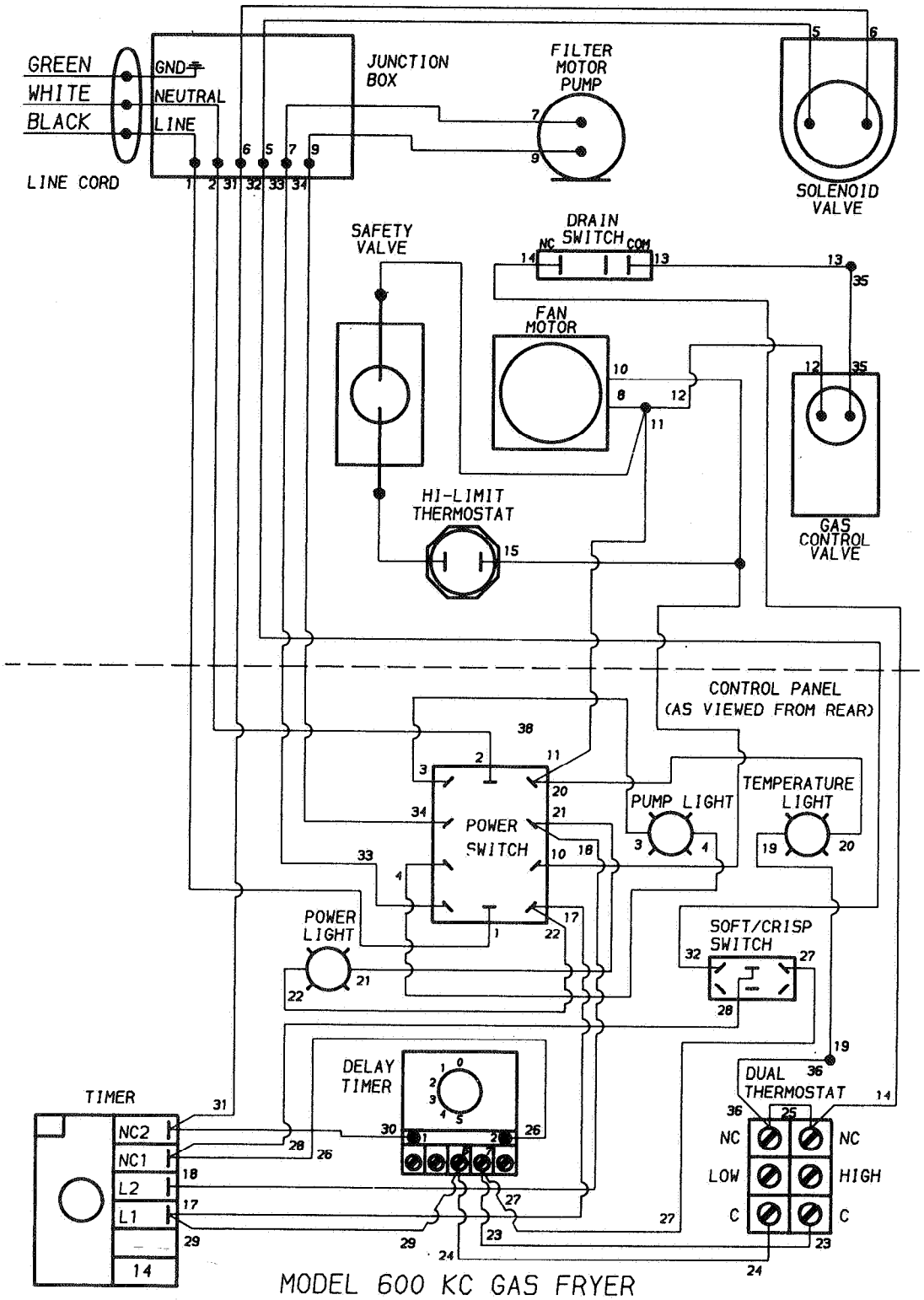
MODEL 600 STANDARD GAS FRYER

120V 60Hz 1PH
STANDARD IGNITION
HENNY PENNY CORP., EATON, OHIO 45320 63240



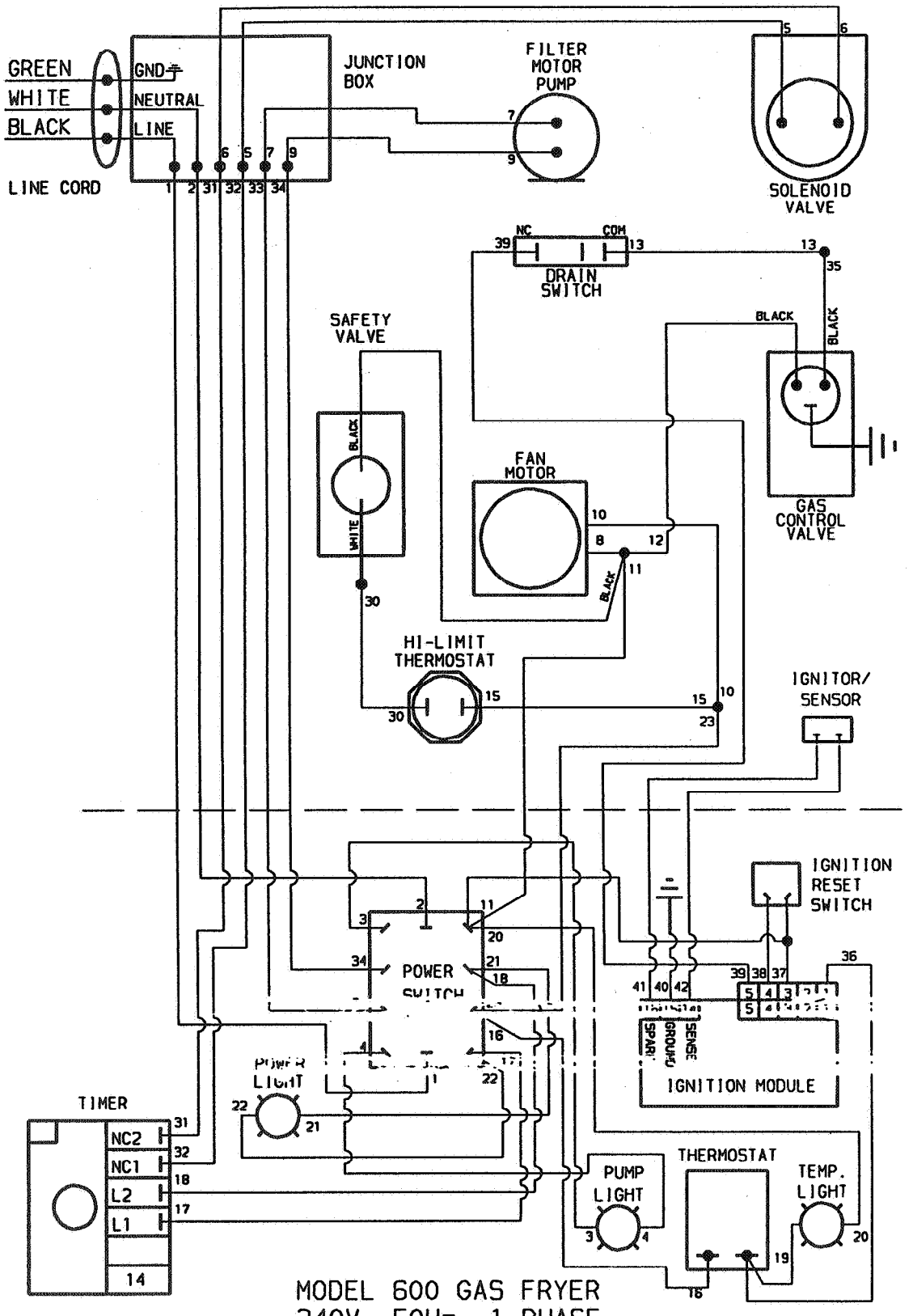
MODEL 600 SC GAS FRYER
120 VOLT 60 HZ 1 PHASE DUAL THERMOSTAT
STANDARD IGNITION VARIABLE TEMPERATURE

17353



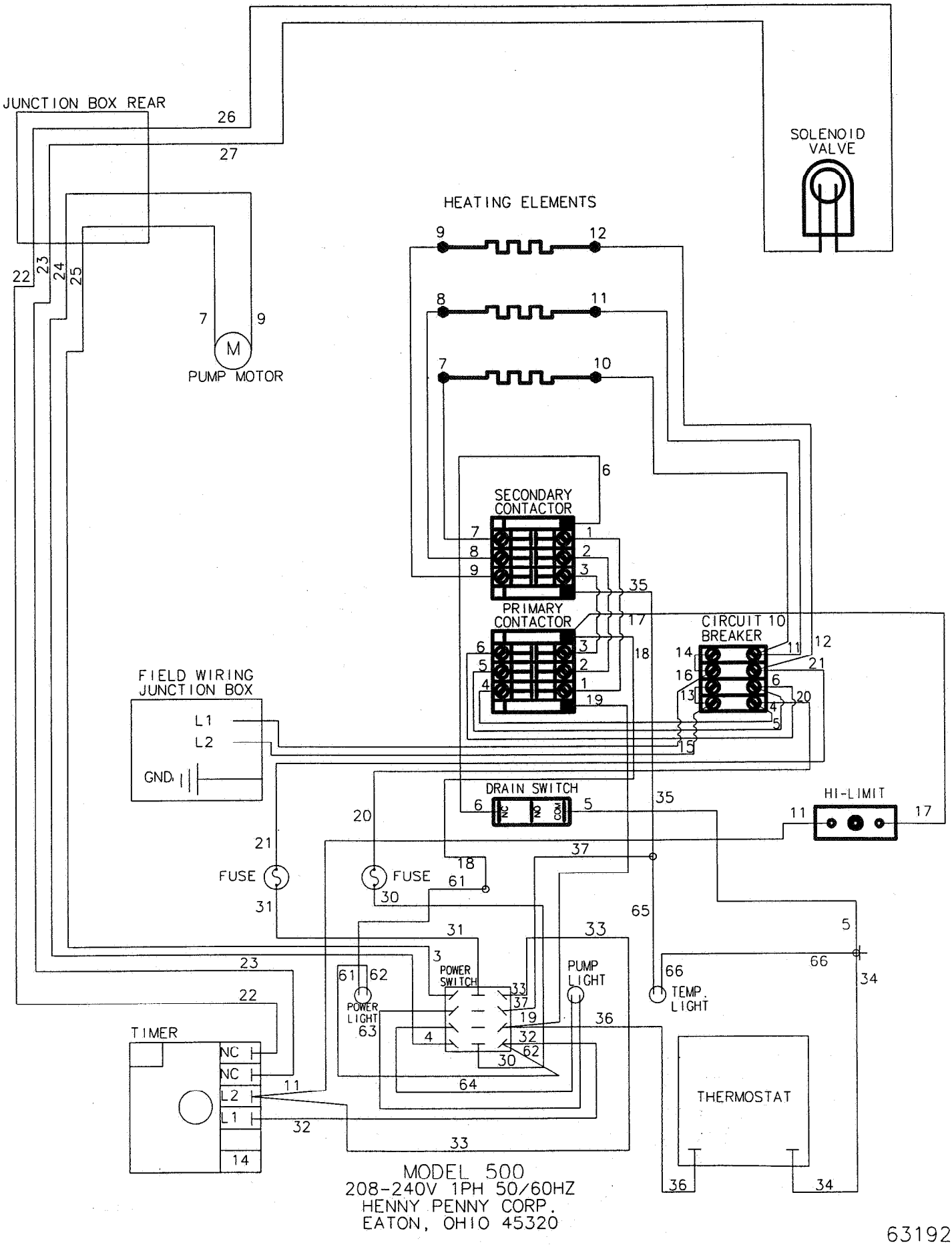
MODEL 600 KC GAS FRYER
120 VOLT 60 HZ 1 PHASE DUAL THERMOSTAT
STANDARD IGNITION

17354

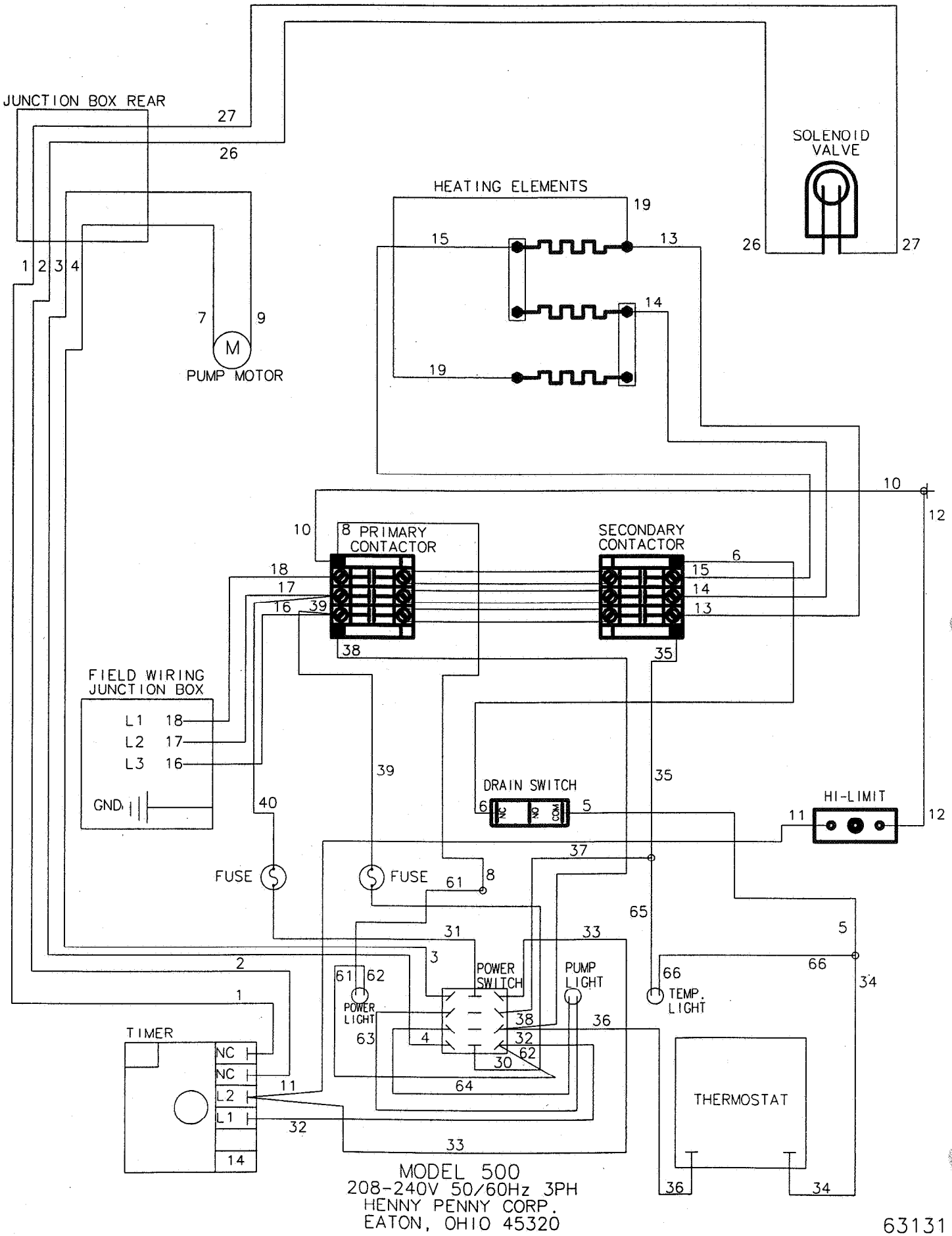


MODEL 600 GAS FRYER
240V, 50Hz, 1 PHASE
SPARK IGNITION

55318


JUNCTION BOX REAR
26
27
SOLENOID VALVE
HEATING ELEMENTS
9
12
8
11
7
10
22
23
24
25
7
9
M
PUMP MOTOR
6
SECONDARY CONTACTOR
7
8
9
1
2
3
35
17
PRIMARY CONTACTOR
6
5
4
3
2
1
18
19
CIRCUIT 10 BREAKER
14
16
13
11
12
21
6
20
4
5
15
FIELD WIRING JUNCTION BOX
L1
L2
GND
DRAIN SWITCH
6
NC
NO
COM
5
35
HI-LIMIT
11
17
20
21
FUSE
31
FUSE
18
61
30
37
65
5
31
33
3
23
POWER SWITCH
61
62
POWER LIGHT
63
PUMP LIGHT
66
TEMP. LIGHT
66
34
22
33
37
19
36
4
32
62
30
TIMER
NC
NC
L2
L1
11
64
32
33
14
THERMOSTAT
36
34
MODEL 500
208-240V 1PH 50/60HZ
HENNY PENNY CORP.
EATON, OHIO 45320

63192


JUNCTION BOX REAR
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SOLENOID VALVE
HEATING ELEMENTS
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PUMP MOTOR
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8 PRIMARY CONTACTOR
SECONDARY CONTACTOR
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FIELD WIRING JUNCTION BOX
L1 18
L2 17
L3 16
GND
39
35
DRAIN SWITCH
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COM
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HI-LIMIT
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FUSE
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POWER SWITCH
PUMP LIGHT
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34
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POWER LIGHT
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4
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30
64
TEMP. LIGHT
TIMER
NC
NC
L2
L1
11
32
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14
THERMOSTAT
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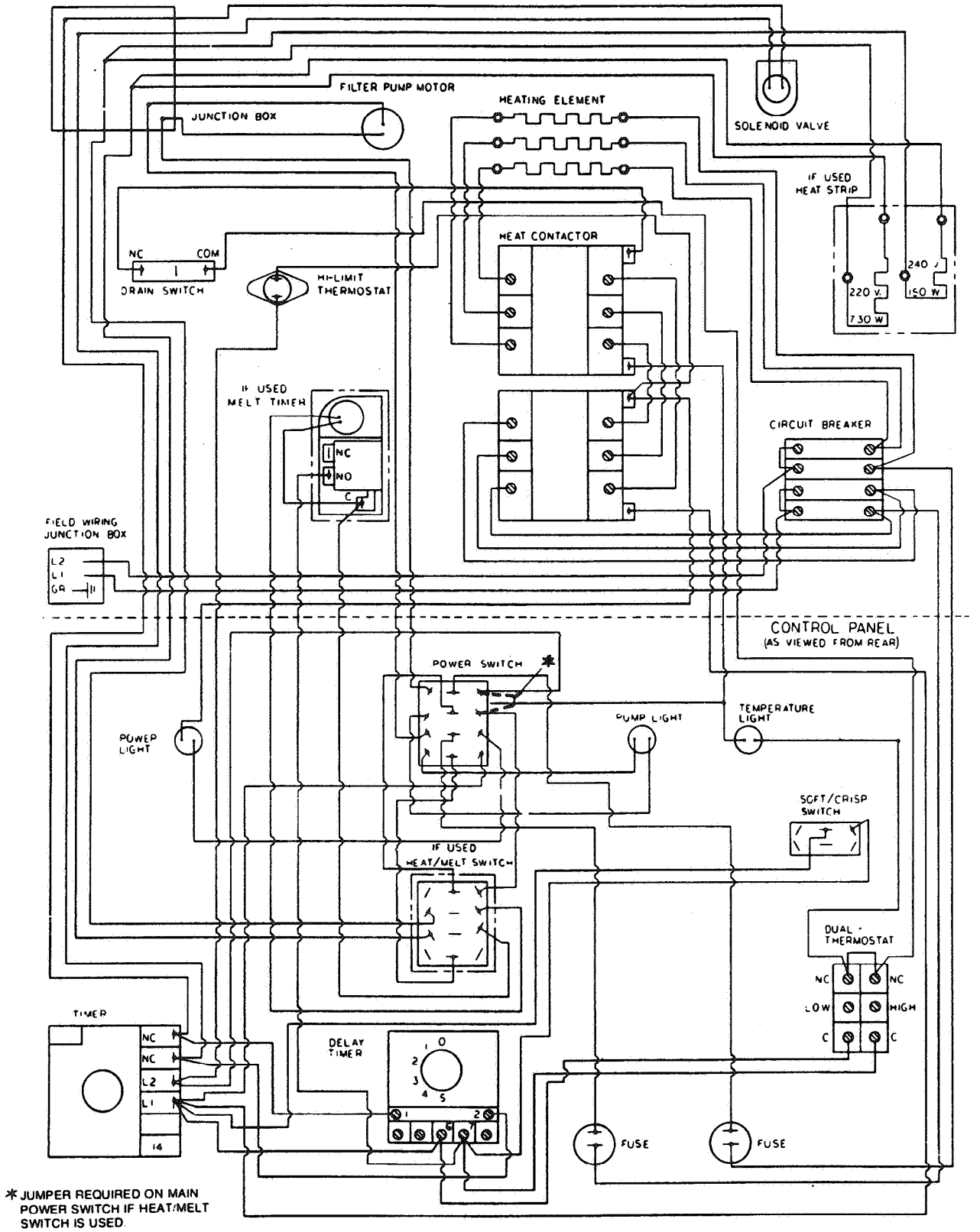
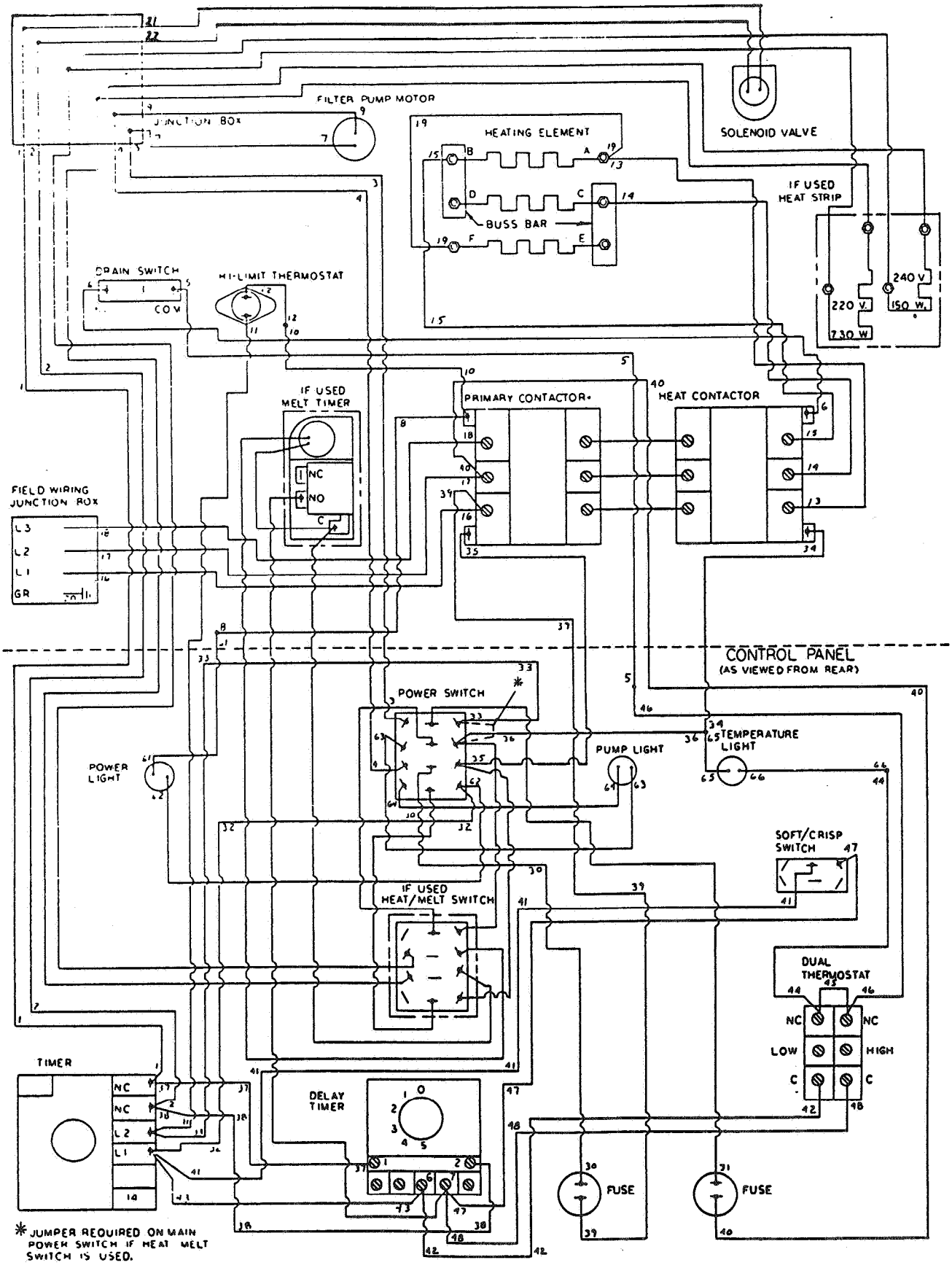
34
MODEL 500
208-240V 50/60Hz 3PH
HENNY PENNY CORP.
EATON, OHIO 45320
63131

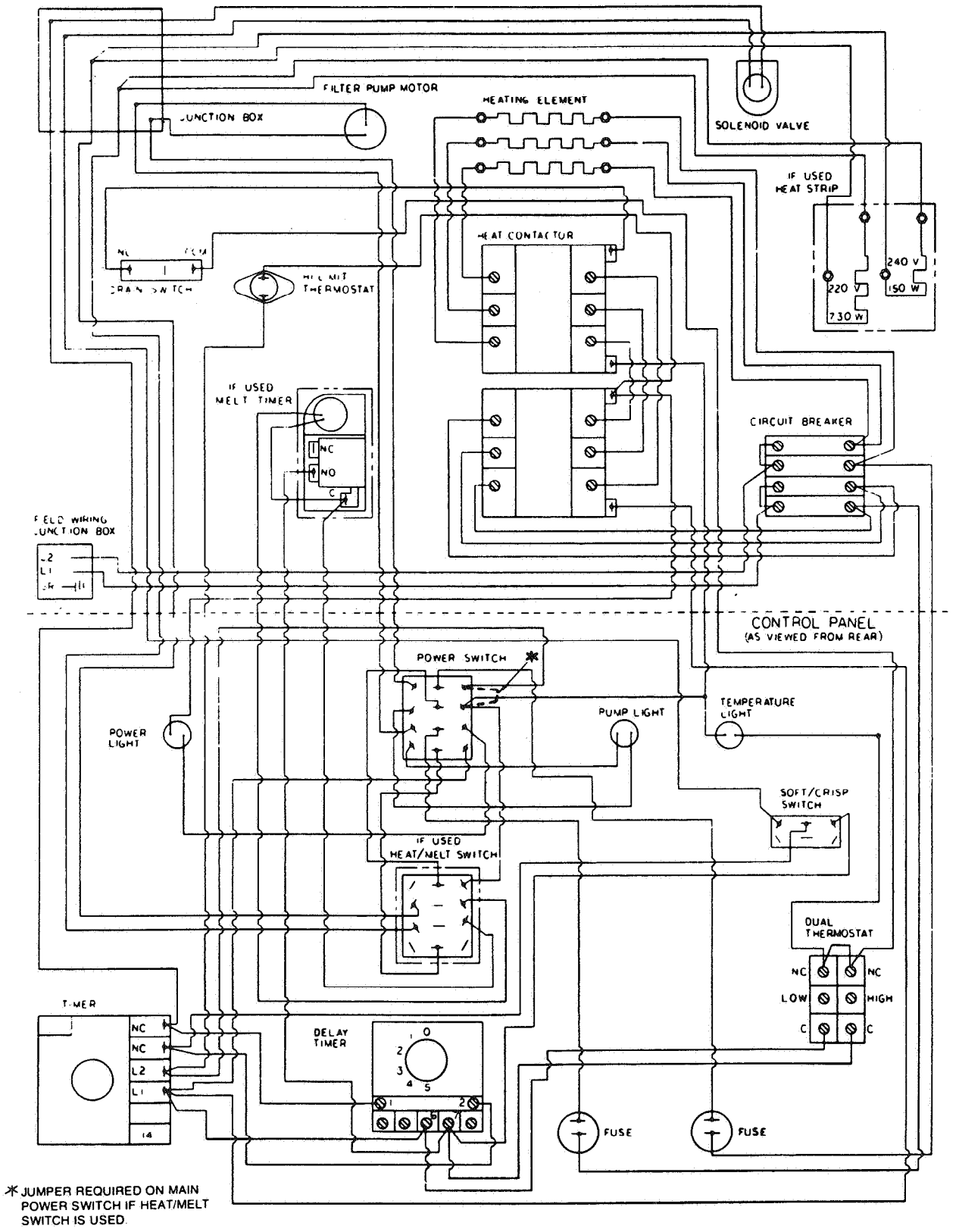


Model 500 SC Electric Fryer, Dual Thermostat, Single Phase, 208/240V, 50/60 Hz. Wiring Diagram (18309)

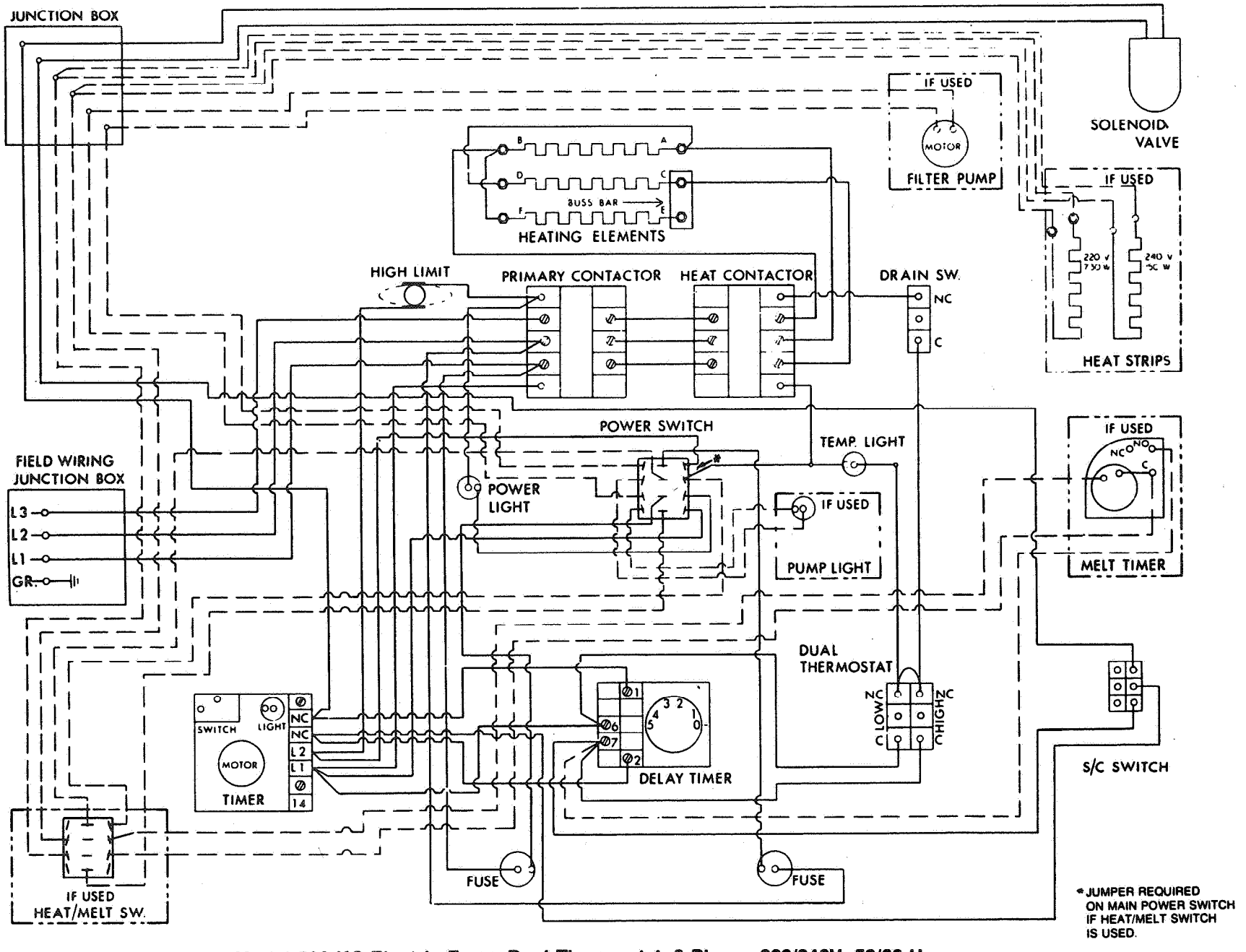


MODEL 500 FRYER SC VARIABLE
208/240 VOLT 50/60 HZ 3 PHASE E55

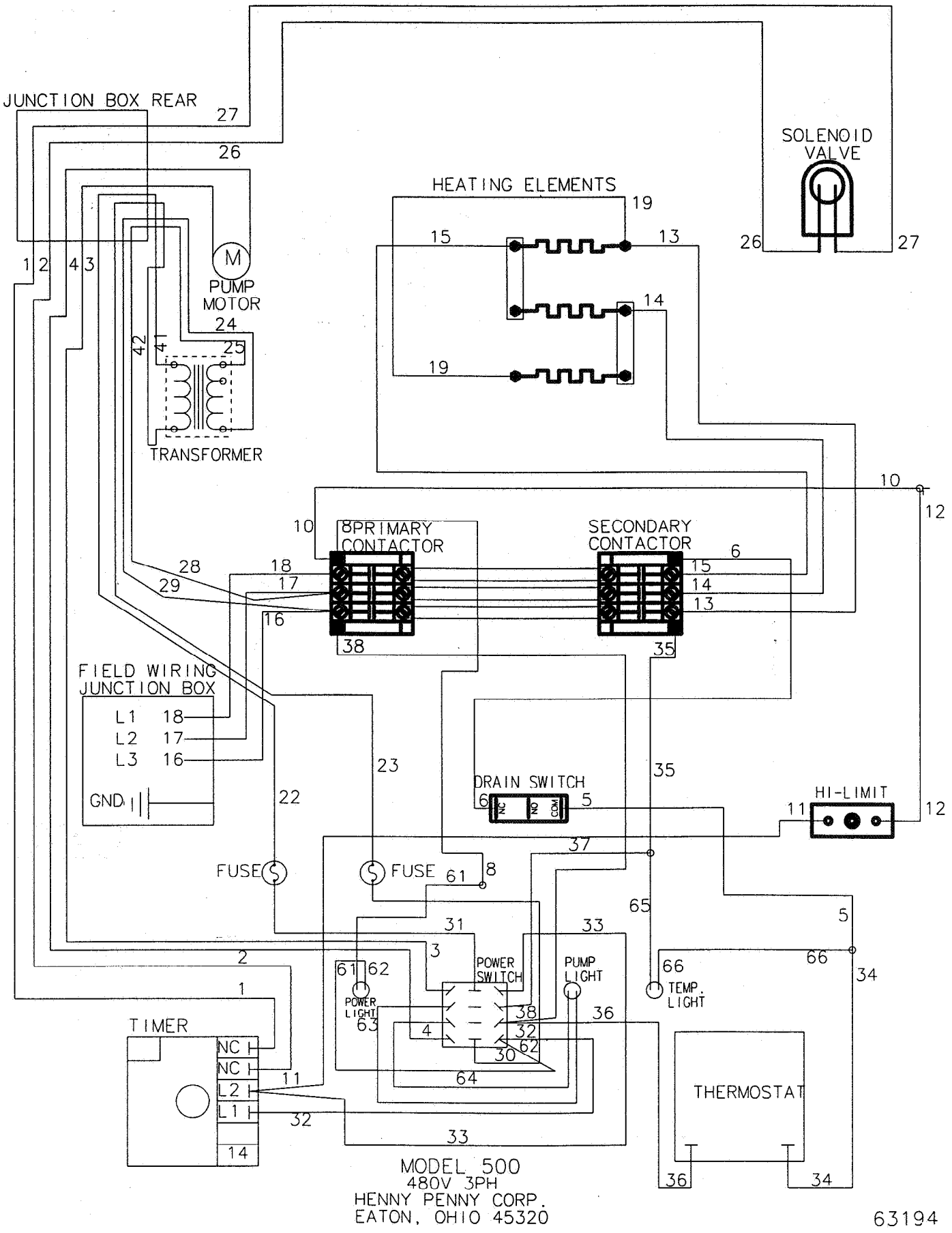
Model 500 SC Electric Fryer, Dual Thermostat, 3-Phase, 208/240V, 50/60 Hz.
Wiring Diagram (18311)



Model 500 KC Electric Fryer, Dual Thermostat, Single Phase, 208/240V, 50/60 Hz. Wiring Diagram (18315)



Model 500 KC Electric Fryer, Dual Thermostat, 3-Phase, 208/240V, 50/60 Hz. Wiring Diagram (18317)


