

**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 the Troubleshooting section. It will aid you in determining the cause of the malfunction.

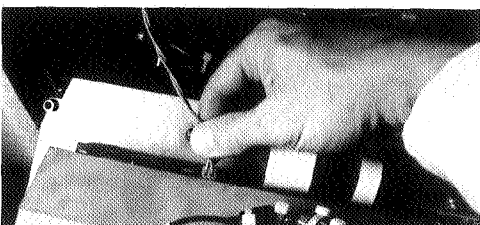
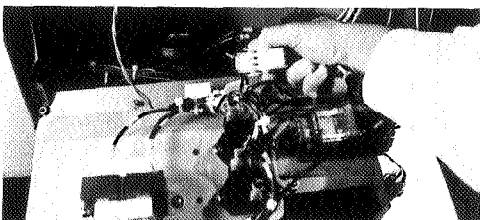
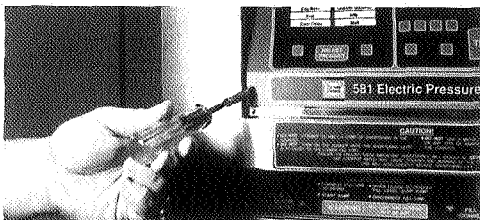
**5-2. ARRANGEMENT**

This section is arranged in groupings of the components that work together within the fryer. The general groups are listed below.

- Removing the Control Panel
- Probe
- Electrical Components
- Control Board
- Pressure System

**5-3. MAINTENANCE HINTS**

1. You may want to use a multimeter to check the electric components.
2. When the manual refers to the circuit being closed, the multimeter should read zero unless otherwise noted.
3. When the manual refers to the circuit being open, the multimeter will read infinity.

**5-4. REMOVING COMPLETE CONTROL PANEL**

The complete control panel can be easily removed for repair on the panel itself, or for access to the area behind the control panel.

1. Remove electrical power supplied to the fryer.

**WARNING**

Place the Cook/Pump Switch in the "OFF" position, and unplug the power cord and/or turn the wall circuit breaker off or electrical shock could result.

2. Remove the two screws securing the Control Panel and lift panel up and out.
3. Unplug the 9-pin connector and the probe connection at the Control Board. Then remove complete panel from unit.

## 5-5. HIGH TEMPERATURE LIMIT CONTROL (Electric Models)

### Description



This high temperature control is a manual reset control which senses the temperature of the shortening. If the shortening temperature exceeds 420°F (215°C), this control switch will open and shut off the heat to the cookpot. When the temperature of the shortening drops to a safe operation limit, the control must be manually reset. The reset button is located above the filter knob in the front of the cooker. This will allow heat to be supplied to the cookpot.

### 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 (193°C) to accurately perform this check.

1. Remove electrical power supplied to the fryer.

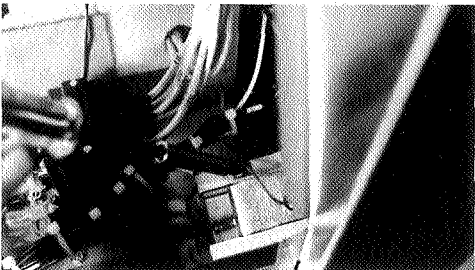
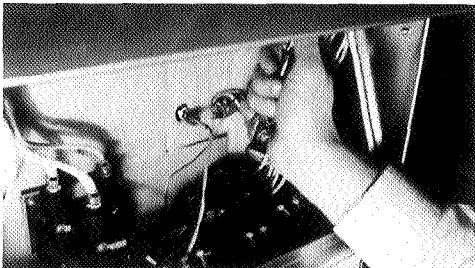
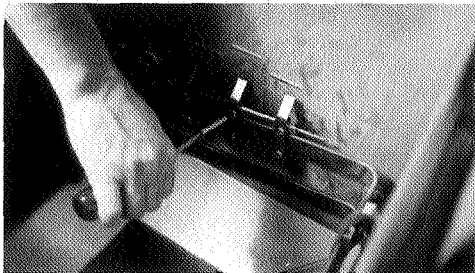
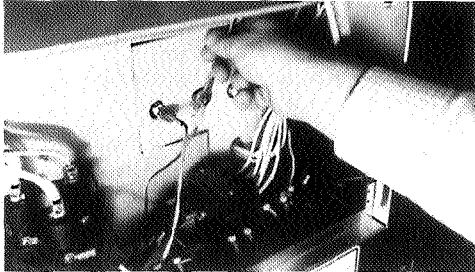
### WARNING

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

2. Remove the control panel.
3. Remove the two electrical wires from the high temperature limit control.
4. Manually reset the control, then 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.)

### 5-5. HIGH TEMPERATURE LIMIT CONTROL (Electric Models) (Continued)

#### Replacement



#### WARNING

Remove electrical power supplied to the fryer by unplugging the unit, or by turning off 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 cookpot and discard. A substance in the tube could contaminate the shortening.
3. Remove control panel.
4. Loosen small inside screw nut on capillary tube.
5. Remove capillary bulb from bulb holder inside the cookpot.
6. Straighten the capillary tube.
7. Remove larger outside nut that threads into pot wall.
8. Remove the two nuts securing the high limit bracket at the front of the fryer, and remove bracket.
9. Loosen the three screws that secure high limit to the high limit bracket.
10. Remove defective control from control panel area.
11. Insert new control and replace screws.
12. Uncoil capillary line, starting at capillary tube, and insert through cookpot wall.

#### WARNING

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

13. Carefully bend the capillary bulb holder on heating elements.

### 5-5. HIGH TEMPERATURE LIMIT CONTROL (Electric Models) (Continued)

14. Slip capillary bulb into bulb holder located on heating elements. Pull excess capillary line from pot and tighten nut into cookpot wall.

#### CAUTION

Be sure capillary bulb of high limit is positioned as not to interfere with basket or when cleaning the cookpot wall, or damage to capillary tube could result.

15. With excess capillary line pulled out, tighten smaller nut.  
16. Replace front panel.  
17. Refill with shortening.

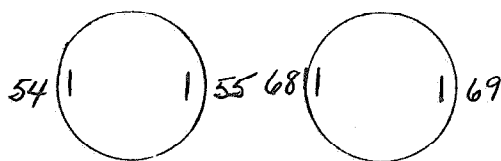
### 5-6. FUSE HOLDERS

There are two fuse holders on each model of the electric fryers.

#### WARNING

Remove electrical power supplied to the fryer by unplugging the unit, or turning off the wall circuit breaker 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, or the fuse can be removed to check for a closed circuit. If not, replace the fuse (HP# EF02-007).

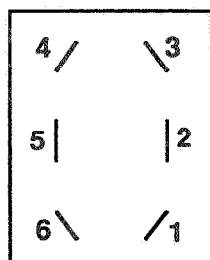
### 5-7. COOK/PUMP SWITCH

The Cook/Pump Switch is a three way rocker switch with a center "OFF" position. With the switch in the "COOK" position the fryer will operate. With the switch in the "PUMP" position the filter pump will operate, but the heating unit will not.

