OPERATOR’S
M A N U A L

HIGH VOLUME OPEN FRYER

MODEL

OFE/OFG-341
OFE/OFG-342
OEA/OGA-341
OEA/OGA-342
This manual should be retained in a convenient location for future reference.

A wiring diagram for this appliance is located on the inside of the right side 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.

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.

The Model OFG/OGA-34X open fryer is equipped with a continuous pilot. But the open fryer can not be operated without electric power. The unit will automatically return to normal operation when power is restored.

To avoid a fire, keep appliance area free and clear from combustibles.

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.

FOR YOUR SAFETY, DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPORS AND LIQUIDS IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE.
**Technical Data for CE/AGA Marked Products**

**Nominal Heat Input:**
- **(Net)**
  - Natural (I2H) = 31.7 kW (108,165 Btu/h)
  - Natural (I2E) = 31.7 kW (108,165 Btu/h)
  - Natural (I2E+) = 31.7 kW (108,165 Btu/h)
  - Natural (I2L) = 31.7 kW (108,165 Btu/h)
  - Natural (I2HS) = 31.7 kW (108,165 Btu/h)
  - Liquid Propane (I3P) = 31.7 kW (108,165 Btu/h)

- **(Gross)**
  - Natural (I2H) = 35.2 kW 120,000 Btu/h)
  - Natural (I2E) = 35.2 kW 120,000 Btu/h)
  - Natural (I2E+) = 35.2 kW 120,000 Btu/h)
  - Natural (I2L) = 35.2 kW 120,000 Btu/h)
  - Natural (I2HS) = 35.2 kW 120,000 Btu/h)
  - Liquid Propane (I3P) = 35.2 kW 120,000 Btu/h)

**Supply Pressure:**
- Natural (I2H) = 20 mbar (2.0kpa)
- Natural (I2E) = 20 mbar
- Natural (I2E+) = 20/25 mbar
- Natural (I2L) = 25 mbar
- Natural (I2HS) = 25 mbar
- Liquid Propane (I3P) = 30/37/50 mbar (3.0/3.7/5.0 kpa)

**Test Point Pressure:**
- Natural (I2H) = 8.7 mbar (.087 kpa)
- Natural (I2E) = 8.7 mbar
- Natural (I2E+) = N/A
- Natural (I2L) = 8.7 mbar
- Natural (I2HS) = 8.7 mbar
- Liquid Propane (I3P) = 25 mbar (2.5 kpa)

**Injector Size:**
- Natural (I2H) = 3.00 mm
- Natural (I2E) = 3.00 mm
- Natural (I2E+) = 2.52 mm
- Natural (I2L) = 3.17 mm
- Natural (I2HS) = 3.30 mm
- Liquid Propane (I3P) = 1.75 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.

*Noise generated from this equipment is less than 70 dB(A)*
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SECTION 1. INTRODUCTION

1-1. INTRODUCTION

The Henny Penny open fryer is a basic unit of food equipment designed to cook foods better and easier. The microcomputer based design helps make this possible. This unit is used only in institutional and commercial food service operations.

Notice

As of August 16, 2005, the Waste Electrical and Electronic Equipment directive went into effect for the European Union. Our products have been evaluated to the WEEE directive. We have also reviewed our products to determine if they comply with the Restriction of Hazardous Substances directive (RoHS) and have redesigned our products as needed in order to comply. To continue compliance with these directives, this unit must not be disposed as unsorted municipal waste. For proper disposal, please contact your nearest Henny Penny distributor.

1-2. FEATURES

• Easily cleaned
• OFE has 80 lb. (36 kg.) shortening capacity per well
• OFG has 90 lb. (41 kg.) shortening capacity per well
• 2 half size baskets per well (or full size baskets)
• Microcomputer control
• Stainless steel construction
• Manual reset high limit control
• Self-diagnostic system built into controls
• Built in filter (handles all wells)
• Propane or natural gas; 120,000 BTU/pot (35 kw)
• 18 lbs. (8.2 kgs.) product capacity
• Simplistic electronic Computron 1000 controls available, or more diverse multifunctional controls available

1-3. PROPER CARE

As in any unit of food servicing equipment, the open fryer does require care and maintenance. Requirements for the maintenance and cleaning are contained in this manual and must become a regular part of the operation of the unit at all times.

1-4. ASSISTANCE

Should you require outside assistance, call your local independent Henny Penny distributor in your area, or call Henny Penny Corp. at 1-800-417-8405 or 1-937-456-8405.
1-5. SAFETY

The Henny Penny open fryer has many safety features incorporated. However, the only way to ensure safe operation is to fully understand the proper installation, operation, and maintenance procedures.

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

Where information is of particular importance or is safety related, the words DANGER, WARNING, CAUTION, or NOTICE are used. Their usage is described below:

SAFETY ALERT SYMBOL is used with DANGER, WARNING or CAUTION which indicates a personal injury type hazard.

NOTICE is used to highlight especially important information.

CAUTION used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

CAUTION used with the safety alert symbol indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury.

WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

DANGER INDICATES AN IMMINENTLY HAZARDOUS SITUATION WHICH, IF NOT AVOIDED, WILL RESULT IN DEATH OR SERIOUS INJURY.
SECTION 2. INSTALLATION

2-1. INTRODUCTION

This section provides the installation instructions for the Henny Penny open fryer.

Installation of the unit should be performed only by a qualified service technician.

Do not puncture the unit with any objects such as drills or screws as component damage or electrical shock could result.

The Henny Penny open fryer has been tested, inspected, and expertly packed to ensure arrival at its destination in the best possible condition. The unit is banded to a wooden skid and then packed inside a heavy cardboard carton with sufficient padding to withstand normal shipping treatment.

Any shipping damage should be noted in the presence of the delivery agent and signed prior to his or her departure.

1. Carefully cut bands from cardboard carton.

2. Lift carton from fryer.

3. Cut and remove the metal bands holding the fryer to the pallet.

4. Remove the fryer from the pallet.

Take care when moving the fryer to prevent personal injury. Single-well fryers weigh 348lbs. (158 kg) and 2-well fryers weigh 700 lbs. (318 kg).
2-3. SELECTING THE LOCATION

Proper location of the open fryer is very important for operation, speed, and convenience. Locate the open fryer to allow clearances for servicing and proper operation. Choose a location which provides 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. Keep in mind the best efficiency is 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.

**CAUTION**

To avoid fire, install the open fryer with minimum clearance from all combustible and noncombustible materials, 0 inches (0.0 cm) from the side and 6 inches (15.24 cm) from the back. If installed properly, the open fryer is designed for operation on combustible floors and adjacent to combustible walls.

**WARNING**

To prevent severe burns from splashing hot shortening, position and install fryer to prevent tipping or movement. Restraining ties may be used for stabilization.

2-4. LEVELING THE OPEN FRYER

For proper operation, level the open fryer from side to side and front to back. Using a level placed on the flat areas around the frypot collar, on the middle well, adjust fryer accordingly.

2-5. VENTILATION OF FRYER

Locate the open fryer 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. Take special precautions in designing an exhaust canopy to avoid interference with the operation of the open fryer. We recommend you consult a local ventilation or heating company to help in designing an adequate system.

**NOTICE**

Ventilation must conform to local, state, and national codes. Consult your local fire department or building authorities.
2-5. VENTILATION OF FRYER (Continued)

When installing the gas fry station 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.

2-6. GAS SUPPLY

The gas open 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. The minimum supply for natural gas is 7 inches water column, and 10 for propane.

For AGA marked fryers, the gas supply pressure must meet the following minimum values:
- Natural Gas: 1.13 kpa
- Propane (LPG): 2.75 kpa

Do not attempt to use any gas other than that specified on the data plate. Incorrect gas supply could cause a fire or explosion resulting in severe injuries and/or property damage.

Refer to the illustration on the following page for the recommended hookup of the Open Fryer to the main gas line supply.