JUNCTION BOX REAR
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SOLENOID VALVE
HEATING ELEMENTS
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PUMP MOTOR
24
25
42
41
TRANSFORMER
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12
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8PRIMARY CONTACTOR
SECONDARY CONTACTOR
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FIELD WIRING JUNCTION BOX
L1 18
L2 17
L3 16
GND
23
22
35
DRAIN SWITCH
6
NC
NO
COM
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HI-LIMIT
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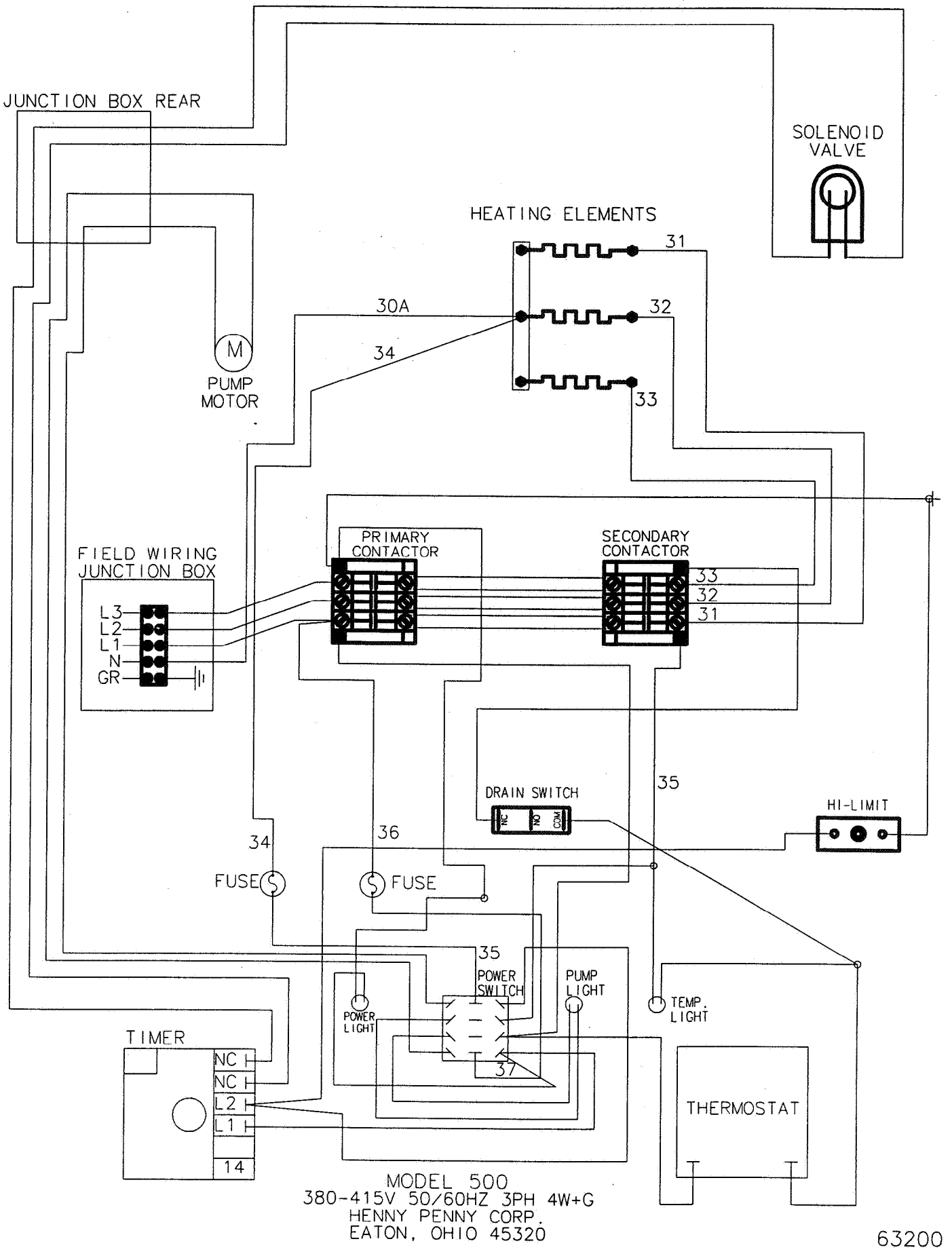
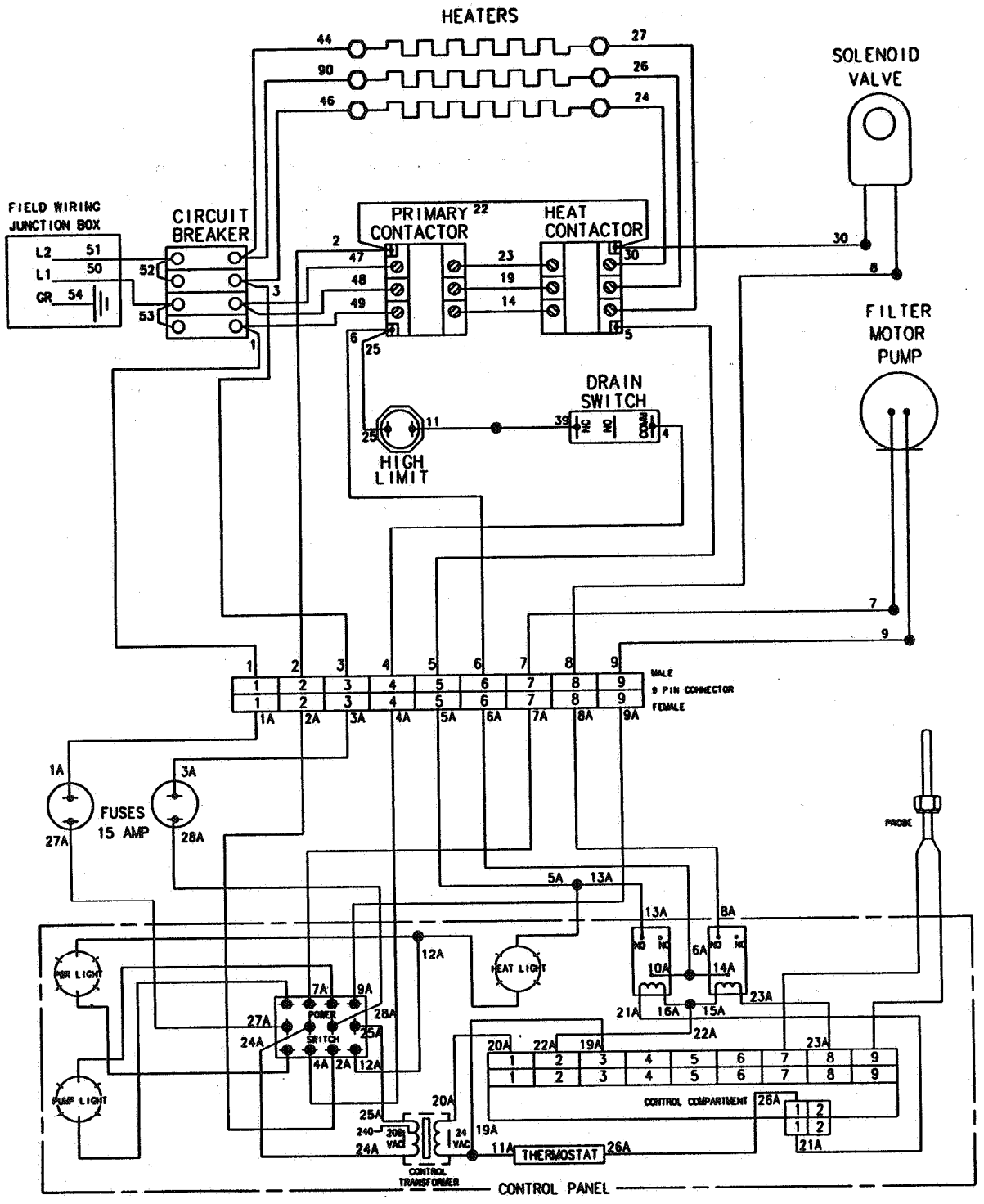
12
37
FUSE
FUSE
61
8
65
5
31
33
3
2
61
62
POWER SWITCH
PUMP LIGHT
66
66
34
1
POWER LIGHT
63
TEMP. LIGHT
38
36
4
32
30
62
TIMER
NC
NC
L2
L1
14
11
64
THERMOSTAT
32
33
36
34
MODEL 500
480V 3PH
HENNY PENNY CORP.
EATON, OHIO 45320
63194



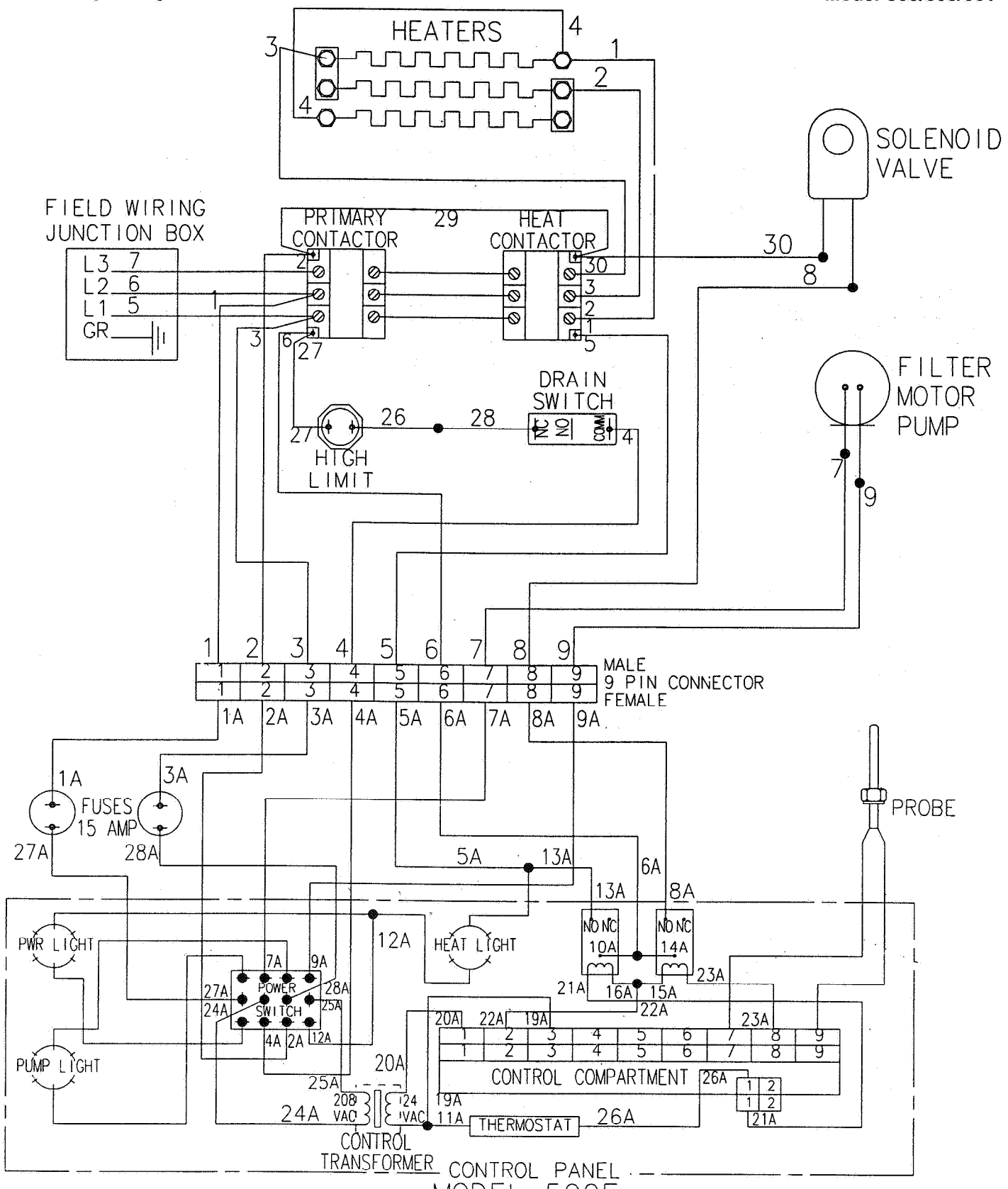
MODEL 500
380-415V 50/60HZ 3PH 4W+G
HENNY PENNY CORP.
EATON, OHIO 45320

63200



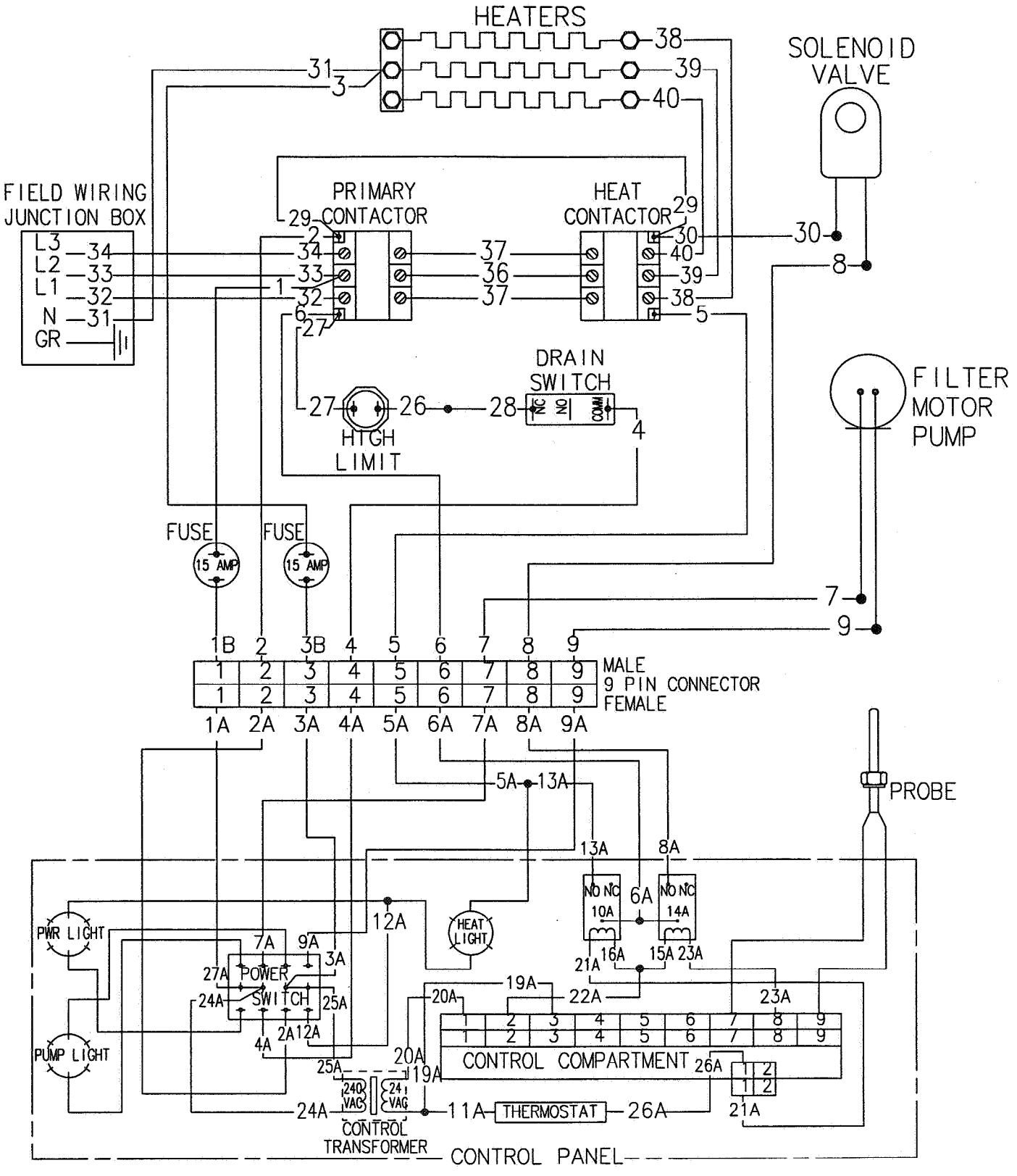
MODEL 500F
208/220/240 50/60HZ 1PH
HENNY PENNY CORP.
EATON, OHIO 45320

51672



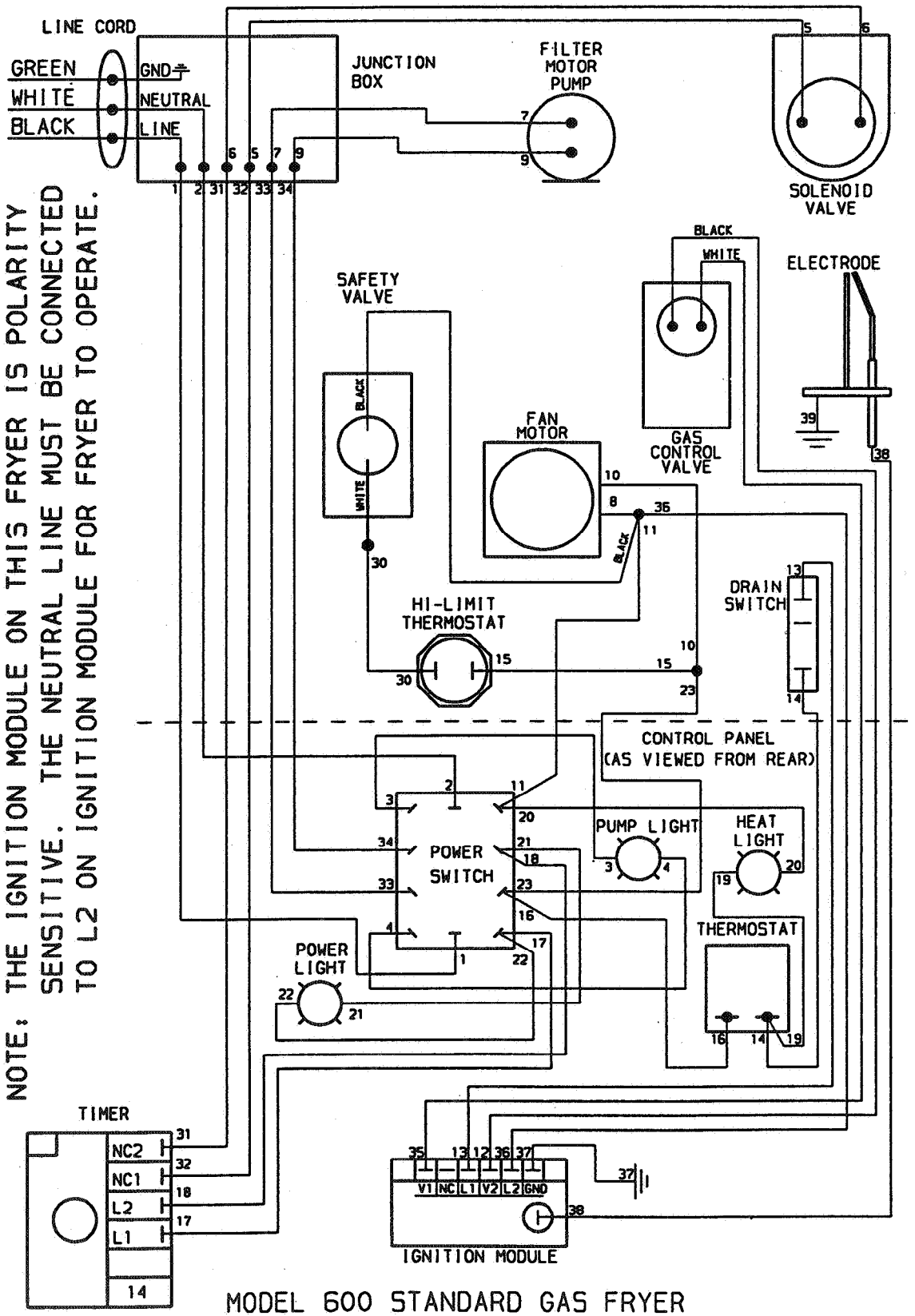
MODEL 500F
208/240V 50/60HZ 3PH
HENNY PENNY CORP.
EATON, OHIO 45320

30914



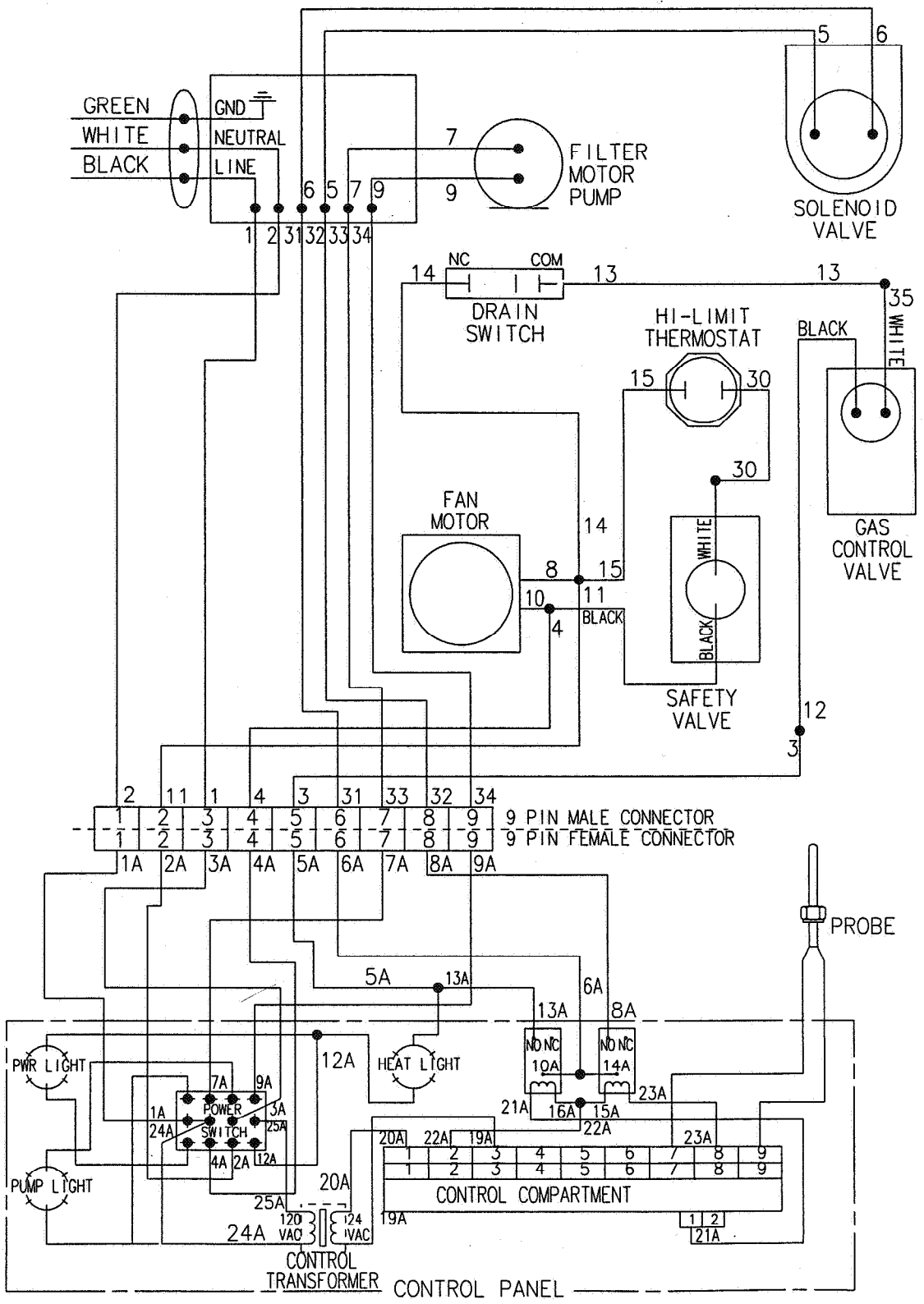
MODEL 500F
380-415 3PH 50/60Hz 4 WIRE + GND
HENNY PENNY CORP., EATON, OHIO 45320

63355

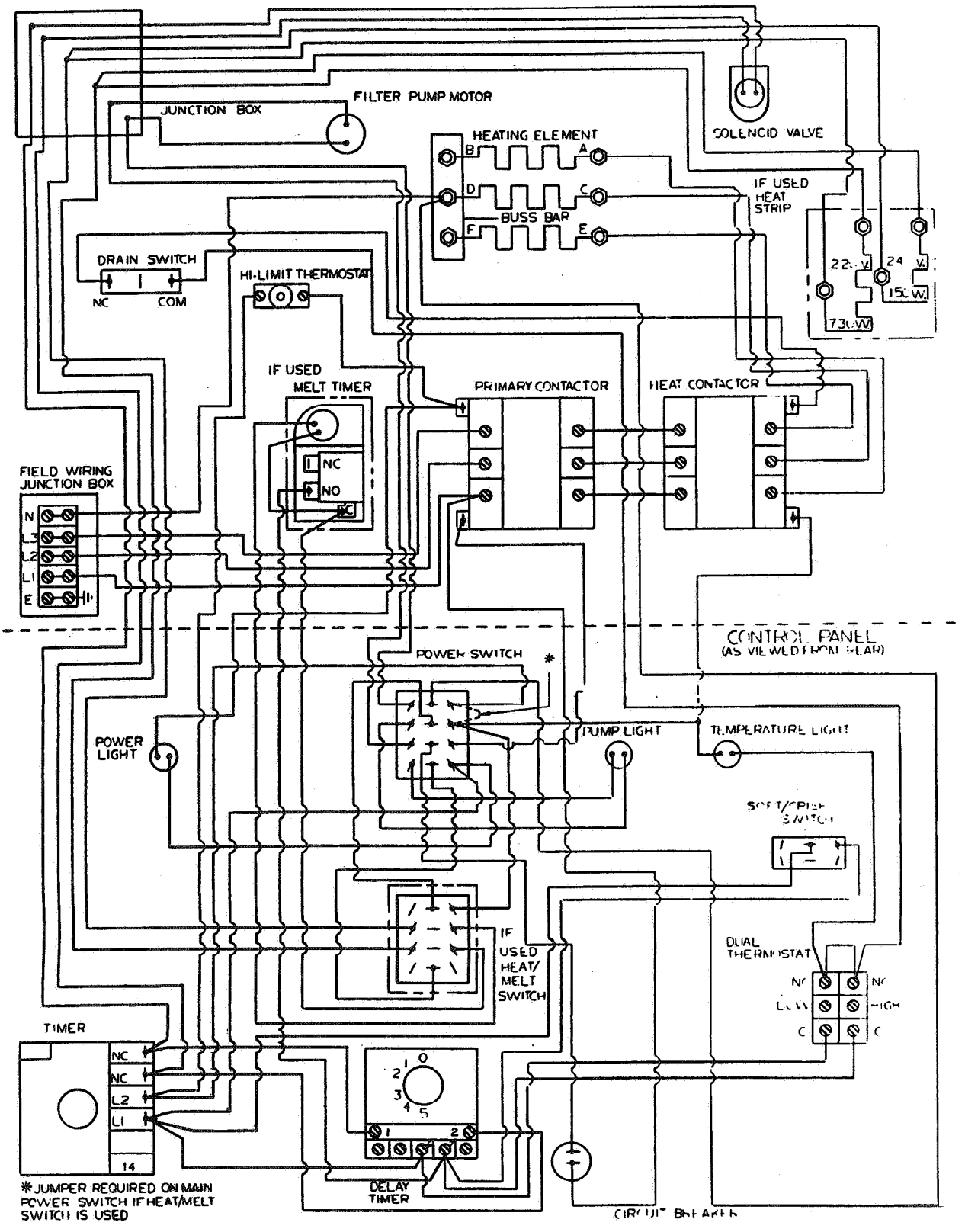


MODEL 600 STANDARD GAS FRYER
120 VOLT 60 HZ 1 PHASE
ELECTRONIC IGNITION

34389

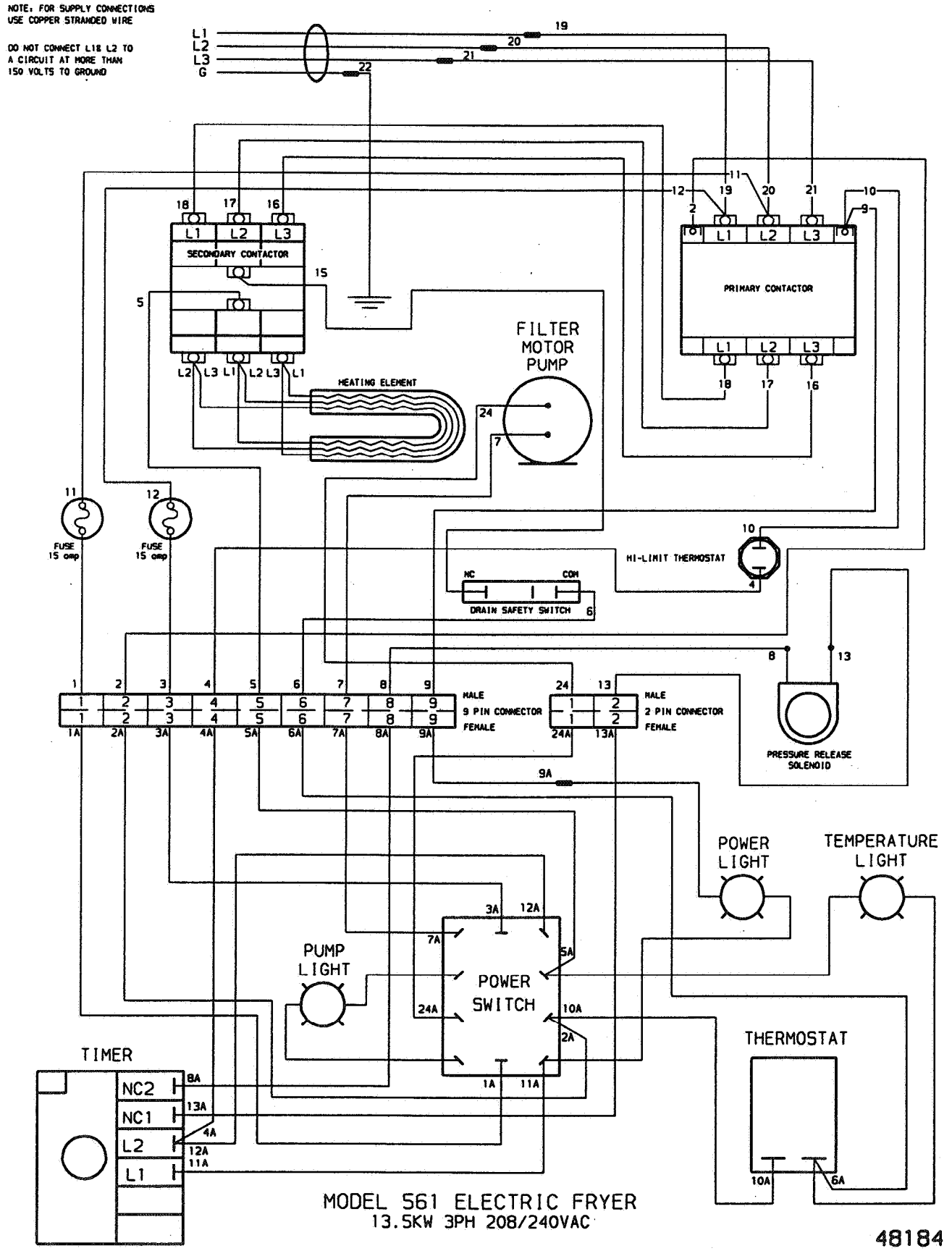


MODEL 600F
120-240V 50/60Hz 1PH
HENNY PENNY CORP., EATON, OHIO 45320 63357



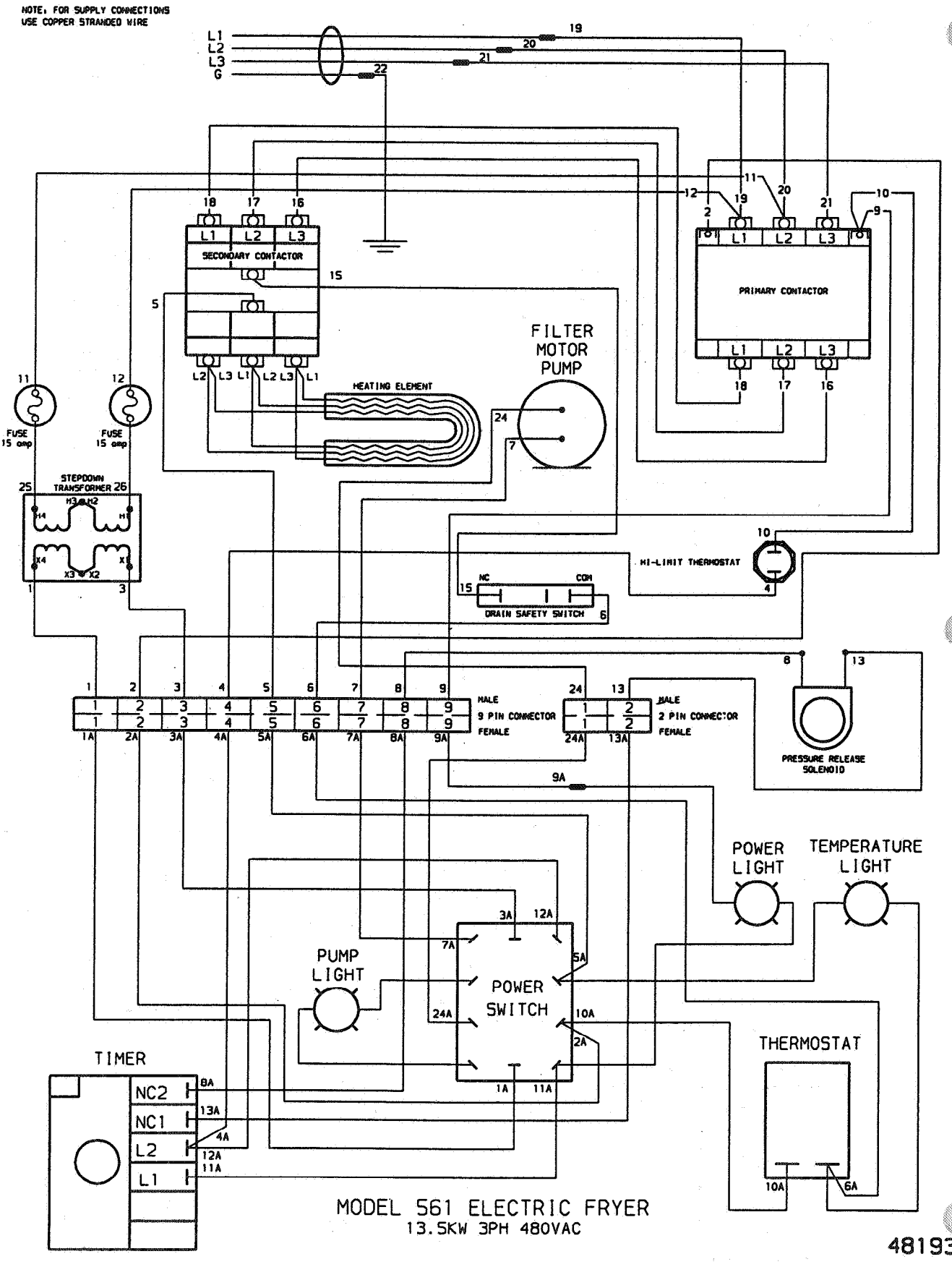
MODEL 500 FRYER SC VARIABLE TEMPERATURE
240/415 VOLT 50 HZ 1/3 PHASE E55 THERMOSTAT

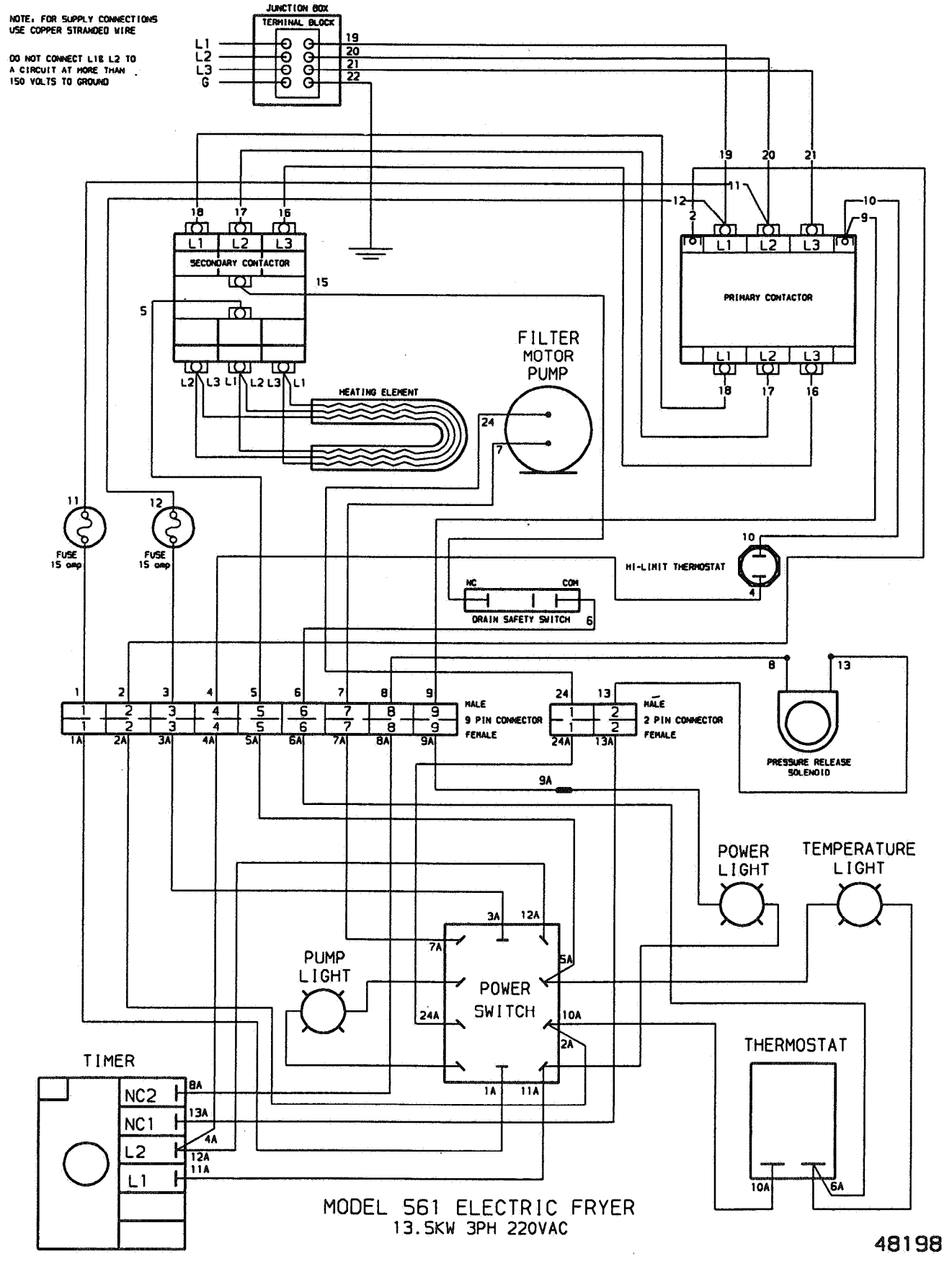
18345

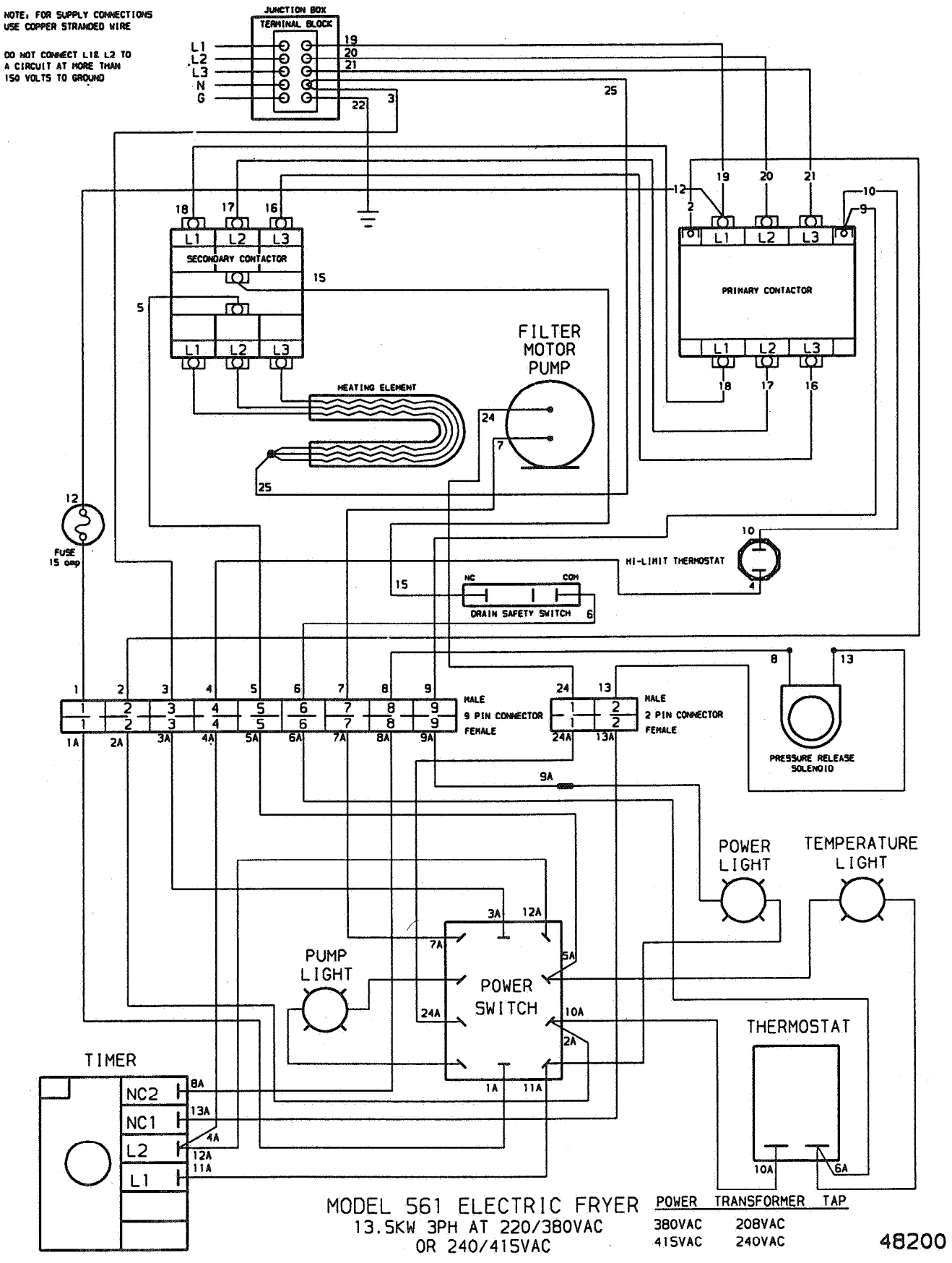


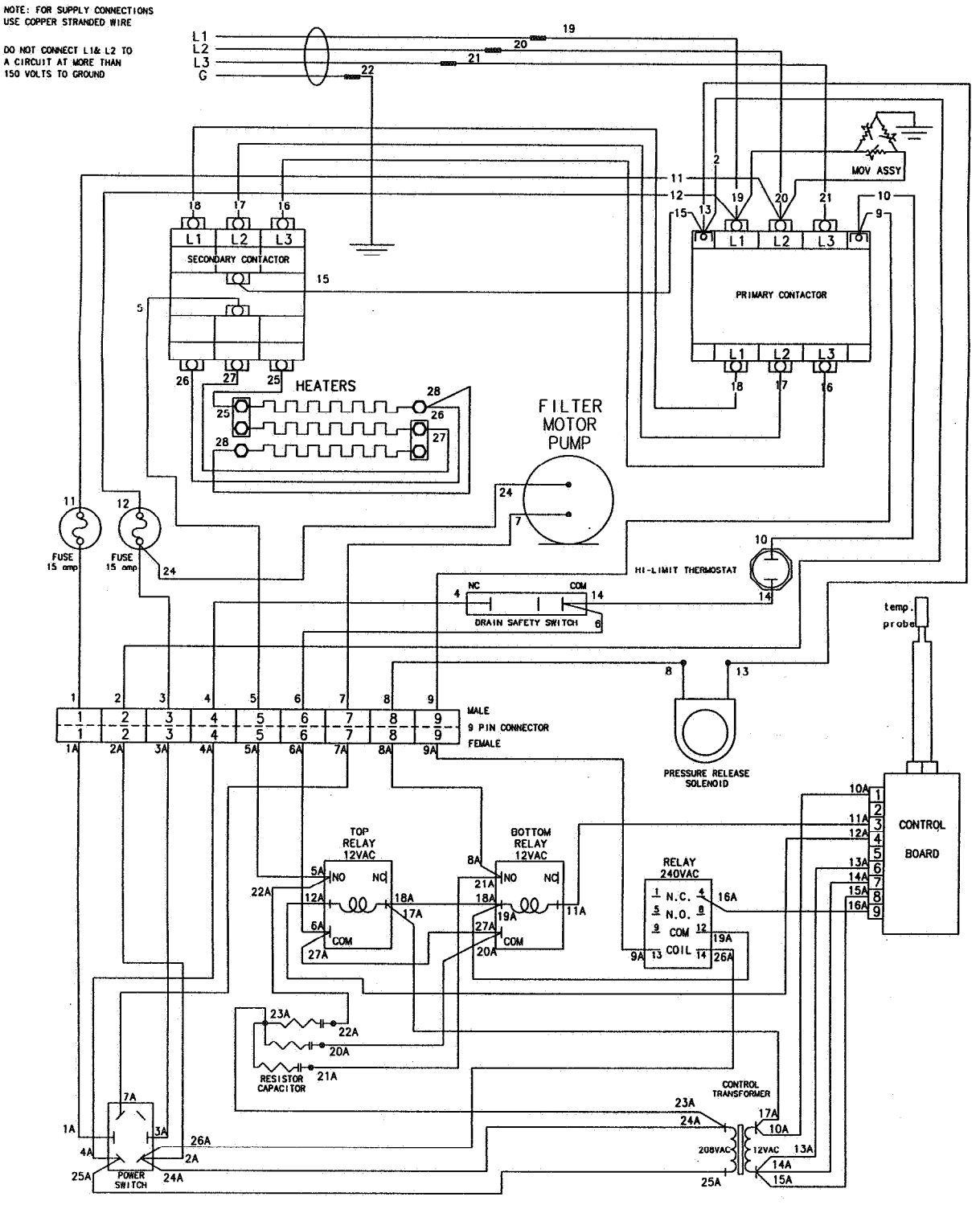
MODEL 561 ELECTRIC FRYER
13.5KW 3PH 208/240VAC