#### WARNING

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



**5-7. COOK/PUMP SWITCH  
(Continued)****Checkout**

1. Remove Control Panel.
2. "OFF" Position - should be open circuit anywhere on the switch.
3. "COOK" Position - Check from:  
#5 to #6 closed circuit  
#1 to #2 closed circuit
4. "PUMP" Position - Check from:  
#4 to #5 closed circuit  
#3 to #2 closed circuit

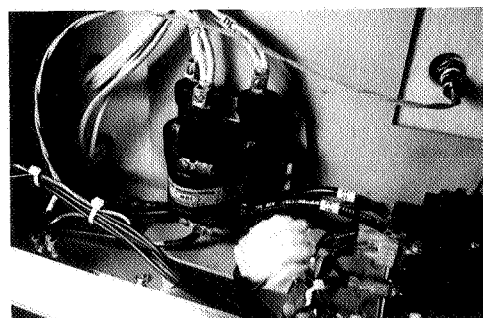
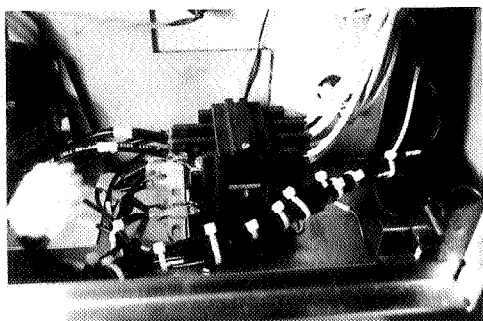
**NOTE**

Check across the jumpers on the wires of the Cook/Pump Switch. These jumpers have resistors and capacitors which may be faulty.

**Replacement**

1. With control panel removed and wires off of the switch, push in on tabs on the switch to remove from the panel.
2. Replace with new switch, and reconnect wires to switch following the wiring diagram.
3. Replace the control panel.

## 5-8. CONTACTORS



## Checkout

The electric fryer requires two switching contactors: a primary contactor and a heat contactor. The primary contactor energizes (contacts close) any time the Cook/Pump Switch is in the "COOK" position and the temperature of the pot is below 420°F (215°C). The high limit will cut the power at the primary contactor if temperatures in the cookpot exceed 420°F (215°C). The primary contactor supplies power to one side of the heat contactors.

The heat contactor (mercury contactor) is controlled by the computer controller. When the controller calls for heat, the heat contactor applies power to one side of the heating elements. When the heat contactor and the primary contactor are energized (contacts closed), the electric heating elements heat the shortening.

1. Remove electrical power supplied to the fryer.

**WARNING**

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

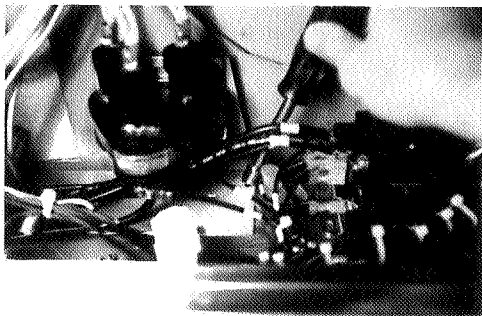
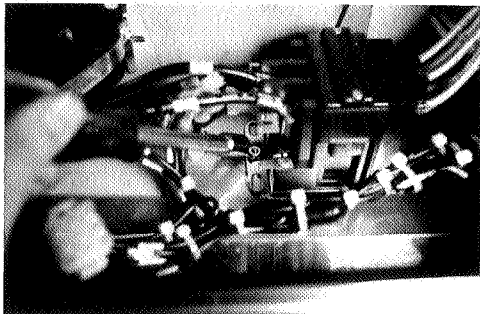
2. Remove the control panel.
3. Perform a check on both contactors as follows:

Test Point	Results
L3 - L3	Open Circuit
L2 - L2	Open Circuit
L1 - L1	Open Circuit

4. Check across the coil terminals:  
Standard Contactor - 415 ohms  
Mercury Contactor - 1500 ohms

## 5-8. CONTACTORS (Continued)

### Replacement



### WARNING

The following checks are performed with the wall circuit breaker on, and the Cook/Pump Switch in the "COOK" position. Extreme caution should be taken. Make connections before applying power, take reading, and remove power by unplugging the power cord, or by turning off the wall circuit breaker, before removing meter leads or electrical shock could result.

5. With power re-applied and in a heat-up mode, check the power going to both contactor coils. This is to be sure power is going to the contactors.

If no voltage is found going into the coils, check wiring, high-limit, and drain switch for the primary contactor. (See Maintenance Section). For the heat contactor, check wiring and connection at the P.C. Board.

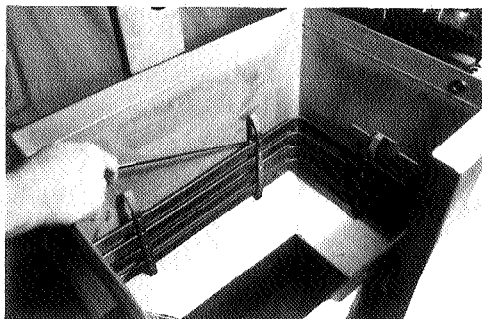
If either contactor is defective it must be replaced as follows:

### WARNING

Remove electrical power supplied to the fryer by unplugging power cord or turning off 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 nuts on the base plate and remove standard contactor (primary), proceed to step 5, if this is the contactor to be replaced.
3. Remove the two mounting nuts securing the mercury contactor bracket to the base plate and remove bracket.
4. Remove the two screws securing the mercury contactor to the bracket and remove contactor.
5. Install new contactor in reverse order of previous steps.
6. Install control panel.
7. Reconnect power to fryer and test the fryer for proper operation.

## 5-9. HEATING ELEMENTS



Each electric fryer uses two heating elements.

**NOTE**

Heating elements are available for 208 or 220/240, 380 and 415 voltage. Check the data plate on the right side panel of unit to determine the correct voltage.

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

1. Remove electrical power supplied to the fryer.

**WARNING**

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

2. Remove the Control Panel.

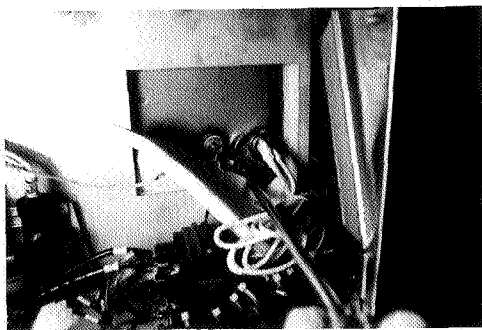
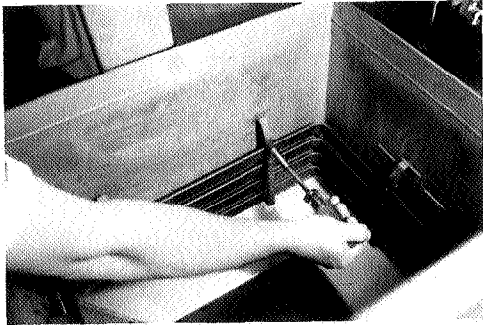
**WARNING**

The following checks are performed with the wall circuit breaker closed and the Cook/Pump switch in the "COOK" position. Extreme caution should be taken. Make connections before applying power, take reading, and remove power by unplugging the power cord, or by turning off the wall circuit breaker, before removing meter leads, or electrical shock could result.

3. Perform an amp check on one heating element at a time with the wires connected to the contactors. The two heaters actually have three small heating elements on the inside of the outer plate. It is important to check between the correct wires to obtain an accurate amp reading. The wires are labelled for your convenience.

Wires	Power	Voltage	Amperage
L1 - L3	8500 W	208 V	48
L3 - L2	8500 W	208 V	48
L2 - L1	8500 W	208 V	48
L1 - L2	8500 W	240 V	40
L3 - L2	8500 W	240 V	40
L2 - L1	8500 W	240 V	40

## 5-9. HEATING ELEMENT (Continued) Replacement



1. Drain the shortening.
2. Remove the high limit bulb holder from the heating element.
3. Remove the Control Panel.
4. Disconnect the heating element wires from the contactors.
5. Loosen the screws on the element spreaders.
6. Slide the element spreaders to the back of the heating elements.
7. Pull wires through insulation and bend insulation down, out of the way.
8. Remove the brass nuts and washers which secure the ends of the elements through the cookpot.
9. Remove the heating elements from the cookpot as a group by lifting the far end and sliding them up and out toward the rear of the cookpot.

### CAUTION

Always install new rubber "O" rings when installing heater elements.