To avoid possible serious personal injury:
- Installation must conform with local, state, and national codes.
- Isolate the fryer from the gas supply piping system by closing its individual manual shut off 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) (34.47 mbar).
- The appliance and its individual shutoff valve must be disconnected from the gas supply system during any pressure testing in excess or ½ psi (3.45 KPA).
**GAS PIPING**

**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.
- Maintain the minimum or larger bending diameter between the couplings for longest life.
- Closing in the diameter at the coupling, as shown at right, creates double bends causing work 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.

**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.)
- 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.
- QUICK DISCONNECT DEVICE still attached while extended at maximum pull.
- MAXIMUM PULL NOT ADVISED WHILE CONNECTED.

**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.

**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.

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.)
A standard one inch, black steel pipe and malleable fittings should be used for gas service connections.

- Do not use cast iron fittings.

- Although 1 inch (2.54 cm) sized pipe is recommended for 2 wells and 3/4 inch (1.9 cm) sized pipe is recommended for single wells, use adequate sized pipe and install properly, to provide a supply of gas sufficient to meet the maximum demand without undue loss of pressure between the meter and the open fryer. The pressure loss in the piping system should not exceed 0.3-inch water column (.747 mbar).

- Do not adjust the vacuum pressure switch. It is factory set for the most efficiency.

Provisions should be made for moving the open 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 CSA certified connector. In order to be able to service this appliance, which is provided with casters, a connector complying with ANSI Z21.69 or CAN 1-6.10m88 and a quick-disconnect device, complying with ANSI Z21.41 or CAN 1-6.9m70, must be installed. It must also be installed with restraining means to guard against transmission of strain to the connector as specified in the appliance manufacturer’s instruction.

3. Refer to the cable restraint instructions, on preceding page, on how and where to attach the restraining devices to the wall and fryer.

**NOTICE**

The cable restraint limits the distance the open fryer can be pulled from the wall. For cleaning and servicing the unit, the cable must be unsnapped from the open fryer and the flexible gas line disconnected. This allows better access to all sides of the open fryer. The gas line and cable restraint must be reconnected once the cleaning or servicing is complete.
2-7. GAS LEAK TEST

Prior to turning the gas supply on, be sure the gas valve knob on the gas control valve is in the OFF position.

Upon initial installation, and after moving the unit, the piping and fittings should be checked 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.

To avoid fire or explosion, never use a lighted match or open flame to test for gas leaks. Ignited gas could result in severe personal injury and/or property damage.

2-8. PRESSURE REGULATOR

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

- Natural: 3.5 inches water column (8.7 mbar).
- Propane 10.0 inches water column (24.9 mbar).

The gas pressure regulator has been set by Henny Penny and is not to be adjusted by the user.

2-9. ELECTRICAL REQUIREMENTS OFG/OGA-340 SERIES

- 120 V, 60 Hz., 12 A, 1 PH
- 230 V, 50 Hz., 6.2 A, 1 PH

The 120 V gas fry station requires a 3 wire grounded (Earthed) service and is supplied with a grounded cord and plug. Any 230-volt plug used on the 230-volt unit must conform to all local, state, and national codes.

To avoid electrical shock, this appliance must be equipped with an external circuit breaker which will disconnect all ungrounded (unearted) conductors. The main power switch on this appliance does not disconnect all line conductors.
2-9. ELECTRICAL REQUIREMENTS  
OFG/OGA-340 SERIES  
(Continued)

2-10. ELECTRICAL REQUIREMENTS  
OFE/OEA-340 SERIES  

CABLE RESTRAINT

To avoid electrical shock, do not disconnect the ground (earth) plug. This fryer must be adequately and safely grounded. Refer to local electrical codes for correct grounding (Earthing) 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 C221, Canadian Electrical Code Part 1, and/or local codes.

Refer to the table below for supply wiring and fusing.

(Per Well)

<table>
<thead>
<tr>
<th>Volts</th>
<th>Phase</th>
<th>Kw</th>
<th>Amps</th>
</tr>
</thead>
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<tr>
<td>208</td>
<td>3</td>
<td>22.0</td>
<td>61</td>
</tr>
<tr>
<td>240</td>
<td>3</td>
<td>22.0</td>
<td>53</td>
</tr>
<tr>
<td>380-415</td>
<td>3N+G</td>
<td>22.0</td>
<td>32</td>
</tr>
</tbody>
</table>

To avoid electrical shock, this appliance must be equipped with an external circuit breaker which will disconnect all ungrounded (unearthed) conductors. The main power switch on this appliance does not disconnect all line conductors.

To avoid electrical shock, this fryer must be adequately and safely grounded (earthed). Refer to local electrical codes for correct grounding (earthing) procedures or in absence of local codes, with The National Electrical Code, ANSI/NFPA No. 70-(the current edition). In Canada, all electrical connections are to be made in accordance with CSA C22.1, Canadian Electrical Code Part 1, and/or local codes.

CE units require a minimum wire size of 6mm to be wired to the terminal block. If a flexible power cord is used, it must be HO7RN type.

Permanently connected electric fryers with casters must be installed with flexible conduit and a cable restraint, when installed in the United States. See illustration at left. Holes are available in the rear fryer frame for securing the cable restraint to the fryer. The cable restraint does not prevent the fryer from tipping.
2-11. ADDITIONAL CE ELECTRICAL STATEMENTS

- The supply power cords shall be oil-resistant, sheathed flexible cable, no lighter than ordinary polychloroprene or other equivalent synthetic elastomer-sheathed cord.

- It is recommended that a 30 mA rated protective device such as a residual current circuit breaker (RCCB), or ground fault circuit interrupter (GFCI), be used on the fryer circuit.

- Equipotential Ground Symbol = 🔴

(FOR EQUIPMENT WITH CE MARK ONLY!) To prevent electric shock hazard this appliance must be bonded to other appliances or touchable metal surfaces in close proximity to this appliance with an equipotential bonding conductor. This appliance is equipped with an equipotential lug for this purpose. The equipotential lug is marked with the following symbol 🔴.
### 3-1. OPERATING COMPONENTS C1000 CONTROLS

Reference Figure 3-1.

<table>
<thead>
<tr>
<th>Fig. No.</th>
<th>Item No.</th>
<th>Description</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-1</td>
<td>1</td>
<td>Digital Display</td>
<td>Shows the shortening temperature, the timer countdown in the Cook Cycle, and the selections in the Program Mode; the temperature of the shortening can be shown by pressing once, or twice to view set-point temperature; if shortening temperature exceeds 425°F (218°C), the display reads “E-5, FRYER TOO HOT”</td>
</tr>
<tr>
<td>3-1</td>
<td>2</td>
<td>This LED lights</td>
<td>This LED lights when the shortening temperature is within 5° of the setpoint temperature, signaling the operator that the shortening temperature is now at the proper temperature for dropping product into the frypot</td>
</tr>
<tr>
<td>3-1</td>
<td>3</td>
<td>The timer buttons</td>
<td>The timer buttons are used to start and stop Cook Cycles</td>
</tr>
<tr>
<td>3-1</td>
<td>4</td>
<td>The idle buttons</td>
<td>The idle buttons are used to start an Idle Mode which reduces the temperature of the shortening during non-use periods; press and hold to exit the Idle Mode</td>
</tr>
<tr>
<td>3-1</td>
<td>5</td>
<td>The program button</td>
<td>The program button is used to access the Program Modes; also, once in the Program Mode, it is used to advance to the next parameter</td>
</tr>
<tr>
<td>3-1</td>
<td>6 &amp; 7</td>
<td>Used to adjust the</td>
<td>Used to adjust the value of the currently displayed setting in the Program Mode and to change set-point temperature for the left frypot, or basket</td>
</tr>
<tr>
<td>3-1</td>
<td>8 &amp; 9</td>
<td>value of a setting</td>
<td>Used to adjust the value of the currently displayed setting in the Program Mode and to change set-point temperature for the right frypot, or basket</td>
</tr>
</tbody>
</table>

Proceed onto Section 3-3, Filling or Adding Shortening
3-2. OPERATING CONTROLS 12 BUTTON CONTROLS

This section provides operating procedures for the Henny Penny 340 series open fryer with 12 button timer controls. Read sections 1, 2, and 3, and all instructions before operating the fryer.