48184


NOTE: FOR SUPPLY CONNECTIONS USE COPPER STRANDED WIRE
L1
L2
L3
G
SECONDARY CONTACTOR
PRIMARY CONTACTOR
FILTER MOTOR PUMP
HEATING ELEMENT
FUSE 15 amp
FUSE 15 amp
STEPDOWN TRANSFORMER
HI-LIMIT THERMOSTAT
NC
COM
DRAIN SAFETY SWITCH
MALE 9 PIN CONNECTOR
FEMALE
MALE 2 PIN CONNECTOR
FEMALE
PRESSURE RELEASE SOLENOID
POWER LIGHT
TEMPERATURE LIGHT
PUMP LIGHT
POWER SWITCH
TIMER
NC2
NC1
L2
L1
THERMOSTAT
MODEL 561 ELECTRIC FRYER
13.5KW 3PH 480VAC
48193

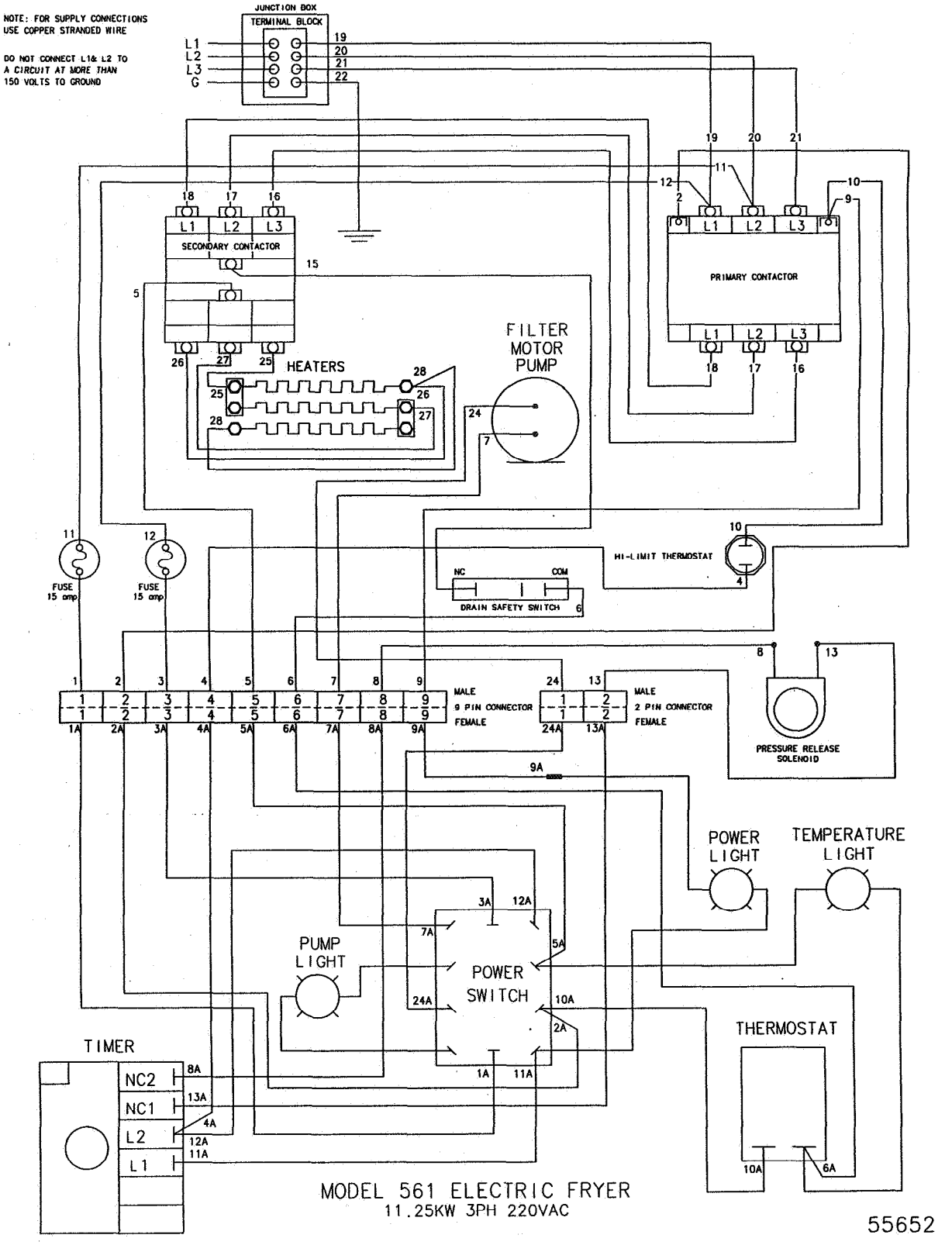

NOTE: FOR SUPPLY CONNECTIONS USE COPPER STRANDED WIRE
DO NOT CONNECT L1& L2 TO A CIRCUIT AT MORE THAN 150 VOLTS TO GROUND
JUNCTION BOX
TERMINAL BLOCK
L1
L2
L3
G
19
20
21
22
SECONDARY CONTACTOR
PRIMARY CONTACTOR
FILTER MOTOR PUMP
HEATING ELEMENT
FUSE 15 amp
FUSE 15 amp
HI-LIMIT THERMOSTAT
DRAIN SAFETY SWITCH
NC
COM
MALE 9 PIN CONNECTOR FEMALE
MALE 2 PIN CONNECTOR FEMALE
PRESSURE RELEASE SOLENOID
POWER LIGHT
TEMPERATURE LIGHT
PUMP LIGHT
POWER SWITCH
TIMER
NC2
NC1
L2
L1
THERMOSTAT
MODEL 561 ELECTRIC FRYER
13.5KW 3PH 220VAC
48198

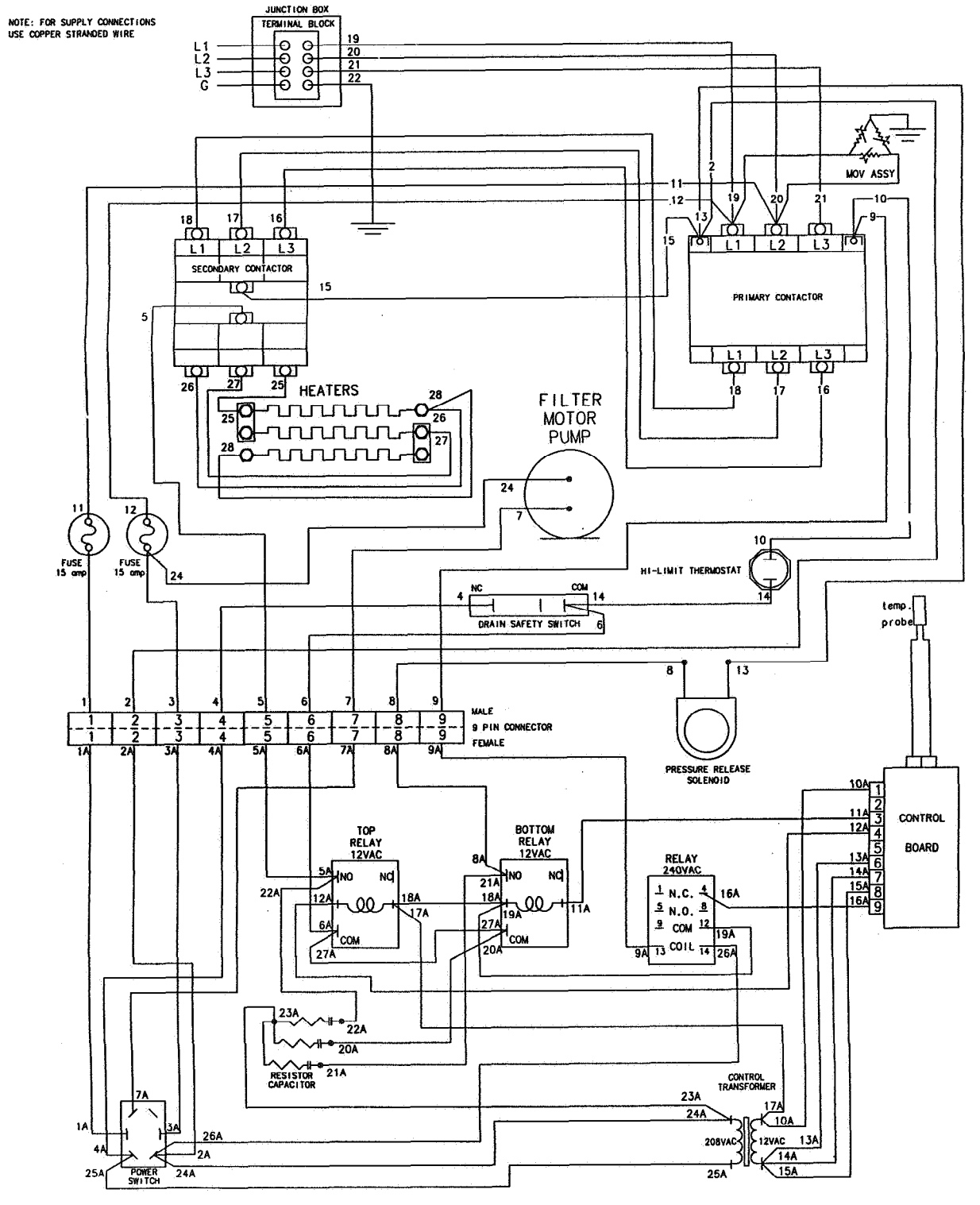

NOTE: FOR SUPPLY CONNECTIONS USE COPPER STRANDED WIRE
DO NOT CONNECT L1& L2 TO A CIRCUIT AT MORE THAN 150 VOLTS TO GROUND
JUNCTION BOX
TERMINAL BLOCK
L1
L2
L3
N
G
SECONDARY CONTACTOR
PRIMARY CONTACTOR
FILTER MOTOR PUMP
HEATING ELEMENT
FUSE 15 amp
HI-LIMIT THERMOSTAT
NC
COM
DRAIN SAFETY SWITCH
MALE 9 PIN CONNECTOR FEMALE
MALE 2 PIN CONNECTOR FEMALE
PRESSURE RELEASE SOLENOID
POWER LIGHT
TEMPERATURE LIGHT
PUMP LIGHT
POWER SWITCH
THERMOSTAT
TIMER
NC2
NC1
L2
L1
MODEL 561 ELECTRIC FRYER
13.5KW 3PH AT 220/380VAC
OR 240/415VAC
POWER TRANSFORMER TAP
380VAC 208VAC
415VAC 240VAC
48200



MODEL 561 ELECTRIC FRYER
11.25KW 3PH 208/240VAC

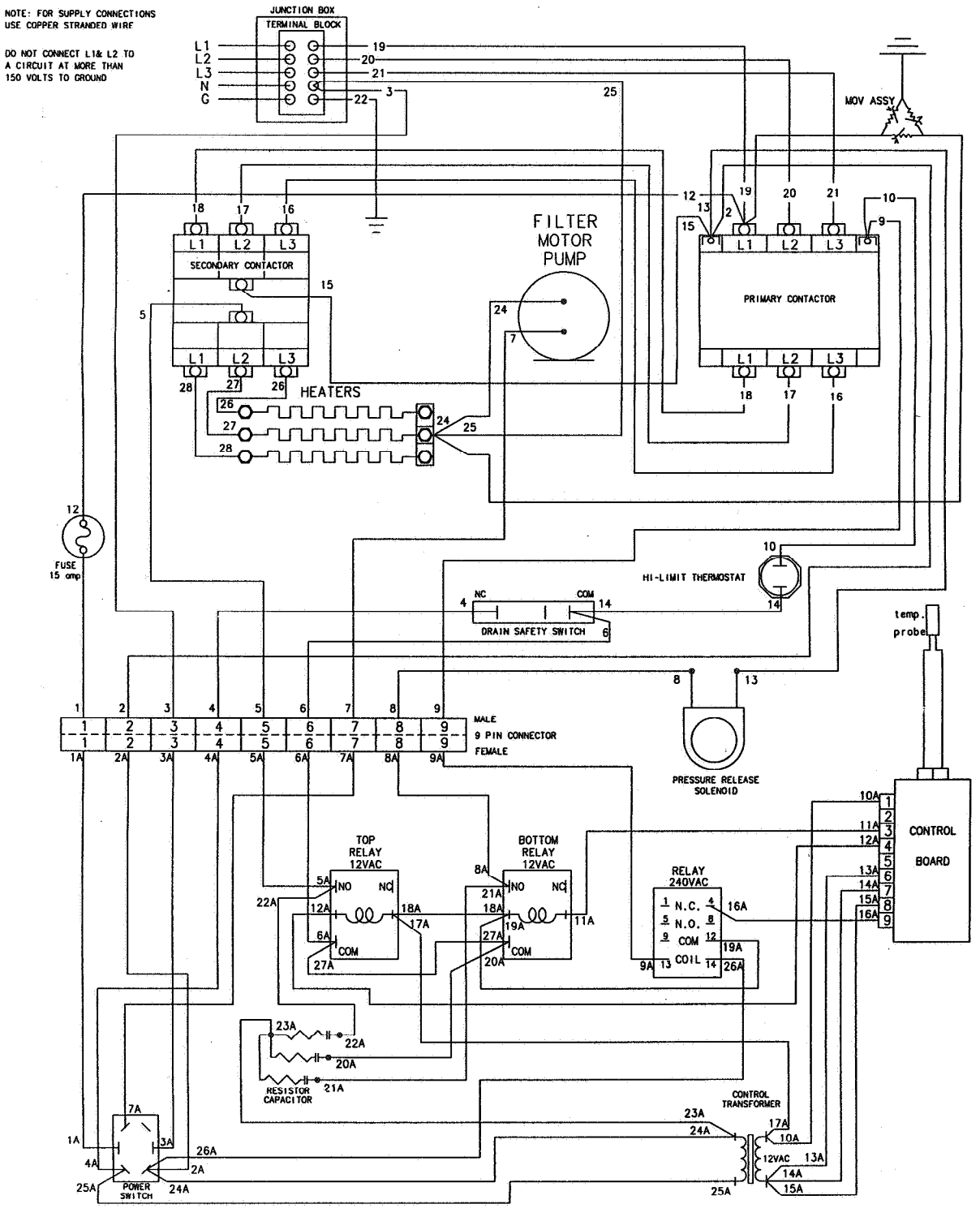
55653


NOTE: FOR SUPPLY CONNECTIONS USE COPPER STRANDED WIRE
DO NOT CONNECT L1& L2 TO A CIRCUIT AT MORE THAN 150 VOLTS TO GROUND
JUNCTION BOX
TERMINAL BLOCK
L1
L2
L3
G
SECONDARY CONTACTOR
PRIMARY CONTACTOR
HEATERS
FILTER MOTOR PUMP
FUSE 15 amp
FUSE 15 amp
HI-LIMIT THERMOSTAT
NC
COM
DRAIN SAFETY SWITCH
MALE 9 PIN CONNECTOR FEMALE
MALE 2 PIN CONNECTOR FEMALE
PRESSURE RELEASE SOLENOID
POWER LIGHT
TEMPERATURE LIGHT
PUMP LIGHT
POWER SWITCH
THERMOSTAT
TIMER
NC2
NC1
L2
L1
MODEL 561 ELECTRIC FRYER
11.25KW 3PH 220VAC
55652



MODEL 561 ELECTRIC FRYER
11.25KW 3PH 220VAC

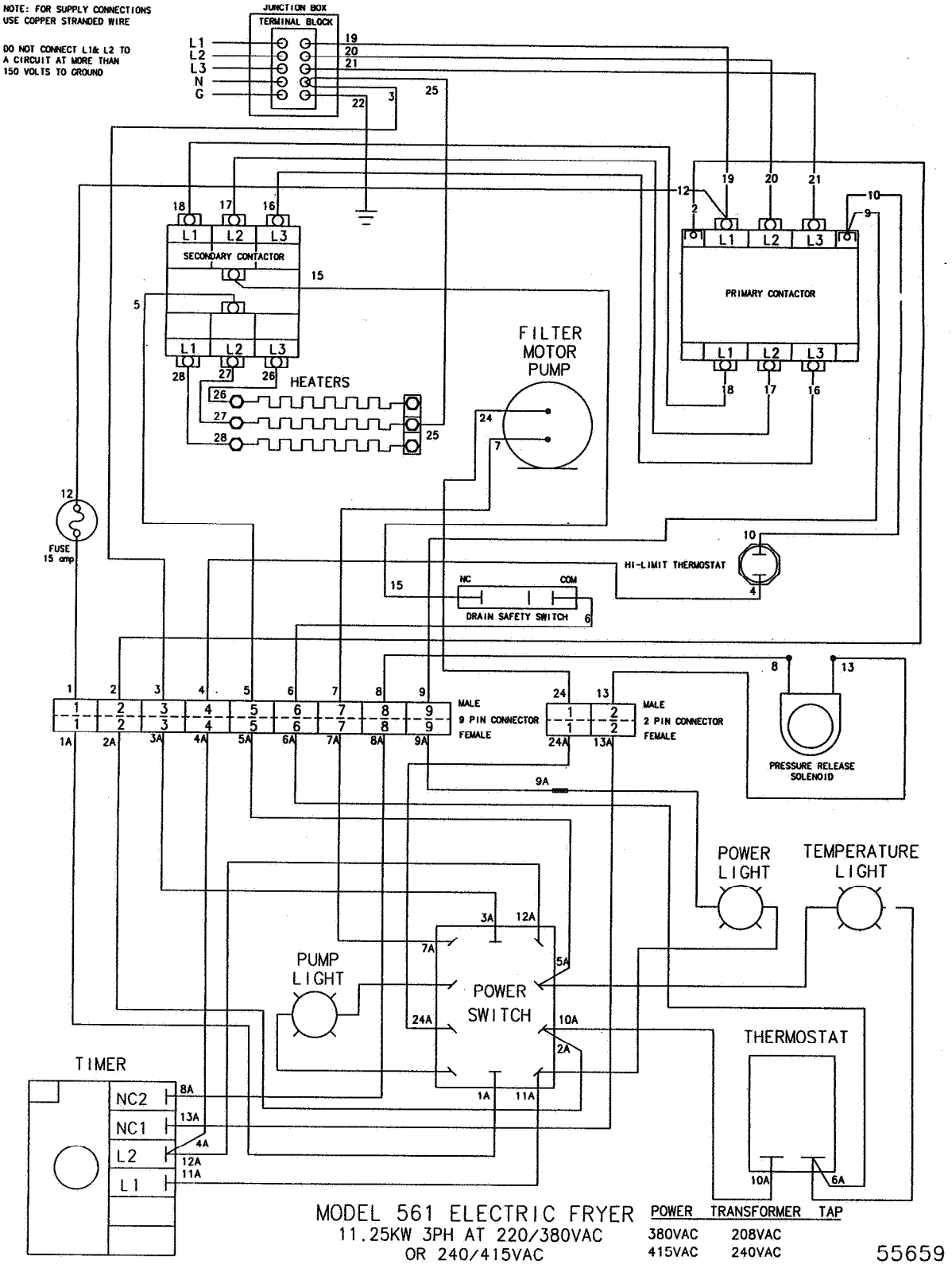
55650

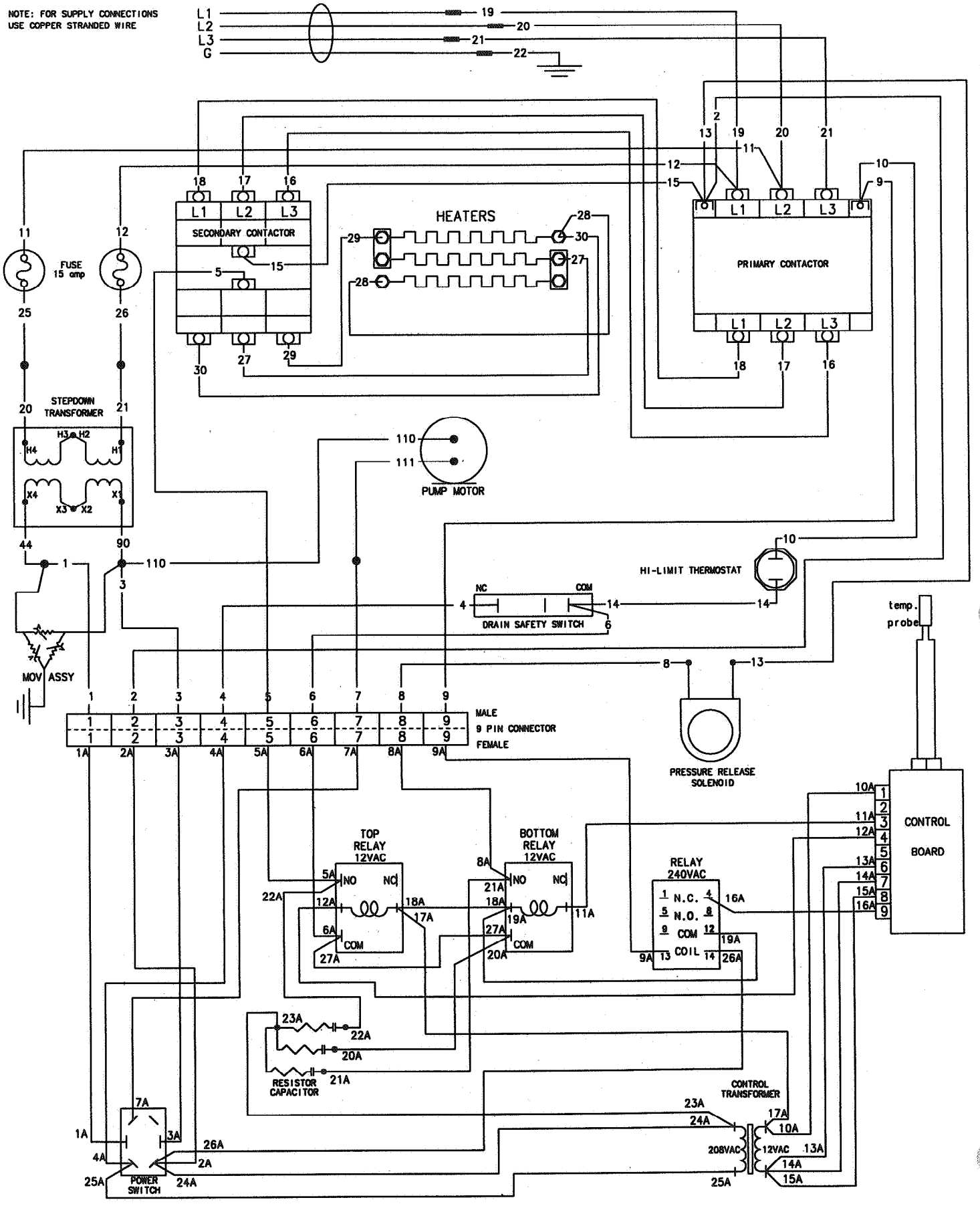


MODEL 561 ELECTRIC FRYER
11.25KW 3PH AT 220/380VAC
OR 240/415VAC

POWER TRANSFORMER TAP	
380VAC	208VAC
415VAC	240VAC

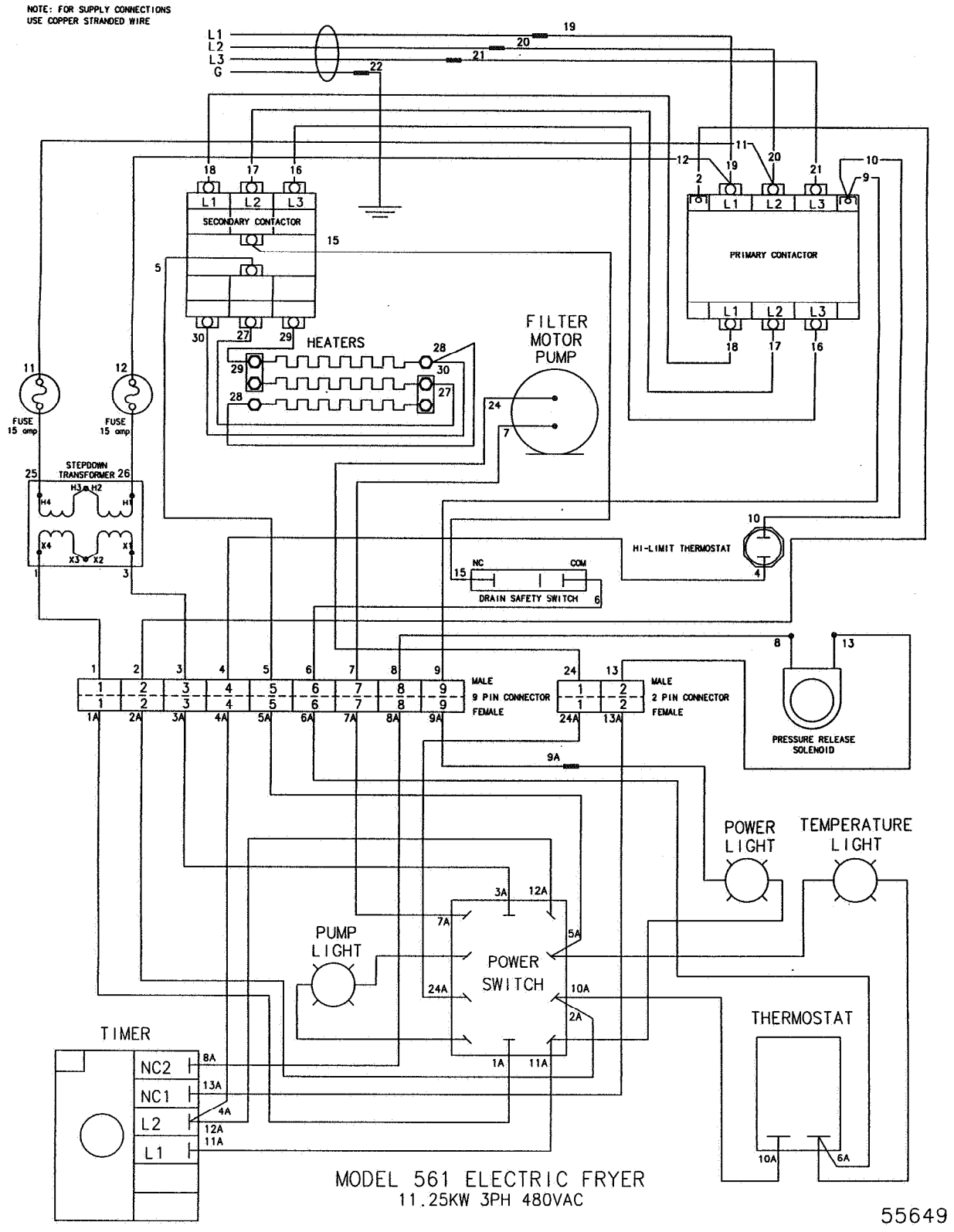
55661

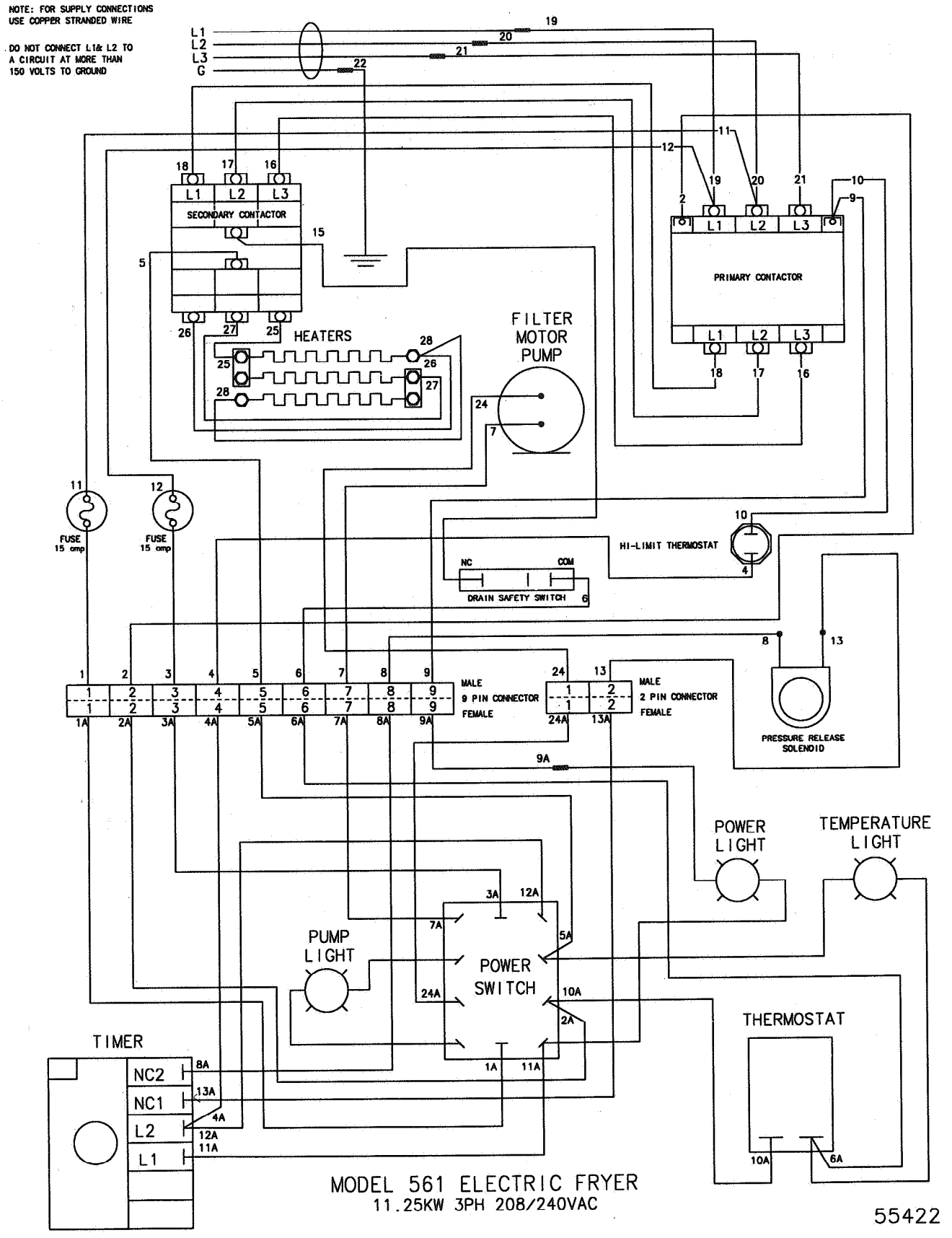

NOTE: FOR SUPPLY CONNECTIONS USE COPPER STRANDED WIRE
DO NOT CONNECT L1& L2 TO A CIRCUIT AT MORE THAN 150 VOLTS TO GROUND
JUNCTION BOX TERMINAL BLOCK
L1
L2
L3
N
G
SECONDARY CONTACTOR
PRIMARY CONTACTOR
HEATERS
FILTER MOTOR PUMP
FUSE 15 amp
HI-LIMIT THERMOSTAT
NC
COM
DRAIN SAFETY SWITCH
MALE 9 PIN CONNECTOR FEMALE
MALE 2 PIN CONNECTOR FEMALE
PRESSURE RELEASE SOLENOID
POWER LIGHT
TEMPERATURE LIGHT
PUMP LIGHT
POWER SWITCH
THERMOSTAT
TIMER
NC2
NC1
L2
L1
MODEL 561 ELECTRIC FRYER
11.25KW 3PH AT 220/380VAC
OR 240/415VAC
POWER TRANSFORMER TAP
380VAC 208VAC
415VAC 240VAC
55659

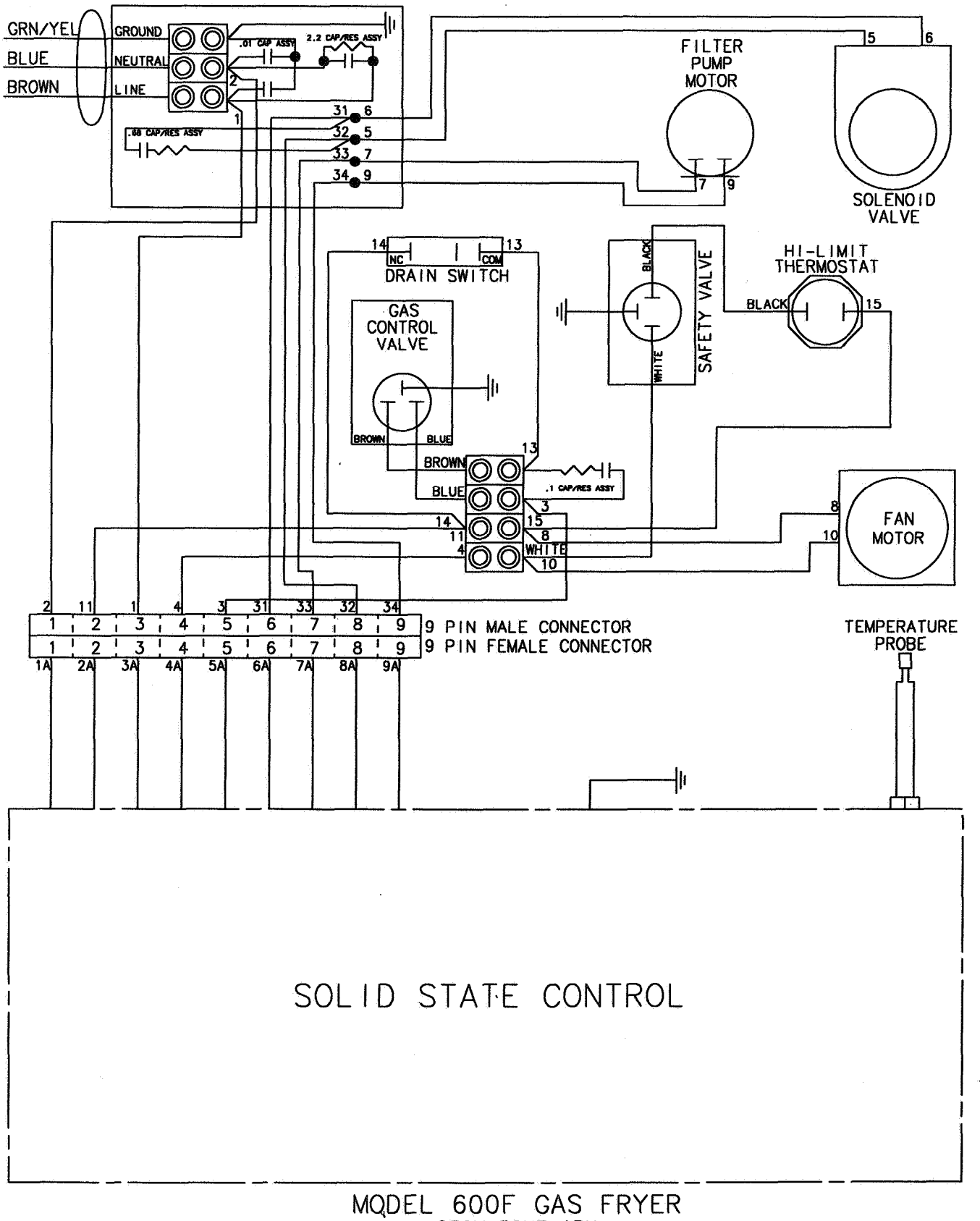


55651

MODEL 561 ELECTRIC FRYER
11.25KW 3PH 480VAC

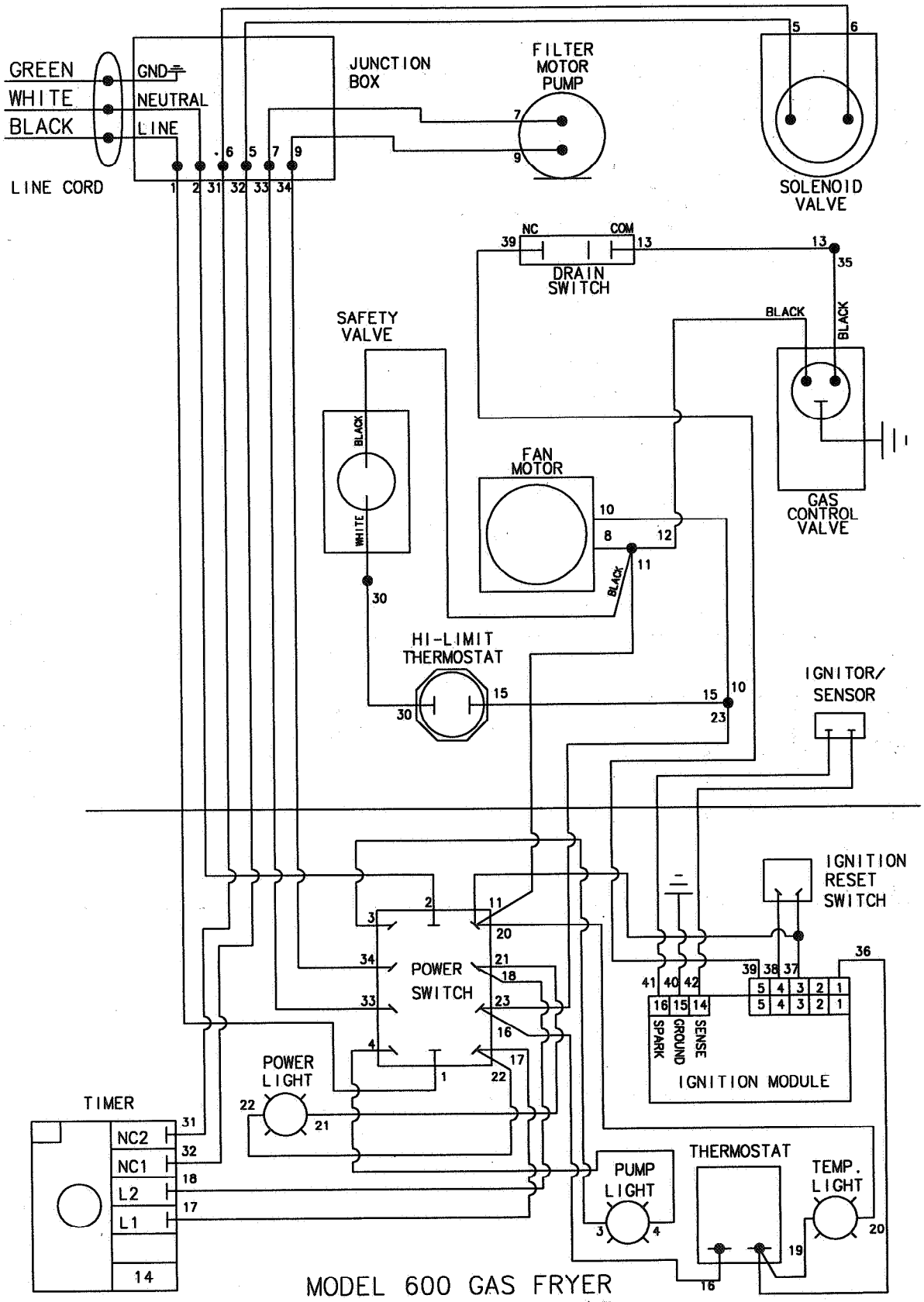

NOTE: FOR SUPPLY CONNECTIONS
USE COPPER STRANDED WIRE
L1
L2
L3
G
SECONDARY CONTACTOR
PRIMARY CONTACTOR
HEATERS
FILTER
MOTOR
PUMP
FUSE
15 amp
STEPDOWN
TRANSFORMER
HI-LIMIT THERMOSTAT
DRAIN SAFETY SWITCH
NC
COM
MALE
9 PIN CONNECTOR
FEMALE
MALE
2 PIN CONNECTOR
FEMALE
PRESSURE RELEASE
SOLENOID
POWER
LIGHT
TEMPERATURE
LIGHT
PUMP
LIGHT
POWER
SWITCH
THERMOSTAT
TIMER
NC2
NC1
L2
L1
MODEL 561 ELECTRIC FRYER
11.25KW 3PH 480VAC
55649