10. Install new heating elements with new rubber "O" rings mounted in the center of the stacked elements.
11. Replace the heating elements, terminal ends first at approximately 45° angle, slipping the terminal ends through the front wall of the cookpot.
12. Replace the brass nuts and washers on the heating element terminals.
13. Move the element spreaders from the back of the elements into a position which will spread each element apart evenly on all four sides, and tighten.
14. Replace the high limit bulb holder on the top element, and position the bulb above the top element and tighten screws which hold bulb in place.
15. Reconnect the wires to the appropriate terminals.
16. Replace the front control panel.
17. Connect the power cord to the wall receptacle or turn wall circuit breaker on.

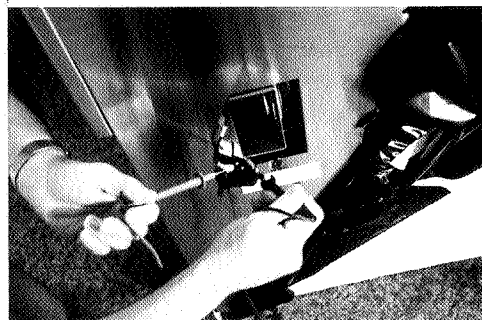
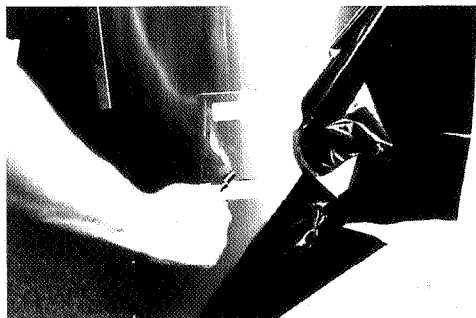
## 5-9. HEATING ELEMENT (Continued)

### CAUTION

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

18. Replace shortening in cookpot.

## 5-10. DRAIN SWITCH

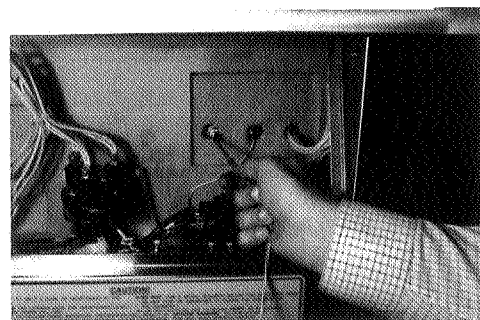
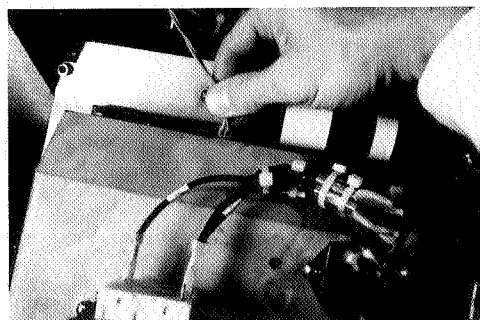


### WARNING

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

1. The following check should be made to determine if the Drain Switch is defective.
  - a. Remove the access panel on the right side of the unit.
  - b. Remove and label the wires from the Drain Switch.
  - c. Check for continuity across the two outside terminals on the Drain Switch. If circuit is open, the Drain Switch is bad. The circuit should only be opened by pressing on the actuator of the Drain Switch.
2. To replace the Drain Switch, use a 5/8" wrench and remove the nut securing the switch to the bracket.
3. Position actuator and attach the Drain Switch to the bracket with the nut.
4. Connect wires to Drain Switch.
5. Test to see if drain valve extension rod actuates the switch.  
**NOTE** - Listen for **CLICK** of switch while pulling drain valve extension rod.

### 5-11. TEMPERATURE PROBE REPLACEMENT



The Temperature Probe relays the actual shortening temperature to the control. If it becomes disabled, E06 will show in the display. Also, if the temperature is out of calibration more than 10°F or C°, the probe should be replaced as follows:

1. Remove electrical power supplied to the fryer.

#### WARNING

Place the Power Switch to the "OFF" position, and unplug the power cord or turn the wall circuit breaker off or electrical shock could result.

2. Drain the shortening from the cookpot.
3. Remove the Control Panel.
4. Remove probe connections from PC board.
5. Using a 1/2" wrench, remove the nut on the compression fitting.
6. Remove the probe from the cookpot.
7. Place the nut and new ferrule on the new probe and insert the probe into the compression fitting until it extends 1/2 inch (1.3 cm) into the cookpot. (See Figure 5-1.)
8. Tighten, hand tight, and then half turn with wrench.

#### CAUTION

Excess force will damage probe.

9. Connect new probe to PC board and replace control panel.
10. Replace shortening.
11. Turn power "ON" and check out fryer.

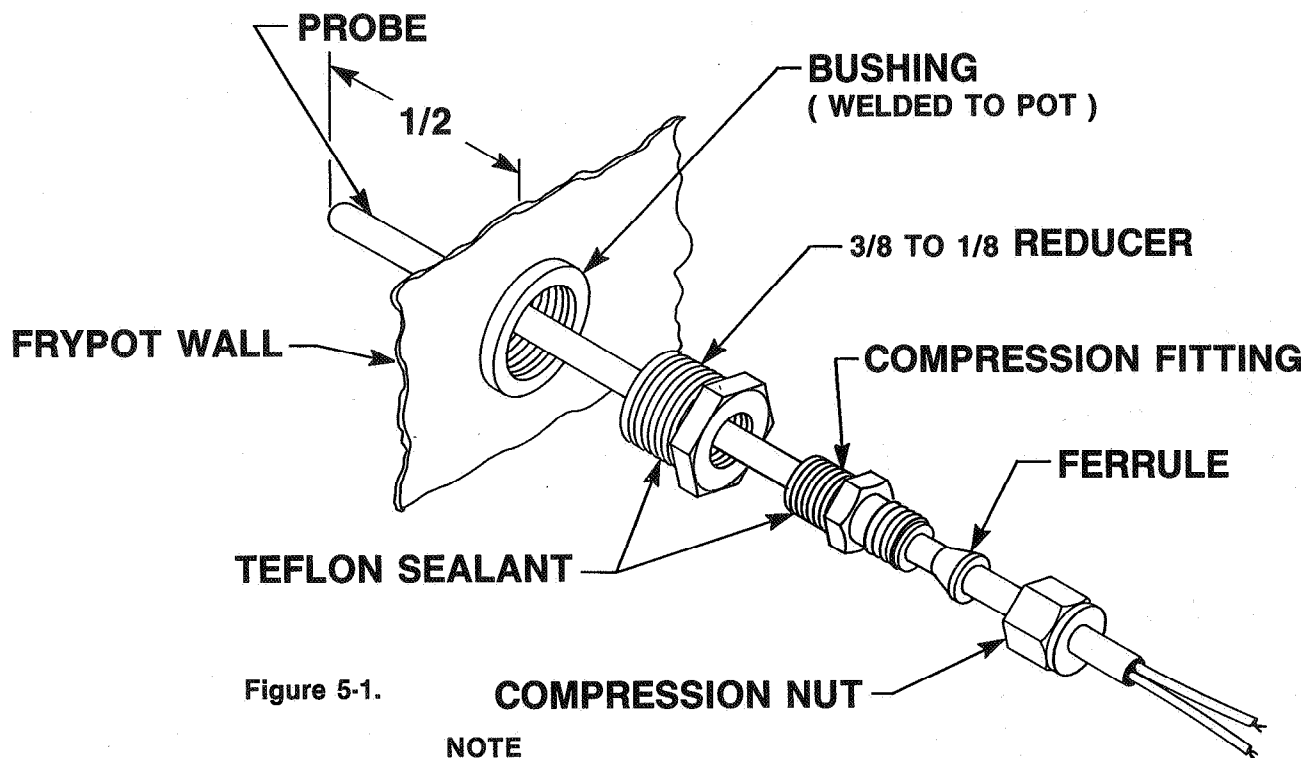
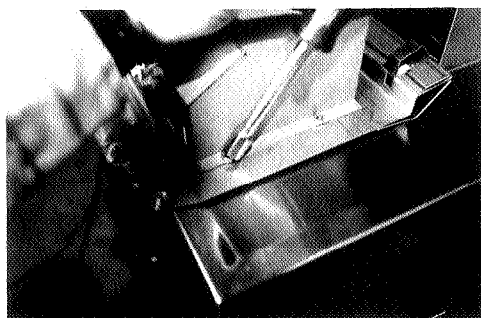
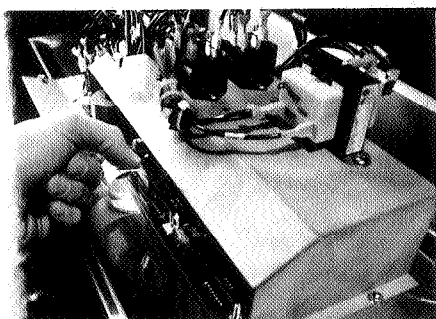


Figure 5-1.