Figure 3-2 shows the function of the 12 button timer control.

<table>
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<th>Fig. No.</th>
<th>Item No.</th>
<th>Description</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-2</td>
<td>1</td>
<td>HEAT ON</td>
<td>This LED lights when the control calls for heat, and the burners come on and heat the shortening</td>
</tr>
<tr>
<td>3-2</td>
<td>2</td>
<td>Digital Display</td>
<td>Digital Display Shows the shortening temperature, the timer countdown in the Cook Cycle, and the selections in the Program Mode; press the INFO button to display the temperature of the shortening; if the temperature exceeds 425°F (218°C), the display reads “E-5”, “FRYER TOO HOT”</td>
</tr>
<tr>
<td>3-2</td>
<td>3</td>
<td>WAIT</td>
<td>Once the fryer is out of the Melt Mode, this LED lights, signaling the operator that the shortening temperature is not at the proper temperature for cooking product</td>
</tr>
<tr>
<td>3-2</td>
<td>4</td>
<td>READY</td>
<td>This LED lights when the shortening temperature is within 5° of the setpoint temperature, signaling the operator that the shortening temperature is at the proper temperature for cooking product</td>
</tr>
<tr>
<td>3-2</td>
<td>5</td>
<td>INFO</td>
<td>Used to display the current shortening temperature, the setpoint temperature, as well as cooking performance, and other information such as, filter use, time of day, etc; in the Program Mode, it steps back to the previous parameter</td>
</tr>
<tr>
<td>3-2</td>
<td>6 &amp; 7</td>
<td></td>
<td>Used to adjust the value of the currently displayed setting in the Program Mode</td>
</tr>
</tbody>
</table>
### 3-2. OPERATING CONTROLS
#### BUTTON CONTROLS
(Continued)

<table>
<thead>
<tr>
<th>Fig. No.</th>
<th>Item No.</th>
<th>Description</th>
<th>Function</th>
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<tbody>
<tr>
<td>3-2</td>
<td>8</td>
<td><img src="image" alt="PROG" /></td>
<td>Used to access the Program Modes; once in the Program Mode, it is used to advance to the next parameter</td>
</tr>
<tr>
<td>3-2</td>
<td>9</td>
<td><img src="image" alt="clock" /></td>
<td>Used to stop Cook Cycles and also to stop the quality timer at the end of a Hold Mode; to use them to start Cook 0 Cycles, see Special Program Mode Section item SP-10</td>
</tr>
<tr>
<td>3-2</td>
<td>10</td>
<td>Menu Card Window</td>
<td>Menu Card Displays the food product associated with each product Window selection button; the menu card strip is located behind the decal</td>
</tr>
<tr>
<td>3-2</td>
<td>11</td>
<td>Product Select Buttons</td>
<td>Product Select Used to stop Cook Cycles and also to stop the quality Buttons timer at the end of a Mold Mode; to use them to start Cook Cycles, see Special Program Mode Section item SP-10</td>
</tr>
<tr>
<td>3-2</td>
<td>12</td>
<td><img src="image" alt="basket" /></td>
<td>Are used to manually raise or lower the basket (or baskets), out of the shortening if unit is equipped with auto-lift; if pressed during a Cook Cycle, the cooking time is paused until the basket (or baskets) are lowered back into the shortening; on units not equipped with auto-lift, these buttons manually pause and resume a cook timer</td>
</tr>
</tbody>
</table>
Figure 3-2

12 1 2 3 4 5 6 7 12 8

1 2 3 4 5 6 7 12 8

9 10

9

HENNY PENNY

HEAT ON

INFO

DOWN

P

PROG

WAIT

READY

1 2 3 4 5 6

FF

NUG

FISH

CHK

1 2 3 4 5 6

FF

NUG

FISH

CHK

1 2 3 4 5 6

FF

NUG

FISH

CHK

1 2 3 4 5 6

FF

NUG

FISH

CHK

1 2 3 4 5 6

FF

NUG

FISH

CHK

1 2 3 4 5 6

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FISH

CHK

1 2 3 4 5 6

FF

NUG

FISH

CHK

1 2 3 4 5 6

FF

NUG

FISH

CHK

1 2 3 4 5 6

FF

NUG

FISH

CHK
3-3. FILLING OR ADDING SHORTENING

The shortening level must always be above the heating elements when the fryer is heating and at the frypot level indicators on the rear of the frypot. Failure to follow these instructions could result in a fire and/or damage to the fryer.

When using solid shortening, it is recommended to melt the shortening on an outside heating source before placing it in the frypots. The heating elements or burner tubes must be completely submerged in shortening. Fire or damage to the frypot could result.

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

![Figure 3-3](image)

Wear gloves to avoid severe burns when pouring hot shortening into frypot. Shortening and all metal parts that are in contact with the shortening are extremely hot, and take care to avoid splashing.

![Figure 3-4](image)

2. The gas open fryers require 90 lbs. (41 kg) of shortening per frypot, and the electric 80 lbs. (36 kg) per frypot. All frypots have 2 level indicator lines inscribed on the rear wall of the frypot. The top indicator shows the proper level of heated shortening; the bottom indicator shows the proper level of cold shortening. (See Figure 3-3)

So the faucet doesn’t interfere with operating, filtering and cleaning procedures, swivel the faucet to either frypot and push it into the area above the elements, as shown in Figure 3-4 at left.
3-4. C1000 OPERATIONS AND PROCEDURES

The Computron 1000 controls are available on both split electronic controls frypot and full frypot fryers. The following is a brief description of the operating procedures for fryers with these controls.

1. Be sure the drain valve is in the closed position.
2. Place basket support inside of frypot.
3. Make sure frypot is filled with shortening to the proper level.
4. Display shows “OFF” until power switch is turned to the ON position. Display now shows the cook time and the unit automatically goes into the Melt Cycle until the shortening temperature reaches 250°F (121°C). The control then automatically exits the Melt Cycle.

**NOTICE**

The OFG-340 series open fryer has several safety devices which shuts-down the gas supply when they are activated. The above procedures should be followed to restart the open fryer and if the shut down is repeated, a qualified technician should be notified.

The Melt Cycle may be bypassed, if desired, by pressing and holding for 3 seconds.

**CAUTION**

Do not bypass the Melt Cycle unless enough shortening on gas fryers and elements on electric fryers. If Melt Cycle is bypassed before all burner tubes or elements are covered, excessive smoking of the shortening, or a fire will result.

5. Once out of the Melt Cycle, the shortening is heated until lights and the cook time is displayed. Thoroughly stir shortening to stabilize the temperature throughout the frypots.
6. Before loading product into the baskets, lower baskets into the hot shortening to keep the product from sticking to the baskets.
7. Once the shortening temperature has stabilized at the setpoint temperature, lower the basket with product into the frypot.
3-4. C1000 OPERATIONS AND PROCEDURES (Continued)

WARNING

Do not overload, or place product with extreme moisture content into the basket. 12.5 lbs. (5.7 kg) is the maximum amount of product per frypot (6.25 lbs. (2.8 kg) maximum for the split frypot fryers). Failure to follow these directions can result in shortening overflowing the frypot. Serious burns or damage to the unit could result.

9. If the right basket was dropped into the shortening, then press the right \( \mathcal{A} \).

If the left basket was dropped, then press the left \( \mathcal{A} \).

10. The timer on the appropriate side (right or left) starts counting down.

NOTICE

The timing operation of the two sides of the control is entirely independent of each other. One may be set, started, or stopped without affecting the other.

11. At the end of the Cook Cycle a tone will sound and the display flashes “DONE”. Press \( \mathcal{A} \) button and lift the basket from the shortening.

3-5. C1000 PROGRAMMING INSTRUCTIONS

Timer Programming

1. Anytime the cook time is displayed, press \( \mathcal{A} \mathcal{A} \) under the appropriate display to change the cook time.