NOTE: FOR SUPPLY CONNECTIONS USE COPPER STRANDED WIRE
DO NOT CONNECT L1& L2 TO A CIRCUIT AT MORE THAN 150 VOLTS TO GROUND
L1
L2
L3
G
SECONDARY CONTACTOR
PRIMARY CONTACTOR
HEATERS
FILTER MOTOR PUMP
FUSE 15 amp
FUSE 15 amp
HI-LIMIT THERMOSTAT
DRAIN SAFETY SWITCH
NC
COM
MALE 9 PIN CONNECTOR FEMALE
MALE 2 PIN CONNECTOR FEMALE
PRESSURE RELEASE SOLENOID
POWER LIGHT
TEMPERATURE LIGHT
PUMP LIGHT
POWER SWITCH
THERMOSTAT
TIMER
NC2
NC1
L2
L1
MODEL 561 ELECTRIC FRYER
11.25KW 3PH 208/240VAC
55422



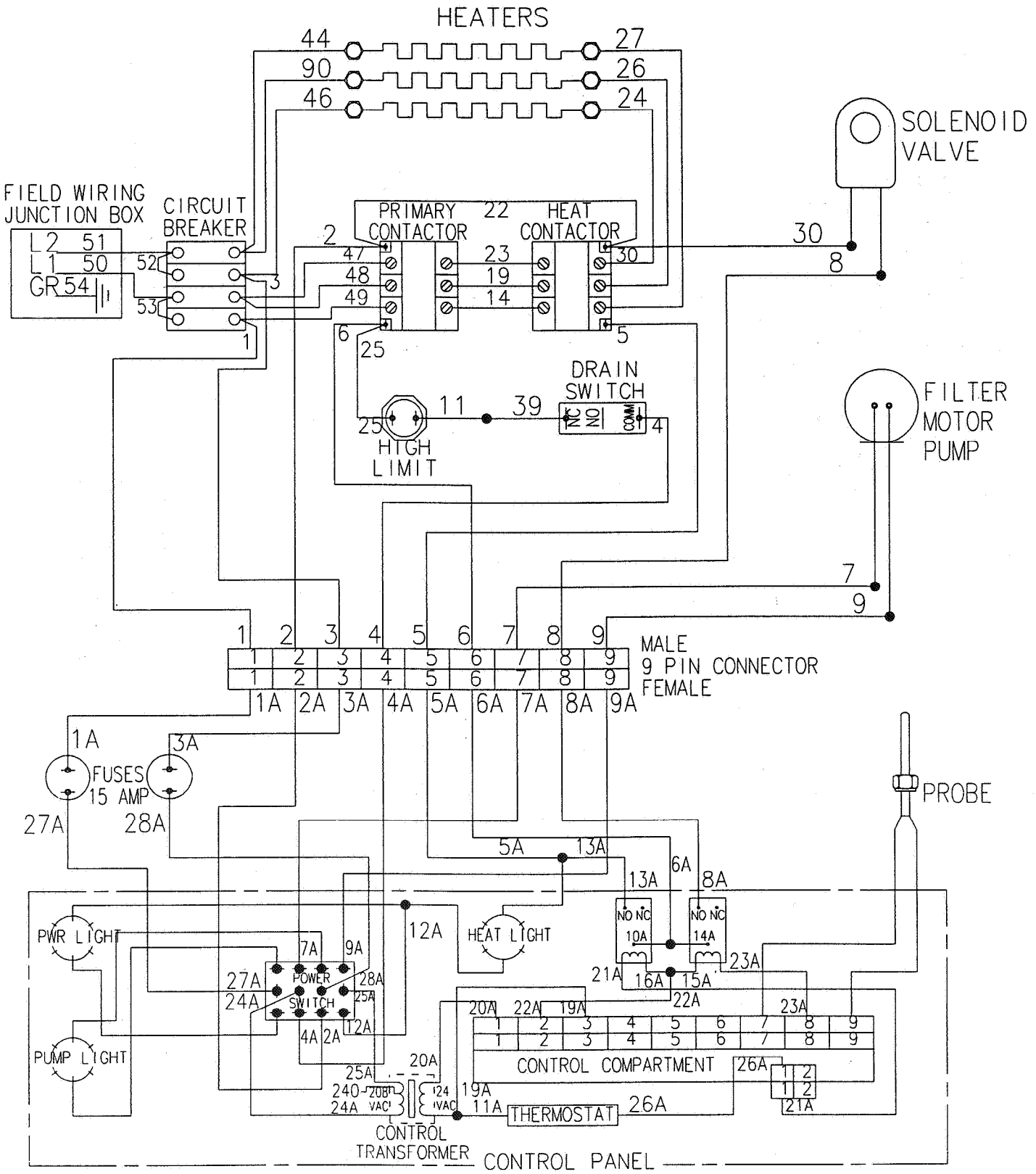
MQDEL 600F GAS FRYER
230V 50HZ 1PH

34810



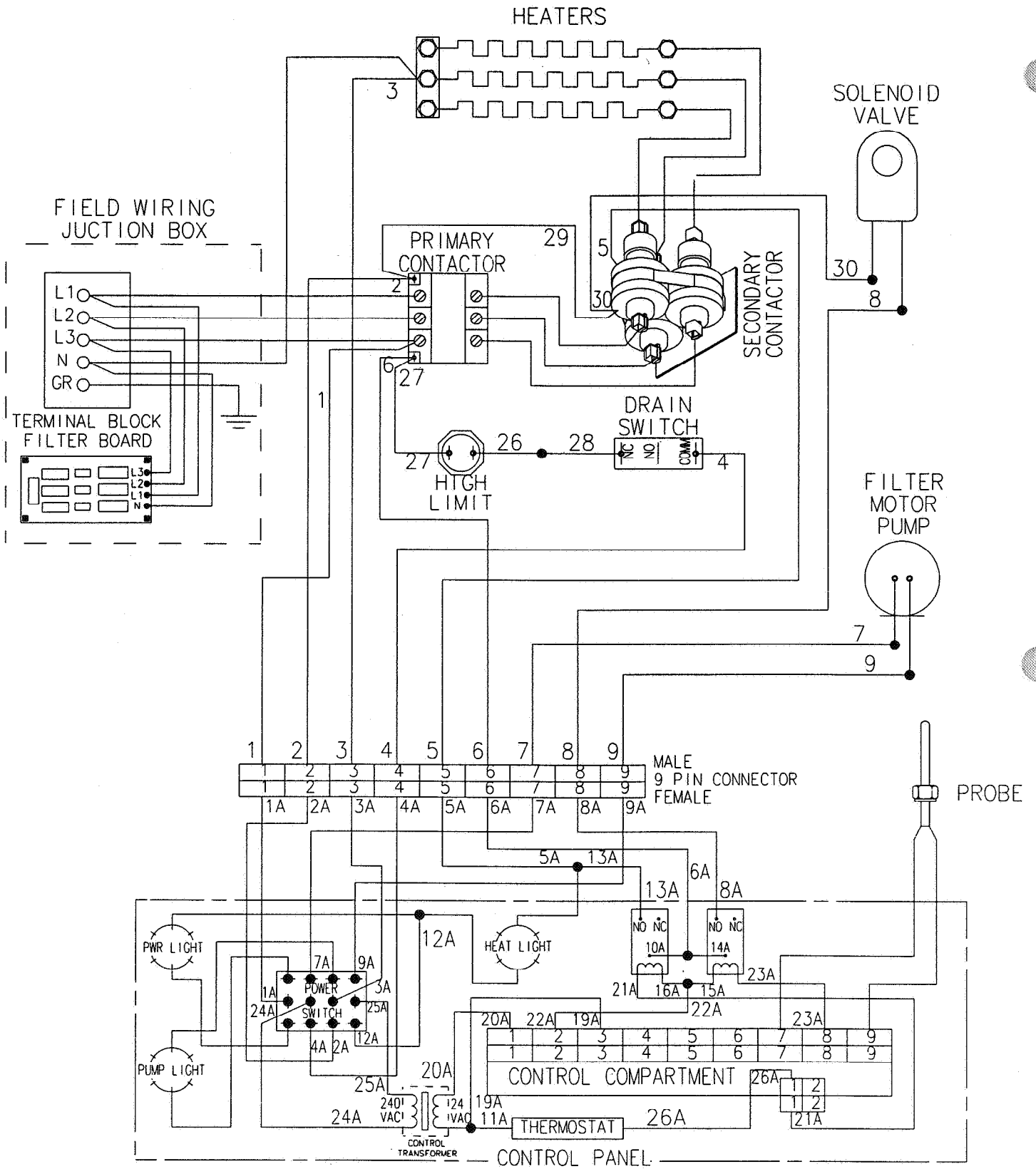
MODEL 600 GAS FRYER
240V, 50Hz, 1 PHASE
SPARK IGNITION

55318



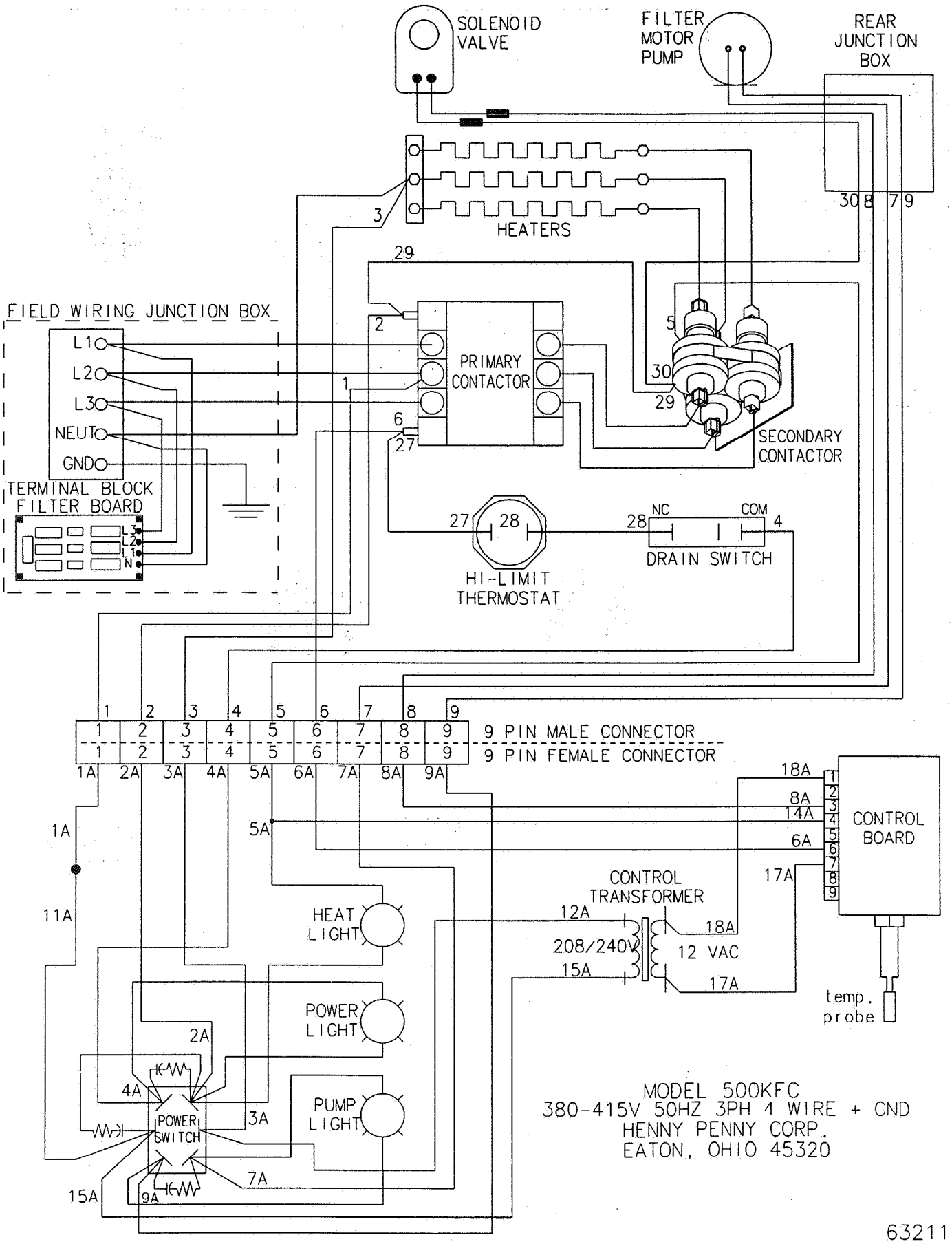
MODEL 500F
208-240 50/60HZ 1PH
HENNY PENNY CORP.
EATON, OHIO 45320

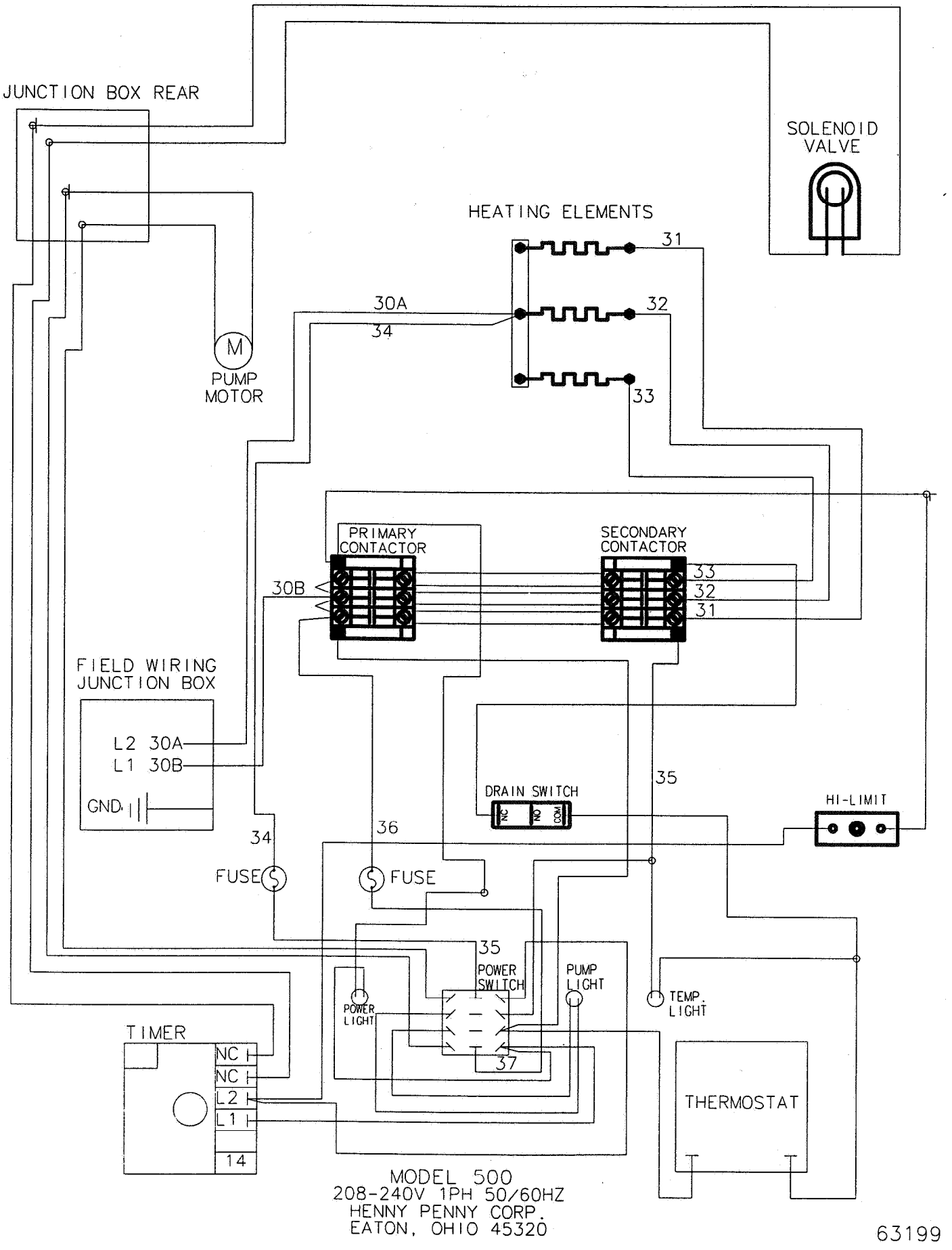
51672

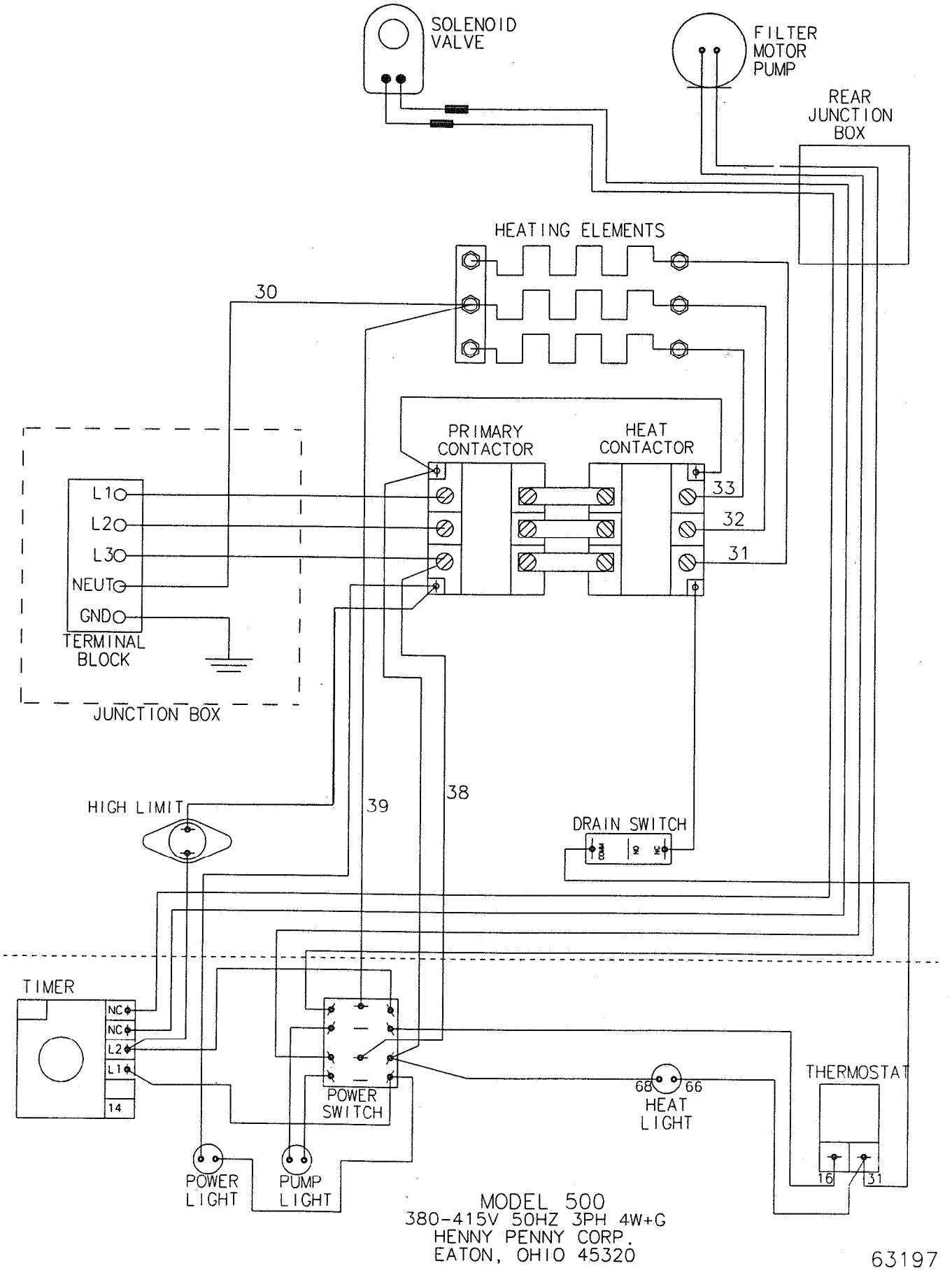


MODEL 500F
400V 50HZ 3PH 4 WIRE & GND
HENNY PENNY CORP.
EATON, OHIO 45320

51300


SOLENOID VALVE
FILTER MOTOR PUMP
REAR JUNCTION BOX
30 8 7 9
HEATERS
3
29
FIELD WIRING JUNCTION BOX
L1
L2
L3
NEUT
GND
TERMINAL BLOCK FILTER BOARD
L3
L2
L1
N
2
1
6
27
PRIMARY CONTACTOR
5
30
29
SECONDARY CONTACTOR
27
28
HI-LIMIT THERMOSTAT
28
NC
COM
4
DRAIN SWITCH
1 2 3 4 5 6 7 8 9
9 PIN MALE CONNECTOR
9 PIN FEMALE CONNECTOR
1A 2A 3A 4A 5A 6A 7A 8A 9A
18A
8A
14A
6A
17A
CONTROL BOARD
1A
5A
11A
CONTROL TRANSFORMER
12A
208/240V
15A
18A
12 VAC
17A
HEAT LIGHT
POWER LIGHT
PUMP LIGHT
2A
4A
3A
POWER SWITCH
7A
15A
9A
temp. probe
MODEL 500KFC
380-415V 50HZ 3PH 4 WIRE + GND
HENNY PENNY CORP.
EATON, OHIO 45320
63211


JUNCTION BOX REAR
SOLENOID VALVE
HEATING ELEMENTS
31
30A
32
34
M
PUMP MOTOR
33
PRIMARY CONTACTOR
SECONDARY CONTACTOR
30B
33
32
31
FIELD WIRING JUNCTION BOX
L2 30A
L1 30B
GND
35
DRAIN SWITCH
NC
NO
COM
HI-LIMIT
34
36
FUSE
FUSE
35
POWER SWITCH
PUMP LIGHT
POWER LIGHT
TEMP. LIGHT
TIMER
NC
NC
L2
L1
14
37
THERMOSTAT
MODEL 500
208-240V 1PH 50/60HZ
HENNY PENNY CORP.
EATON, OHIO 45320
63199


SOLENOID VALVE
FILTER MOTOR PUMP
REAR JUNCTION BOX
HEATING ELEMENTS
30
PRIMARY CONTACTOR
HEAT CONTACTOR
33
32
31
L1
L2
L3
NEUT
GND
TERMINAL BLOCK
JUNCTION BOX
HIGH LIMIT
39
38
DRAIN SWITCH
TIMER
NC
NC
L2
L1
14
POWER SWITCH
68
66
HEAT LIGHT
THERMOSTAT
16
31
POWER LIGHT
PUMP LIGHT
MODEL 500
380-415V 50HZ 3PH 4W+G
HENNY PENNY CORP.
EATON, OHIO 45320
63197

LIMITED WARRANTY FOR HENNY PENNY APPLIANCES

Subject to the following conditions, Henny Penny Corporation makes the following limited warranties to the original purchaser only for Henny Penny appliances and replacement parts:

NEW EQUIPMENT: Any part of a new appliance, except lamps and fuses, which proves to be defective in material or workmanship within two (2) years from date of original installation, will be repaired or replaced without charge F.O.B. factory, Eaton, Ohio, or F.O.B. authorized distributor. To validate this warranty, the registration card for the appliance must be mailed to Henny Penny within ten (10) days after installation.

REPLACEMENT PARTS: Any appliance replacement part, except lamps and fuses, which proves to be defective in material or workmanship within ninety (90) days from date of original installation will be repaired or replaced without charge F.O.B. factory, Eaton, Ohio, or F.O.B. authorized distributor.

The warranty for new equipment and replacement parts covers only the repair or replacement of the defective part and does not include any labor charges for the removal and installation of any parts, travel or other expenses incidental to the repair or replacement of a part.

EXTENDED FRYPOT WARRANTY: Henny Penny will replace any frypot that fails due to manufacturing or workmanship issues for a period of up to seven (7) years from date of manufacture. This warranty shall not cover any frypot that fails due to any misuse or abuse, such as heating of the frypot without shortening.

0 TO 3 YEARS: During this time, any frypot that fails due to manufacturing or workmanship issues will be replaced at no charge for parts, labor, or freight. Henny Penny will either install a new frypot at no cost or provide a new or reconditioned replacement fryer at no cost.

3 TO 7 YEARS: During this time, any frypot that fails due to manufacturing or workmanship issues will be replaced at no charge for the frypot only. Any freight charges and labor costs to install the new frypot as well as the cost of any other parts replaced, such as insulation, thermal sensors, high limits, fittings, and hardware, will be the responsibility of the owner.

Any claim must be represented to either Henny Penny or the distributor from whom the appliance was purchased. No allowance will be granted for repairs made by anyone else without Henny Penny's written consent. If damage occurs during shipping, notify the sender at once so that a claim may be filed.

THE ABOVE LIMITED WARRANTY SETS FORTH THE SOLE REMEDY AGAINST HENNY PENNY FOR ANY BREACH OF WARRANTY OR OTHER TERM. BUYER AGREES THAT NO OTHER REMEDY (INCLUDING CLAIMS FOR ANY INCIDENTAL OR CONSQUENTIAL DAMAGES) SHALL BE AVAILABLE.

The above limited warranty does not apply (a) to damage resulting from accident, alteration, misuse, or abuse; (b) if the equipment's serial number is removed or defaced; or (c) for lamps and fuses. THE ABOVE LIMITED WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY AND FITNESS, AND ALL OTHER WARRANTIES ARE EXCLUDED. HENNY PENNY NEITHER ASSUMES NOR AUTHORIZES ANY PERSON TO ASSUME FOR IT ANY OTHER OBLIGATION OR LIABILITY.

6-1. INTRODUCTION

This section lists and illustrates the replaceable parts of Henny Penny Model 500, 600 and 561 pressure fryers built after November 6, 2000. If your unit was built prior to that date, some differences may exist. If you have any doubts, please contact your distributor. As with all contacts to your distributor, include the model number and serial number from the nameplate on your unit. A complete list of distributors is provided at the rear of this manual.

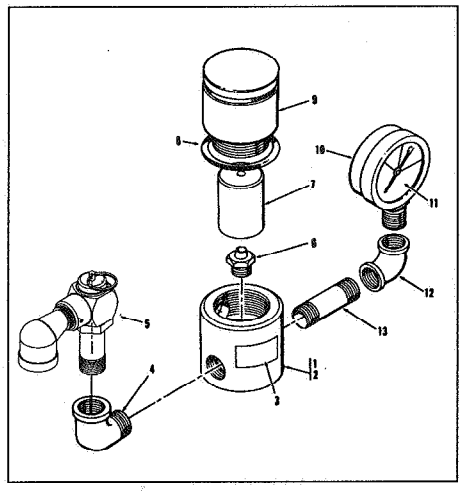
6-2. GENUINE PARTS

Use only genuine Henny Penny parts in your fryer. Using a part of lesser quality or substitute design may result in fryer damage or personal injury.

6-3. MODEL VARIATIONS

This section covers model variations due to options, different applications, (gas or electric), and to cover the latest design improvements. When you order replacement parts, be sure to check for model variations as stated in the figure title and in the DESCRIPTION column of the parts list.

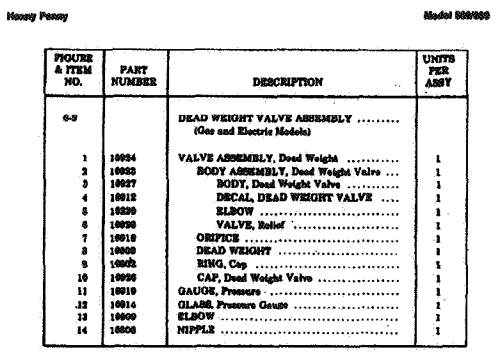
6-4. HOW TO FIND PARTS



(SAMPLE)

To find the items you want to order, proceed as follows:

1. Use the index of illustrations, paragraph 6-10, to find the page number of the proper illustration.
2. Referring to the illustration, find the part desired and its item number.



Henny Penny Model 500/600/561

FIGURE & ITEM NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSY
6-9		DEAD WEIGHT VALVE ASSEMBLY ..... (Gas and Electric Models)	
1	16934	VALVE ASSEMBLY, Dead Weight	1
2	16933	BODY ASSEMBLY, Dead Weight Valve ...	1
3	16927	BODY, Dead Weight Valve	1
4	16912	DECAL, DEAD WEIGHT VALVE	1
5	16930	ELBOW	1
6	16929	VALVE, Relief	1
7	16918	ORIFICE	1
8	16909	DEAD WEIGHT	1
9	16932	RING, Cap	1
10	16926	CAP, Dead Weight Valve	1
11	16919	GAUGE, Pressure	1
12	16914	GLASS, Pressure Gauge	1
13	16909	ELBOW	1
14	16908	NIPPLE	1

(SAMPLE)

3. Find the item number in the corresponding parts list, which shows the Henny Penny part number, a description of the part, any model or usage limitations, and the quantity of parts used on that illustration.

6-5. SUBASSEMBLIES

In some cases, items in the parts list can be purchased in groups (called subassemblies) instead of purchasing individual parts. The part list shows these subassemblies by indenting the description of the parts included within the subassembly. For example:

TIMER, Automatic Reset
- SWITCH, Timer
- LIGHT, Timer Indicator
- COIL, Timer Buzzer

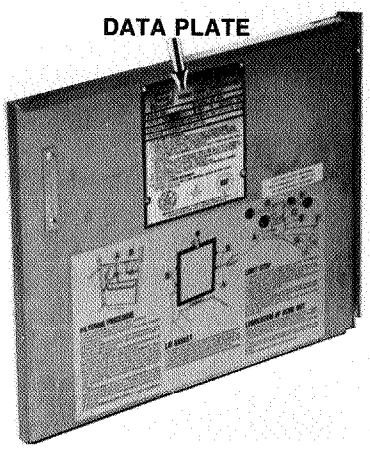
The items can be ordered separately (switch, light, or coil), or order the timer, and all three parts are included.

6-6. HOW TO ORDER PARTS

Once you have found the parts to be ordered, write down the following information:

1. From the parts list: (SAMPLE)

Figure number	6-9
Item number	7
Part number	16918
Description	ORIFICE
Page number	6-33
Page date code	1100



2. From the data plate on your unit: (SAMPLE)

   Model number 500
   Serial number 10133

3. The following table has been provided as a sample format for you to use in preparing your spare parts orders. By providing all the entries, your distributor will be able to send you the correct parts. Also, prepayment expedites your order.

From Parts List					Your Order		
Figure & Item No.	Part Number	Description	Page No.	Page Date Code	Quantity Ordered	Price Each	Total Price
		(SAMPLE)					
6-4-10	EF02-007	FUSE	6-11	1080	5	.80	4.00
6-8-47	16102	KNOB, Spindle, Red	6-19	1080	1	2.00	2.00
MODEL NO. 500 SERIAL NO. 10133					TOTAL ORDER		6.00

6-7. PRICES

Your distributor has a priced parts list and will be glad to inform you of the cost of your parts order.

6-8. DELIVERY

Commonly replaced items are stocked by your distributor and are shipped when your order is received. Other parts are ordered, by your distributor, from Henny Penny Corporation. Normally, these are sent to your distributor within 3 working days.

6-9. WARRANTY

All replacement parts (except lamps and fuses) are warranted for 90 days against manufacturing defects and workmanship. If damage occurs during shipping, notify the sender and the carrier at once, so that a claim is properly filed. Refer to warranty in the front of this manual for other rights and limitations.

6-10. INDEX OF PARTS LIST ILLUSTRATIONS

6-10. INDEX OF PARTS LIST ILLUSTRATIONS (continued)

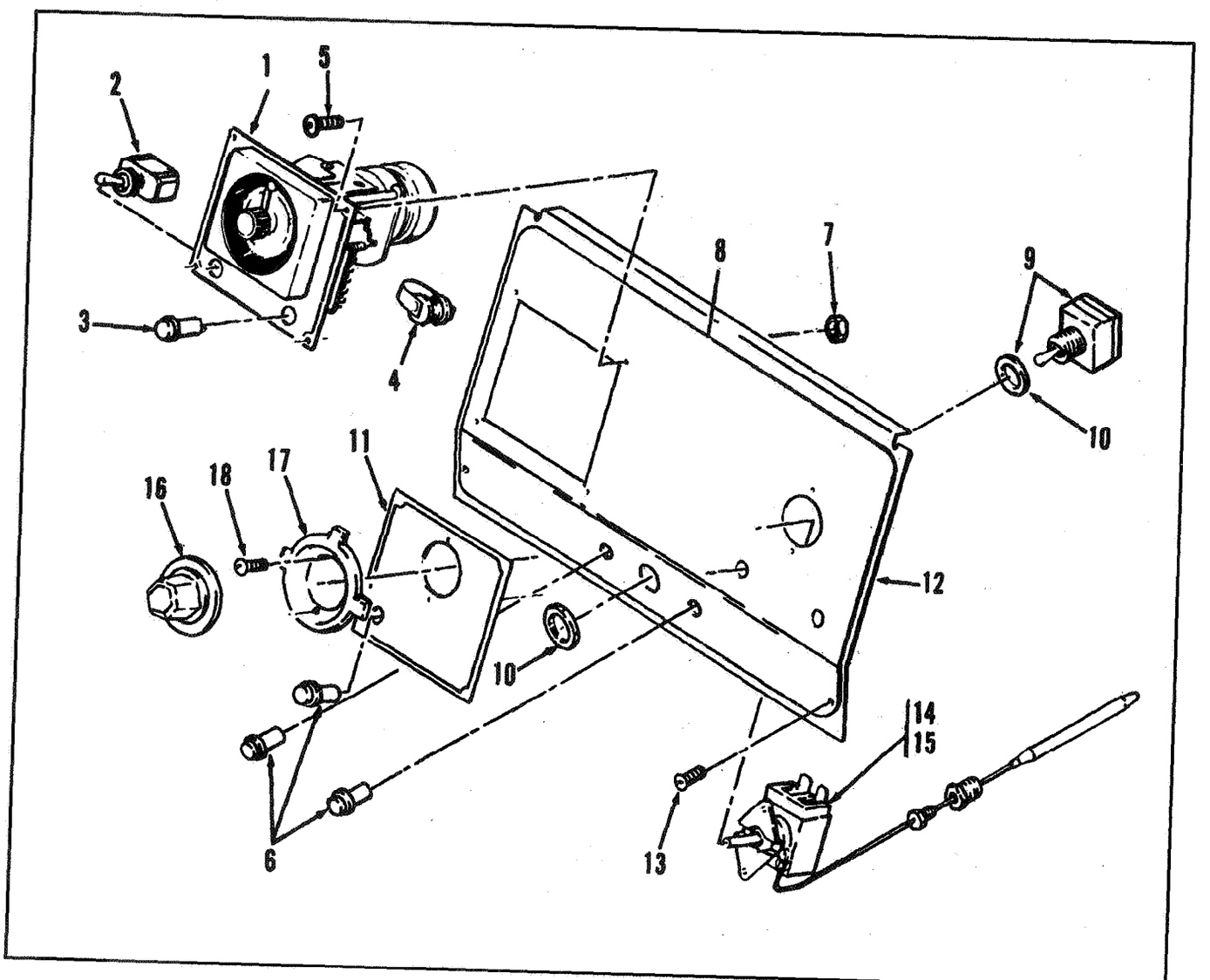


Figure 6-1. Standard Control Panel

FIGURE & ITEM NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSY
6-1		CONTROL PANEL, Standard	
1	16602	TIMER, Automatic Reset, 115 Volt 60 Hz	1
1	16596	TIMER, Automatic Reset, 115 Volt 50 Hz	1
1	18301	TIMER, Automatic Reset, 208-240 Volt 60 Hz	1
1	18304	TIMER, Automatic Reset, 208-240 Volt 50 Hz	1
1	17366	TIMER, Automatic Reset, 208-240 Volt 50 Hz - CE	1
2	22195	SWITCH, Timer	1
3	16624	LIGHT, Timer Indicator	1
4	16659	COIL, Timer Buzzer, 115 Volt	1
4	18302	COIL, Timer Buzzer, 220 Volt	1
5	SC01-073	SCREW, Timer	4
6	16624	LIGHT, Indicator	3
6	63609	LIGHT, Indicator, Temperature - 28 Volt - Gas Models	1
6	54086	LIGHT, Indicator, Green-CE and Australia - Gas Models	3
7	NS02-009	NUT, Timer	4
8	61555	DECAL, 600	1
8	61554	DECAL, 500	1
8	61709	DECAL, 561	1
8	61570	DECAL, 500 - Wendy's	1
8	61571	DECAL, 600 - Wendy's	1
8	61572	DECAL, 500 - Pollo Campero	1
8	61580	DECAL, 600 - Pollo Campero	1
9	16640	SWITCH, Main	1
10	NS03-018	NUT, Main Switch	2
11	16745	PLATE, Thermostat	1
12	63230	PANEL, Stud Assy - Control	1
13	SC04-003	SCREW, Control Panel	2
14	14293	THERMOSTAT, Standard Control Assembly	1
15	56901	THERMOSTAT, Body Only	1
16	16706	KNOB, Thermostat	1
17	16704	BEZEL, Thermostat	1
18	SC01-023	SCREW, Thermostat	2