**COMPRESSION NUT****NOTE**

Probe is to be mounted 1/2 inch from the pot bushing, NOT the pot wall.

## 5-12. CONTROL BOARD REPLACEMENT



Should the control panel become inoperative, follow these instructions for replacing the control board.

1. Remove electrical power supplied to the fryer.

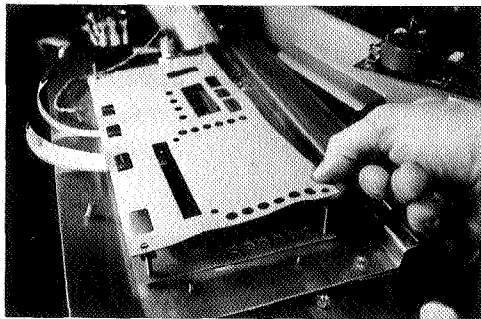
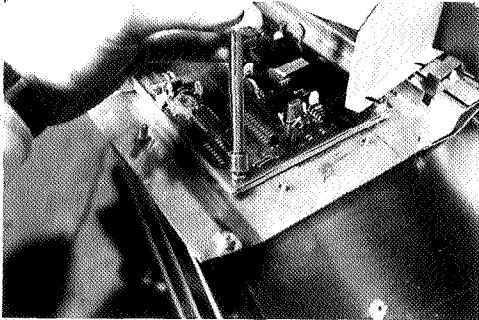
**WARNING**

Place the Cook/Pump Switch in the "OFF" position, and unplug the power cord and/or turn off the wall circuit breaker, or electrical shock could result.

2. Remove the complete control panel from unit. (See Section 5-4.)
3. Unplug Keyswitch and ribbon connectors from board.
4. Using 5/16" socket remove the four nuts securing control panel cover and unplug straight nine-pin connector from board. Then lay the cover off to one side.



### 5-12. CONTROL BOARD REPLACEMENT (Continued)



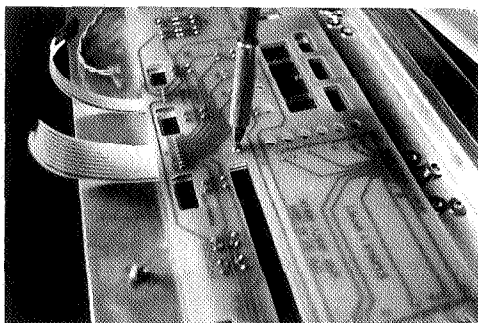
5. Using 5/16" socket remove the four nuts securing the control board and remove board.

#### NOTE

The cardboard insulator will probably come up along with the control board. When installing a new control board be sure to get the spacers installed between the insulator and the board.

6. Install new control board in reverse manner.

### 5-13. SWITCHBOARD REPLACEMENT



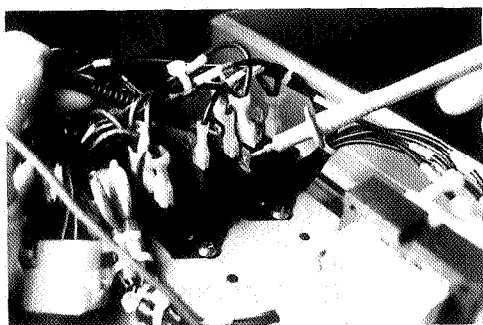
1. Follow steps 1 thru 5 from instructions above.
2. Unscrew the small screw from the middle of the switch board and remove switch board from studs.
3. Replace switch board in reverse manner.

#### NOTE

During disassembly some wires may have inadvertently come off terminals. Make sure all loose wires are reconnected after assembly is complete.

## 5-14. HEAT RELAY

### Checkout



The heat relay transfers the voltage to the heat contactor coil, energizing this coil, then the elements begin to heat. The elements not heating could be caused by a faulty relay.

1. Remove electrical power supplied to the unit.

**WARNING**

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

2. Remove the Phillips head screws from the control panel. Then lift the complete control panel up and out of position, leaving the connectors attached.

**WARNING**

The following checks are performed with the wall circuit breaker on, and the COOK/PUMP Switch in the "COOK" position. Extreme caution should be taken. Make connections before applying power, take reading, and remove power by unplugging the power cord, or by turning off the wall circuit breaker before removing meter leads, or electrical shock could result.

3. Take a voltage check across the N.O. terminal which has wires 5A and 22A attached, and terminal COM which has wires 6A and 27A attached. If zero voltage is detected, the relay is good. If 208 or 240 volts is found, continue on to the next step.
4. Remove power to unit, and then move wire numbers 5A and 22A to the NC terminal, on the opposite side of the relay.
5. Turn power back on and turn the COOK/PUMP switch to the "COOK" position.
6. If unit now heats up the relay needs to be replaced. If the unit does not heat up, and a voltage check from the NC terminal to the COM terminal shows 0 volts, the relay is good and a problem lies somewhere else.

## 5-14. HEAT RELAY (Continued)

### Replacement



1. With the control panel dropped down and the electrical power disconnected, unplug the nine-pin connector and probe from board. Then remove complete panel from unit.
2. Unplug the wires from the relay, labeling the wires to ensure correct placement on new relay.
3. Unscrew the two Phillips head screws securing the relay, and remove relay.
4. Replace new relay in reverse order.

## 5-15. PRESSURE RELAY

### Checkout

The pressure relay transfers the voltage onto the solenoid, which closes and the unit can then build pressure. If the fryer doesn't pressurize during a cook cycle, the pressure relay may be faulty.

1. Remove electrical power supplied to the unit.

### WARNING

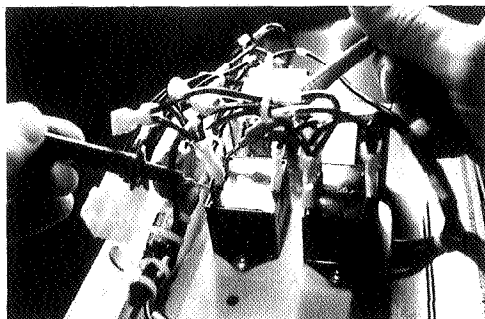
Remove electrical power supplied to the fryer by unplugging the unit, or turning off the wall circuit breaker, or electrical shock could result.

2. Remove the two Phillips head screws from the control panel. Then lift complete panel up and out of position, leaving the connectors attached.

### WARNING

The following checks are performed with the wall circuit breaker on, and the COOK/PUMP switch in the "COOK" position. Extreme caution should be taken. Make connections before applying power, take reading and remove power by unplugging the power cord, or by turning off the wall circuit breaker before removing meter leads, or electrical shock could result.