Set-Point Temperature Programming

1. Press \( \mathcal{P} \) once to view the actual shortening temperature and press \( \mathcal{P} \) again to view the set-point temperature.

2. While the set-point temperature is in the display, press \( \mathcal{A} \mathcal{A} \) to change the set-point temperature.

NOTICE

If “LOCK” shows in display when pressing \( \mathcal{A} \mathcal{A} \), the controls are locked and must be unlocked before changing the time or set-point temperature. See C1000 Special Programming Section.

April 2008
Special Programming is used to set the items below:

- Fahrenheit or Celsius
- Initialize System
- Lock or Unlock Controls
- Heat Source – Electric; Gas w/standing pilot; Gas w/electronic ignition; Gas-Induced Draft
- Vat Type - Split or Full Vat (frypot)
- Oil Type - Solid or Liquid

1. To enter Special Programming, turn off power switch (either side). Press and hold \( P \) and turn the power switch back on.

2. “SPEC” “PROG” followed by, “DEG” “°F” or “°C”. Use \( \downarrow \uparrow \) to change to “°F” or “°C”.

3. Press \( P \) and “INIT” shows in the display.

   Press and hold the right \( \uparrow \) and display shows “In-3”, “In-2”, “In-1” followed by “Init Sys” “DONE DONE”. The controls now are reset to factory parameters, the time set to 0:00 and temperature 190°F or 88°C.

4. Press \( P \) and “LOCK” or “UNLOCK” shows in the displays. Use \( \downarrow \uparrow \) to change from “LOCK” to “UNLOCK, or vice versa.

5. Press \( P \) and “FRYR” & “OPEN” show in displays. Use \( \downarrow \uparrow \) to change from “PRES” to “OPEN” if needed.

6. Press \( P \) and “FRYR” shows in the display. Use \( \downarrow \uparrow \) to change the fryer type: “ELEC” for electric models; “GAS” for units with standing pilot; SSI for units with solid state ignition; IDG for units with induced draft gas burners.

7. Press \( P \) and “VAT” shows in the display. Use \( \downarrow \uparrow \) to change the vat (frypot) type from “SPLIT” to “FULL” or vice versa. Should be set on FULL VAT

8. Press \( P \) and “MELT” and “Solid” or “LIQD” shows in the displays. Use \( \downarrow \uparrow \) to choose “Solid”, if using solid shortening, or “LIQD”, if using liquid shortening.

9. Press and hold \( P \) to exit Special Programming at any time.
The Henny Penny open fryers are available with 12 product button controls. Also, models OEA/OGA are available with 12 button controls with auto-lift features. The auto-lift controls automatically lowers the basket(s) into the shortening, at the beginning of the Cook Cycle, and raises the basket(s) at the end of the cycle.

1. Be sure the drain valve is in the closed position.

2. Place basket support inside frypot.

3. Fill the frypot with shortening.

4. Move power switch to the ON position. Unit automatically goes into the Melt Cycle. When the temperature reaches 230°F (110°C) the control enters the Heat Cycle, and heats the shortening until the temperature setting is reached.

The gas open fryer has several safety devices which shut down the gas supply when they are activated. Follow above procedures to restart the fryer, and if the shutdown is repeated, notify a qualified technician.

Only on gas units can the Melt Cycle be bypassed, if desired, by pressing a product button and holding it for five seconds. The display shows “EXIT MELT?

1=YES 2=NO”. Press 1 to exit melt.

Do not bypass the Melt Cycle unless enough shortening has melted to completely cover all of the heat tubes. If the Melt Cycle is bypassed before all heat tubes are covered, excessive smoking of shortening, or a fire will result.

5. Once out of the Melt Cycle, \( \square \) flashes until the setpoint temperature is reached. Then \( \bigcirc \) illuminates.
3-7. BASIC OPERATIONS AND PROCEDURES - (12 Button Controls/Autolift) (Continued)

The two separate timer controls (left and right), can be programmed entirely independent from each other for 2 half baskets, or as one timer for a single, full sized basket. The default setting from the factory is for two half sized baskets. To change to a single full size basket setting, push and hold the #1 product button while turning on the power switch. To change back to the two basket mode, push and hold the #2 product button while turning on the power switch.

**NOTICE**

*When using a single full size basket, be sure the control is set for 1 basket. Upon turning on the fryer, the display shows “1 BASKET”, or “2 BASKET”. If “2 BASKET” is set, while using a single basket, damage to the basket or lift mechanisms could result.*

6. Thoroughly stir shortening to stabilize the temperature throughout the frypots.

7. Once the shortening temperature has stabilized at the setpoint temperature, place the baskets into the shortening, (or for auto-lift fryers, lift basket onto the hangers). Place product into the basket.

**WARNING**

*Do not overload, or place product with extreme moisture content into the basket. 18 lbs. (8.2 kgs.) is the maximum amount of product per frypot. Failure to follow these directions can result in shortening overflowing the frypot. Serious burns or damage to the frypot could result.*

8. If the right basket is to be lowered into the shortening, then one of the right product buttons should be pressed. If the left basket is to be lowered, then one of the left product buttons should be pressed. On auto-lift fryers, the basket(s) automatically lowers into the shortening.

9. The timer on the appropriate side will start counting down.
To load product directly into the shortening on Auto-lift fryers, lower empty basket(s) into the shortening by pressing \( \text{[load] icon} \), load with product, then press the product button to start the Cook Cycle.

Raise the basket(s) on Auto-lift fryers anytime during a Cook Cycle by pressing \( \text{[raise] icon} \). The Timed Cycle then pauses.

10. At the end of the Cook Cycle, a tone sounds and the display shows “DONE”. Lift the basket from the shortening. (On auto-lift fryers, the basket(s) automatically rises out of the shortening.) To stop the “DONE” beeper, press either \( \text{[stop] icon} \), or the product button.

A different product can be selected during the first minute of cooking, in case the wrong product button was pressed.

11. The display shows either dashes, or the product name, depending on the Special Program setting, SP-10. If a Quality Time was programmed, the controller alternately shows the product selected and the Quality Time remaining in minutes. If a different product is selected during the Hold Cycle, the display only shows the product selected.

12. At the end of the Hold Cycle, a tone sounds, the display flashes “QUALITY”, and the product it was timing. Press and release \( \text{[select] icon} \).

In the Cook Mode, when “FILTER SUGGESTED,” shows in the display, the operator has the option to filter at this time, or to continue cooking. But, if the operator continues cooking, a filter lockout will occur within the next Cook Cycle, or two.

When “FILTER LOCKOUT”, then “YOU *MUST* FILTER NOW.......” shows in the display, \( \text{[filter] icon} \) is the only button that functions, until the unit is filtered.
3-8. CARE OF SHORTENING

FOLLOW THE INSTRUCTIONS BELOW TO AVOID SHORTENING OVERFLOWING THE FRYPOT, WHICH COULD RESULT IN SERIOUS BURNS, PERSONAL INJURY, FIRE, AND/OR PROPERTY DAMAGE.

1. Maintain the shortening at the proper cooking level. Add fresh shortening as needed.

2. To protect and get the maximum life out of the shortening, lower the temperature to 275°F (135°C) or lower when the fryer is not in immediate use. Deteriorated shortening smokes badly, even at lower temperatures.

3. Taste the cold shortening daily for signs of bad flavor. Discard any shortening which has a bad flavor or shows signs of excessive foaming or boiling. Keep the frypot clean.

WITH PROLONGED USE, THE FLASHPOINT OF SHORTENING IS REDUCED. DISCARD SHORTENING IF IT SHOWS SIGNS OF EXCESSIVE SMOKING OR FOAMING. SERIOUS BURNS, PERSONAL INJURY, FIRE, AND/OR PROPERTY DAMAGE COULD RESULT.
3-9. FILTERING OF SHORTENING

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

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

2. Use a metal spatula to remove any build up from the sides of frypot. Do not scrape burner tubes on gas models, or heating elements on electric models.