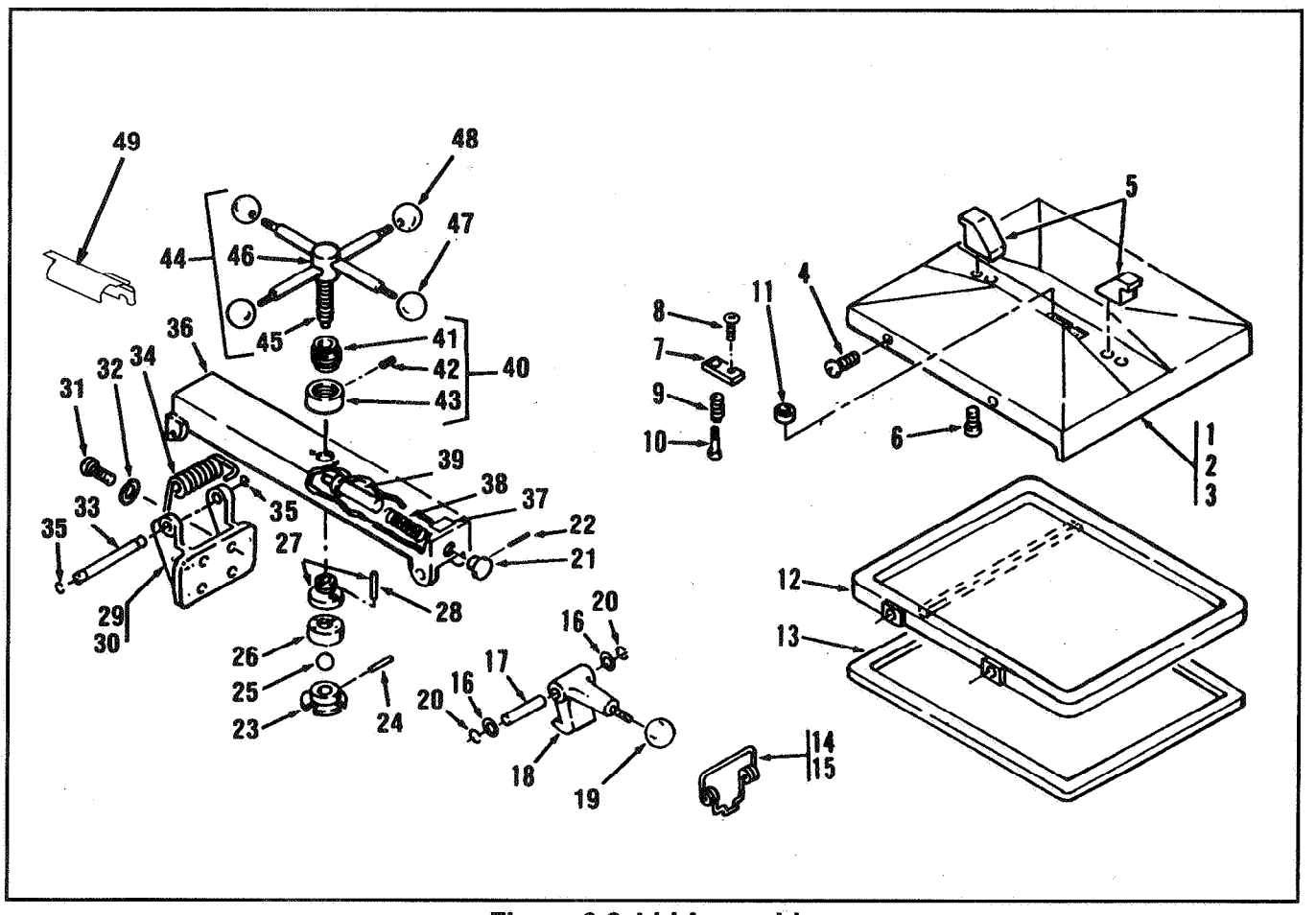


Figure 6-2. Lid Assembly

FIGURE & ITEM NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSY
6-2		LID ASSEMBLY	
1	16170	LID ASSEMBLY	1
2	16169	COVER, Assembly	1
3	16155	COVER, Lid	1
4	SC01-083	SCREW, Lid Cover	4
5	16133	HOOK, Cover Retaining.	2
6	SC06-027	SCREW, Retaining Hook	4
7	16166	RETAINER	1
8	SC06-010	SCREW, Retaining Hook (Allen Head)	1
9	16165	SPRING, Return	1
10	16164	PIN, Locking	1
11	16163	BALL, Pressure Gauge	1

FIGURE & ITEM NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSY
6-2 Cont'd.			
12	16119	LINER, Inner Lid	1
13	16120	GASKET, Reversible, Inner Lid Liner.	1
14	16199	SPRING, Latch, Kit	1
15	33480	SPRING	1
16	16198	SPACER	2
17	16197	PIN, Latch	1
18	16116	LATCH, Lid	1
19	16102	KNOB, Latch	1
20	16121	RING, Tru-Arc Latch	2
21	16137	KNOB, Retaining Pin	1
22	16138	PIN, Knob Roll	1
23	16157	COLLAR, Locking	1
24	16158	PIN, Locking Collar	1
25	16159	BALL, Thrust	1
26	16160	NUT, Idle	1
27	16161	NUT, Acme	1
28	16162	PIN, Acme Nut	2
29	16112	HINGE, Lid Assembly	1
30	40235	HINGE, Lid	1
30	45083	HINGE, Lid - CE	1
31	SC01-081	SCREW, Lid Hinge	4
32	LW01-010	WASHER, Lock, Lid Hinge	4
33	16110	PIN, Lid Hinge	1
34	16108	HINGE, Lid Spring	1
35	16111	RING, Retainer, Tru-Arc, Hinge	2
36	16154	BAR, Center Cross	1
37	36099	DECAL, DANGER	1
38	16136	SPRING, Retaining Pin	1
39	16135	COVER, Retaining Pin	1
40	16171	STOP, Limit Assembly	1
41	16153	STOP, Limit	1
42	16156	SCREW, Set, Limit Stop Collar	2
43	16152	COLLAR, Limit Stop	2
44	16168	SPINDLE ASSEMBLY	1
45	16151	SPINDLE	1
46	16103	ARM, Spindle	2
47	16102	KNOB, Spindle, Red	1
48	16101	KNOB, Spindle, Black	3
49	29587	COVER, Spring (Not Shown)	1

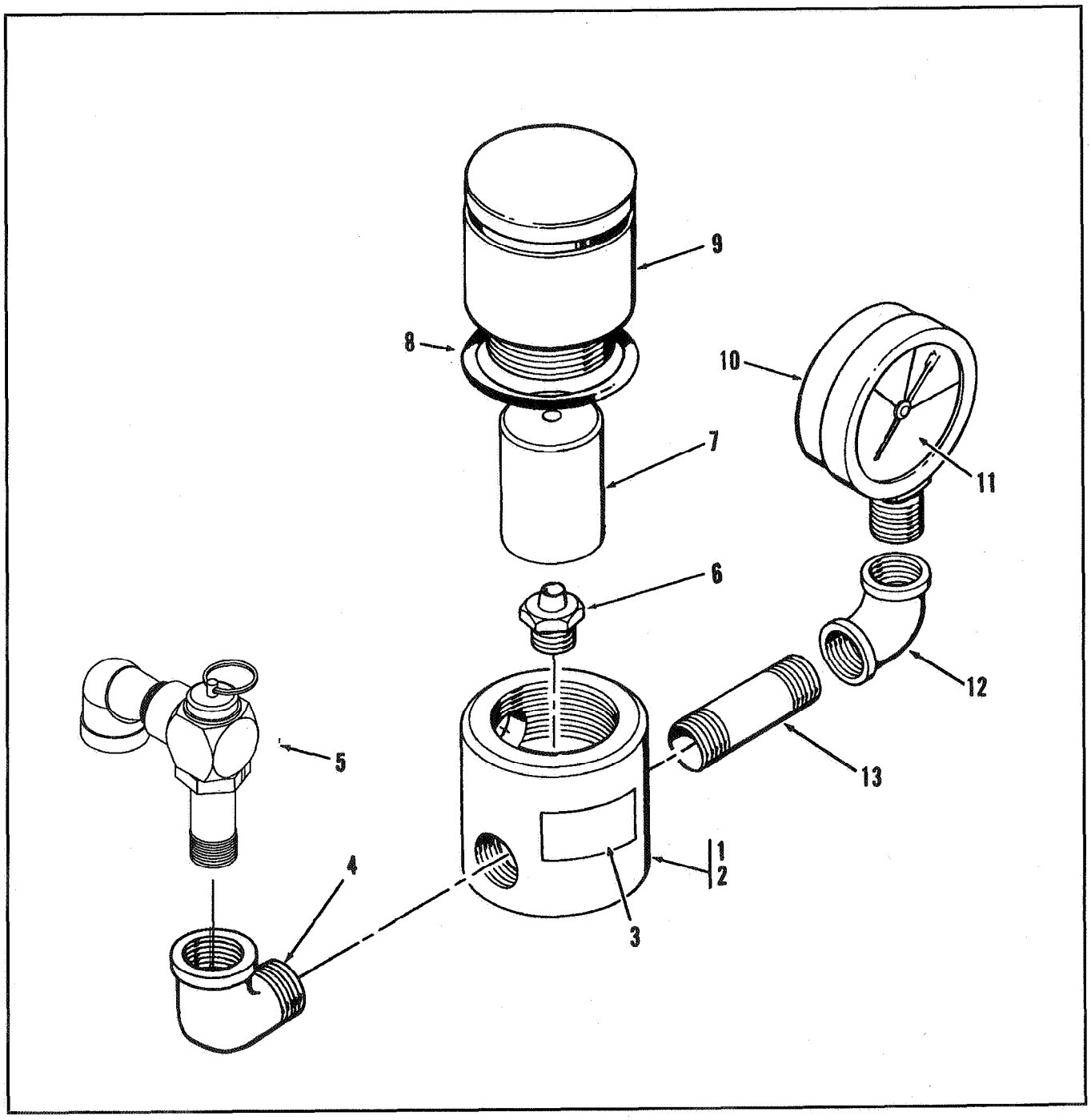


Figure 6-3. Dead Weight Valve Assembly

FIGURE & ITEM NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSY
6-3		DEAD WEIGHT VALVE ASSEMBLY	
1	16924	VALVE ASSEMBLY, Dead Weight	1
2	56305	BODY, Dead Weight Valve	1
3	16912	DECAL, DEAD WEIGHT VALVE	1
4	16239	ELBOW	1
4	19811	ELBOW - S. S.	1
5	59742	VALVE ASSEMBLY, Relief	1
6	16918	ORIFICE	1
7	16903	DEAD WEIGHT	1
8	16902	RING, Cap	1
9	56307	CAP, Dead Weight Valve	1
10	16910	GAUGE, Pressure	1
11	16914	GLASS, Pressure Gauge	1
12	16909	ELBOW	1
13	56636	NIPPLE	1

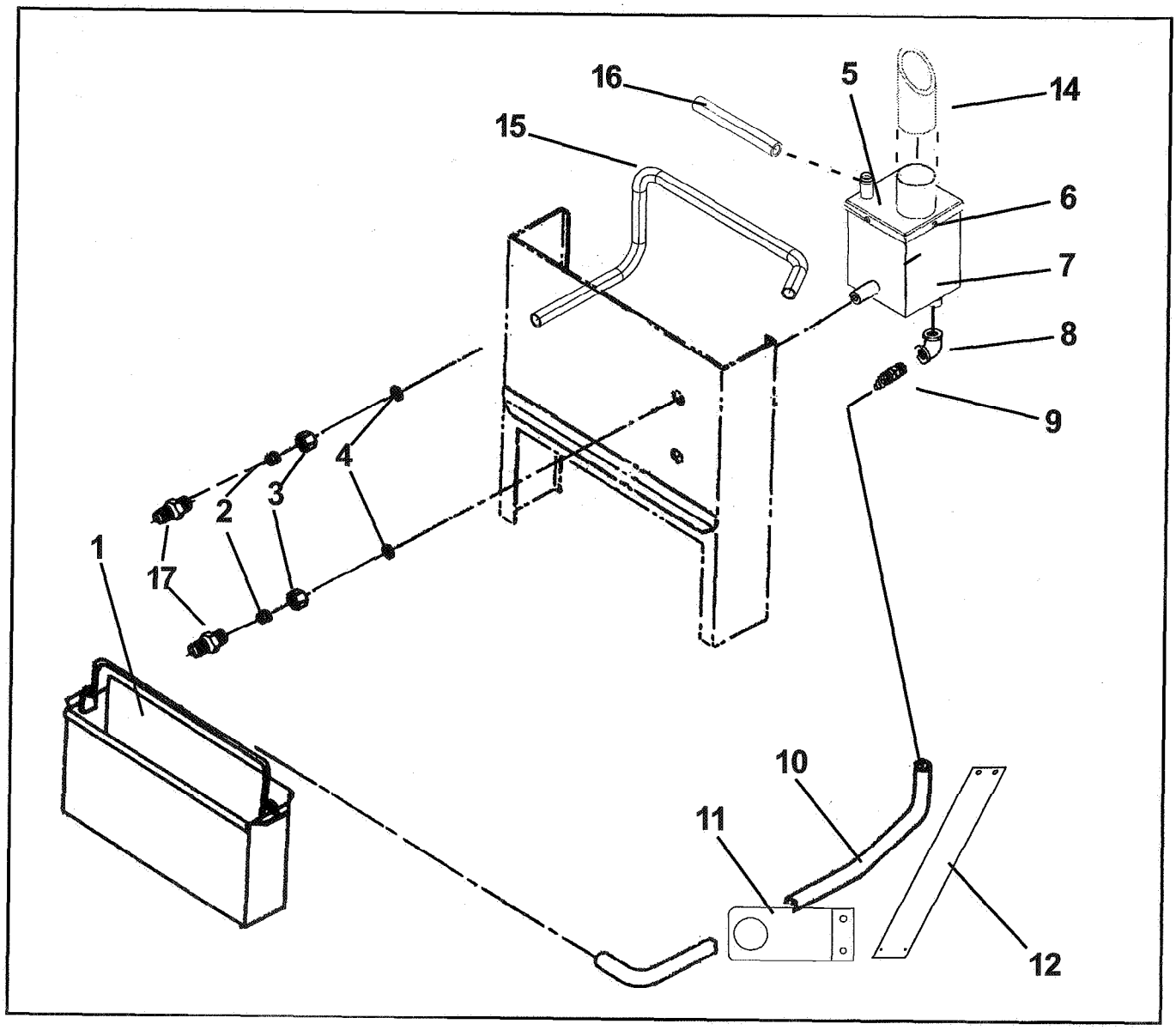


Figure 6-4. Exhaust Stack Assembly

FIGURE & ITEM NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSY
6-4		EXHAUST STACK ASSEMBLY	
1	63127	PAN, Condensation Drain	1
2	16817	FITTING, Teflon Sleeve	2
3	16809	NUT, Fitting	2
4	16804	UMBRELLA GROMMET	2
5	58854	TOP, Condensate Box Assembly	1
6	SC02-016	SCREW, #8-32-AB x 1/2 PH PHD S	4
7	58852	WELDMENT, Condensate Box	1
8	FP01-133	ELBOW, 3/8 NPT x 45 Female	1
9	FP01-120	FITTING, 3/8 NPT Barb M Brass	1
10	59519	HOSE, Condensation	1
11	58862	BRACKET, Condensation Hose	1
12	63338	BRACKET, Middle Condensation Hose	1
13	MS01-295	CLAMP, Hose - Nylon (not shown)	2
14	59518	EXHAUST, Hose	1
15	59221	TUBE, Dead Weight	1
16	63195	HOSE, Dead Weight to Steam Box	1
17	16807	CONNECTOR, Male	2

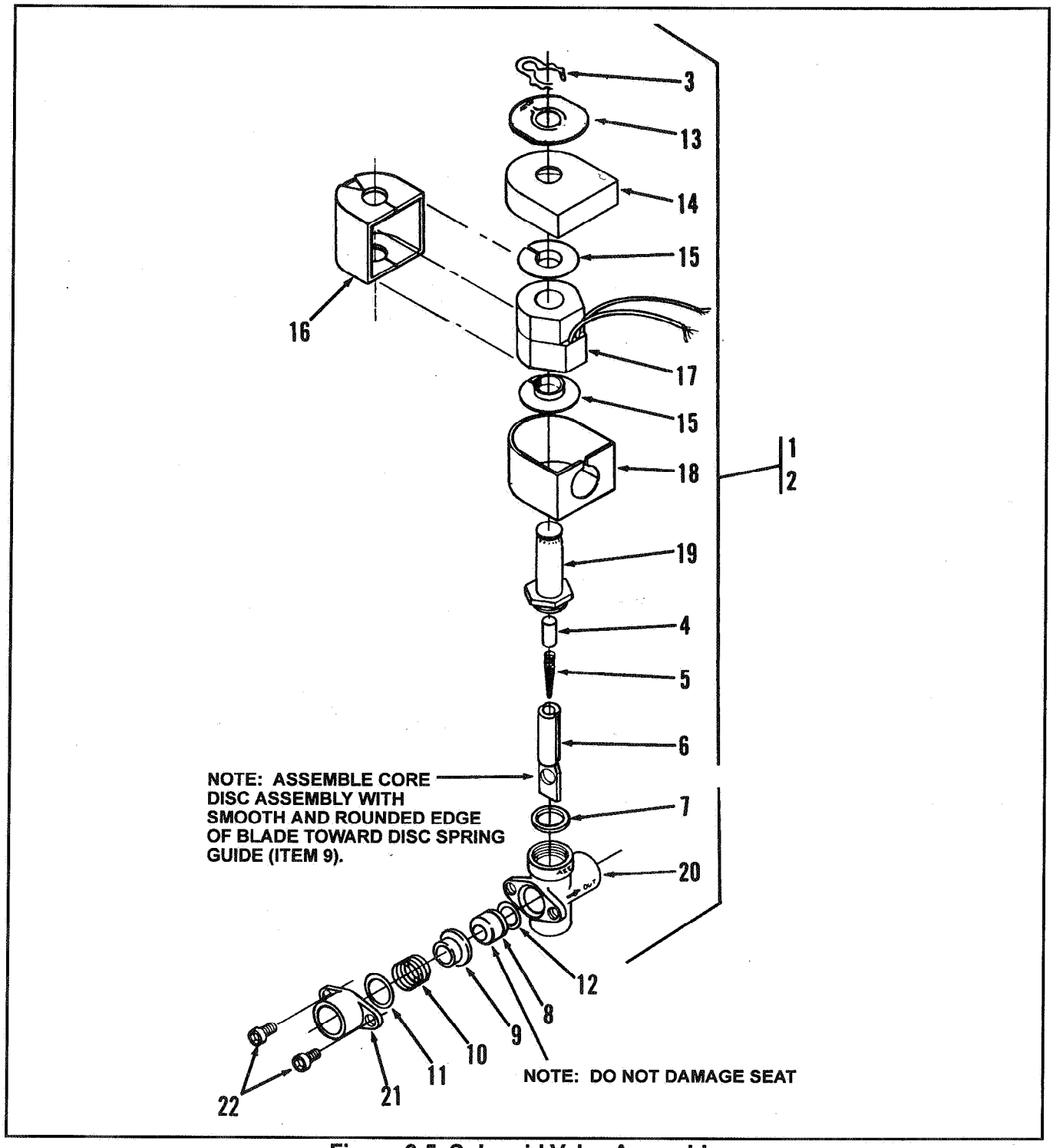


Figure 6-5. Solenoid Valve Assembly

FIGURE & ITEM NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSY
6-5		SOLENOID VALVE ASSEMBLY (Gas and Electric Models)	
1	17121	VALVE, Solenoid 120 Volt, 60 Cycle	1
1	18724	VALVE, Solenoid 208-240 Volt 50 Cycle	1
1	18721	VALVE, Solenoid 208/240 Volt, 60 Cycle	1
1	29515	VALVE, Solenoid 24 Volt 60 Cycle	1
1	29698	VALVE, Solenoid 24 Volt 50 Cycle	1
2	17120	KIT, Solenoid Valve Repair	1
3	17101	CLIP, Retaining	1
4	17109	RETAINER, Spring	1
5	17110	SPRING, Core	1
6	17111	CORE, Disc Assembly	1
7	17112	GASKET, Bonnet	1
8	17114	SEAT, Teflon	1
9	17115	GUIDE, Disc Spring	1
10	17116	SPRING, Disc	1
11	17117	RING, Spring Retainer	1
12	17122	SEAT, O-Ring seal	1
13	17102	PLATE, Solenoid Name	1
14	17103	COVER, Coil Housing	1
15	17104	WASHER, Coil	2
16	17105	YOKE, Coil	1
17	17106	COIL, 120 Volt, 60 Cycle	1
17	18706	COIL, 208/240 Volt, 60 Cycle	1
17	18726	COIL, 208-240 Volt, 50 Cycle	1
17	29547	COIL, 24 Volt, 60 Cycle	1
18	17123	HOUSING, Coil	1
19	17108	BONNET, Solenoid	1
20	17113	BODY, Solenoid Valve	1
21	17118	ADAPTER, Pipe	1
22	SC01-132	SCREW, Adapter	2
23	54945	VALVE, Solenoid 208-240 Volt 50 Cycle-CE	1
24	54971	VALVE, Solenoid 24 Volt 50 Cycle-CE	1

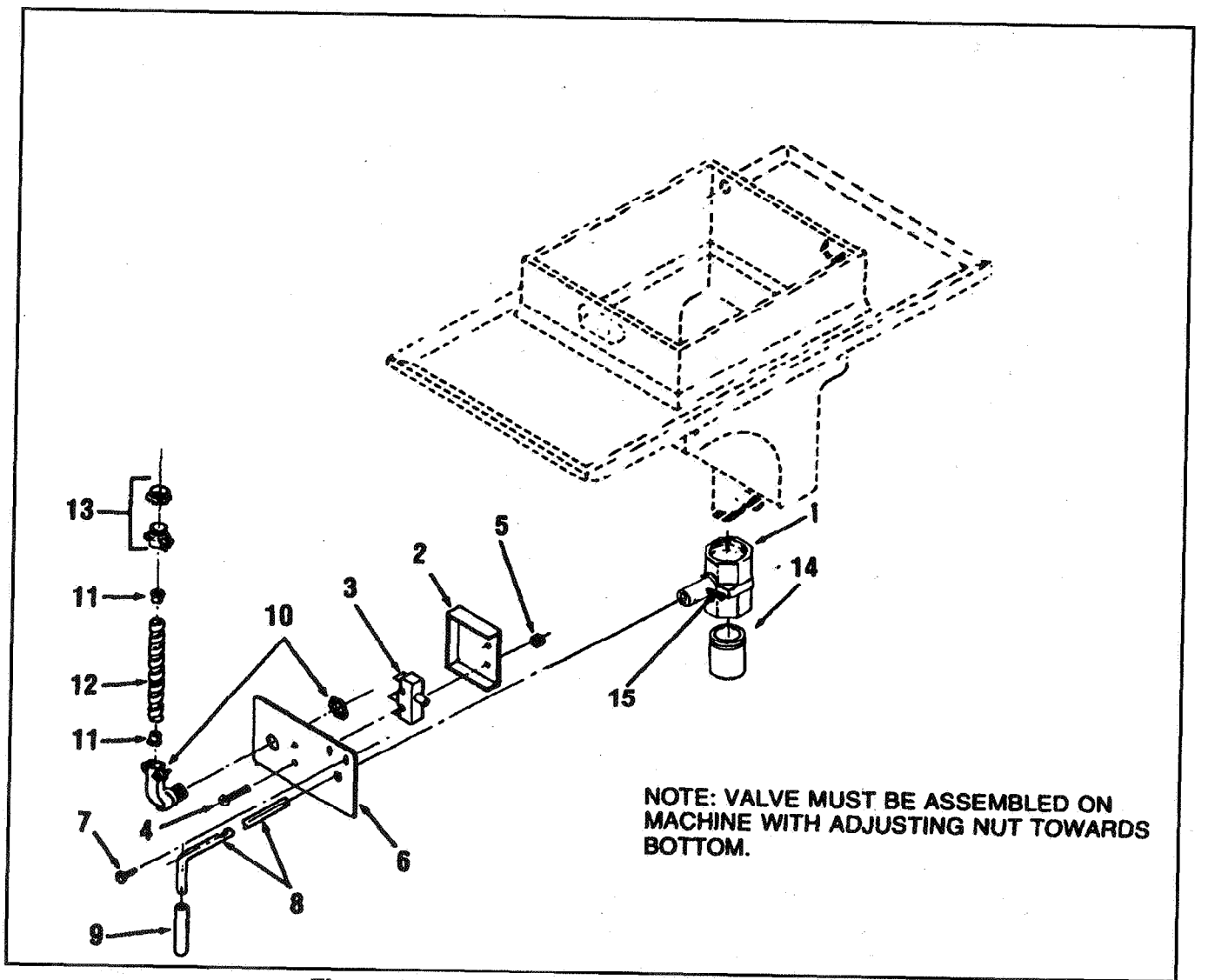


Figure 6-6. Drain Valve Assembly (Gas Model)

FIGURE & ITEM NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSY
6-6		DRAIN VALVE ASSEMBLY (Gas Model)	
1	17260	BODY ASSEMBLY, Drain Valve	1
2	17210	COVER, Microswitch	1
3	18227	MICROSWITCH	1
4	SC01-058	SCREW, Microswitch	2
5	NS02-005	NUT, Microswitch	2
6	17211	BRACKET, Drain, Valve Rod	1
7	SC03-005	SCREW, Drain Bracket	2
8	17254	ROD, Drain Valve	1
9	16293	COVER, Valve Handle	1
10	18644	CONNECTOR, 90° Flexible Conduit (Includes Nut)	1
11	18105	INSULATOR	2
12	17214	CONDUIT, Flexible	1
13	18111	CONNECTOR, Flexible Conduit (Includes Nut)	1
14	18819	EXTENSION NIPPLE	1
15	17255	PIN, Cotter	2

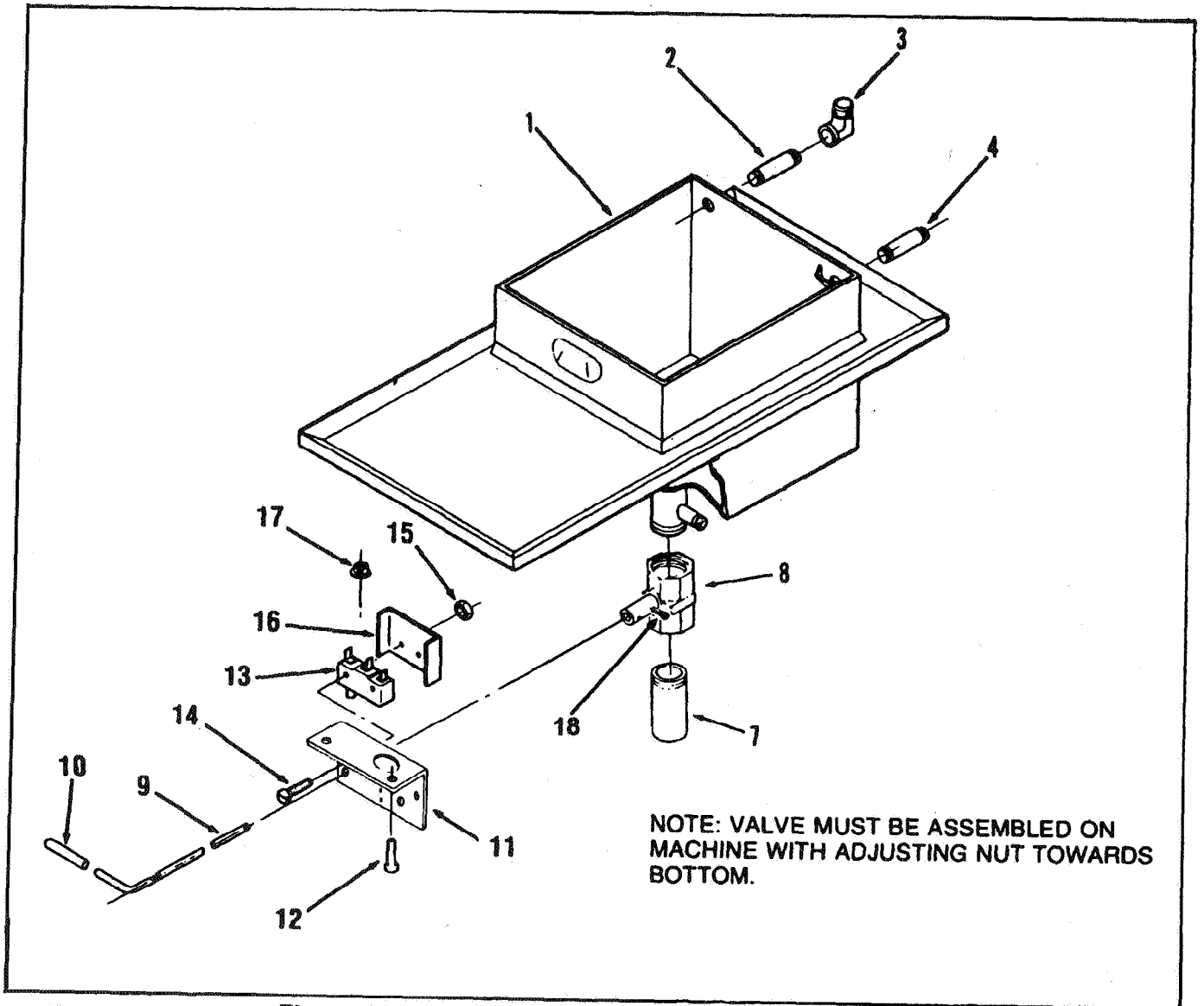


Figure 6-7. Drain Valve Assembly (Electric Models)

FIGURE & ITEM NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSY
6-7		DRAIN VALVE ASSEMBLY (Electric Model)	
1	63116	TOP ASSEMBLY, Pot and Counter - 500	1
1	63120	TOP ASSEMBLY, Pot and Counter - 561	1
2	18816	NIPPLE, Pipe	1
3	16239	ELBOW	1
4	18816	NIPPLE, Pipe	1
7	18817	NIPPLE, Drain Extension	1
8	17261	BODY, Drain Valve (SN: FB099IH and above)	1
8	55152	ASSY, Drain Valve and Coupling (SN: FB098IH and below)	1
9	18818	ROD, Drain Valve Extension	1
9	44907	ROD, Drain Valve Extension - 561	1
10	16293	COVER, Valve Handle	1
11	18419	BRACKET, Drain Valve, Filterrod, Rinse Hose	1
11	44847	BRACKET, Filter & Drain Rod - 561	1
12	SC03-005	SCREW, Drain Valve Bracket	2
13	18227	MICROSWITCH	1
14	SC01-058	SCREW, Microswitch	2
15	NS02-005	NUT, Microswitch	2
16	18528	COVER, Microswitch	1
16	48033	COVER, Microswitch- 561	1
17	EF02-004	BUSHING, Snap	1
18	17255	PIN, Cotter	2
19	59964*	INSULATION, Front Panel-561 (500 elements)	1
20	59956*	INSULATION, Right Side Panel-561 (500 elements)	2
21	55412*	INSULATION, Rear Panel-561 (500 elements)	1
22	59955*	SHROUD, Control Panel-Rear-561 (500 elements)	1
23	55417*	INSULATION, Rear Panel-561 (500 elements)	1
24	59957*	INSULATION, Side Panel-561 (500 elements)	2
25	63339*	INSULATION, Front Panel-561 (500 elements)	1

*not shown

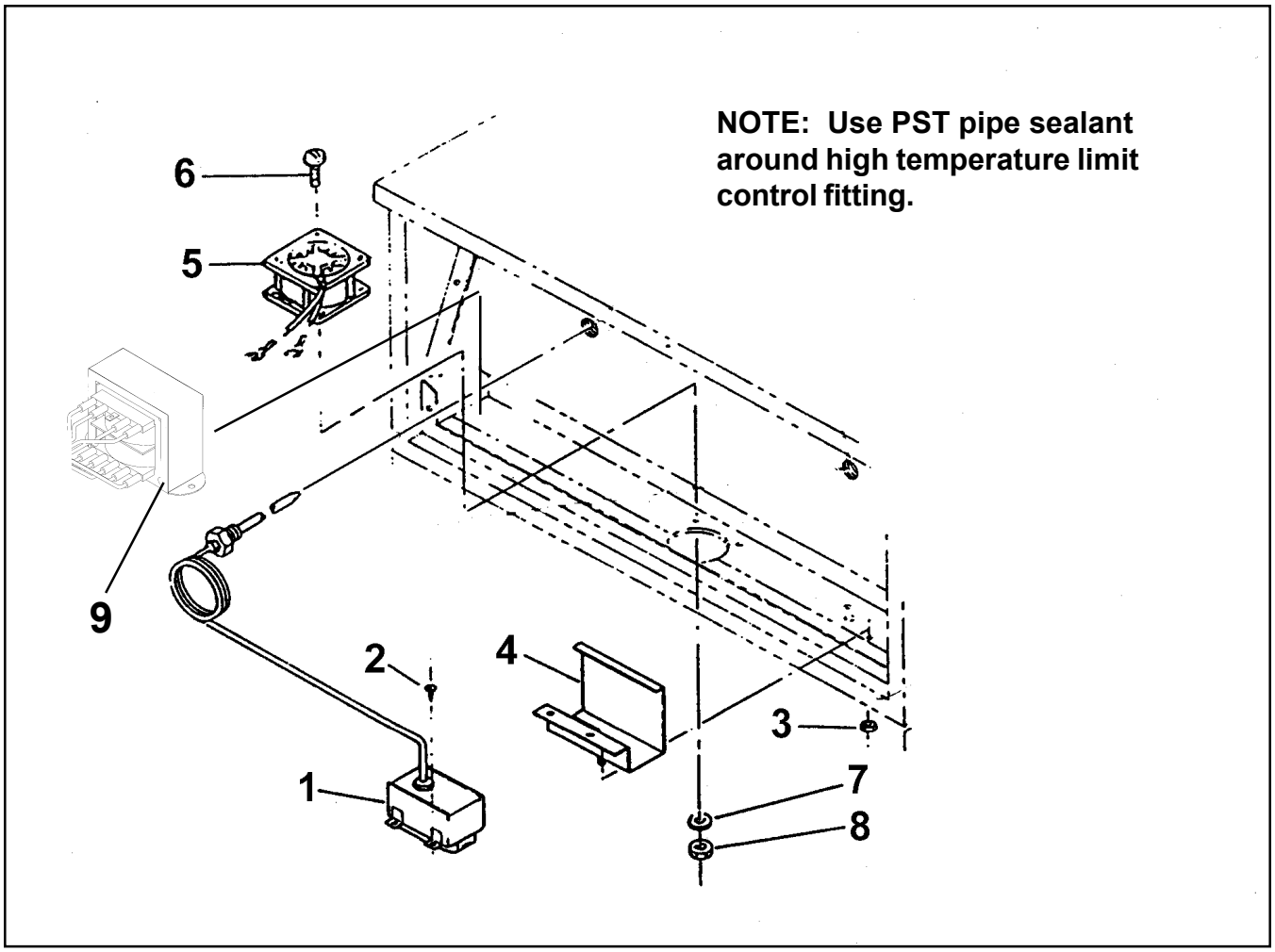


Figure 6-8. Fan and High Limit Temperature Control (Gas Model)

FIGURE & ITEM NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSY
6-8		FAN AND HIGH TEMPERATURE LIMIT CONTROL (Gas Model)	
1	16738	CONTROL, High Temperature Limit	1
1	60241	CONTROL, High Temperature Limit-E.G.O.-CE and Australia .. SN: CA012JJ and above	1
1	14267	KIT, High Limit - CE SN: CA011JJ and below	1
2	SC02-018	SCREW, Thread Forming #8	2
3	NS02-001	NUT, #10-32 Hex Keps	2
4	17216	BRACKET ASSY, High Limit Thermostat	1
5	16684	FAN, 120 Volt	1
5	16688	FAN, 240 Volt	1
6	SC01-010	SCREW, Fan	4
7	WA01-006	WASHER, Fan	4
8	NS02-005	NUT, Fan	4
9	35916	TRANSFORMER, 120V-Pri./24V-Sec.	1
9	30614	TRANSFORMER, 208/240v-Pri./24V-Sec	1
10	36097	PROBE GUARD (not shown)	1

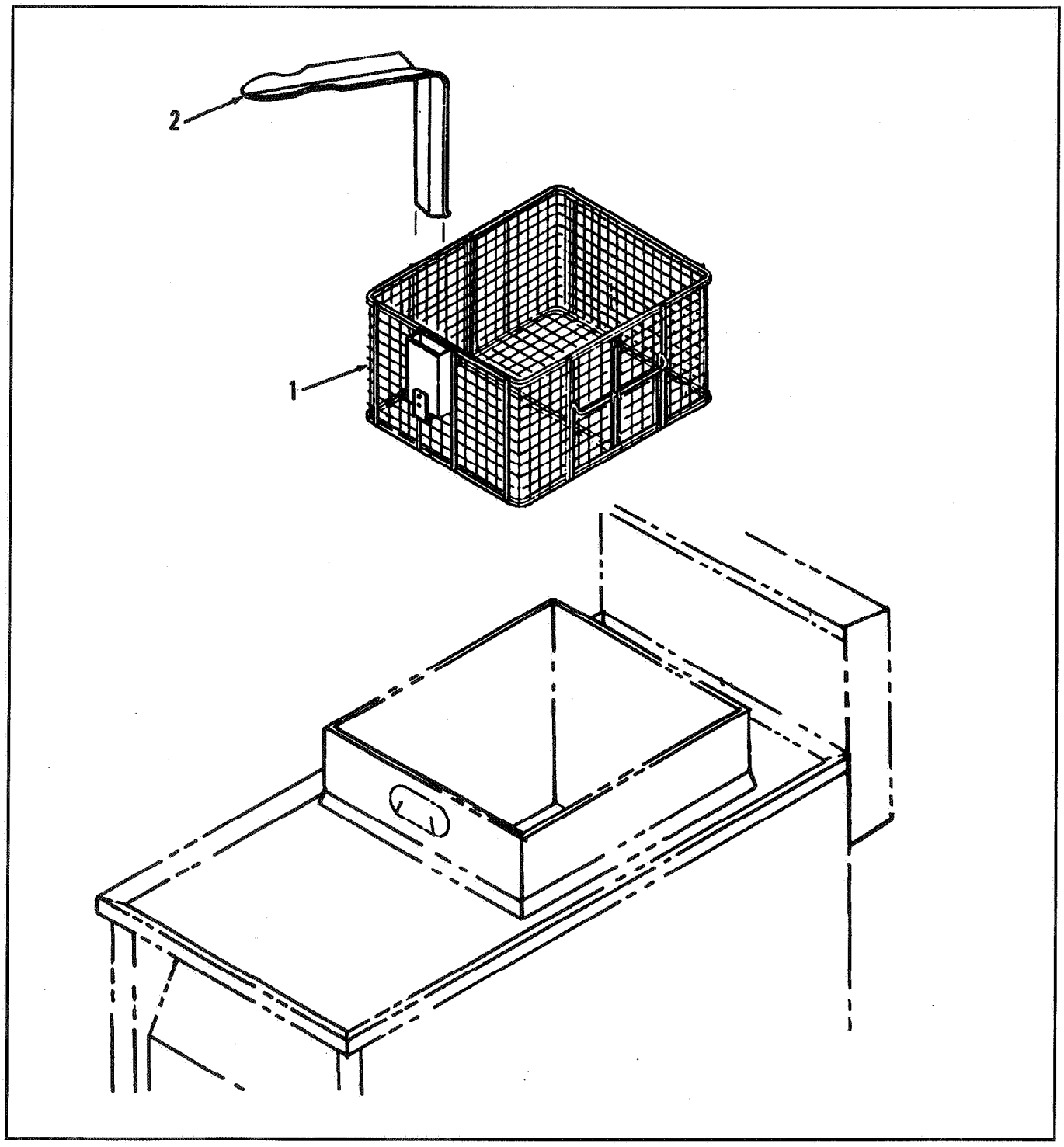


Figure 6-9. Fry Basket

FIGURE & ITEM NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSY
6-9		FRY BASKET, (Gas and Electric Models)	
1	56075	BASKET, Model 561	1
1	55424	BASKET, Full Basket w/ Bail Handle - Model 561	1
1	17801	BASKET, Without Legs, Gas Model Only	1
1	19501	BASKET, With Legs, Electric Model Only	1
2	19502	HANDLE	1
2	48115	HANDLE, Basket - Model 561	1
3	48238	BASKET Support - Model 561 (not shown)	1
4	48237	1/2 SIZE Basket - Model 561 (not shown)	2

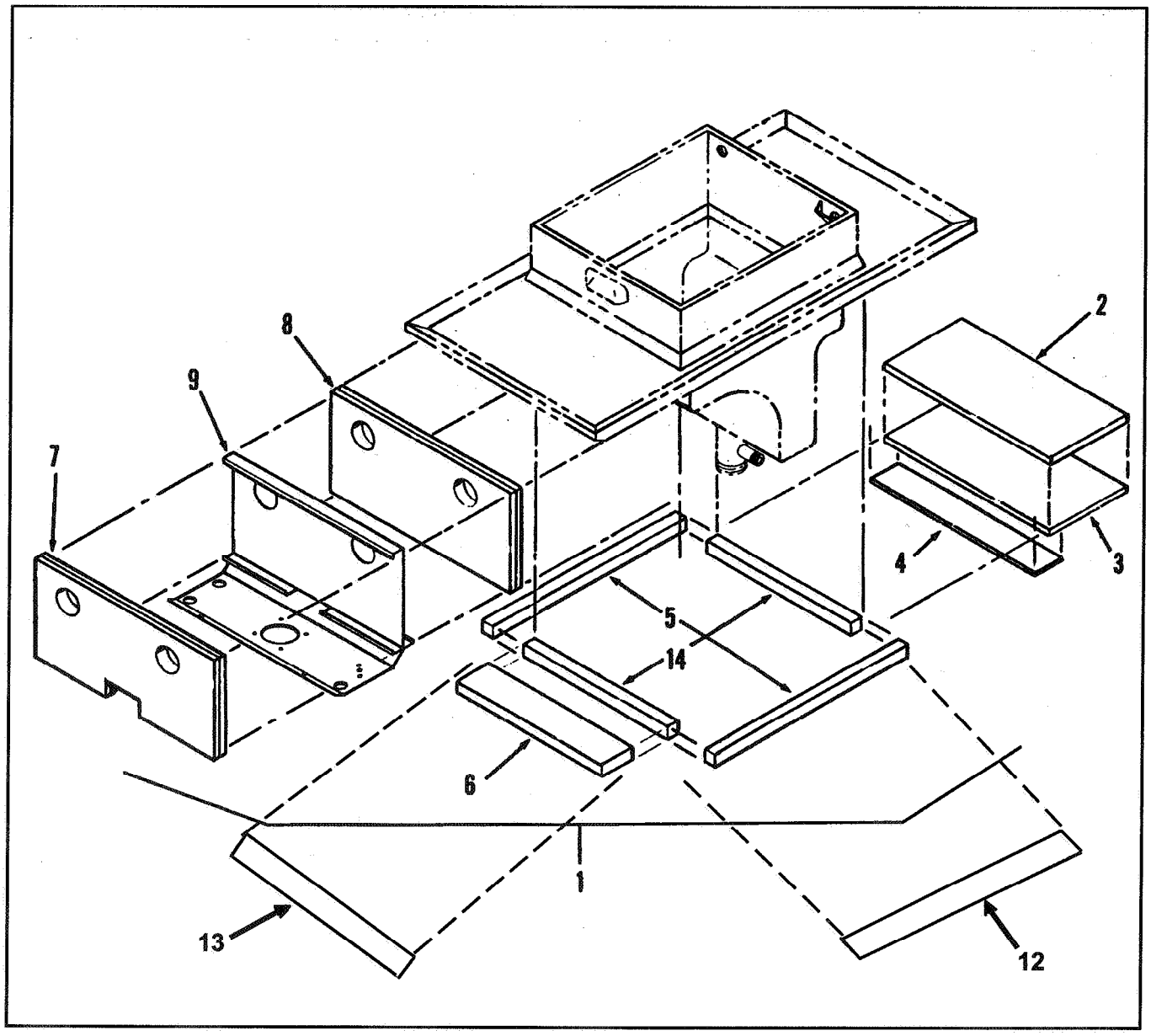


Figure 6-10. Countertop Insulation Assembly (Gas Model)