### 5-15. PRESSURE RELAY (Continued)



#### Replacement

3. Take a voltage check across the NO terminal which has wires 8A and 21A attached, and terminal COM which has wires 27A and 20A attached. If zero voltage is detected, the relay is good. If 208 or 240 volts is found, continue on to the next step.
4. Remove power to unit and then move wires 8A and 21A to the NC terminal on the opposite side of the relay.
5. Turn power back on and turn the COOK/PUMP switch to the "COOK" position.
6. Press the timer switch. If the solenoid does not engage and a voltage check from the NC terminal to the COM terminal shows 0 volts, the relay is good, and a problem lies somewhere else.

1. With the control panel dropped down, and electrical power disconnected, disconnect the nine-pin connector and probe from board. Then remove complete panel from unit.
2. Unplug the wires from the relay, labeling the wires to ensure correct placement on new relay.
3. Unscrew the two Phillips head screws securing the relay, and remove relay.
4. Replace new relay in reverse order.

### 5-16. "E10" RELAY

#### Checkout

When the high limit or drain microswitch are kicked off, this relay sends 12 volts to the board and "E10" is displayed.

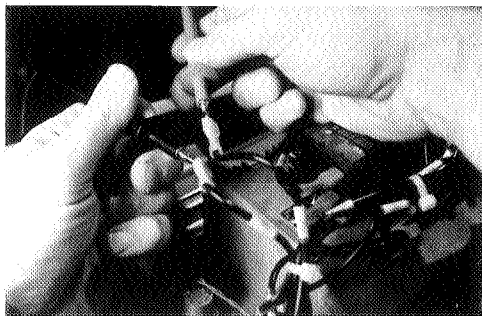
1. Remove electrical power supplied to the unit.

#### WARNING

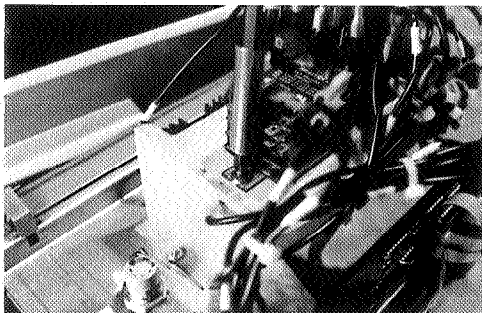
Remove electrical power supplied to the fryer by unplugging the unit, or turning off the wall circuit breaker, or electrical shock could result.

2. Remove the two Phillips head screws from the control panel. Then lift complete panel up and out of position, leaving the connectors attached.

### 5-16. "E10" RELAY (Continued)



#### Replacement



#### WARNING

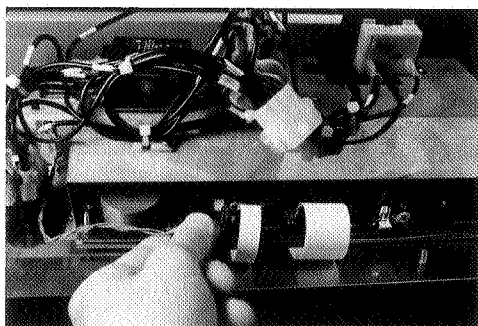
The following checks are performed with the wall circuit breaker on, and the COOK/PUMP switch in the "COOK" position. Extreme caution should be taken. Make connections before applying power, take reading, and remove power by unplugging the power cord or by turning off the wall circuit breaker before removing meter leads, or electrical shock could result.

3. Pull wires 9A and 26A from relay and check voltage across the wires. If 208 and 240 volts is indicated, the relay should be replaced. If 0 volts is indicated, the high limit or drain microswitch are kicked, or bad.

1. With the control panel dropped down and the electrical supply disconnected, unplug the nine-pin connector and probe from the board. Then remove the complete panel assembly.
2. Unscrew the two Phillips head screws and remove relay and install new relay.

### 5-17. KEYSWITCH

#### Replacement



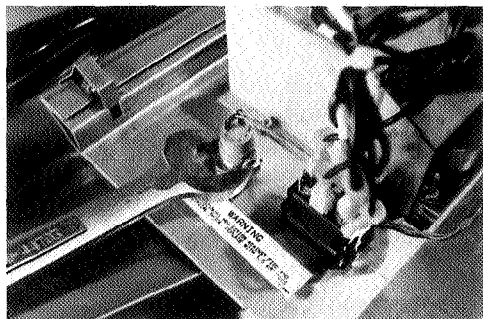
The keyswitch allows the programming mode to be accessed once the key is inserted.

1. Remove the electrical power supplied to the unit.

#### WARNING

Remove electrical power supplied to the unit by unplugging the unit or turning off the wall circuit breaker, or electrical shock could result.

2. Remove the two Phillips head screws from the control panel. Then lift complete panel up and out of position, and unplug nine-pin connector and probe from board. Then remove complete panel assembly from unit.
3. Unplug switch from the board.

**5-17. KEYSWITCH  
(Continued)**

4. Using 7/8" wrench, unscrew nut securing the switch to the panel, and remove switch.
5. Install new switch in reverse order.

**5-18. TRANSFORMER****Checkout**

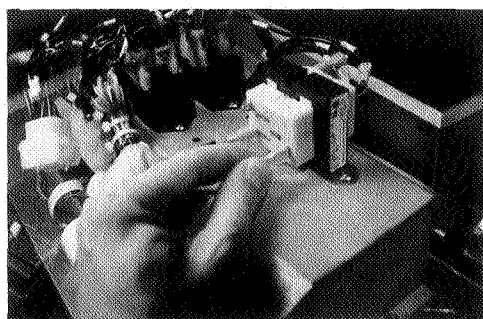
The control panel transformer reduces the voltage from either 208 or 240 volts to 12 volts.

1. Remove electrical power supplied to the unit.

**WARNING**

Remove electrical power supplied to the unit by unplugging the unit or turning off the wall circuit breaker, or electrical shock could result.

2. Remove the two Phillips head screws from the control panel. Then lift complete panel up and out of position.
3. Check voltage across the terminals marked 240 volt or 208 volt. If the correct voltage is indicated, check for 12 volts across the terminals marked LOAD. If 12 volts (+/- 1.2 volts) is indicated, then the transformer is good. If 0 volts is indicated, or if too much voltage is indicated, the transformer needs replaced.

**Replacement**

1. With the control panel dropped down, and the electrical power disconnected, disconnect the nine-pin connector and probe from board. Then remove complete panel from unit.
2. Unplug and label wires from transformer.
3. Unscrew the two Phillips head screws and remove transformer from back of panel.
4. Replace transformer with new transformer.

## PRESSURE REGULATION

The Henny Penny Fryer uses pressure as one of the components of the cooking process. Once the lid is sealed to the cookpot, and the solenoid valve closes, a deadweight valve maintains the correct pressure in the cookpot.

The lid has minimal and limited maintenance and repair procedures, which are addressed in the following sections.

The following is a routine maintenance schedule for the Lid:

### Every 90 days

- Clean and reverse lid gasket

### Yearly Cleaning and Inspection

- Remove and clean Safety Relief Valve
- Check Lid Gasket for splitting and tears - replace if necessary
- Check Pressure Pads for wear - rotate if necessary
- Check Cam Slide Guides - replace if worn or broken
- Check Lid Rollers - replace if cracked or damaged.

## 5-19. REVERSING THE LID



The gray rubber gasket surrounding the inside of the lid is designed to be reversed. HENNY PENNY RECOMMENDS THAT THIS BE DONE EVERY 90 DAYS.

Because of heat expansion and the pressure used for the cooking process, the gasket is constantly under extreme stress. Reversing the lid gasket every 90 days helps to assure that the fryer will not lose pressure through leakage.

1. Put the lid in the upright position, as previously described in section 3-2.
2. Using a thin blade screwdriver pry out the gasket at the corners. Remove the gasket.