Scraping the electric fryer elements, or the burner tubes of the gas frypot, produces scratches in these surfaces causing breading to stick and burn.

3. Open door(s) under unit, and slowly turn drain valve handle a half turn. Leave for a few minutes, then slowly, fully open drain valve. This prevents much splashing of the hot shortening as it drains. Figure 3-5.

4. As the shortening drains from the frypot, use brushes to clean the sides of the frypot and the burner tubes or heating elements. If the drain fills with breading, use straight white brush to push excess breading into the drain pan.

5. When all shortening has drained, scrape or brush the sides and the bottom of the frypot. Use the lift tool (Figure 3-6) and lift the elements (electric fryers), to clean the bottom of the frypot. Figure 3-7.
6. Rinse the frypot as follows:
   a. Close the drain valve.
   b. Position return line over empty frypot. Figure 3-8.
   c. Move the pump switch to the pump position.
   d. Fill the frypot 1/3 full, then turn off pump.
   e. Wash down and scrub the sides of the frypot with the brushes.
   f. After the sides and bottom are cleaned, open the drain valve.

7. Close drain valve and pump all of the shortening out of the filter drain pan and back into the frypot.

IF SHORTENING FLOW IS SLOW FROM THE FAUCET, IT’S POSSIBLE THAT THE FILTER CONNECTION AT THE UNION ON THE FILTER TUBE IS NOT TIGHTENED PROPERLY. IF SO, TURN OFF THE PUMP AND WEAR PROTECTIVE GLOVES OR CLOTH WHEN TIGHTENING THE UNION. THIS UNION WILL BE HOT. SEVERE BURNS COULD RESULT.

8. When the pump is pumping air only, move the pump switch from on to off.

9. Check the level of the shortening in the frypot. Add fresh shortening if necessary, until it reaches the top level indicator line on the rear wall of the frypot.
3-9. FILTERING OF SHORTENING (Continued)

About 10 to 12 filterings can be made with one filter paper envelope, depending on:
• the quantity and type of product fried and filtered
• the type of breading used
• the amount of crumbs left inside the filter drain pan;

When the filter screen assembly and filter paper become clogged, and the pumping flow slows, clean the screen assembly and change the filter envelope.

10. To continue cooking, turn the main power switch to the on position. (Remove the element lift tool on electric fryers.)

3-10. FILTER PUMP PROBLEM PREVENTION

To help prevent filter pump problems:

1. Properly install paper envelope over the filter screens. Fold the open end of the envelope, and clamp with retaining clips so that crumbs cannot enter. (See Figure 3-9)

2. Pump shortening, until no shortening is coming from nozzle.

In the event it overheats, the filter pump motor is equipped with a manual reset button located on the rear of the motor. After waiting 5 minutes to allow the motor to cool, press the reset button. It takes some effort to reset the motor. A screwdriver can be used to help press reset button.

Servicing of the filter pump is done at the side of the unit. If service is required, disconnect the open fryer from the electrical and/or gas power source.

3-11. FILTER PUMP MOTOR PROTECTOR – MANUAL RESET

To prevent burns caused by splashing shortening, turn the unit’s filter pump switch to the off position before resetting the filter pump motor’s manual reset protection device.
3-12. CHANGING THE FILTER ENVELOPE

Change the filter envelope after 10-12 filterings or whenever it becomes clogged with crumbs. Proceed as follows:

![WARNING]

The filter union could be hot. Wear protective glove or cloth, or severe burns could result.

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

1. Move the main power switch to the OFF position.
2. Disconnect the filter union and remove the filter drain pan from beneath the frypot.
3. Remove drain pan cover from drain pan and lift the screen assembly from the drain pan.
4. Wipe the shortening and crumbs from the drain pan. Clean the drain pan with soap and water. Thoroughly rinse with hot water.
5. Unthread the suction standpipe from the screen assembly.
6. Remove the crumb catcher and clean thoroughly with soap and water. Rinse thoroughly with hot water.
7. Remove the filter clips and discard the filter envelope.
8. Clean the top and bottom filter screen with soap and water. Rinse thoroughly with hot water.

![NOTICE]

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

9. Assemble the top filter screen to the bottom filter screen.
10. Slide the screen into a clean filter envelope.
3-12. **CHANGING THE FILTER ENVELOPE**
(Continued)

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

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

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

14. Place complete filter screen assembly back into filter drain pan, replace cover, and slide pan back into place beneath the fryer.

15. Connect the filter union by hand. Do not use a wrench.

16. The fryer is now ready to operate.

3-13. **CLEANING THE FRYPOT(S)**

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.

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

---

**WARNING**

The filter drain pan must be as far back under fryer as it will go, and the cover in place. Be sure the hole in the cover lines up with the drain before opening the drain. Failure to follow these instructions causes splashing of shortening and could result in personal injury.

Moving the fryer or filter drain pan while containing hot shortening is not recommended. Hot shortening can splash out and severe burns could result.

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

2. If hot shortening is present in the frypot, drain it by slowly opening the drain valve handle, one half turn. Leave for a few minutes, then slowly open the valve to full open position.
3-13. CLEANING THE FRYPOT(S) (Continued)

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

**WARNING**

The filter union could be hot. Wear protective glove or cloth, or severe burns could result.

4. Fill the frypot to the level indicator line with hot water. Add 4 ounces (.12 l) of fryer cleaner to the water and mix thoroughly. The fry basket can be placed inside the frypot for cleaning.

5. Use the Clean-Out Mode (see section 3-14), or turn the main power switch to the ON position and set temperature to 195° F (90.5° C).

6. When the solution reaches 195° F (90.5° C), turn the main power switch to the OFF position.

**CAUTION**

*If the cleaning solution in the frypot starts to foam and boil over, immediately turn the power switch to OFF or damage to components could result.*

*Do not use steel wool, other abrasive cleaners or cleaners/sanitizers containing chlorine, bromine, iodine or ammonia chemicals, as these will deteriorate the stainless steel material and shorten the life of the unit.*

*Do not use a water jet (pressure sprayer) to clean the unit, or component damage could result.*

7. Let the cleaning solutions stand for 15 to 20 minutes with the power off.

8. Using the fryer brush (never use steel wool), scrub the inside of the frypot. Lift the elements (electric fryers), to clean the bottom of the frypot (See Figures 3-10 and 3-11).

9. After cleaning, open the drain valve and drain cleaning solution from the frypot into drain pan and discard.

10. Replace the empty drain pan, close the drain valve, and refill frypot with plain hot water to the proper level.
3-13. CLEANING THE FRYPOT(S) (Continued)

11. Add approximately 8 ozs. (0.24 liters) of distilled vinegar. Use the Clean-Out Mode (see section 3-14), or bring the solution back up to 195° F (90.5° C).

12. Using a clean brush, scrub the interior of frypot. This neutralizes the alkaline left by the cleaning compound.

13. Drain the vinegar rinse water and discard.

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

15. Thoroughly dry the drain pan and the frypot interior.

**NOTICE**

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

16. Replace the clean filter screen assembly in the drain pan, replace cover, and install drain pan under fryer.

17. Refill the frypot with fresh shortening.

Henny Penny has the following cleaners available:
- Foaming Degreaser - Part no. 12226
- PHT Liquid Cleaner - Part no. 12135
- PHT Dry Powder Cleaner - Part no. 12101

See your local distributor for details.

3-14. CLEAN-OUT MODE

When heating the cleaning solution and vinegar solutions, turn the POWER switch to the ON position. When the fryer starts the Melt Cycle, press and hold then “CLEAN-OUT ?”, “1=YES 2=NO” shows in display. Press to start Clean-Out Mode.

The fryer displays “*CLEAN-OUT MODE*” and heats up to a preprogrammed temperature, up to 195°F (91°C), then automatically begins a preset timed countdown. Use the if necessary, to adjust the temperature and keep the cleaning solution from boiling over.

Once the timed countdown is complete and display shows “CLEANING DONE”, turn power switch to off position and drain cleaning solution from the frypot.