FIGURE & ITEM NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSY
6-10		COUNTERTOP INSULATION ASSEMBLY . ..... (Gas Model)	
1	16518	INSULATION, Complete Set ..... (Includes Part Nos. 16505,17605,16872, MS01-180, Bulk Cerefelt Insulation For Around Thermocouple, Pot Fittings, and Glue.)	1
2	63301	INSULATION, Fiberglass	1
2	63326	INSULATION-CE and Australia	2
3	63302	INSULATION, Cerefelt - Flue Top	1
3	63326	INSULATION, Cerefelt - Flue Top - CE	1
4	16308	BOARD, Aircell	1
4	54862	BOARD, Aircell-CE and Australia	1
5	53807	INSULATION, Countertop-sides	2
6	16303	INSULATION, Fiberglass	1
7	16353	INSULATION, Fiberglass Notched	2
8	63623	INSULATION, Heat Shield, Inner	1
9	59232	HEAT SHIELD	1
10	53802	HEAT SHIELD, middle-CE and Australia (not shown)	1
11	14211	INSULATION, Complete Set-CE and Australia	1
12	59965	INSULATION, Countertop Side	2
13	59966	INSULATION, Countertop Front	1
14	53808	INSULATION, Countertop-Front/Rear	2

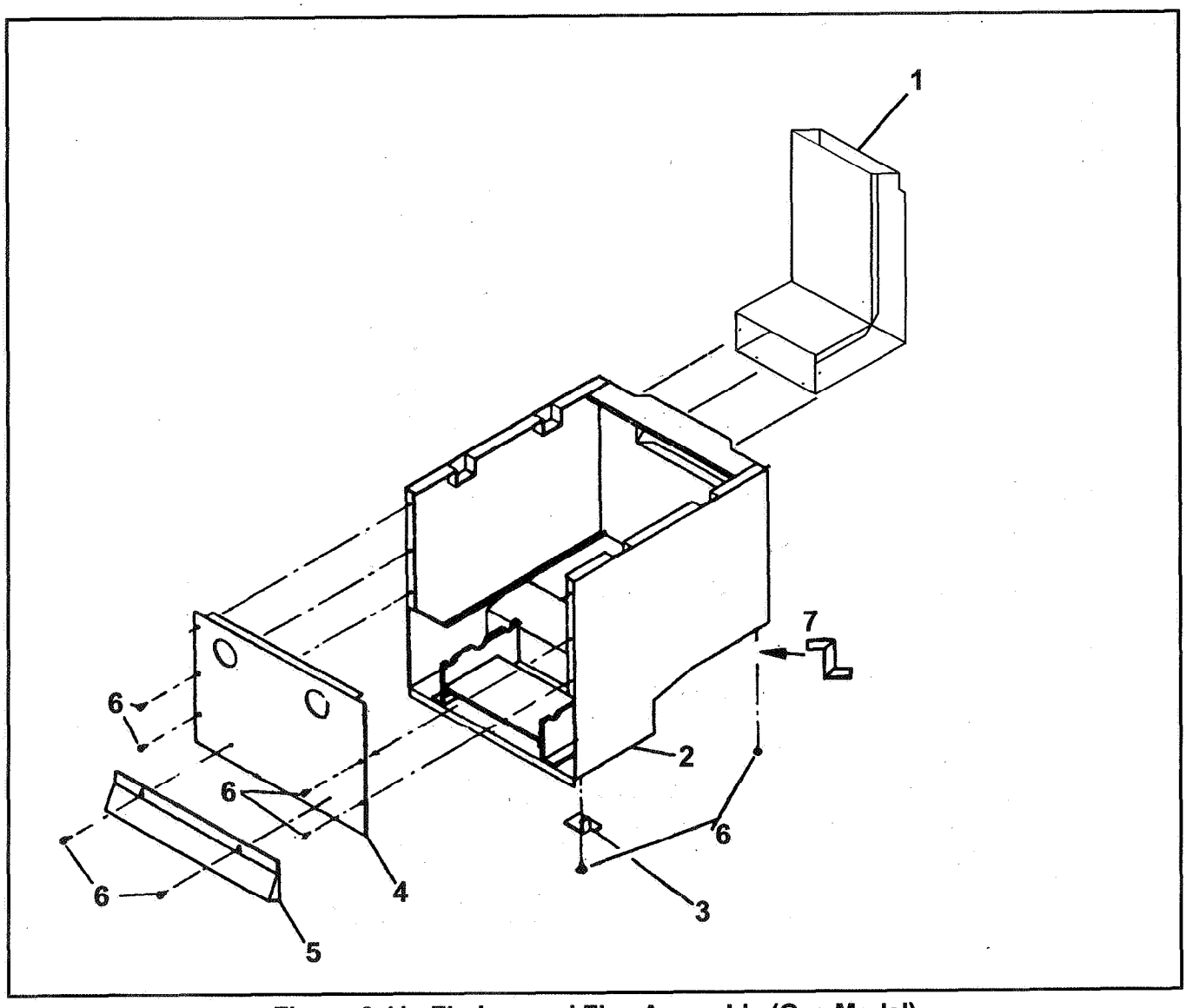


Figure 6-11. Firebox and Flue Assembly (Gas Model)

FIGURE & ITEM NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSY
6-11		FIREBOX AND FLUE ASSEMBLY ..... (Gas Model)	
1	59728	STACK, Flue Exhaust	1
2	59223	CABINET ASSEMBLY, Firebox	1
3	18625	BRACKET, Side Panel Insulation	2
4	29663	PANEL, Firebox Front	1
5	16406	DEFLECTOR, Heat Shield	1
6	SC03-005	SCREW, Sheet Metal	20
7	18626	BRACKET, Side Panel Insulation, Rear	2
8	63330*	FIREBOX ASSEMBLY, w/Insulation- Japan only	1
8	63331*	FIREBOX ASSEMBLY, w/Insulation - CE and Australia	1
9	30857*	FRONT PANEL INSULATION ASSEMBLY (Export only) ..	1
10	53812*	INSULATION, Front Bracket, Firebox - CE and Australia	2
11	51384*	INSULATION, Leg - CE and Australia	1
12	53816*	INSULATION, Outer Rear Firebox - CE and Australia	1
13	63333*	INSULATION, Outer Firebox, Side - CE and Australia	1

* not shown

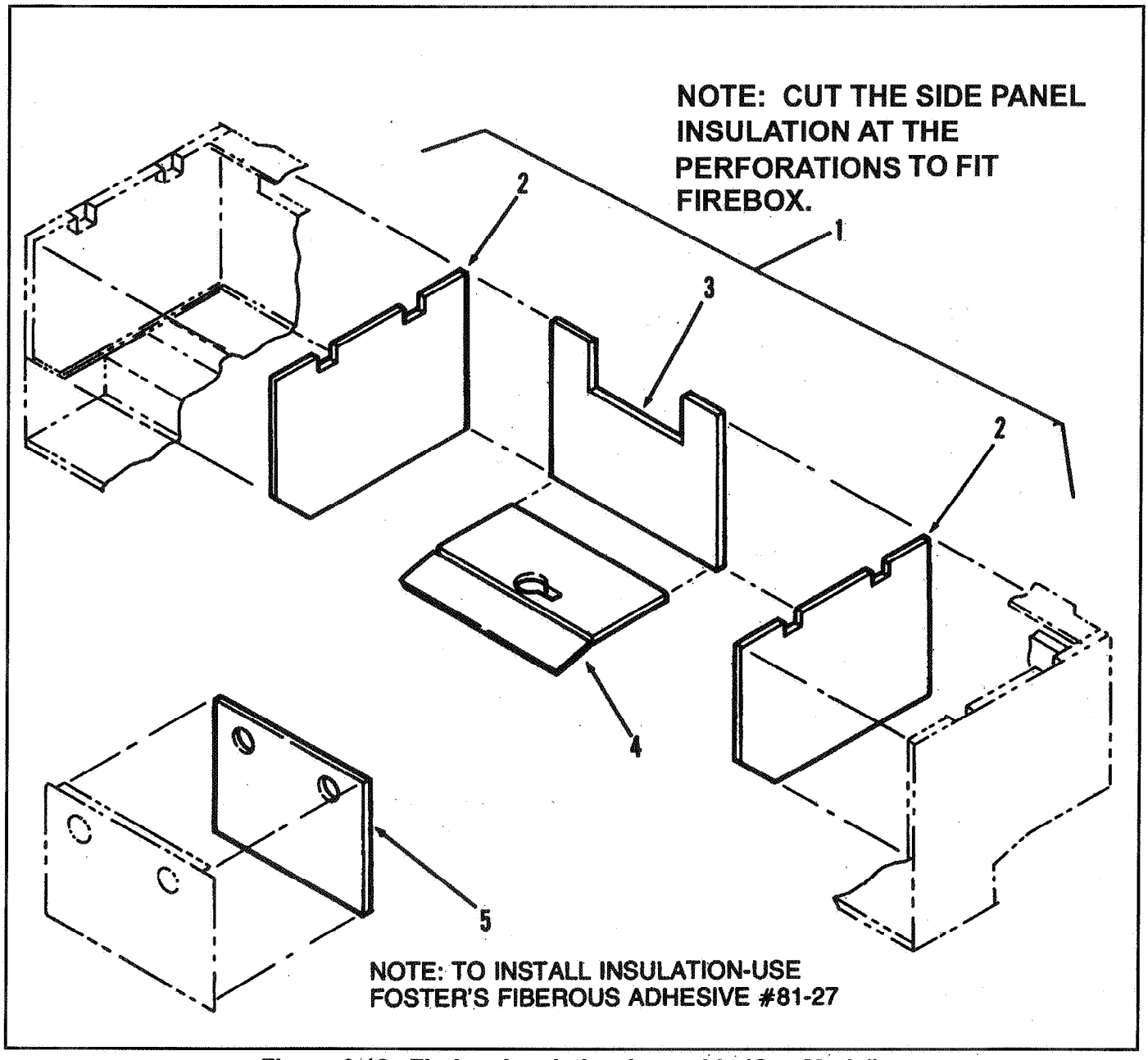


Figure 6-12. Firebox Insulation Assembly (Gas Model)

FIGURE & ITEM NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSY
6-12		FIREBOX INSULATION ASSEMBLY ..... (Gas Model)	
1	16505	INSULATION, Firebox - Complete Set ..... Cerefelt, Inside Firebox	1
2	63111	INSULATION, Side Panel , Cerefelt	2
3	16502	INSULATION, Back Panel, Cerefelt	1
4	16503	INSULATION, Bottom Panel, Cerefelt	1
5	29690	INSULATION, Front Panel, Cerefelt	1

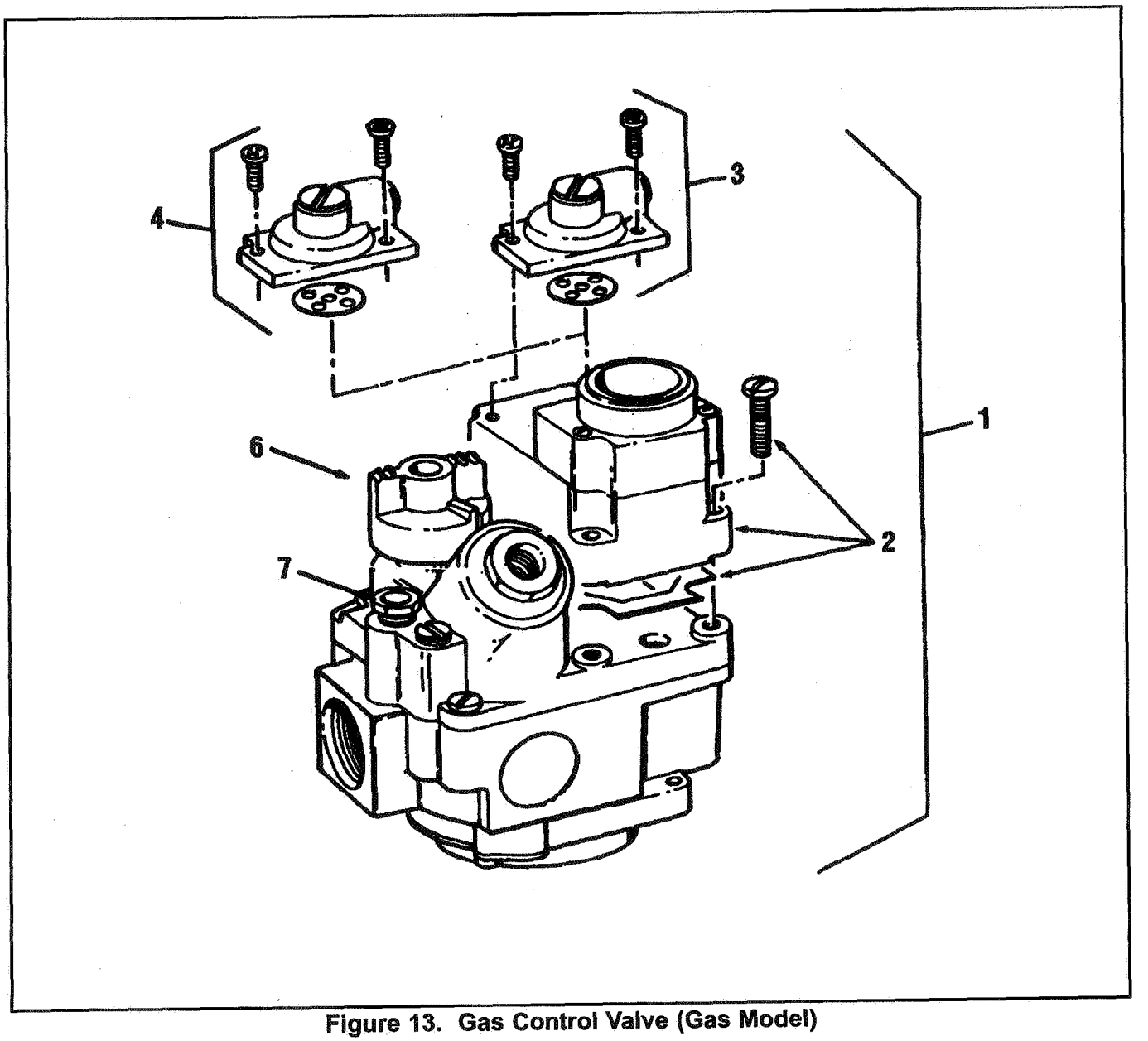


Figure 13. Gas Control Valve (Gas Model)

FIGURE & ITEM NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSY
	6-13	GAS CONTROL VALVE (Gas Model)	
1a	58863	VALVE, Control, Natural Gas, 24 Volt	1
1a	16216	VALVE, Control, Natural Gas, 120 Volt	1
1b	63337	VALVE, Control, Propane Gas, 24 Volt	1
1b	16217	VALVE, Control, Propane Gas, 120 Volt	1
1a	16380	VALVE, Control, Natural Gas, 208-240 Volt	1
1b	16381	VALVE, Control, Propane Gas, 208-240 Volt	1
1a	34439	VALVE, Control, Electric Ign. Nat., 120 Volt	1
1a	34804	VALVE, Control, Nat. Gas, 240 Volt, 50 Hz.-CE and Australia	1
1b	34803	VALVE, Control, LP. Gas, 240 Volt, 50 Hz.-CE and Australia	1
1a	34806	VALVE, Control, Nat. Gas, 24 Volt, 50 Hz.-CE and Australia	1
1b	34805	VALVE, Control, LP. Gas, 24 Volt, 50 Hz.-CE and Australia	1
2	16254	OPERATOR, Gas Valve, 120 Volt, Natural	1
2	16710	OPERATOR, Gas Valve, 208-240 Volt, Natural	1
2	16386	OPERATOR, Gas Valve, 120 Volt, Propane	1
2	16384	OPERATOR, Gas Valve, 208-240 Volt, Propane	1
3	16253	REGULATOR, Gas Valve, Natural Gas	1
4	16352	REGULATOR, Gas Valve, Propane Gas	1
6	16267	DIAL, Gas Cock	1
7	16373	FITTING, Compression - Pilot Tube	2

NOTE: Items 16216 and 16380, consists of 2 and 3
Items 16380 and 16381 consists of 2 and 4

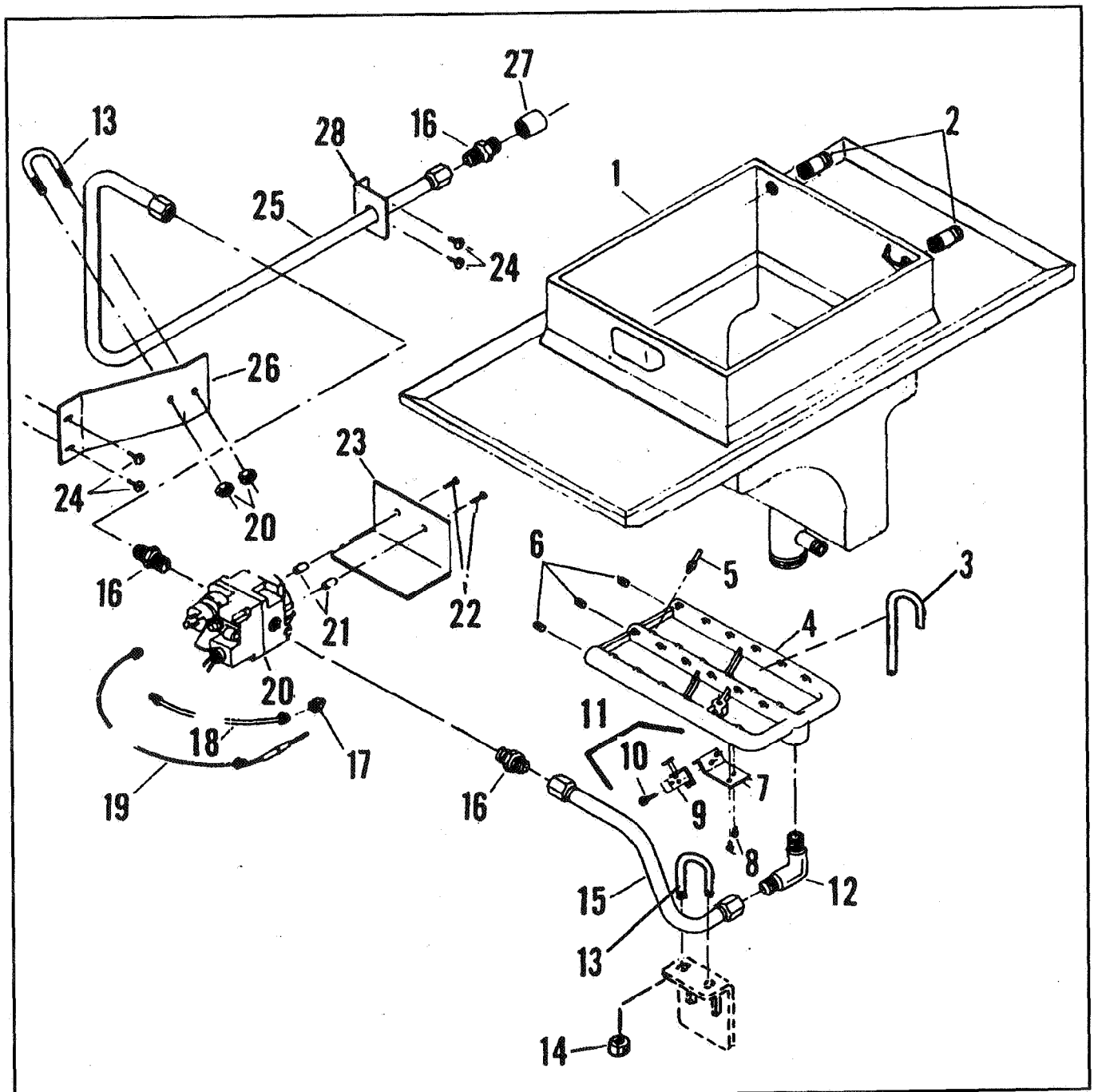


Figure 6-14. Frypot and Gas Burner Assembly (Gas Model)

FIGURE & ITEM NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSY
6-14			
1	63126	TOP ASSEMBLY, Pot and Counter	1
2	18816	NIPPLE, Pipe S.S	2
3	53834	J-BOLT, Burner Hold Down	1
4	16205	CASTING Burner	1
5	16561-1	ORIFICE, Natural Gas, S.S	1
5	16561-3	ORIFICE, Propane Gas, S.S	1
5	16562-1	ORIFICE, Natural Gas, Brass	23
5	16562-3	ORIFICE, Propane Gas, Brass	23
6	FP01-020	PLUG, Burner Casting	3
7	29969	BRACKET, Pilot Holder	1
8	SC01-184	SCREW, Pilot Holder Bracket	2
9	29823	PILOT & ORIFICE ASSEMBLY	1
10	SC01-047	SCREW, Pilot Holder	1
11	30904	PILOT & BRACKET ASSEMBLY, LP	1
11	30913	PILOT & BRACKET ASSEMBLY, Nat	1
12	16336	ELBOW, Male	1
13	SC06-013	BOLT, U, Gas Line	2
14	NS02-002	NUT, Gas Supply Line Bolt	4
15	16333	LINE, Gas Burner to Control	1
16	16335	NIPPLE Close	3
17	29820	ORIFICE, Pilot, Natural Gas	1
17	32407	ORIFICE, Pilot, Propane Gas	1
18	63198	PILOT ASSEMBLY, Gas Tube	1
19	16219	THERMOCOUPLE	1
19	34820	THERMOCOUPLE	1
20	58863	VALVE, Natural Gas Control - 24V	1
20	16380	VALVE, Natural Gas - 240V	1
20	63337	VALVE, Propane Gas Control - 24V	1
20	16381	VALVE, L.P. Gas - 240V	1
20	34439	VALVE, Gas Valve, Electronic. Ign - 120V	1
20	21316	VALVE, Gas Valve, Electronic. Ign - 240V	1
20	34804	VALVE, Natural Gas Control - 240V - CE and Australia	1
20	34803	VALVE, L.P. Gas Control - 240V - CE and Australia	1
20	34806	VALVE, Natural Gas Control - 24V - CE and Australia	1
20	34805	VALVE, L.P. Gas Control - 24V - CE and Australia	1
21	16221	SPACER, Heat Shield	2
22	SC01-054	SCREW, Heat Shield	2
23	58866	SHIELD, Heat, Aluminum	1
24	SC02-006	SCREW, Bracket	4
25	16326	LINE, Gas Supply	1
25	51429	LINE, Gas Supply-CE and Australia	1
26	16331	GAS LINE BRACKET	1
27	FP01-007	COUPLING, Pipe	1
28	16328	BRACKET, Gas Line	1
-	16329	Nut 37 Flare for 5/8 OD	2
-	16330	Sleeve 37 Flare for 5/8	2

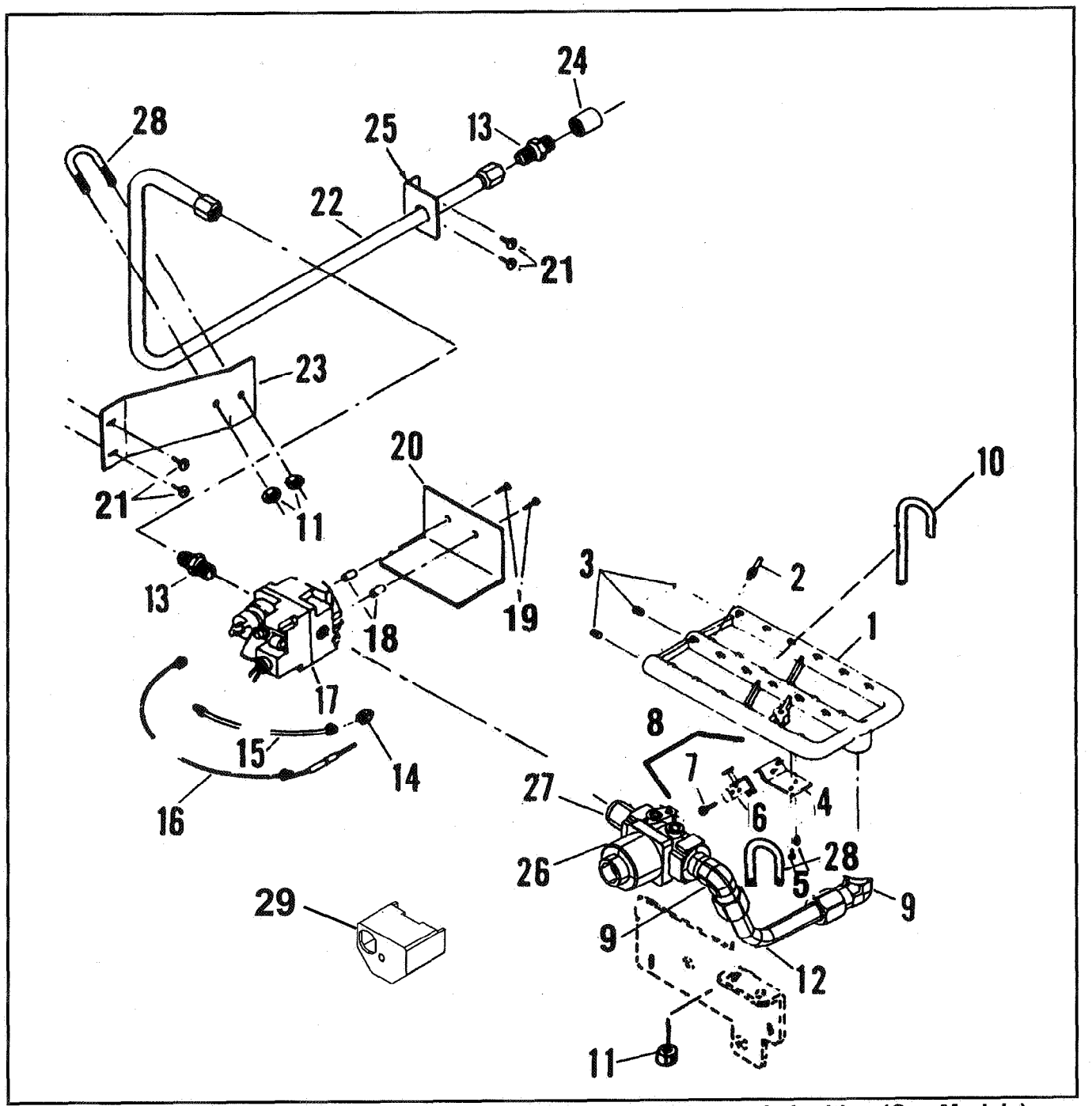


Figure 6-15. Gas Line and Burner Assy. - CE, Int'l, and Electronic Ignition (Gas Models)

FIGURE & ITEM NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSY
6-15			
1	16205	CASTING Burner	1
2	16561-1	ORIFICE, Natural Gas, S.S	1
2	16561-3	ORIFICE, Propane Gas, S.S	1
2	16562-1	ORIFICE, Natural Gas, Brass	23
2	16562-3	ORIFICE, Propane Gas, Brass	23
3	FP01-020	PLUG, Burner Casting	3
4	29969	BRACKET, Pilot Holder	1
5	SC01-184	SCREW, Pilot Holder Bracket	2
6	29823	PILOT & ORIFICE ASSEMBLY	1
7	SC01-047	SCREW, Pilot Holder	1
8	30904	PILOT & BRACKET ASSEMBLY, LP	1
8	30913	PILOT & BRACKET ASSEMBLY, Nat	1
9	16336	ELBOW, Male	1
10	53834	J-BOLT, Burner Hold Down	1
11	NS02-002	NUT, Gas Supply Line Bolt	4
12	16333	LINE, Gas Burner to Control	1
13	16335	NIPPLE Close	2
14	29820	ORIFICE, Pilot, Natural Gas	1
14	32407	ORIFICE, Pilot, Propane Gas	1
15	16218	PILOT ASSEMBLY, Gas Tube	1
16	16219	THERMOCOUPLE	1
16	34820	THERMOCOUPLE -CE	1
17	16216	VALVE, Natural Gas Control - 120V	1
17	16380	VALVE, Natural Gas - 240V	1
17	16217	VALVE, Propane Gas Control - 120V	1
17	16381	VALVE, L.P. Gas - 240V	1
17	34439	VALVE, Gas Valve, Electronic. Ign - 120V	1
17	21316	VALVE, Gas Valve, Electronic. Ign - 240V	1
17	34804	VALVE, Natural Gas Control - 240V - CE and Australia	1
17	34803	VALVE, L.P. Gas Control - 240V - CE and Australia	1
17	34806	VALVE, Natural Gas Control - 24V - CE and Australia	1
17	34805	VALVE, L.P. Gas Control - 24V - CE and Australia	1
18	16221	SPACER, Heat Shield	2
19	SC01-054	SCREW, Heat Shield	2
20	16222	SHIELD, Heat, Aluminum	1
21	SC02-006	SCREW, Bracket	4
22	16326	LINE, Gas Supply	1
22	51429	LINE, Gas Supply-CE and Australia	1
23	16331	GAS LINE BRACKET	1
24	FP01-007	COUPLING, Pipe	1
25	16328	BRACKET, Gas Line	1
-	16329	Nut 37 Flare for 5/8 OD	2
-	16330	Sleeve 37 Flare for 5/8	2
26	38446	SOLENOID, Gas - 120V	1
26	38467	SOLENOID, Gas - 240V	1
26	38468	SOLENOID, Gas - 24V	1
26	34801	SOLENOID, Gas - 240V - CE and Australia	1
26	34802	SOLENOID, Gas - 24V - CE and Australia	1
27	FP01-035	NIPPLE, Close	1
28	SC06-013	BOLT U, Gas Line	1
29	56229	WIRE COVER, Gas Valve - CE	1

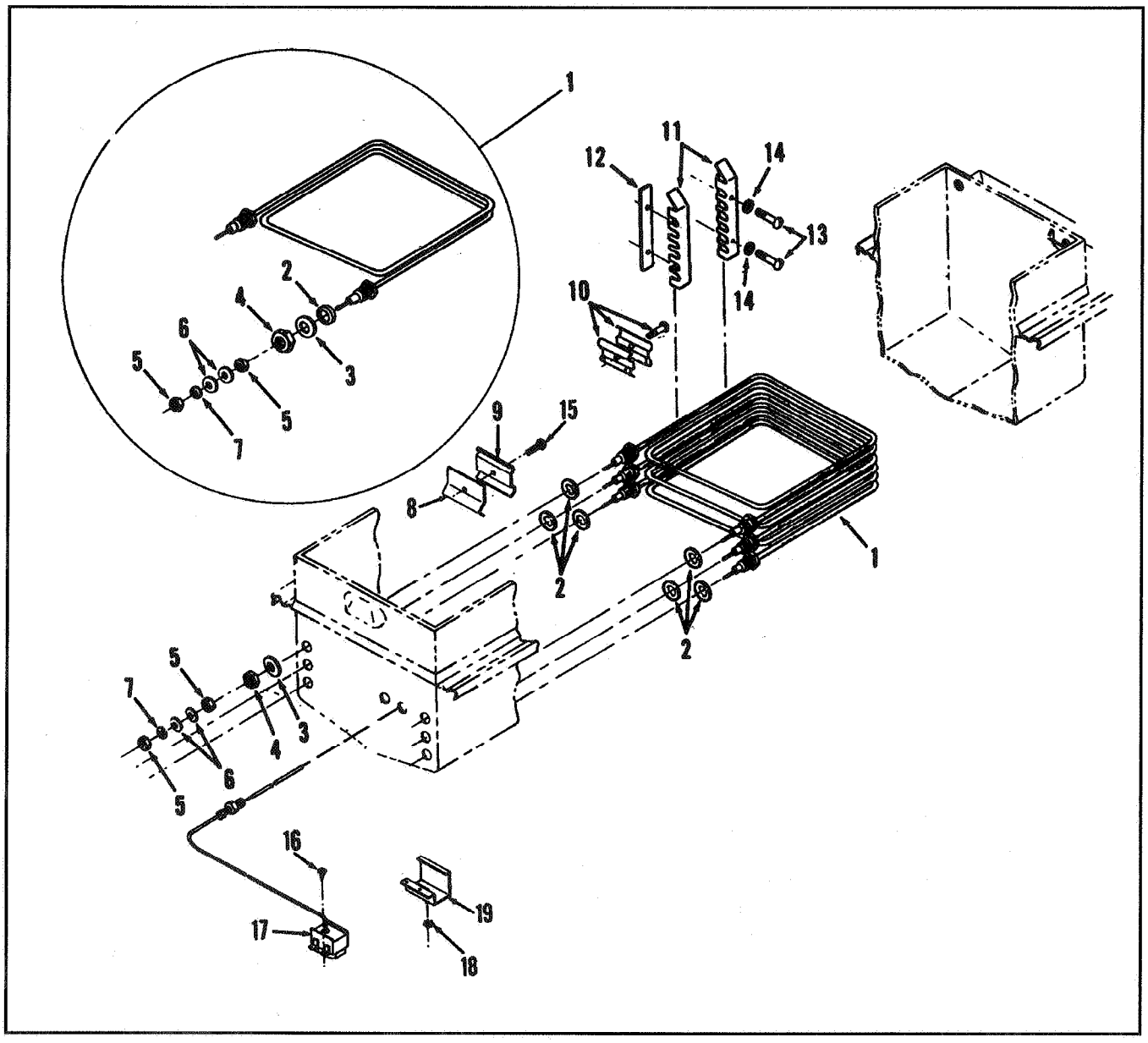


Figure 6-16. Heating Element and High Limit Assembly (Electric Model)

FIGURE & ITEM NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSY
6-16		HEATING ELEMENT AND HIGH LIMIT ASSEMBLY, (Electric Models)	
1	18233-1	ELEMENT COMPLETE, Heating ..... 208 Volts, 4500 Watts	3
1	44756	ELEMENT - 208V-13.5kw-561 (units w/Firebars only)	1
1	18233-2	ELEMENT COMPLETE, Heating ..... 230 Volts, 4500 Watts	3
1	18233-3	ELEMENT COMPLETE, Heating ..... 230 Volts, 3750 Watts	3
1	18233-4	ELEMENT COMPLETE, Heating ..... 208 Volts, 3750 Watts	3
1	45268	ELEMENT - 240V-13.5kw-561 (units w/Firebars only)	1
1	18233-5	ELEMENT COMPLETE, Heating ..... 220 Volts, 3750 Watts	3
1	48169	ELEMENT - 220V-13.5kw-561 (units w/Firebars only)	1
1	18233-6	ELEMENT COMPLETE, Heating ..... 480 Volts, 3750 Watts	3
1	48159	ELEMENT - 480V-13.5kw-561 (units w/Firebars only)	1
1	18233-7	ELEMENT COMPLETE, Heating ..... 480 Volts, 4500 Watts	3
1	18233-8	ELEMENT COMPLETE, Heating ..... 380 Volts, 4500 Watts	3
		(All Elements Include Items 2 Thru 7) Specify Volts and Watts	
2	16855	SEAL-O-RING	6
3	WA01-005	WASHER, Heating Element, Metal	6
4	NS01-017	NUT, Heating Element, Brass	6
5	NS01-014	NUT, Heating Element	12
6	WA01-007	WASHER, Heating Element	12
7	LW01-008	WASHER, Lock, Heating Element	6
8	29295	HI Limit Bracket - Rear-561 (Firebars)	2
8	18720	CLAMP, Rear-Hi Limit	1
9	29297	HI Limit Bracket - Front-561 (Firebars)	2
9	18248	CLAMP, Front-Hi Limit	1
10	18211	HOLDER, Thermostat Bulb	1
11	18225	SPREADER, Element	4
11	44914	SPREADER, Element (inner) - 561 (Firebars)	4
12	18226	BAR, Spreader Lock	4
12	44915	SPREADER Element (outer) - 561 (Firebars)	4
13	SC01-055	SCREW, Element Spreader	8
13	SC01-201	SCREW, Element Spreader-561 (Firebars)	8
14	LW02-005	WASHER, Lock, Element Spreader	8
15	SC01-053	SCREW, 8-32 x 1/2 PH RD SS	2
15	SC01-055	SCREW, Hi Limit Bracket-561 (Firebars)	4
16	SC02-018	SCREW, Thread Forming #8	2
17	16738	CONTROL, Hi Limit Temperature	1
18	NS02-001	NUT, #10-32 Hex Keps	2
19	17216	BRACKET ASS'Y, Hi Limit Thermostat	1
20	63339	INSULATION, Pot Front-561 (not shown)	1

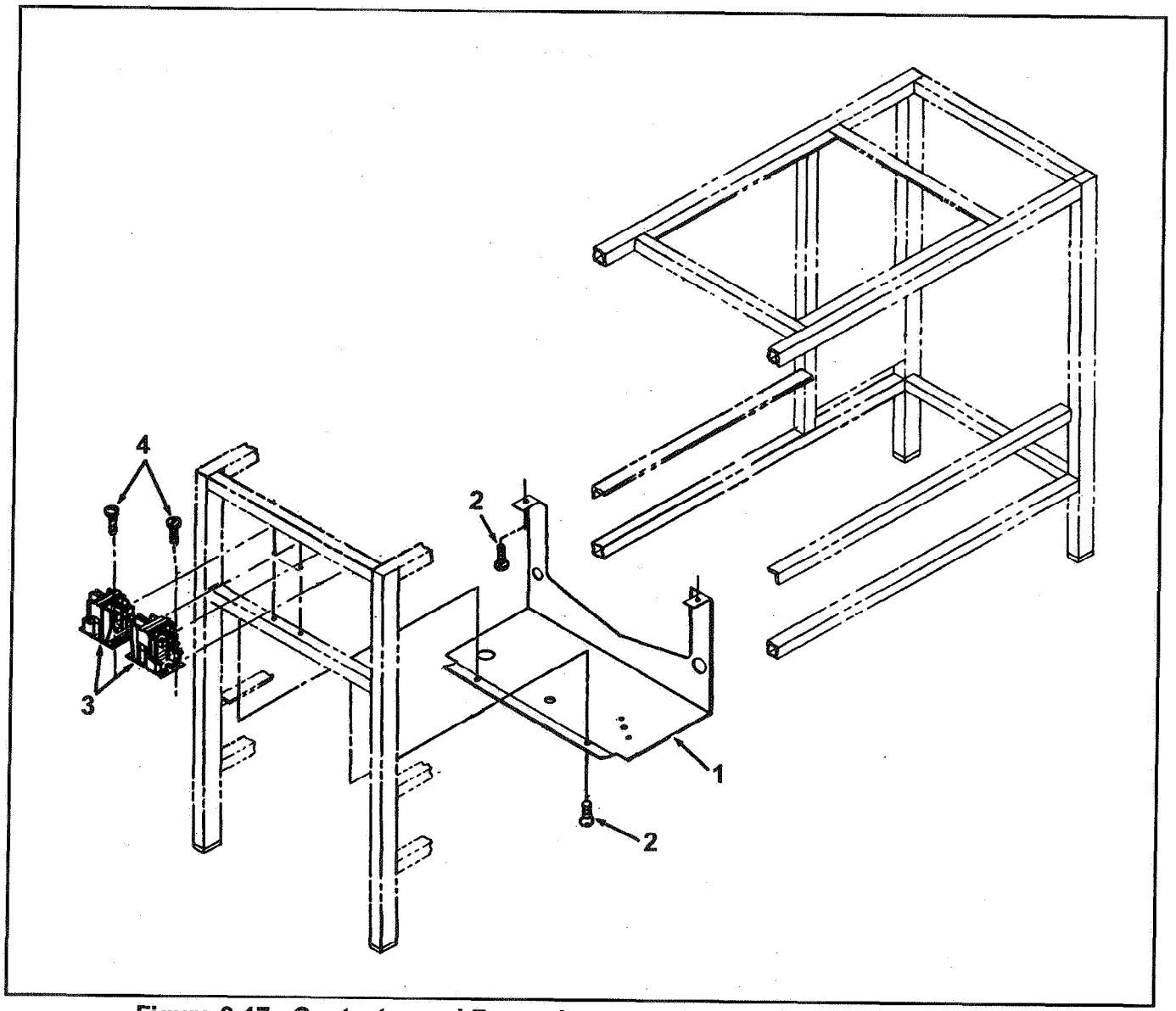


Figure 6-17. Contactor and Frame Assembly (Three Phase Electric Model)