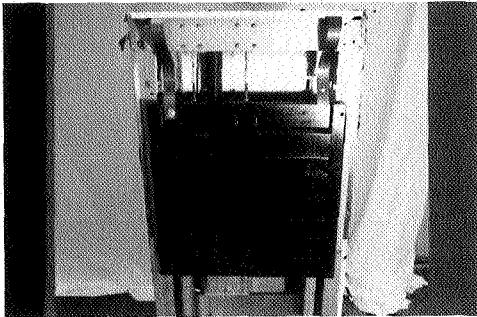
### WARNING

Be careful that the lid doesn't fall down while it is in the upright position, or serious injury could result.

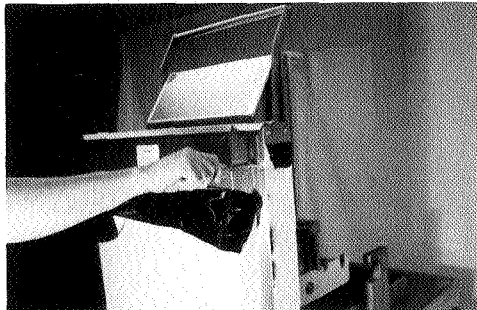
3. Clean gasket and the gasket seat with soap and hot water.
4. Rotate gasket with the opposite side facing out.

**5-19. REVERSING THE LID GASKET (Continued)****NOTE**

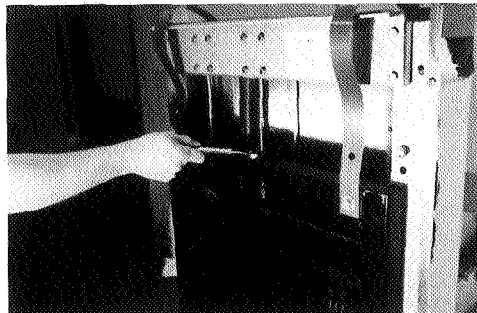
Begin the installation by installing the four corners of the lid gasket, and smoothing the gasket into place from the corners.

**5-20. LID COUNTERWEIGHT**

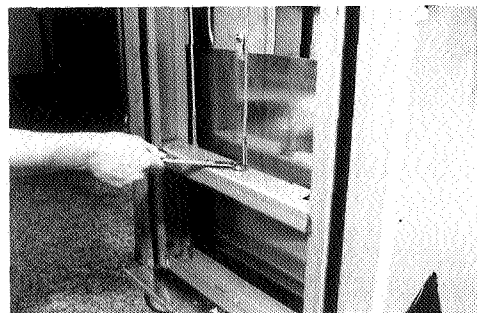
The Lid Counterweight in the back of the fryer balances the weight of the lid system to allow easier opening and closing of the lid. The weight has two cables attached to it, and weighs about 150 lbs. (67.5 Kg). One cable is centered on the weight and is the cable being used. The other cable is a safety cable and is off center. In case the main cable becomes loose or broken, the safety cable catches the weight and puts the weight into a bind, not allowing the lid to be opened or closed.

**Replacement/Repair**

1. Using a 3/8" socket, remove the back shroud of the fryer.



2. With one person holding the weight level, another person locks the lid down.



3. Unthread the broken cable from the weight and the bracket attached to the fryer, and remove broken cable.

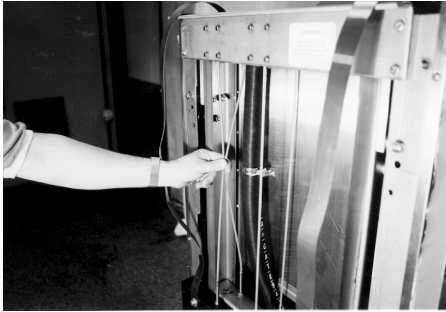
4. Thread a 5/16" nut on each end of the new cable.

5. Screw the new cable into the weight, using a wrench, until it is tight.

6. Using a 1/2" wrench, tighten the nut (already threaded on the cable) against the weight securing the cable into the weight.



## 5-20. LID COUNTERWEIGHT (Continued)



7. Pull cable over pulley and down behind the weight.
8. Thread the other end of the cable through a 5/16" nut on the underside of the bracket.
9. Tighten the cable up by screwing the cable through the nut, until the weight becomes level.

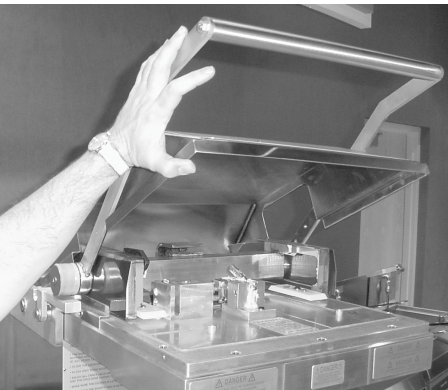
### NOTE

The safety cable should now have some slack in it, with the weight level. (See photo at left).

10. Tighten the nut against the bracket, securing the cable.
11. Replace the back shroud. Repair is now complete.

## 5-21. PRESSURE PADS

### Removal



The Pressure Pads are plastic strips that the lid cam presses against to seal the lid. They are located under the lid cover and under the lid cam.

1. Raise the lid.
2. Remove the four screws securing the lid cover and remove cover.
3. Push the lid cam back, off of the pressure pads.
4. Using a 5/32" hex drive, remove the bolt securing the pressure pad and remove broken pad.
5. Install new pad in reverse order.

### NOTE

If one side of the pressure pad is worn or broken, the pad can be turned 180° and the opposite end of the pressure pad used. Remove the bolt and turn the pad end for end.

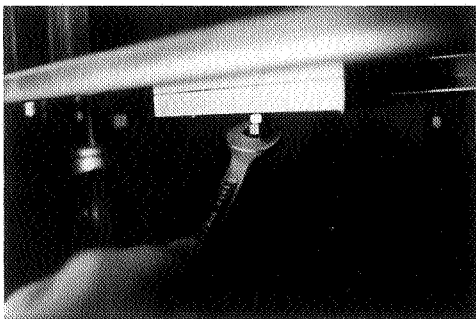
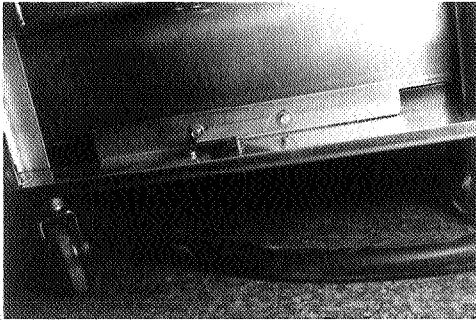
**5-22. LID ADJUSTMENT**

If steam leaks out from around the lid gasket, the pressure pads could be worn or broken. If the pressure pad is worn, but not broken, it can be reversed 180 degrees, and the other end of the pad used. See Section 5-12.

**WARNING**

Other problems could cause the steam to leak, such as a cracked or worn gasket, or gasket not installed properly. Be certain leaking is not caused by too much pressure before making any lid adjustments. Fryer should be operating at 12 psi. Refer to Operating Control Valve section. All these areas should be checked, or serious burns could result.

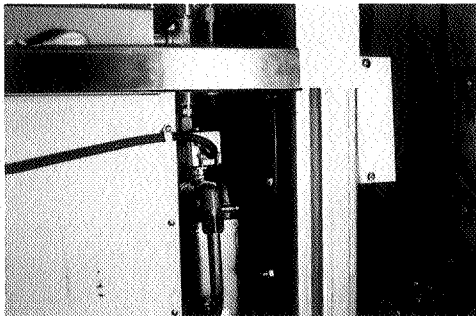
### 5-24. ADJUSTING THE MAGNET PLATE



With the carrier and racks installed on the lid, the lid should stay down, in contact with the pot rim, when the lid is lowered. The user will then be able to lock the lid in place. If the lid has a tendency to rise up before getting the lid locked down, the magnet plate probably needs adjusting. Follow these steps:

1. Remove the six nuts securing the back shroud and remove back shroud.
2. Loosen the bottom nut under the plate and unscrew both nuts a couple turns, then lower the lid again to see if the lid stays down. If not, repeat procedure.
3. Tighten lower nut up against the other nut and install back shroud - adjustment is now complete.