Refer back to the Cleaning the Frypot procedures for more detailed instructions. See Special Program Modes SP-20 and SP-21 to preset the temperature and time.
3-15. LIGHTING AND SHUTDOWN OF THE BURNERS

1. Turn the power switch to the OFF position.

2. Rotate the gas valve knob clockwise to the OFF position and wait at least five (5) minutes before continuing to the next step.

3. Rotate gas valve counter clockwise to the on position.

4. Place the power switch to the ON position.
   Ignition sequence:
   a. Checks to see vacuum switch is open.
   b. Fan runs and waits for vacuum switch to close.
   c. 30 Second purge delay.
   d. Ignition modules turn on.
   e. Ignition modules sparking igniters.
   f. Pilot lit – ready to heat.

5. The burner lights and operates in a Melt Cycle until the shortening reaches a preset temperature.

6. Press the desired product button after the display and LED shows “READY”.

To Shutdown burner:
1. Turn the power switch to the OFF position.
2. Rotate gas valve knob to the OFF position.

3-16. HIGH TEMPERATURE LIMIT CONTROL

This high temperature limit control is a safety, manual reset control, which senses the temperature of the shortening. If the shortening temperature exceeds 425°F (218°C), this switch 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 by pressing the reset button.

A red reset button is located under the control panel, in the front of the gas fryer. (See Figure 3-12)

The reset button on electric fryers is located in a hole in the right element hinge. (See Figure 3-13) Use a small screwdriver to press the reset button.

Once the reset button is pressed, heat is then supplied to the frypot once again.

Figure 3-12

Figure 3-13
3-17. REGULAR MAINTENANCE

As in all food service equipment, the Henny Penny open fryer requires care and proper maintenance. The table below provides a summary of scheduled maintenance procedures to be performed by the operator.

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filtering of shortening</td>
<td>Daily (3-4 loads)</td>
</tr>
<tr>
<td>Changing of shortening</td>
<td>When shortening smokes, foams up violently, or tastes bad</td>
</tr>
<tr>
<td>Changing the filter envelope</td>
<td>After 10-12 filterings, or when envelope is clogged with crumbs</td>
</tr>
<tr>
<td>Cleaning the frypot</td>
<td>Every change of shortening</td>
</tr>
</tbody>
</table>

If moving fryer to perform preventive maintenance:
• Gas supply should be turned off to avoid fire or explosion.
• Electrical supply should be unplugged or wall circuit breaker turned off to avoid electrical shock.
SECTION 4. PROGRAMMING

4-1. INTRODUCTION

The controls are preset from the factory, but desired Functions can be programmed in the field. This section includes the Product Programming Mode, which are the basic settings, and the Level 2 programming, which are the more detailed settings.

4-2. PRODUCT PROGRAM MODE

This mode allows the operator to change and set various parameters for each product.

1. Press and hold \text{\textbf{p}} for one second until “PROG” shows in the display, followed by “ENTER CODE”.

2. Enter code 1, 2, 3. “SELECT PROG PRODUCT’ scrolls across the display.

3. Press and release the desired product button (1 to 12).

4. To copy product settings from one button to another, press and hold the product button to be copied until the display flashes. Then press the product button you are copying the settings to. The display shows “COPY -X- TO -Y-?” then, “1=YES 2=NO”. Press \text{\textbf{1}} to complete the copying.

5. Press and release \text{\textbf{p}}. The name of that product shows in the display. Ex. “NAME“FRIES”.

Change Product Names

a. Press and release \text{\textbf{v}} and the first letter, or digit, starts flashing.

b. Press and release \text{\textbf{\textnormal{v}}} to change the flashing letter.

c. To continue to the next letter, press \text{\textbf{p}}. Then press \text{\textbf{\textnormal{v}}} to change this letter.

d. Repeat step c until up to 7 letters are entered.
4-2. PRODUCT PROGRAM MODE (Continued)

e. Press and hold \[ \text{P} \] to exit Program Mode, or press and release \[ \text{P} \] until “COOK” shows in display, to continue with Program Mode.

6. Press and release \[ \text{P} \] and “COOK TIME” shows in the display along with the preset time. Press \[ \text{P} \] to change the time. The time shows in minutes and seconds. Press and hold the buttons, and the time will jump by 5 second increments to a maximum of 59:59.

7. Press and release \[ \text{P} \] a second time and “TEMP” shows in the display, along with the preset temperature on the right side of the display. Press \[ \text{P} \] to change the temperature. Press and hold the buttons and the temperature will jump by 5 degree increments to a max. of 380°F (193°C), and a min. of 190°F (88°C).

8. Press and release \[ \text{P} \] a third time and product “COOK ID” shows in the display along with the ID. For example, “FF” would be the ID for french fries And “NU” would be the ID for nuggets. Press \[ \text{P} \] to change the ID letters.

9. Press and release \[ \text{P} \] a fourth time and “LOAD COMP” shows in the display along with the load compensation value. Press and release to change this value to a max. of 20 and a min. of 0.

The ID letters appear alongside the cook timer, while cooking, to help identify the product being cooked.

\textbf{NOTICE}
4-2. PRODUCT PROGRAM MODE (Continued)

10. Press and release \( \text{P} \) a fifth time and “LCOMP AVG” shows in the display along with the load compensation average temperature. Press and release \( \text{v} \) \( \Delta \) to change this value to a maximum of 50°F (10°C) below setpoint temperature.

11. Press and release \( \text{P} \) a sixth time and “ALARM – 1 AT 0:00” shows in the display. Press and release \( \text{v} \) \( \Delta \) to set an alarm.

Ex: If a Cook Cycle was set at 3 minutes, and an alarm was to go off after 30 seconds into the Cook Cycle, “2:30” would be set in the display at this time. When the timer counts down to 2:30 the alarm sounds.

**NOTICE**

Up to 4 alarms can be programmed. After the first one is set, the other alarms can be accessed by pressing the \( \text{P} \) button again. Additional prompts shows in the display. These are “NONE”, “SHAKE”, “STIR”, “ADD”, or “PAUSE”. Press \( \text{v} \) \( \Delta \) buttons to select the word to show in the display if an alarm is programmed. If “PAUSE” is selected on Auto-lift fryers the basket automatically rises out of the shortening and timer stops the countdown. Press \( \text{u} \) \( \text{f} \) to lower the basket and resume the timer.

12. Press and release \( \text{P} \) until “QUALITY TMR” shows in the display along with the preset holding. Press and release \( \text{v} \) \( \Delta \) to adjust the holding time, up to 59:59.

**NOTICE**

To exit the Product Program Mode at any time, press and hold \( \text{P} \) for 2 seconds.
4-2. PRODUCT PROGRAM MODE (Continued)

Filter Cycle Mode (Optional)

For “2,MIXED”, or “3,GLOBAL” to appear in the Product Program Mode, the Filter Tracking must be enabled in the Special Program Mode. (See Special Program Mode Section)

13. Press \( \text{PROG} \).

“2,MIXED”

a. “FILTER AFTER” shows in the display, along with the preset number of Cook Cycles.

b. Press and release \( \text{ } \text{ } \) until the desired number of Cook Cycles between filters shows in the display. For example, if 4 is set for a product, each time that product is selected, it counts 1/4, or 25%. Then each time a product is cooked, the percentages add up until 100%, or more is reached. Then the display shows “FILTER SUGGESTED”.

“3,GLOBAL”

a. “FILTER INCL” shows in the display, along with “NO” or “YES”

b. Press and release \( \text{ } \text{ } \) to “YES” if that product is to be included in the filter count, or “NO” if it is not.

4-3. SPECIAL PROGRAM MODE

The Special Program Mode is used to set more detailed parameters listed below.