FIGURE & ITEM NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSY
6-17		CONTACTOR AND FRAME ASSEMBLY (Three Phase Electric Model)	
1	59233	SHROUD, Galvanized	1
2	SC03-005	SCREW, Shroud	4
3	19405	CONTACTOR	2
4	SC04-002	SCREW, Contactor	4

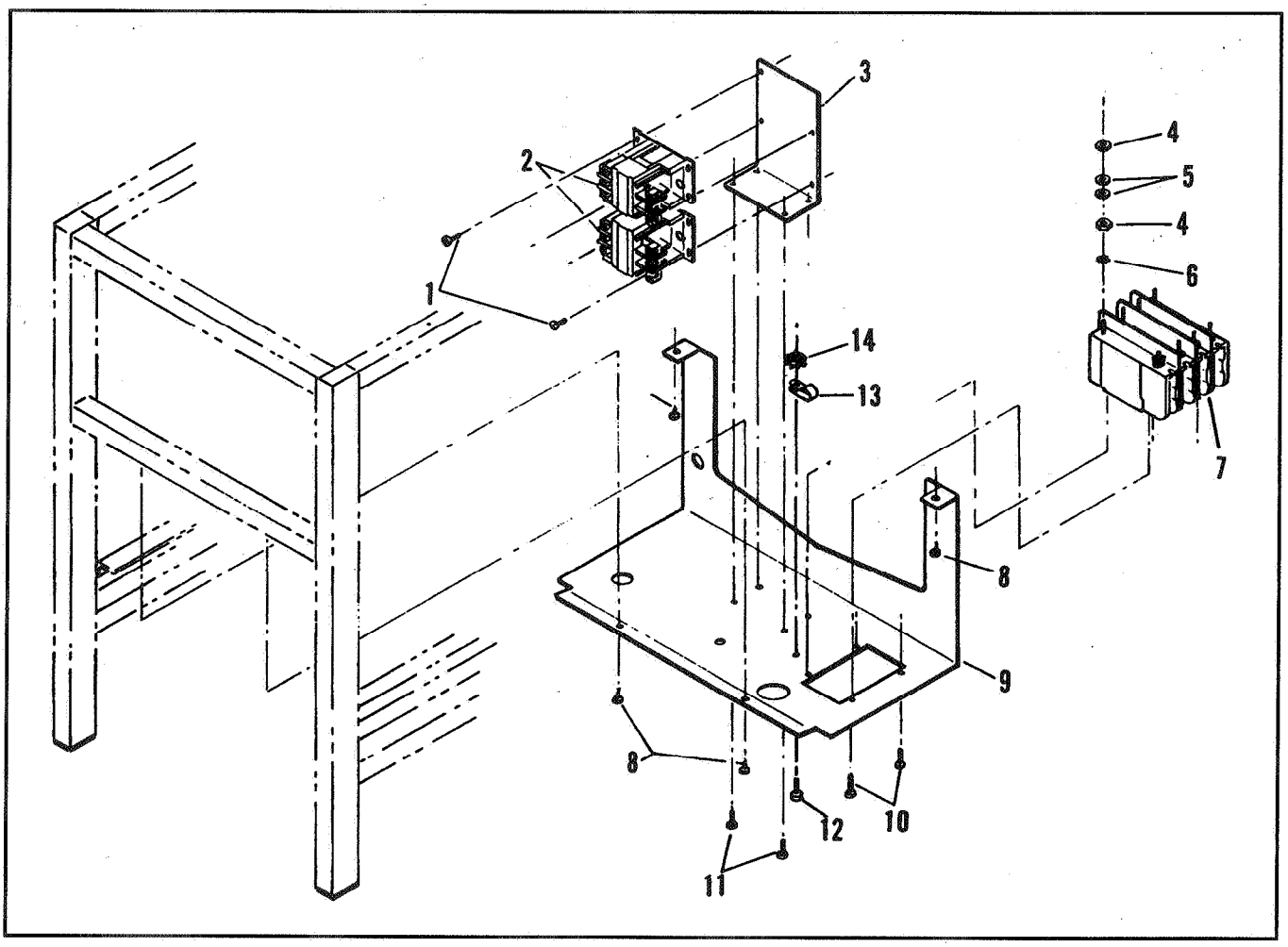


Figure 6-18. Contactor and Frame Assembly (Electric Model) Single Phase

FIGURE & ITEM NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSY
6-18		CONTACTOR AND FRAME ASSEMBLY, (Electric Model) Single Phase	
1	SC04-003	SCREW	4
2	19405	CONTACTOR	2
3	18243	BRACKET, Contactor	1
4	NS01-014	NUT, Hex	16
5	WA01-007	WASHER	16
6	LW02-005	LOCKWASHER	8
7	18242	BREAKER, CIRCUIT 50 amp	1
8	SC03-005	SCREW	4
9	63226	SHROUD, Single Phase	1
10	SC01-072	SCREW	4
11	SC04-002	SCREW	4
12	SC01-010	SCREW	1
13	EF02-030	CAPILLARY CLAMP	1
14	NS02-005	NUT	

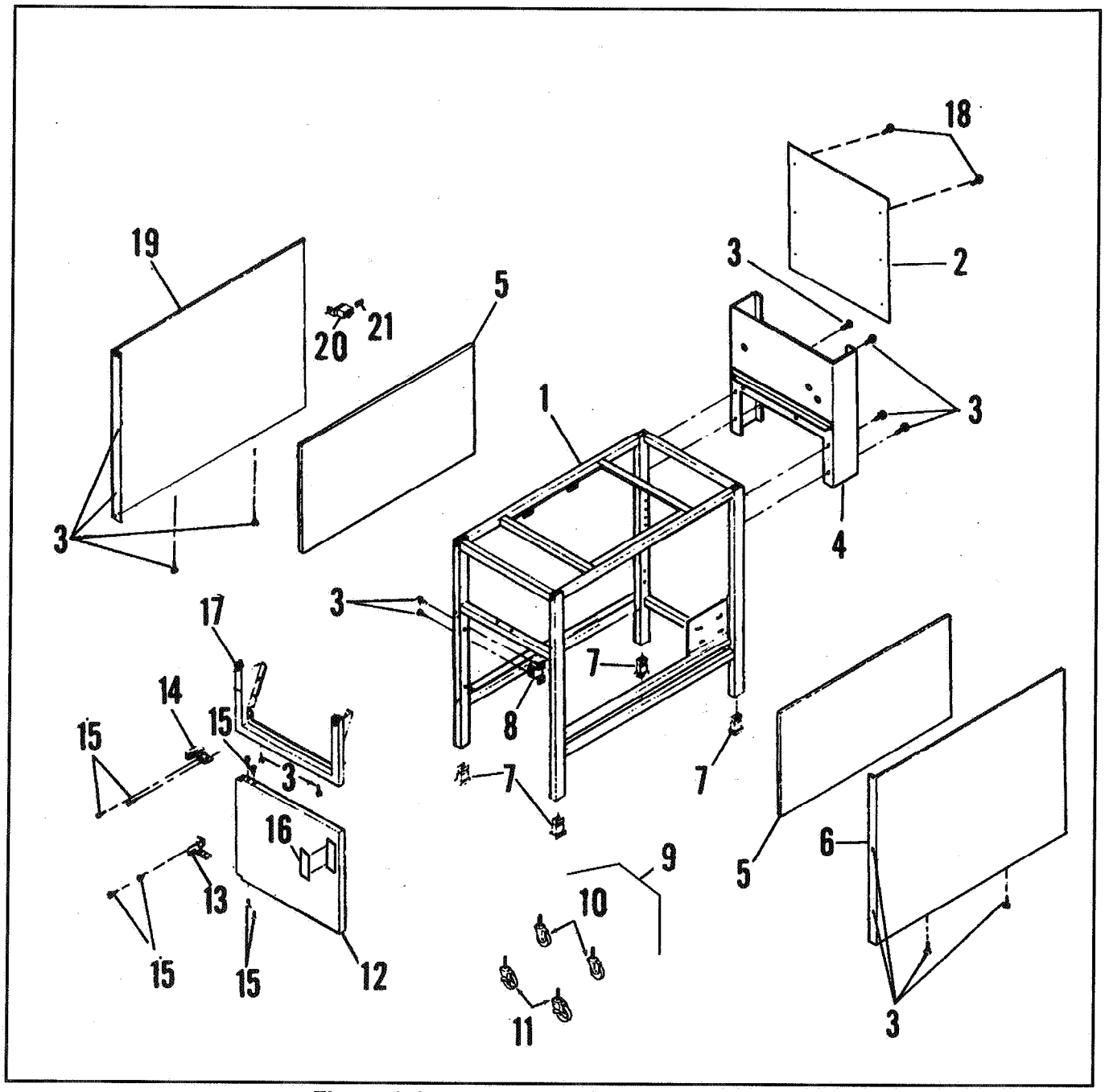


Figure 6-19. Frame and Cabinet Assembly

FIGURE & ITEM NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSY
6-19		FRAME AND CABINET ASSEMBLY	
1	56970	FRAME ASSEMBLY	1
2	56963	COVER, Back Shroud	1
3	SC03-005	SCREW, Panels and Bracket, Sheet Metal	22
4	58851	SHROUD ASSEMBLY	1
5	59730	INSULATION, Side Panel, (Gas only)	2
6	56972	PANEL, Right Side, Stainless Steel	1
6	59734	PANEL, Right Side, - CE and Australia (Gas only)	1
7	54225	INSERT, Aluminum Feet	4
8	59230	CATCH, Magnetic Door	1
9	03007	CASTER, Assembly	1
10	17630	CASTER, Less Brake	2
11	17629	CASTER, w/Brake	2
12	58849	DOOR ASSEMBLY, Complete	1
13	17620	HINGE, Bottom Door	1
14	17618	HINGE, Top Door	1
15	SC01-003	SCREW, Door Hinge	8
16	41836	HANDLE, Door	1
17	56974	PANEL, Front, Stainless Steel	1
18	SC04-003	SCREW, Back Shroud	6
19	56973	PANEL, Side Left, Stainless Steel	1
19	59733	PANEL, Side Left,- CE and Australia (Gas only)	1
20	17627	LUG, Grounding	1
21	17611	SCREW, Grounding Lug	1

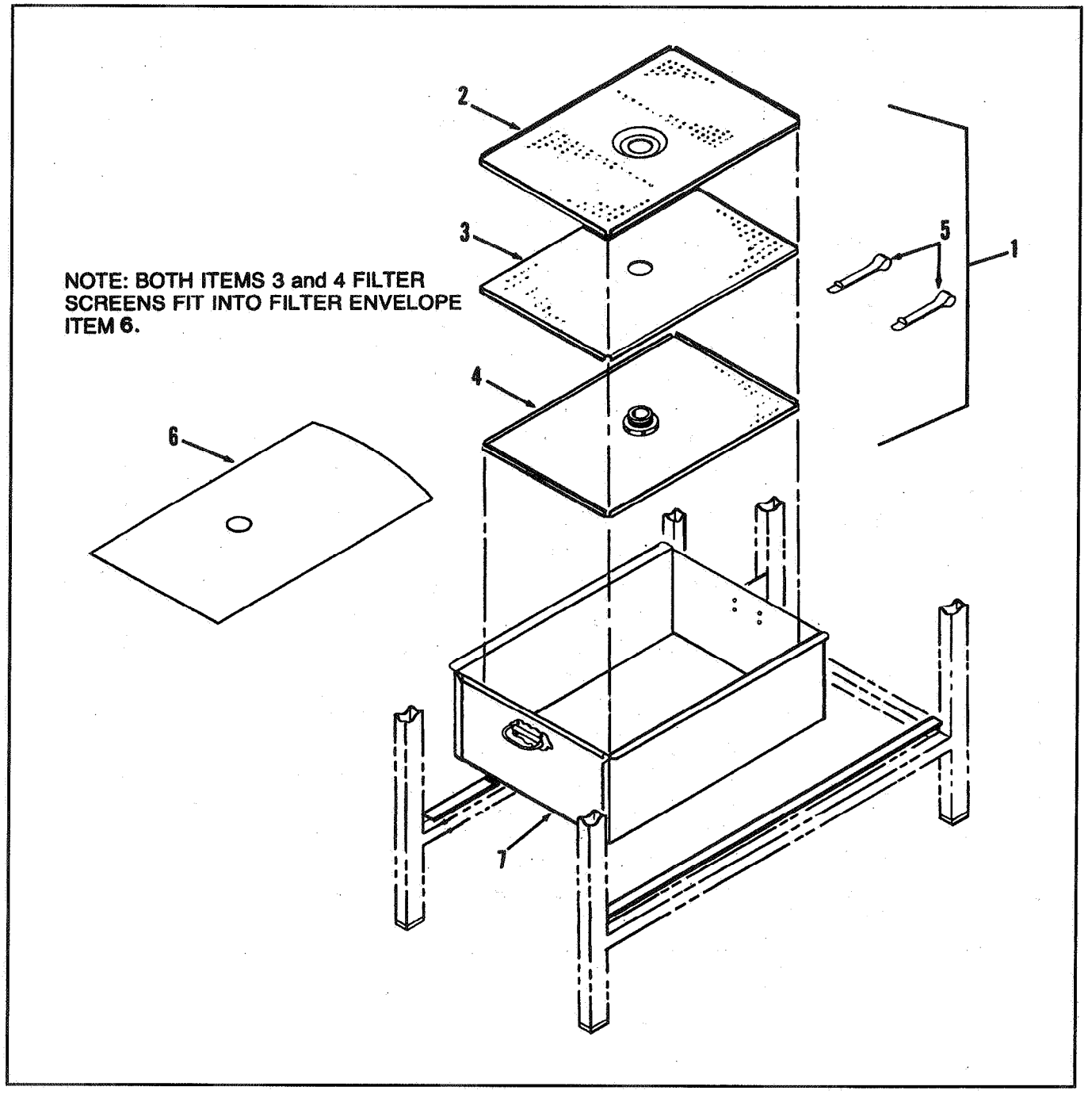


Figure 6-20. Drain Pan and Filter Screen Assembly

FIGURE & ITEM NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSY
6-20		DRAIN PAN AND FILTER SCREEN ASSEMBLY	
1	17510	SCREEN ASSEMBLY, Filter	1
2	17501	CATCHER, Crumb	1
3	17502	SCREEN, Top Filter	1
4	17503	SCREEN, Bottom Filter	1
5	17505	CLIPS, Filter Envelope	2
6	12102	FILTER, Envelope Paper (100 per carton)	1
7	58848	PAN, Filter Drain Assembly - **500 & 600**	1
7	63695	PAN, Fitler Drain Assembly w/casters - **500 & 600**	1
	19004	CASTERS, Drain Pan (not shown)	4
7	63203	PAN, Filter Drain Assembly - **561**	1
7	63697	PAN, Filter Drain Assembly w/casters - **561**	1
	19004	CASTERS, Drain Pan (not shown)	4

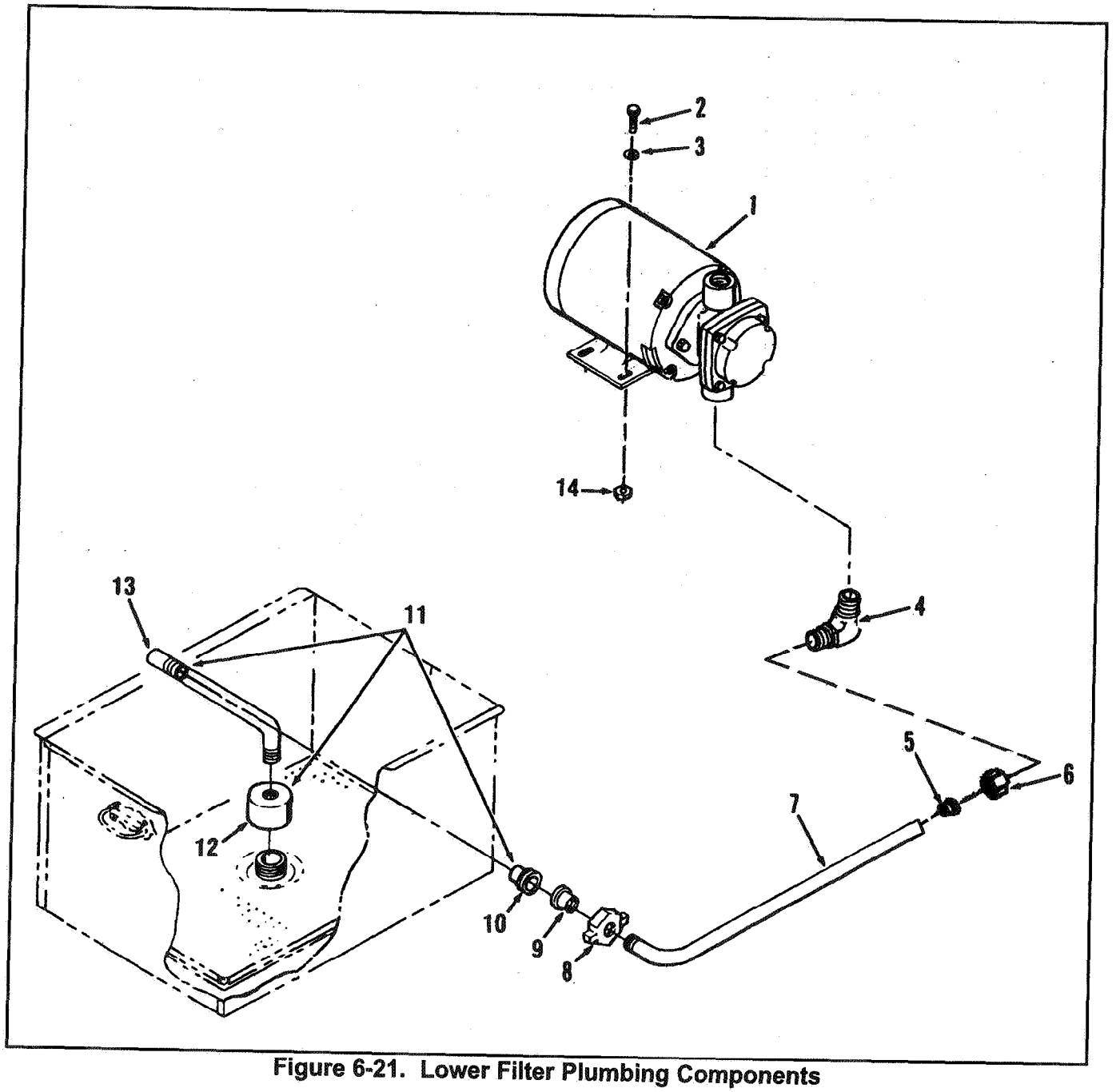


Figure 6-21. Lower Filter Plumbing Components

FIGURE & ITEM NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSY
6-21		LOWER FILTER PLUMBING COMPONENTS (Gas and Electric Models)	
1	56630	MOTOR AND PUMP, Filter	1
	46854	MOTOR Only - 1/2 Horse Power	1
	17437	PUMP Only	1
	17476	SEAL KIT, Pump	1
2	SC01-022	SCREW, Motor	8
3	WA01-002	WASHER	8
4	17407	CONNECTOR, Male Elbow	1
5	16808	FITTING, Sleeve	1
6	16809	NUT Fitting	1
7	58861	TUBING, Stainless Steel	1
8	17432	FITTING, Union Handle	1
9	17431	FITTING, Male Union	1
10	17430	FITTING, Female Union (Also included with item 12)	1
11	59216	STANDPIPE ASSEMBLY, Filter Screen 500 & 600 Only	1
11	19102	STANDPIPE ASSEMBLY, Filter Screen 561 Only	1
12	17403	NUT, Filter Screen	1
13	58867	TUBING, S.S., 500 & 600 Only	1
13	19101	TUBING, S.S., 561 Only	1
14	NS02-002	NUT, Motor	4
15	55281	SHIELD, Motor Splash (not shown)	1

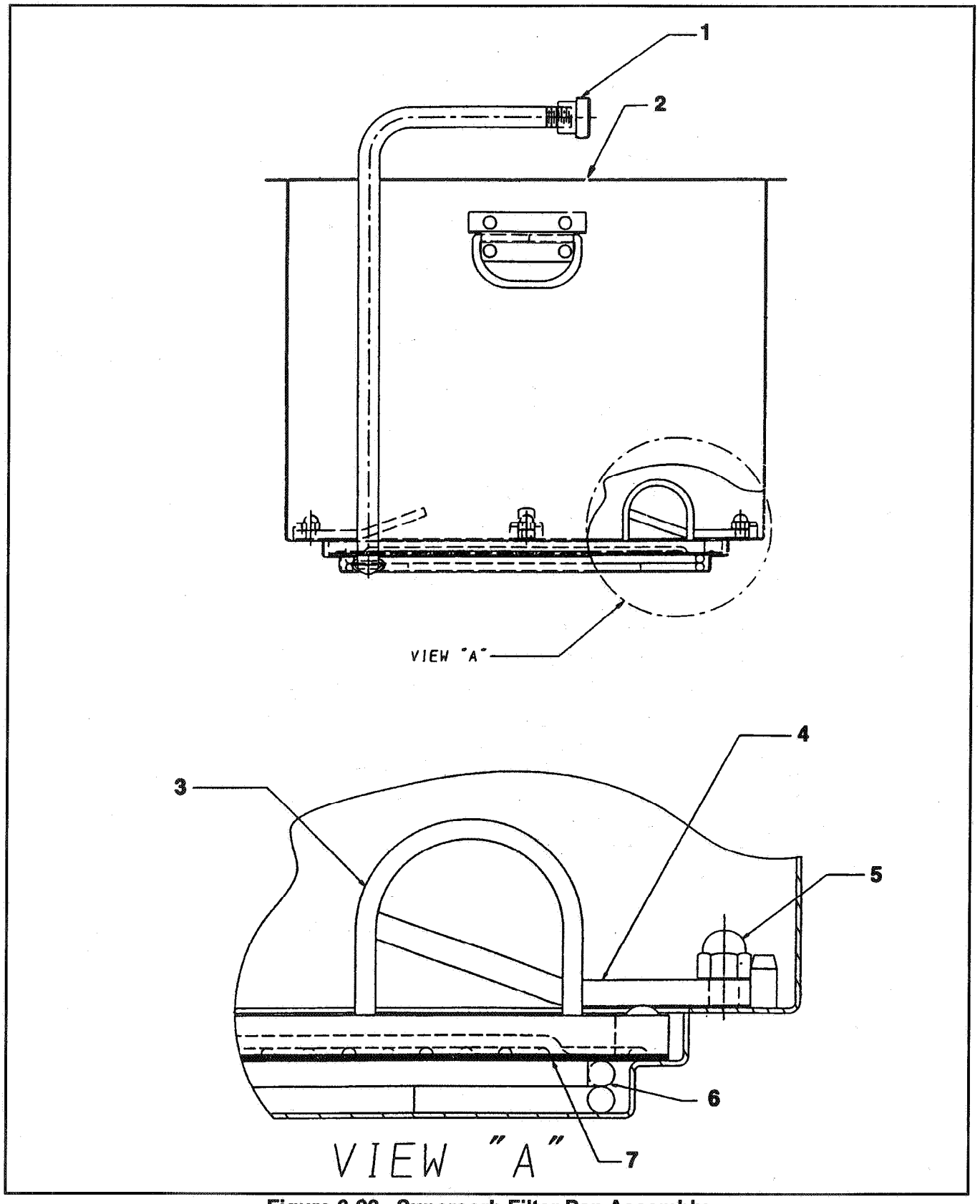


Figure 6-22. Supersorb Filter Pan Assembly

FIGURE & ITEM NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSY
6-22		Supersorb Filter Pan Assembly	
1	17430	UNION, Female Fitting	1
2	63239	FILTER PAN ASSEMBLY - Super Sorb - **500 & 600**	1
2	63696	FILTER PAN ASSY. w/casters - Super Sorb - **500 & 600** ..	1
	19004	CASTERS, Drain Pan (not shown).....	4
2	63350	FILTER PAN ASSEMBLY - Super Sorb- **561**	1
2	63698	FILTER PAN ASSY. w/casters - Super Sorb - **561**	1
	19004	CASTERS, Drain Pan (not shown).....	4
3	37135	FILTER CLAMP RING ASSEMBLY	1
4	36596	HANDLE, Filter Lock	4
5	NS03-023	NUT, 1/4-20 Acorn Cap	4
6	30944	SUPPORT, Filter Pad	1
7	12186	CHARCOAL FILTER PAD	1
8	54538	COVER- FILTER PAN ASSY. - SUPER SORB, Gas ..... (not shown)	1
8	54008	COVER- FILTER PAN ASSY. - SUPER SORB, ... Electric (not shown)	1

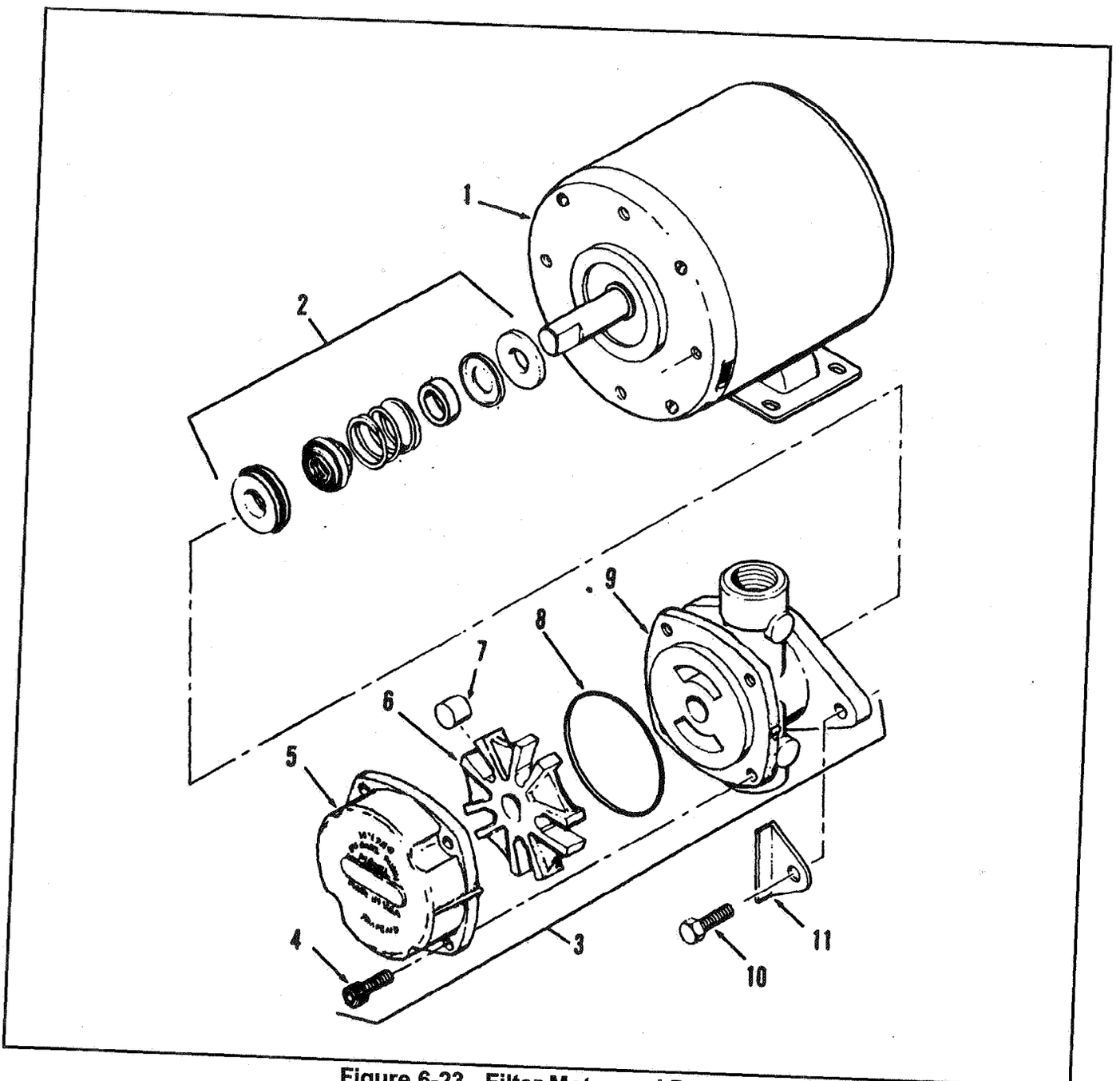


Figure 6-23. Filter Motor and Pump

FIGURE & ITEM NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSY
6-23		Filter Motor and Pump	
1	46854	MOTOR, 1/2 Horse - 50/60 Hz	1
2	17476	SEAL KIT	1
3	17437	PUMP ASSEMBLY	1
4	SC01-132	SCREW, Pump Cover	1
5	17451	COVER, Pump	1
6	17447	ROTOR, Pump	1
7	17446	ROLLER, Pump	5
8	17453	O'RING	1
9	17454	BODY, Pump	1
10	17456	SHIELD, Pump	2
11	SC01-026	SCREW, Pump Shield	1

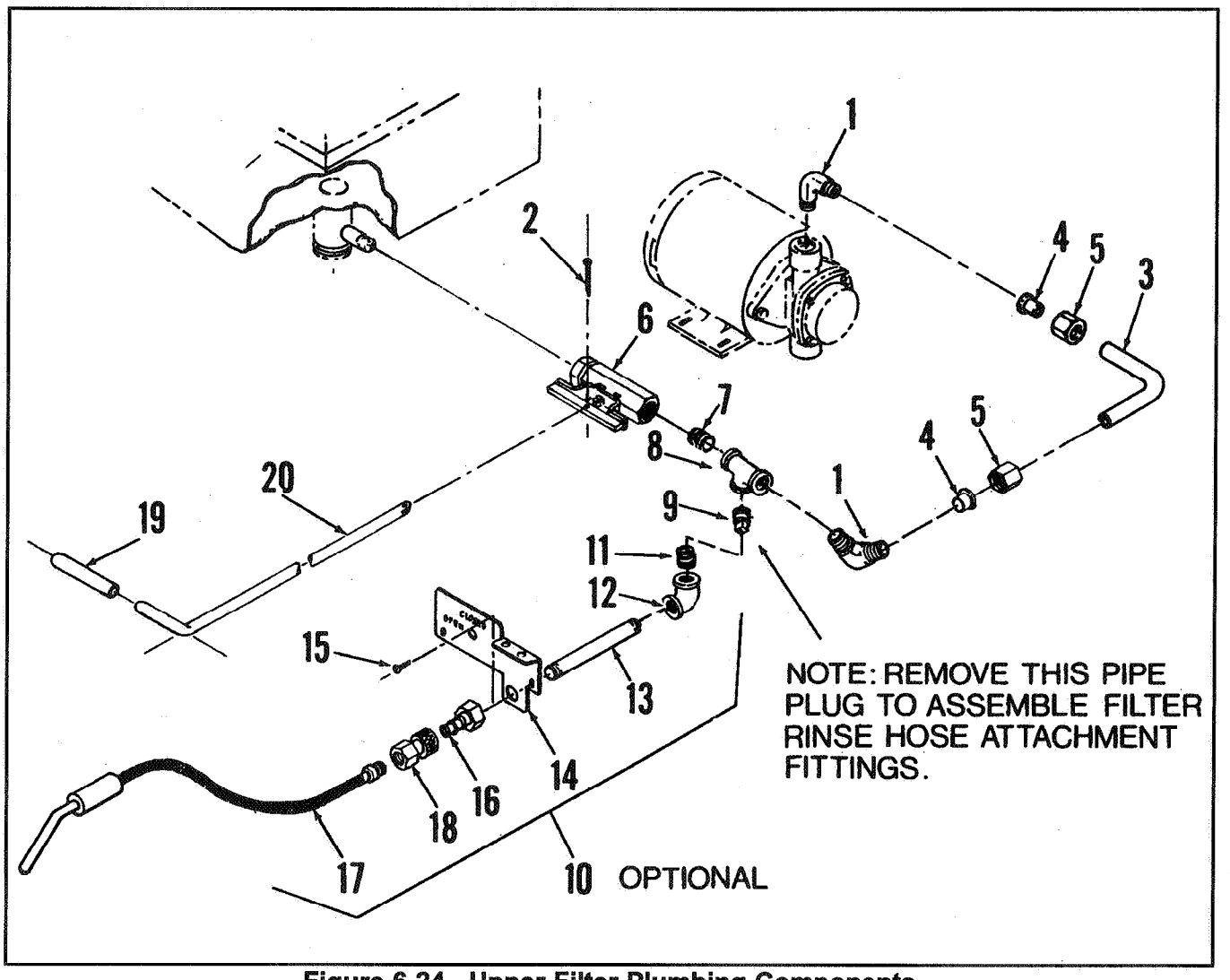


Figure 6-24. Upper Filter Plumbing Components

FIGURE & ITEM NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSY
6-24		UPPER FILTER PLUMBING COMPONENTS	
1	17407	CONNECTOR, Male Elbow	2
2	17255	PIN, Cotter, Valve	1
3	63134	TUBING, Stainless Steel	1
4	16808	FITTING, Sleeve	2
5	16809	NUT, Fitting	2
6	17308	VALVE ASSEMBLY, Filter	1
7	FP02-001	NIPPLE, Close	1
8	17306	TEE, Pipe	1
9	FP01-015	PLUG, Pipe	1
10		HOSE ASSEMBLY, Filter Rinse Optional	1
11	FP02-007	NIPPLE, Pipe	1
12	17319	ELBOW, Pipe	1
13	17320	NIPPLE, Rinse Hose Pipe	1
14	17224	BRACKET, Rinse Hose	1
15	SC03-005	SCREW, Rinse Hose Bracket	2
16	17334	FITTING, Rinse Hose Disconnect, Male	1
17	03003	HOSE, Filter Rinse	1
18	17333	FITTING, Rinse Hose Disconnect - Female	1
19	16293	COVER, Valve Rod	1
20	17311	ROD, Filter Valve Extension	1

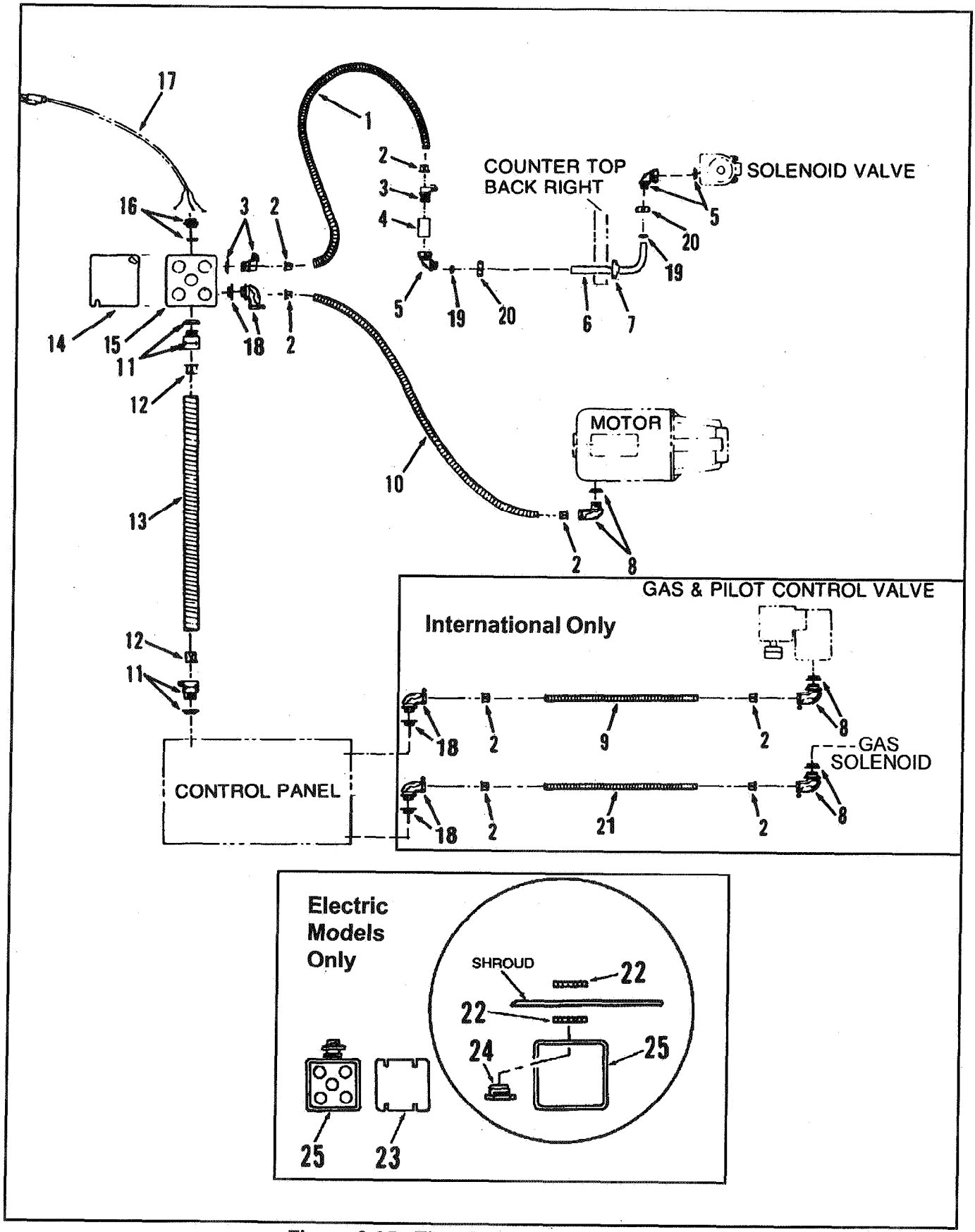


Figure 6-25. Electric Conduit Assembly

FIGURE &ITEM NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSY
6-25		ELECTRIC CONDUIT ASSEMBLY, (Gas Model)	
1	33224	CONDUIT, Flexible	1
2	18105	BUSHING, Anti Short	8
3	18111	CONNECTOR, Conduit	2
4	FP01-018	COUPLING, Pipe	1
5	18113	CONNECTOR, Conduit, 90°	2
6	59218	TUBE, Conduit - Solenoid	1
7	16804	GROMMET, Umbrella	1
8	18107	CONNECTOR, Conduit, 90°	1
9	17221	CONDUIT, Flexible	1
9	33866	CONDUIT, Flexible-CE and Australia	1
10	30291	CONDUIT, Flexible	1
11	18104	CONNECTOR, Conduit	2
12	18108	BUSHING, Anti Short	2
13	33628	CONDUIT, Flexible	1
14	18101	COVER, Junction Box	1
15	18102	BOX, Junction	1
15	54965	BOX, Junction - w/cover - Splash Proof - CE and Australia.	1
16	18103	CONNECTOR, Power Cord	1
17	53656	CORD, Power, With Grounded Plug - Gas Models only	1
17	34823	CORD, Power-CE and Australia - Gas Models only	1
18	18644	CONDUIT CONNECTOR	1
19	16817	SLEEVE, Teflon	2
20	16809	NUT, Fitting	2
21	44814	CONDUIT, Flexible	1
22	19617	NUT, Lock, 3/4 inch	2
23	19708	COVER, Junction Box	1
23	44485	COVER, Junction Box, Water Tight, CE and Australia	1
24	49616	NIPPLE, 3/4 inch Chase	1
25	19707	BOX, Main Power Junction	1
25	48437	BOX, Junction, Water Tight	1
26	51390	EMC Filter Assy.-CE and Australia (not shown)	1