### 5-25. SOLENOID VALVE



This is an electromechanical device that causes pressure to be held in the cookpot. The solenoid valve closes at the beginning of the cook cycle and opens automatically at the end of the cook cycle. If this valve should become dirty, or the Teflon seat is nicked, pressure will not build up. The electric fryer uses a 208/240 volt, 60 hertz coil (50 hertz internationally).

#### WARNING

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

#### Coil Check Procedure

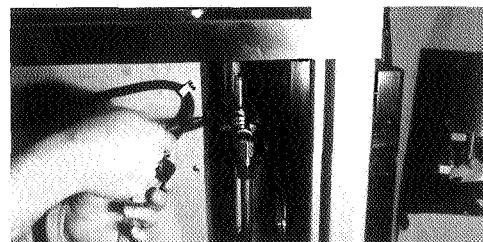
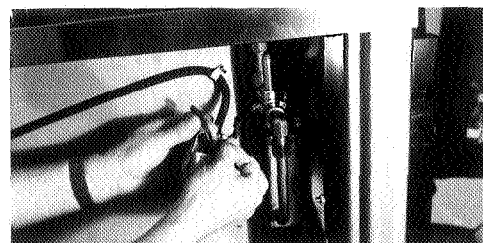
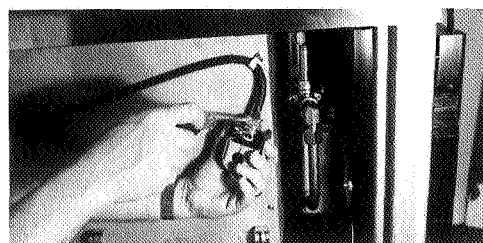
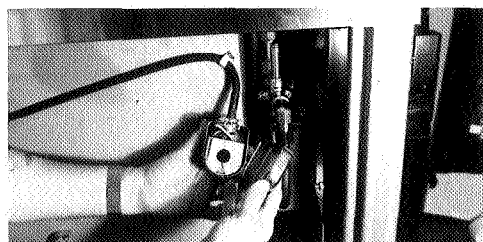
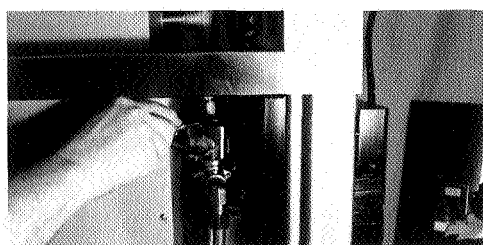
Remove the solenoid wires from the wire nuts which are found behind the control panel. Check across wires.

208/240 Volt, 60 Hz  
208/240 Volt, 50 Hz

**Results**  
150 Ohms  
230 Ohms

## 5-25. SOLENOID VALVE (Continued)

### Replacement



### NOTE

Prior to servicing the solenoid valve, it is necessary to remove the side panel on the right side of the unit. Remove the two Phillips head screws and panel will drop down.

1. Remove the "tru-arc" retaining clip on top of the coil housing.
2. Remove the cover.
3. If only the coil is to be replaced, disconnect the two coil wires at the wire nuts in the coil housing. Remove the coil, insert new coil, and connect the wires at the wire nuts. Assemble in reverse order of disassembly.

### NOTE

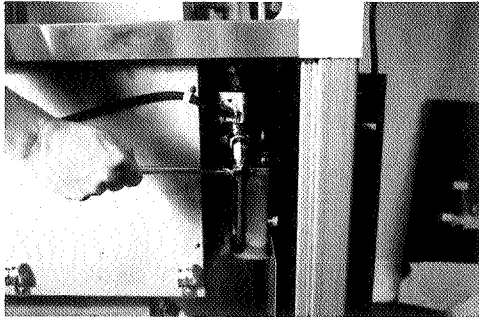
The wires may be connected in any order.

4. Loosen the screws on the strain relief and pull the wires through the relief.
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 bonnet gasket.
  - c. Remove the core-disc assembly, core spring retainer, and the core spring.
  - d. Wash all these parts in hot water.

### NOTE

If Teflon seals need to be replaced, proceed to Step 6; otherwise, assemble in reverse order of disassembly. Assemble valve core and blade with smooth side and rounded edge of blade toward the disc spring guide.

## 5-25. SOLENOID VALVE (Continued)



6. A repair kit (Henny Penny part number 17120) is available if any of the seals must be replaced. If any one seal is defective, they all should be replaced.

### NOTE

Solenoid body must be removed from the fryer for replacement of seals.

7. With the bonnet assembly and core-disc assembly removed, disconnect the two nut fittings. One connects the solenoid valve to the dead weight system, the other is attached to the condensation tank.
8. Remove the elbows from the solenoid valve.
9. Remove the two adapter screws which attach the pipe adapter to the solenoid valve body.
10. Remove the disc spring, guide, and Teflon seat.
11. Clean the valve body.
12. Wet "O" ring around seat with water and insert "O" ring assembly (flat side first) in valve through "IN" side of body. Use an eraser end of a pencil and press in the Teflon seal 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 that are in the parts kit and reassemble valve.

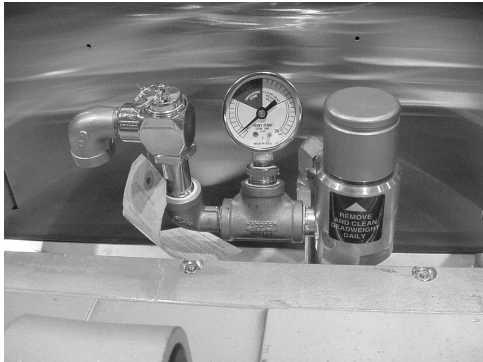
13. If the complete valve is to be replaced, follow steps 1, 2, 3, 4, 5, 7, and 8 in this section. Reassemble in reverse order.

## 5-26. OPERATING CONTROL VALVE



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

## 5-26. OPERATING CONTROL VALVE



**DO NOT ATTEMPT TO REMOVE THE VALVE CAP WHILE THE FRYER IS OPERATING,** or severe burns or other injuries could result.

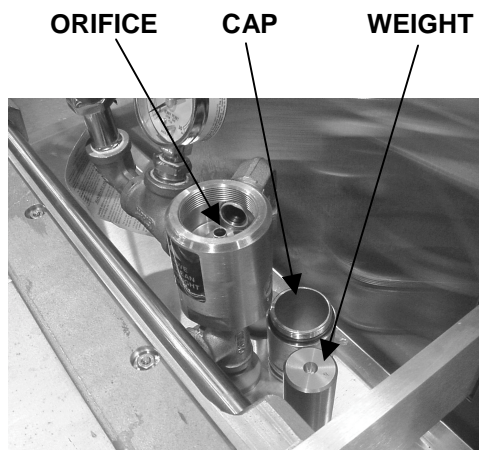
The operating valves are located at the back of the unit. The valve left of the pressure gauge is a 14-½ lb. safety relief valve, and to the right of the pressure gauge, the operating valve.

Valves are working properly, when “OPERATING ZONE” indicates on the gauge by the pointer. The gauge pointer should not normally exceed the operating zone. If the pressure builds to 14 ½ lbs., the safety relief valve opens and releases pressure from the frypot.



**DO NOT MANUALLY ACTIVATE THE SAFETY RELIEF VALVE.** Hot steam will be released from the valve when the ring is pulled. Keep away from safety valve exhaust, or severe burns could result.