SP-1 • Degrees Fahrenheit or Celsius
SP-2 • Language: Eng, French, German, Spanish, Portuguese
SP-3 • System initialization (factory presets)
SP-4 • Audio volume
SP-5 • Audio tone
SP-6 • Audio effect
SP-7 • Type of shortening to be melted - liquid, solid
SP-8 • Idle Mode
SP-9 • Filter tracking
SP-10 • Product buttons
SP-11 • Cooking display
SP-12 • Quality timer display
SP-13 • Baskets - 1 or 2
SP-14 • Auto-lift detection
SP-15 • Multi-stage cooking
SP-16 • Program code change
SP-17 • Energy Save Enabled? (Gas Fryers)
SP-18 • Clean-out minutes
SP-19 • Clean-out temperature
4-3. SPECIAL PROGRAM MODE (Continued)

1. Press and hold \[ \text{P} \quad \text{PROG} \] for 5 seconds until
   “L-2” and “LEVEL 2”, followed by, “SP PROG” and “ENTER CODE shows in the display.

2. Enter code 1, 2, 3, and “SP- 1 “, “TEMP, UNITS” shows in the display.

**NOTICE**

If a bad code is entered, a tone sounds and “BAD CODE” shows on the display. Wait a few seconds, the control reverts back to the Cook Mode, and repeat the above steps.

To exit from the Special Program Mode at any time, press and hold \[ \text{P} \quad \text{PROG} \] button for 2 seconds, or to roll back to previous setting, press \[ \text{INFO} \].

**Degrees Fahrenheit or Celsius (SP-1)**

a. Follow steps 1 and 2 above.

b. The display flashes “SP- 1” and “TEMP, UNITS”, along with “ºF” or “ºC”. Press \( \text{V} \quad \text{A} \) buttons to toggle between “ºF” and “ºC.”

**Language (SP-2)**

a. Follow steps 1 and 2 above.

b. Press and release \[ \text{P} \quad \text{PROG} \] button. “SP-2” and “LANGUAGE” flashes on the display, along with the language (Ex:” 1.ENGL”)

c. To toggle to the desired language, press and release \( \text{V} \quad \text{A} \).
4-3. SPECIAL PROGRAM MODE (Continued)

System Initialization (SP-3)
This step resets the cook programs to factory settings.

   a. Follow steps 1 and 2 above.

   b. Press and release \[ \text{PROG} \] twice. “SP-3” and “DO SYSTEM INIT” flashes on the display, along with “INIT”.

   c. Press and hold \[ \text{V} \]. “INIT” shows on the display, a tone sounds, and “IN 3”, “IN 2”, “IN 1” flashes on the right side of the display. When “INIT” starts flashing on the left side of the display, release \[ \text{V} \]. When “DONE” shows on the display, the initialization is complete, and the controls now have factory preset parameters.

   \[ \text{NOTICE} \]

   All cook settings programmed by the operator are lost when System Initialization is completed.

Audio Volume (SP-4)
The volume of the speaker can be adjusted.

   a. Follow steps 1 and 2 above.

   b. Press the \[ \text{PROG} \] 3 times. “SP-4” and “AUDIO VOLUME” flashes on the display, along with the volume value.

   c. Press \[ \text{V} \] to adjust the speaker volume; 10 the maximum value and 1 the minimum.

Audio Tone (SP-5)
The tone of the speaker can be adjusted.

   a. Follow steps 1 and 2 above.

   b. Press \[ \text{PROG} \] 4 times. “SP-5” and “AUDIO TONE (HZ)” flashes on the display, along with the tone value.

   c. Press \[ \text{V} \] to adjust the tone of the speaker; 2000 the maximum, 50 the minimum.
4-3. SPECIAL PROGRAM MODE (Continued)

Audio Effect (SP-6)
This setting lets you add an “audio effect”- i.e. a pulsed or “warble,” sound effect – to the beeps generated in a Cook Cycle.

a. Follow steps 1 and 2 above.

b. Press \( \text{PROG} \) 5 times. “SP-6” and “AUDIO EFFECT” shows in the display, along with the effect value.

c. Press \( \text{ } \) to change the sound effect of the tone.

The numbers correspond as follows:
- 0 = normal tone
- 1 = fast-pulsed tone
- 2 = slow pulsed tone
- 3 = warble tone

Type of shortening to be melted - Liquid or Solid (SP-7)
The Melt Cycle can be set to the type of shortening being used.

a. Follow steps 1 and 2 above.

b. Press and release \( \text{PROG} \) 6 times. “SP-7” and “MELT CYCLE SELECT” flashes on the display, along with “l=LIQ” or “2=SOLID”.

c. Press \( \text{ } \) to toggle from one type to another.

\[ \text{CAUTION} \]

The type of shortening being used in the open fryer determines the amount of heat applied during the Melt Cycle. If the controls are set to the solid setting, less heat is applied to the shortening, than if the controls were set to the liquid option. Too much heat applied to solid shortening will cause excessive smoking, and could cause a fire. This setting should match the type of shortening being used at the time.

When using solid shortening, it is recommended to melt the shortening on an outside heating source before placing it in the frypots. The heating elements or burner tubes must be completely submerged in shortening. Fire or damage to the frypot could result.
4-3. SPECIAL PROGRAM MODE (Continued)

Idle Mode (SP-8)
A programmed Idle Mode allows the shortening temperature to drop to a lower temperature when not in use. This saves on the shortening and utilities.

a. Follow steps 1 and 2 above.

b. Press and release \[ P \text{ PROG} \] 7 times. “SP-8” and “IDLE MODE ENABLED?” flashes in the display, along with “NO” or “YES”.

c. Press and release \[ V \Delta \] to toggle between NO and YES.

d. With “YES” in the display, the Idle Mode is enabled.

Press and release \[ P \text{ PROG} \]. “SP-8A” and “IDLE SETPT TEMP” shows in the display, along with the preset temperature.

e. The idle setpoint temperature, can be changed by pressing \[ V \Delta \].

f. Press and release \[ P \text{ PROG} \]. “SP-8B” and “AUTO-IDLE MINUTES” shows in the display, along with the preset time.

Press \[ V \Delta \] to set the minutes the cooker stays idle before the auto-idle is enabled; 60 the maximum, OFF the minimum. Ex: “30” in the display means, if product in not cooked in that frypot for 30 minutes, the control automatically activates the idle setpoint temperature, programmed above.
4-3. SPECIAL PROGRAM MODE (Continued)

h. To use the right product button 6 as the manual idle button, press \[\text{PRG} \text{ PROG} \]. “SP-8C” and “USE-6R-FOR IDLE” shows in the display, along with “NO” or “YES”.

i. Press \[\text{PRG} \text{ PROG} \] to toggle between NO and YES. If “YES” is displayed, then during a time of low volume, the operator presses the right product button 6 to manually enter the Idle Mode.

Filter Tracking Enabled (Sp-9)
The controls can be set to signal the operator when the shortening needs filtering. The filter tracking must be enabled to program the number of Cook Cycles between filtering procedures. (See Filter Cycles paragraph in Product Program Mode Section.)

a. Follow steps 1 and 2 above.

b. Press and release \[\text{PRG} \text{ PROG} \] until “SP-9” and “FILTER TRACKING ENABLED” flashes on the display, along with “1,OFF”.

c. To enable the filter tracking, press \[\text{PRG} \text{ PROG} \] \[\text{PRG} \text{ PROG} \] \[\text{PRG} \text{ PROG} \] \[\text{PRG} \text{ PROG} \] to toggle the display from “1,OFF”, to “2,MIXED”, or, “3,GLOBAL”.