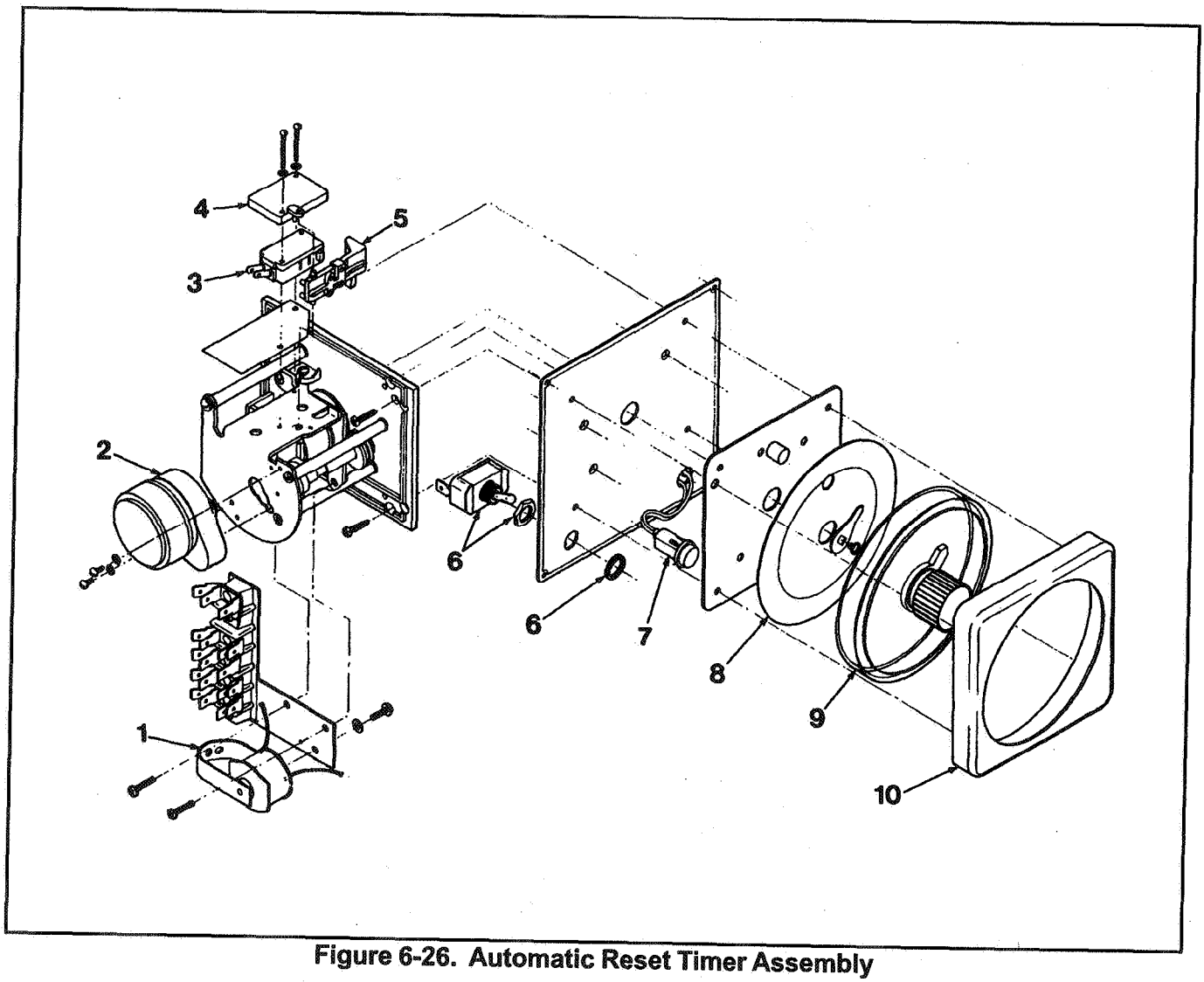


Figure 6-26. Automatic Reset Timer Assembly

FIGURE & ITEM NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSY
6-26		Automatic Reset Timer Assembly	
1	16659	BUZZER COIL ASSY, 120 V	1
1	18302	BUZZER COIL ASSY, 208-240 V	1
2	16673	TIMER MOTOR, 120 V	1
2	18303	TIMER MOTOR, 208-240 V	1
3	16671	TIMER MICROSWITCH	1
4	18771	MICROSWITCH MOUNTING PLATE	1
5	18772	MICROSWITCH ACTUATOR ARM	1
6	22195	ON/OFF SWITCH (includes nut)	1
7	16624	INDICATOR LIGHT	1
8	16597	FACE PLATE, 60 Hz	1
8	16599	FACE PLATE, 50 Hz	1
9	16371	KNOB & POINTER ASSY	1
10	16657	BEZEL	1

3 TIER WIRE BASKET, (GAS MODELS)

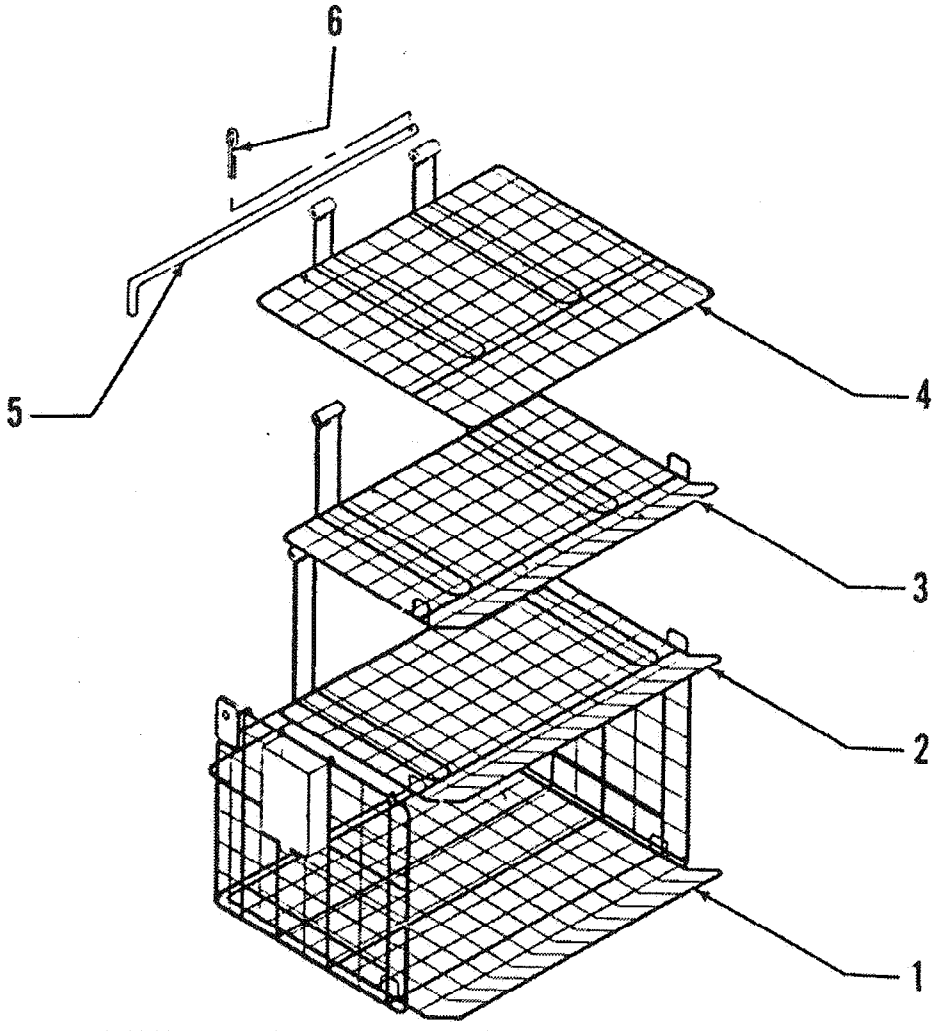
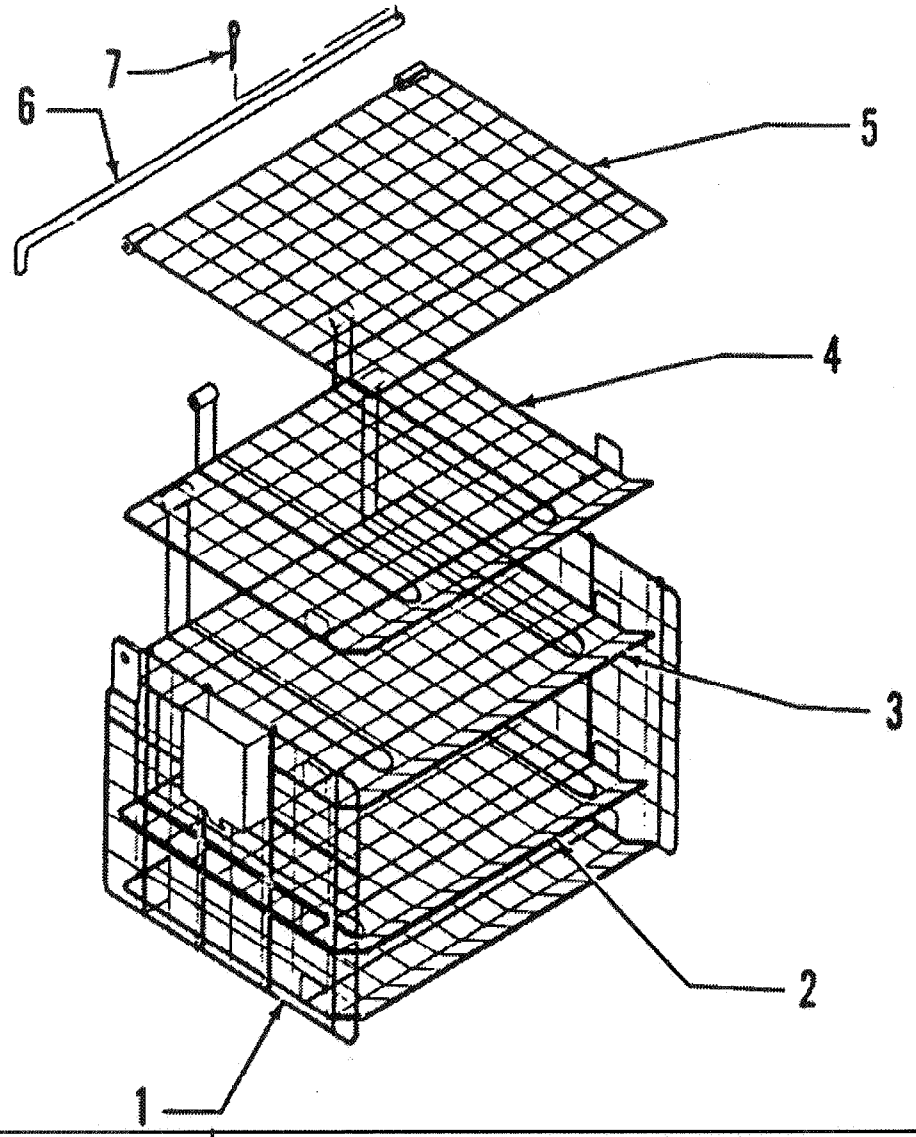


FIGURE & ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
	59196	STAINLESS STEEL BASKET	1
1	19531	FRAME & 1st. Shelf Assembly - Old Style	1
1	59198	FRAME & 1st. Shelf Assembly	1
1	59199	SHELF, 2nd	1
2	19532	SHELF, 2nd - Old Style	1
2	59200	SHELF, 3nd	1
3	19533	SHELF, 3rd - Old Style	1
4	59203	COVER	1
4	19534	COVER - Old Style	1
5	19536	ROD, Pivot	1
6	PN01-001	PIN, Cotter	1
7	59192	HINGE PLATE (not shown)	1

4 TIER WIRE BASKET (ELECTRIC MODELS)



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
	59195	STAINLESS STEEL BASKET	1
1	59197	FRAME & 1st. Shelf Assembly	1
1	19517	FRAME & 1st. Shelf Assembly - Old Style	1
2	59199	SHELF, 2nd	1
2	19518	SHELF, 2nd - Old Style	1
3	59200	SHELF, 3rd	1
3	19519	SHELF, 3rd - Old Style	1
4	59201	SHELF, 4th	1
4	19520	SHELF, 4th - Old Style	1
5	59202	COVER	1
5	19521	COVER - Old Style	1
6	19536	ROD, Pivot.	1
7	PN01-001	PIN, Cotter	1
7	59192	HINGE PLATE (not shown)	1

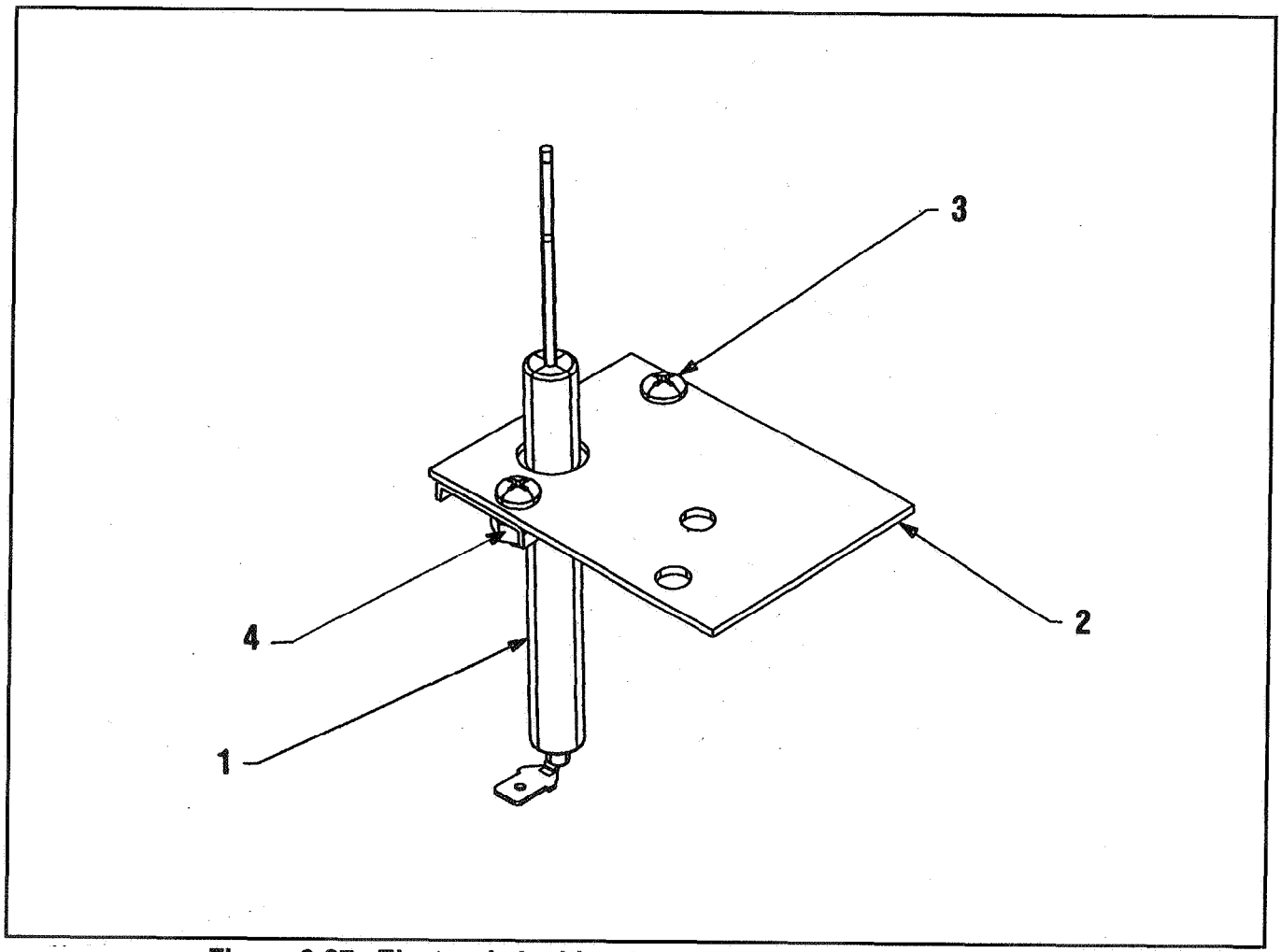
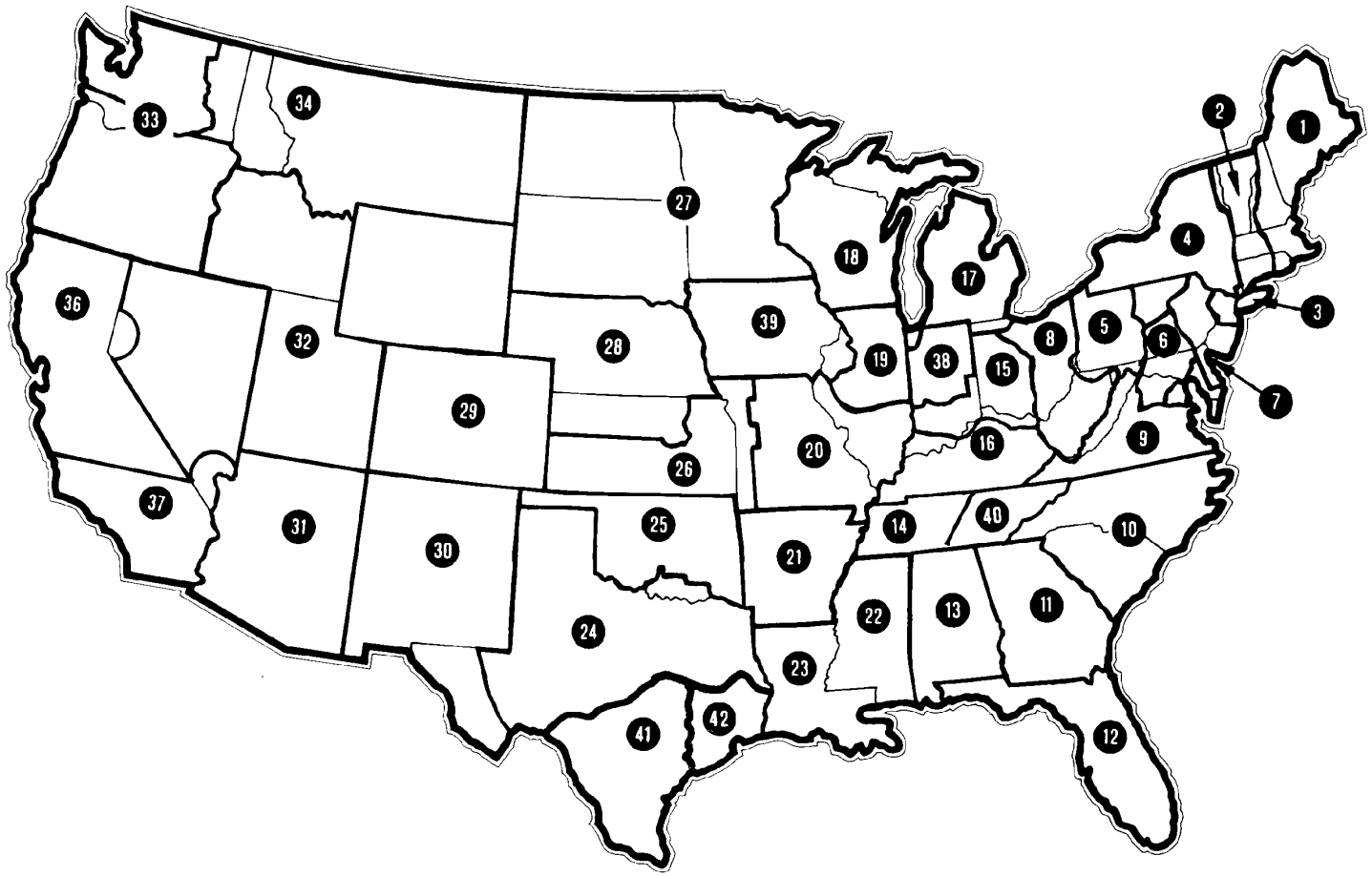


Figure 6-27. Electronic Ignition Assembly (only where applicable)

FIGURE & ITEM NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSY
6-35		ELECTRONIC IGNITION ASSEMBLY (only where applicable)	
1	34380	ELECTRODE, Spark/Sense	1
1	21324	ELECTRODE, Spark/Sense (International)	1
2	34376	IGNITOR BRACKET	1
2	21325	IGNITOR BRACKET (International)	1
3	SC01-021	SCREW	2
3	SC01-076	SCREW (International)	2
4	NS02-007	KEPS NUT	2
5	34384*	IGNITION MODULE	1
5	21318*	IGNITION MODULE (International)	1
6	21317*	MOMENTARY RESET SWITCH	1

Not Shown*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Jacksonville-(904) 781-9054
FL Watts (800) 282-2733

13. **Ber-Vel Distributing Co. Inc.**
P.O. Box 9943
Birmingham, AL 35220
(205) 681-1855

14. **Barnett Supply**
2089 York Ave.
Memphis, TN 38104
(901) 278-0440
Nashville, TN
(615) 242-6451
Scotsman Supply
516 5th Ave., South
Nashville, TN 37203
(615) 242-6451

15. **St. Clair Supply Company**
231 East Main Street
Eaton, OH 45320
(937) 456-5500
(800) 762-2968

16. **Dine Equipment Co.**
3110 Preston Hwy.
P.O. Box 34038 zip 40232
Louisville, KY 40213
(502) 637-3232
FAX (502) 637-5177

17. **United Marketing Assoc.**
11877 Belden Court
Livonia, MI 48150
(734) 261-5380

18. **T&H Distributors**
1235 Parkview
Green Bay, WI 54304
(920) 339-9838

19. **Food Service Solutions, Inc.**
1682 Barclay Blvd.
Buffalo Grove, IL 60089
(847) 459-8040
(847) 459-7942

20. **MEC**
2511 Cassens Dr.
Fenton, MO 63026-2547
(636) 343-0664
(800) 397-1515

21. **Delta Supply Co., Inc.**
3315 W. Roosevelt Rd.
Little Rock, AR 72204
(501) 664-4326

22. **Dixie Supply**
490 Julianne St.
Bldg. A-2
Jackson, MS 39201
(601) 354-3025

23. **Beaullieu Refrigeration Inc.**
200 North Luke St.
Lafayette, LA 70506
(337) 235-9755

24. **S.L.E. Corporation**
1110 Avenue "H" East
Arlington, TX 76011
(817) 640-7999

25. **Brooks Industries**
4420 S.W. 29th St.
Oklahoma City, OK 73119
(405) 685-7200

26. **B & D Dist.**
19915 W. 161st St.
Suite D
Olathe, KS 66062
(913) 768-8588
FAX 913-768-8855

27. **PHT Systems**
1801 Highway 8
Suite 120
New Brighton, MN 55112
(651) 639-0368

28. **Mid-Nebraska Restaurant Supply Co.**
1415 S. Webb Road
Grand Island, NE 68802
(308) 384-5780

29. **Robert G. Wood & Co.**
2080 W. Cornell Ave.
Englewood, CO 80110
(303) 761-0500
(800) 358-3061

30. Open Territory

31. **CPE-USALCO**
1310 West Drivers Way
Tempe, AZ 85284
(480) 496-6995

32. **National Equipment Corp.**
242 West-3680 South
Salt Lake City, UT 84115
(800) 266-5824
(800) 955-9202

33. **The Nicewonger Co.**
19219 West Valley Hwy
Suite M103
Kent, WA 98032
(800) 426-5972
(425) 656-0907 FAX

34. **Tri-State Market Supply**
11115 E. Montgomery, Suite A
Spokane, WA 99206
(509) 928-8815
(877) 828-4268

36. **Western Pacific Distributors, Inc.**
19422 Cabot Boulevard
Haywood, CA 94545
(510) 732-0100

37. **Don Walters Company**
2121 S. Susan Street
Suite A
Santa Ana, CA 92704
(714) 979-5863

38. **Troyer Foods, Inc.**
17141 State Route 4
Goshen, IN 46526
(219) 533-0302

39. **Tri-City HP, Inc.**
527 West Fourth St.
Davenport, IA 52801
(319) 322-5382

40. Certified Commercial Service & Equipment (CCSE)
6031-A Industrial Heights Drive
Knoxville, TN 37909
(865)-546-8778

41. **Gower Distributors, Inc.**
P.O. Box 4804
Box 216K Rt. -4
Victoria, TX 77903
(361) 573-9777

42. **Top-Line Distributors**
1501 College Ave.
Houston, TX 77585
(713) 946-6008

43. **DSL Inc., Canada**
14520 128th Ave.
Edmonton, Alberta
Canada T5L3H6
(403) 452-7580
(Alberta, British Columbia, Manitoba, Saskatchewan, Yukon, & N.W. Territories)

44. **Taylor Freezers, Inc.**
52 Armthorpe Rd.
Brampton, Ontario
Canada L6T5M4
(905) 790-2211
(Ontario, Montreal, and Maritime Provinces)

45. **Bazinet Taylor Ltee.**
4750 Rue Bourg
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Quebec, Canada H5T 1J2
(514) 735-3627
(Quebec only)

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Henny Penny Corporation
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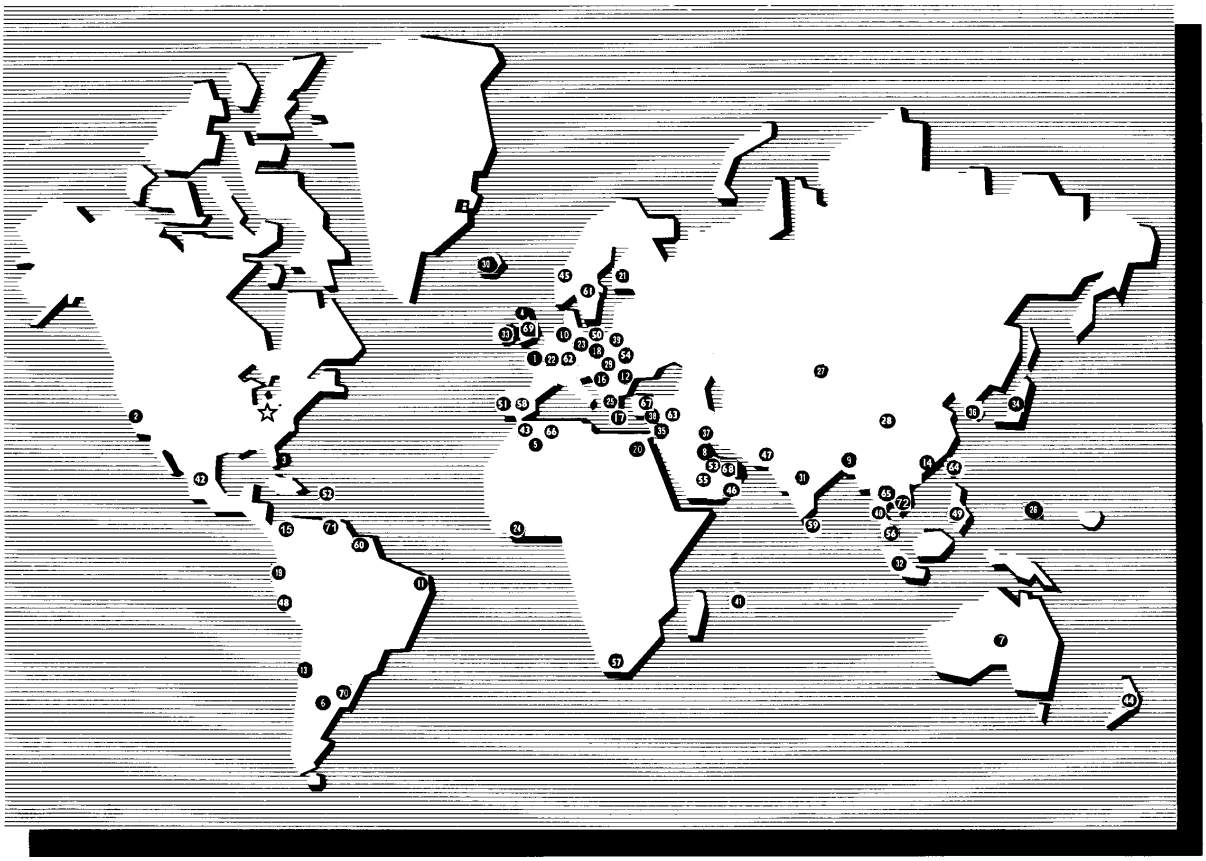

Henny Penny
International Distributor Network

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Henny Penny International Distributor Network

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Eaton, OH 45320 USA
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Representative Office
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l'Esplanade
2bis Rue Paul Henri Speak
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77462 Lagny sur Mame Cedex,
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Telephone: 33 (1) 60075600
Fax: 33 (1) 60071489

U.S. Export Centers

2. Feco International Company
20 North San Mateo Drive,
Suite 9
San Mateo, CA 94401 USA
Telephone: 415-348-3499
Fax: 415-348-3575

3. **Caribbean Islands & Central America** (excluding Puerto Rico)
Total Equipment Suppliers
9550 NW 41st St.
Miami, FL 33178
Telephone: 305-718-9550
Fax: 305-718-9505

Algeria

4. SOMAB
Y1 Rue Mahmoud Boudjatit
(Oasis) Ager, Algeria
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Fax: 213-21-23-3161

Argentina

5. Oditec S.A.
Augstin Alvarez 2128
1602 Florida
Buenos Aires, Argentina
Telephone: (541) 796-0820
Fax: (541) 796-2009

6. **Australia**
J.L. Lennard Pty. Ltd.
937-941 Victoria Rd.
West Ryde NSW 2114
Sydney, Australia
Telephone: 617-3272-4744
Fax: 617-3272-4799

Bahrain

7. Mohammed Jalal Catering
Old Palace Road
P.O. Box 1335
Manama, State of Bahrain
Telephone: 973-53-45-39
Fax: 973 53-14-78

Bangladesh

8. Puffin International Ltd.
3691B Elephant Rd.
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4th Floor-Dhaka 1205
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Fax: 880-2-867563

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9. Engelen-Heere N.V.
Industrialpark Terbekehof
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Fax: 323-825-3702

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10. Pesin Equipment Food Service
R. Olavo Bilac 188/198
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Fax: 55-11-7690-1466

Bulgaria

11. E.C.E. - CAIX
23A Rue Oborichte
Sofia 1604, Bulgaria
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Fax: 19-359-2-946-1669

Chile

12. IMAHE
Manuel Montt 1154 Providencia
Santiago, Chile
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Fax: 562-274-8567

China

13. Bonny Foodservice Products
Flat C, 8/F, Yeung Yiu Chung
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14. Industrial Taylor Ltda.
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15. New Rok
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51410 Opatija, Crotia
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Fax: 385-51-701-251

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104A Prodromos Str.
P.O. Box 25100
Nicosia, Cyprus
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Fax: 357-2-454-088

Czech Republic

17. Citus
Argentinska 20
CZ 4170 00 Pragues 7
CZECH REPUBLIC
Telephone: 420-2-667-10-561
Fax: 420-2-667-10-557

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18. Inter-Gastro A.S.
Midtager 18
2605 Brondby
Denmark DK2605
Telephone: 45-43292000
Fax: 45-43292001

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19. Equindeca Cia. Ltda.
Hotel El Conquistador
Gran Colombia 6-65
Cuenca, Ecuador
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Fax: 593-7-843221

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20. Con Trade Centre
3A Ramsis Street
Maaroof Building #83 & #62
Cairo, Egypt
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Fax: 20 (2) 756258

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21. Sisustaja As
Tihniku 5
11625 Tallinn, Estonia
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Fax: 372-6502301

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22. Monilaite Oy
P.O. Box 27
Salpakuja 6
SF-01200 Vantaa, Finland
Telephone: 358-9-877-0100
Fax: 358-9-877-01099

France

23. Diffusion International de
Materiel (DIM)
Parc d'activite Clemenceau
Chemin du Chateau d'Eau
B.P. 4009
59704 Marcq-En-Baroeuil
Cedex, France
Telephone: (33) 20890000
Fax: (33) 20727355

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Wullener Feld 9a
D-58454 Witten
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Fax: 49-2302-698451

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25. DRT Ghana
E6619 Ablade Road
Kanda Estate
P.O. Box C2074
Accra-Cantonments, Ghana
Telephone: 233-2123-3949
Fax: 233-2123-1380

Greece

26. Domestica S.A.
65 Stournara Str.
Athens 10432, Greece
Telephone: 30-15-24-30-14/15
Fax: 30-15-22-91-58

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27. Pacific Technical Service, Inc.
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28. Englelen-Heere B.V.
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3005 DA Rotterdam, Holland
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Fax: 311-042-23435

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Fax: 852-799-8490

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30. Hotex Service
H-2094 Nagykovacsi
Kossith Lajos u. 1.
Hungary
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Fax: 36-26389463

Iceland

31. A. Karlsson H. F.
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105 Reykjavik, PO Box 167
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Fax: 354-560-0901

India

32. AISHWARYA
Trust Complex, 10 OVG Rd
Basavanagudi
Bangalore 560004, India
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Fax: 91-80-667-7576

Int'l. Refrigeration Corp
7 Netaji Subhash Marg
Darya Ganj
New Delhi 110002, India
Telephone: 91-11-3275651
Fax: 91-11-6221828

Indonesia

33. P.T. Gema
JL. Raya Bloulevard Raya
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Kelapa Gading Permai
Jakarta 14240, Indonesia
Telephone: 62-21-4532077
62-21-4508910
Fax: 62-21-4532586/4530777

Ireland

34. Martin Food Equipment Ltd.
Gaskin Business Park
Coes Road
Dundalk, Louth County
Ireland
Telephone: 353-42-30366
Fax: 353-42-30370

Italy

35. Allegra SRL
Corso Matteotti, 5 - 10121
Torino, Italy
Telephone: 39-011-540264
Fax: 39-011-533779

Japan

36. Toei Kogyo Co. Ltd.
4F, Nissay Nishi-Gotanda
Building 24-5
Nishi-Gatanda 7-Chome
Shinagawa-ku, Tokyo 141-0031
Japan
Telephone: 813-3779-1081
Fax: 813-3779-1638

Jordan

37. Awar Trading Est
PO Box 962227
Amman 11196, Jordan
Telephone: 962-6-55-19-610
Fax: 962-6-55-19-605

Korea

38. Ohjin Corporation
3rd Floor, Hee Jung Building
1635-0 Seocho-dong
Seocho-ku
C.P.O. Box 3252
Seoul 137-070, Korea
Telephone: 82-2-5850441
Fax: 82-2-5874197

Kuwait

39. Mabrook Hotel Supplies Co.
PO Box 43832 Hawalli
32053 Kuwait
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965-483-01648
Fax: 965-483-4314

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Lebanon

40. Pro Kitchen
Cahlfoun Building
Kaslik - Main Road
PO Box 1066 Jounieh
Lebanon
Telephone: 961-9-635-077
Fax: 961-9-635-059

Lithuania

41. Master Group Baltic Master
Dariaus Ir Girena 175
2038 Vilnius, Lithuania
Telephone: 3702-306-528/529
Fax: 3702-306-533

Malaysia

42. SCC Corp. Sdn. Bhd.
19-21 Jalan Hujan
Taman Overseas Union
58200 Kuala Lumpur,
Malaysia
Telephone: 60-3-77828384
Fax: 60-3-77818561

Malta

43. C & H Bartoli Ltd.
232 The Strand
Gzira Gzros, Malta
Telephone: 356-342-584
Fax: 356-342-569

Mauritius Island

44. (Mauritius, Reunion Island, Seychelles)
Hassam Moussa Rawat
10 Bourbon Street
P.O. Box 492
Port Louis, Mauritius Island
Telephone: 160 (230) 2080024
Fax: 160-230-2080147

Mexico

45. Central Mexico Metro Mexico City
Cavimex S.A. de C.V.
Revillagigedo No. 61 Col Centro
Mexico, D.F. 06070
Mexico
Telephone: 525-521-4200
Fax: 525-510-2791

Pacific
Micro Herros De Occidente,
S.A. de C.V.
Av. Juan Palamar y Arias
#83 Col. Jardines Vallarta
Zapopan, Jalisco, Mexico
C.P.45020
Telephone: 52-3-629-54-05
Fax: 52-3-673-29-43

Southeast
Equipo Para El Mercado
S.A. de C.V
Calle 55 No. 501-B por 60 y 62
Merida, Yucatan,
Mexico C.P. 97000
Telephone: 52-99-236500
Fax: 52-99-286649

Morocco

46. Electra
Boulevard AHL Loghlam
BP 25698
Sidi Bernoussi - Ain-Sebaa
Casablanca Morocco
Telephone: 212-22-753-531
Fax: 212-22-753-554

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47. Taylor Equipment Limited
4 Ponuz Place
Mt. Wellington
Auckland, New Zealand
Telephone: 64 (9) 5733377
Fax: 64 (9) 5730841

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48. Grillfagmannen A.S.
Ostensjoveien 44
N-0667 Oslo 6, Norway
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Fax: 47 (2) 720017

Oman

49. Mohsin Haider Darwish LLC
P.O. Box 880
Ruwi, Code 112
SULTANATE OF OMAN
Telephone: 968-703411
Fax: (968) 789927

Pakistan

50. The Equipment Company
Ground Floor, Dadabhoy Centre
Sharea Faisai, Karachi 75530
Pakistan
Telephone: 922-1-778-1778/2778
Fax: 922-1-587-0456/778-2777

Peru

51. Importadora Tecnica
Comercial C.R. Ltda.
Jr. Marcos de Aramburu #595
Lima 17, Peru
Telephone: 51-1-226-2124
Fax: 51-1-275-2689

Philippines

52. HKR Equipment Corp.
2nd Floor, THC Bldg.
2176 Primo Rivera St.
La Paz, Makati City, Philippines
Telephone: 632-899-4511
Fax: 632-899-4541

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53. I. F. E.
Rydygiera 12
01 793 Warsaw, Poland
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42-22-663-4820/4069
Fax: 48-3912-3373

Portugal

54. Restaurotel
AV Da Republica
83 C 1050
243 Lisboa
Portugal
Telephone: 351 7967116/7/8/9
FAX: 351 7933982

Puerto Rico

55. Progressive Sales and Service
PO Box 10876
Caparra Heights Station
San Juan, Puerto Rico 00922-0876
Telephone: 787-782-7474
Fax: 787-793-6479

Qatar

56. Tristar Group
C.R. No. 6778
P.O. Box 4746
Doha, Qatar
Telephone: 974-4664433
Fax: 974-4365365

Romania

57. Delta Technologies Romani S.A.
Sector 6, 20 Constructorilor Blvd.
Bloc 20 A, sc. B 7th Floor
Apt. 64
Bucharest, D599 Romania
Telephone: 401-220-4261
Fax: 401-220-3990
US Address:
115 Main St.
Mishawaka, In. 46544
Telephone: 219-256-3783
Fax: 219-256-7130

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58. Commercial Center
Development & Economy
P.O. Box 1210
Jeddah 21431, Saudi Arabia
Telephone: 966 (2) 629-1857
Fax: 966 (2) 629-1860

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59. Breading Systems Co.
C/ Ripoche,14
35007 Las Palmas
Spain
Telephone: 34-9-28-22-43-86
Fax: 34-9-28-27-56-90

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60. Simplex Pte. Ltd.
Block 1, Lorong 8
Toa Payoh Industrial Park 01-1383
Singapore 319053
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Fax: 65-253-8814

Shopfit (S) Pte. Ltd.
Blk 623 Aljunied Industrial Complex
Unit 02-09
Singapore 389835
Telephone: 65-7410911
Fax: 65-7438911

South Africa

61. Foodserv "CC"
PO Box 55269
Northlands 2116,
Republic of South Africa
Telephone: 27 (11) 616-5183,
Fax: 27 (11) 616-8287

Spain

62. Adisa
Tuset, 8-10
08006 Barcelona, Spain
Telephone: 34-93-415-0018
Fax: 34-93-218-1782

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63. Sperrys Commercial Equipment
1014 Parliament Road
Etul Kotte
Kotte/Colombo, Sri Lanka
Telephone:941-873-0561
Fax: 941-863-8361

Suriname

64. Tessco N.V.
Oude Charlesburgweg #47
Paramaribo Suriname
Telephone: 597-473366/477388
Fax: 597-473366

Sweden

65. Eurospice AB
Box 5050
Hejargatan 6
632 29 Eskilstuna, Sweden
Telephone: 46 (16) 125600
Fax: 46 (16) 131390

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66. Stuppen Fast Food GmbH
Oberneuhofstrasse 8
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Telephone: 41-41-761-5052
Fax: 41-41 761-7210

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67. Lahham Trading & Contracting
Hamra Str. Omyad Building
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United Arab Emirates

72. Habtoor International
P.O. Box 55332
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