### Cleaning Steps



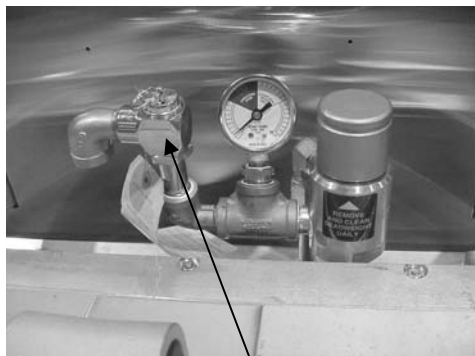
1. AT THE END OF EACH DAY'S USAGE OF THE FRYER, THE OPERATING VALVE MUST BE CLEANED. The fryer must be OFF and the pressure released. Open the lid and then remove the dead weight valve cap and dead weight.

#### WARNING

Failure to clean the operating valve daily could result in the fryer building too much pressure. Severe injuries and burns could result.

2. Wipe both the cap and weight with a soft cloth. Make certain to thoroughly clean inside cap, the weight seat, and around valve orifice. (See Section 3-12).
3. Dry the parts and replace immediately to prevent damage or loss.

### 5-27. REMOVAL & CLEANING OF SAFETY RELIEF VALVE



**SAFETY RELIEF VALVE**

The safety relief valve should be cleaned once a year.



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

1. Remove the pressure gauge. See section 5-28.
2. Use a wrench to loosen the valve from the elbow, turn counterclockwise to remove.
3. Clean inside of the elbow with hot water.

#### **NOTE**

Turn the relief valve towards the left side of the fryer when reinstalling relief valve.

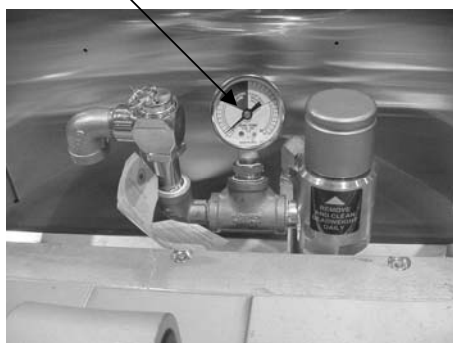
4. Immerse the safety relief valve in soapy water for 24 hours. Use a 1 to 1 dilution rate. The valve cannot be disassembled. It is factory preset to open at 14-½ pounds of pressure. If it does not open or close, replace it!



**DO NOT DISASSEMBLE OR MODIFY THIS VALVE!**  
Tampering with this valve could cause serious injuries and also voids agency approvals and appliance warranty.

### 5-28. PRESSURE GAUGE

#### **PRESSURE GAUGE**



#### **Cleaning Steps**

Recalibrate the pressure gauge if it is out of adjustment.

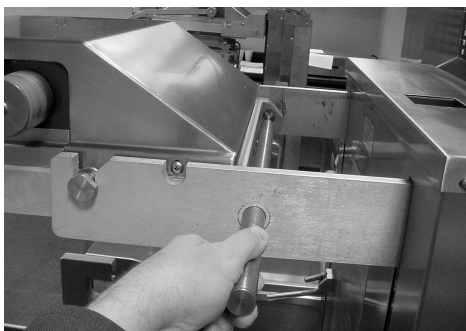
1. Remove the rim and glass.
  2. If the indication hand shows a pressure or vacuum reading when it should stand at "0", turn the recalibrator screw in the same direction in the indicating hand is to be moved until the hand stands at proper "0" position.
  3. Replace the rim and glass.
- 
1. Remove the gauge and check inside the pipefittings from dead weight body. Fittings should be clean and open.
  2. Clean and reinstall the gauge.



**5-29. DRAIN VALVE REMOVAL****Step 3****Step 4**

Find the drain valve underneath the cookpot, in the back of the fryer. Open the drain by pulling the red knob in the front of the fryer, allowing the shortening to drain from the cookpot.

1. Drain the shortening from the cookpot.
2. Remove right side panel of fryer.
3. Remove the two cotter pins from the drain valve fitting and pull extension from the valve.
4. Unscrew the drain shield from the valve.
5. Unscrew drain valve from the cookpot.
6. Replace new drain valve in reverse order.

**5-30. NYLATRON SLIDES****Replacement****Step 2**

The Nylatron slides fill the gap in the shroud behind the lid.

1. Remove Cooking Rack and baskets from lid and raise lid.
2. Remove one of the tru-arc rings from the lid pin and pull the pin from the fryer.
3. Lift the lid from the unit.

**WARNING**

The lid weighs 80 lbs. Take care when lifting the lid to prevent personal injury.

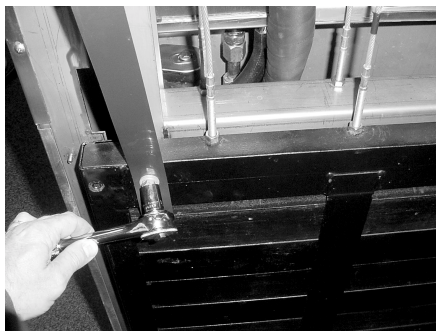


### 5-30. NYLATRON SLIDES (Continued)

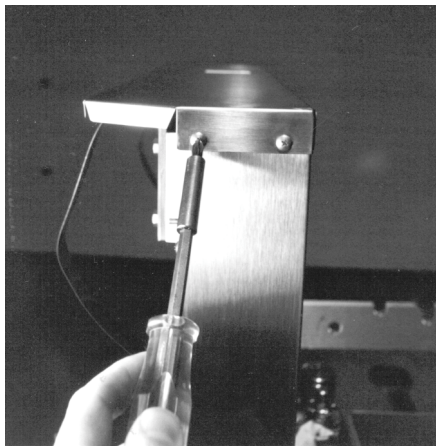


4. Using a 3/8" socket, remove the nuts securing the back shroud.

5. Pull the back shroud off of the threaded studs.

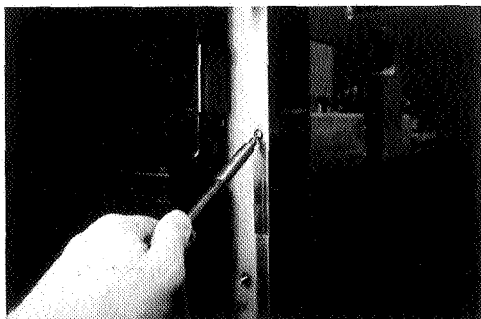


6. Using a 1/2" socket, remove the bolts securing the strips to weights.



7. Remove screws securing the top shroud and remove shroud.

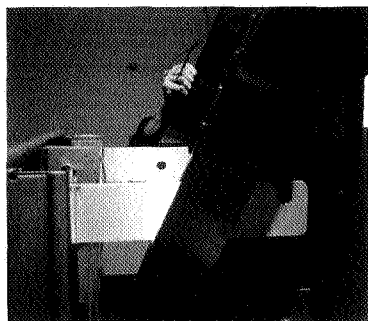
# 5-30. NYLATRON SLIDES (Continued)



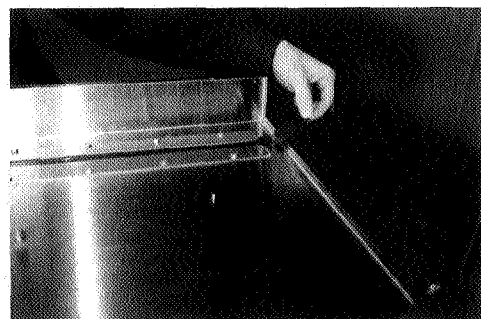
8. Remove the screws securing the front shroud.



9. Remove exhaust hose bracket from front shroud.



10. Lift the front shroud up and out, over the arms of the lid.



11. Thread the new nylatron strip through the track in the front shroud.

12. Lining up the holes in the strips, fit the front shroud over the lid arms and secure to carriage frame.

13. Secure the strips to the weights.

14. Replace the top shroud, back shroud, and lid.

15. Replacement is complete.