The Mixed setting allows the operator to set different amounts of Cook Cycles, between filters, for each product. If the operator wants to have one setting for all products go to step h.

d. If “2,MIXED” is selected, press \[\text{PRG} \text{ PROG} \] and “SP-9A” shows in the display followed by “SUGGEST FILTER AT …” and a value between 75% and 100%. Press and release \[\text{PRG} \text{ PROG} \] \[\text{PRG} \text{ PROG} \] \[\text{PRG} \text{ PROG} \] to change this value.

e. Press \[\text{PRG} \text{ PROG} \] and “SP-9B” shows in the display followed by “LOCKOUT ENABLED?” and “YES” or “NO”. Press and release \[\text{PRG} \text{ PROG} \] \[\text{PRG} \text{ PROG} \] \[\text{PRG} \text{ PROG} \] to choose yes or no.
4-3. SPECIAL PROGRAM MODE (Continued)

f. Press \( \text{PROG} \) and “SP-9C” shows in the display, if YES was chosen in step e. FILTER LOCKOUT AT…” and a value between 100% and 200% shows in display. Press \( \text{DOWN} \) \( \text{UP} \) to change this value.

g. Now, go back to the Product Program Mode, to the Filter Cycle, and program in the number of Cook Cycles between filtering.

h. If “3,GLOBAL” is selected, “SP-9A” shows in the display, and followed by “GLOBAL FILTER CYCLES”. The right side of the display shows a digit, 1 to 99. Press \( \text{DOWN} \) \( \text{UP} \) to set the desired amount of Cook Cycles between filters.

\[ \text{NOTICE} \]

In Cook Mode, the number of global Cook Cycles remaining shows in the center of the display. Ex: “-------- 5x --------”.

i. Press \( \text{PROG} \) and “SP-9B” shows in the display followed by “LOCKOUT ENABLED?” and “YES” or “NO”. Press and release \( \text{DOWN} \) \( \text{UP} \) to choose yes or no.

j. Now, go back to section 4-2 and enter the Program Mode. Press \( \text{PROG} \) until “FILTER INCL” shows in the display (step 13). Each product must be set to “YES” to be included in the filter tracking.

Product Buttons (Sp-10)
This mode allows you set up the way products are selected, and Cook Cycles started, in the Cook Mode.

a. Follow steps 1 and 2 above.

b. Press and release \( \text{PROG} \) until “SP-10” and “PRODUCT BUTTONS” flashes in the display.
4-3. SPECIAL PROGRAM MODE (Continued)

c. When using the first option, “1,COOK”, pressing a product button displays that and starts the Cook Cycle. When nothing is cooking, no product displays. Products 1 to 6 shows on the left display only, and products 7 to 12 shows on the right display only.

d. Press \( \text{[button]} \) to show the second option. If using “2,SELECT”, pressing a product button displays the product only. Press \( \text{[button]} \) to start the Cook Cycle.

Cooking Display (Sp-11)
Choose between 3 cooking display options in this mode.

a. Follow steps 1 and 2 above.

b. Press \( \text{[button]} \) until “SP-11” and “COOKING DISPLAY” shows in the display.

c. The first option, “1,TIME”, sets the display to read only the time remaining in the Cook Cycle.

d. Press \( \text{[button]} \) to show the second option. “2,TM+ID”, sets the display to read both the time remaining in the Cook Cycle and also the product ID. (ex: FF=french fries)

e. Press \( \text{[button]} \) to show the third option. “3,NM+TM”, sets the display to alternate between showing the name of the product being timed, and the time remaining in the Cook Cycle.

Quality Timer Display (SP-12)
Choose between 3 timer display options in this mode.

a. Follow steps 1 and 2 above.

b. Press \( \text{[button]} \) until “SP-12” and “QUALITY TMR DISPLAY” shows in the display.

c. The first option, “1,NONE”, means the display will not show the quality time remaining after a Cook Cycle. The quality time appears only after the timer expires.
4-3. SPECIAL PROGRAM MODE (Continued)

d. Press \( \text{△} \) to show the second option. “2,QT+ID”, sets the display to constantly show the Quality Time remaining, and the product ID that the Quality Time is holding after a Cook Cycle.

e. The third option, “3,NM+QT”, sets the display to alternate between the name of the product just cooked and the Quality Time remaining.

**Number of Baskets (SP-13)**
This allows the operator to set the controls for use of 1 basket or 2.

a. Follows steps 1 and 2 above.

b. Press \( \text{P} \) until “SP-13” and “NUMBER OF BASKETS” shows in the display.

c. Press \( \text{△} \) to toggle between “1,BSKT”, or “2,BSKT”.

**NOTICE**
The number of baskets can also be changed without entering the Program Mode. Press and hold \( \text{1} \) while turning on the power switch for a single basket. To change back to two baskets, press and hold \( \text{2} \) while turning on the power switch.

**Auto-lift Detection (SP-14)**

a. Follows steps 1 and 2 above.

b. Press \( \text{P} \) until “SP-14” and “AUTOLIFT” shows in the display.

c. Keep the controls set at “1,DETECT” for the controls to automatically detect the auto-lift or not.

d. Press \( \text{△} \) to select “2,*OFF*”, to disable the auto-lift. This can be used to bypass the auto-lift mechanism, if the auto-lift becomes disabled.

e. Press \( \text{△} \) to select “3,*ON*”, to force the auto-lift feature, if the controls are not detecting the auto-lift.
4.3 SPECIAL PROGRAM MODE (Continued)

Multi-Stage Cooking (SP-15)
This allows the operator to cook up to 10 stages (time/temperature setpoints) per product.

a. Follows steps 1 and 2 above.

b. Press \[ \text{PROG} \] until “SP-15” and “MULTI-STAGE ENABLED?” shows in display, along with “NO” or “YES”.

c. Press and release \[ \text{V} \] to toggle between NO and YES.

d. “YES” in the display, enables the multi-stage mode.

e. Press and hold \[ \text{PROG} \] to exit the Special Program Mode.

f. Press and hold \[ \text{PROG} \] for one second until “PROG” shows in the display, followed by “ENTER CODE”.

g. Enter code 1, 2, 3. “SELECT PROG PRODUCT” scrolls across the display.

h. Press and release the desired product button (1 to 12).

i. Press and release \[ \text{PROG} \] two times, “1. TOTAL, 1.COOK TIME 0:00” shows in display.

j. Press and release \[ \text{V} \] to set the total cook time.

k. Press \[ \text{PROG} \], “1. TEMP XXX°F” (or °C) shows in display.

m. Press and release \[ \text{V} \] to set the starting temperature.

n. Press \[ \text{PROG} \], “2. STEP 2 AT 0:00” shows in display.

o. Press and release \[ \text{V} \] to set the time, at which the timer counts down to and begins step 2.

p. Press \[ \text{PROG} \], “2. TEMP XXX°F” (or °C) shows in display.
4-3. SPECIAL PROGRAM MODE (Continued)

q. Press and release ▼ ▲ to set temperature for step 2.

r. Press P to continue onto step 3 and follow

instructions in steps n, o, p, and q.

When all stages are set, you can continue to the next program

mode when you press P, or press and hold P to exit

Special Program Mode.

Program Code Change (SP-16)

This allows the operator to change the program code (factory

set at 1, 2, 3) used to access Product Programming, Special

Programming, Clock Set, Data Comm, and Heat Control Modes.

a. Follow steps 1 and 2 above.

b. Press PROG until “SP-15” and “CHANGE, MGR

CODE? 1=YES” shows in display, along with “CODE”.

c. Press 1. “ENTER NEW CODE, P=DONE, I=QUIT”

shows in display. Press product buttons with new code.

d. If satisfied with code, press PROG. “REPEAT NEW

CODE, P=DONE, I=QUIT, shows in display. Press same

code buttons in step c.

e. If satisfied with code, press PROG. “*CODE

CHANGE*” shows in display.

f. If not satisfied with code, press INFO and

“*CANCELLED*” shows in display, then reverts back
to “SP-15” and “CHANGE, MGR CODE? 1=YES”.

Then the above steps can be repeated
4-3. SPECIAL PROGRAM MODE (Continued)

Energy Save Enabled? (Gas fryers only) (SP-17)
The Energy Save mode reduces energy used during idle (non-cooking) periods by turning off the blower (draft fan) and pilot flame when possible.

a. Follow steps 1 and 2 above.

b. Press PROG until “SP-19” and “ENERGY SAVE ENABLED? <GAS FRYERS>” shows in display, along with “YES/NO” option.

c. Press and release UP and DOWN buttons to change from “NO” (default) to “YES”, or vise-versa.

Press and hold PROG at any time to exit Special Program Mode.

Clean-Out Minutes (SP-18)
This allows you to set the number of minutes of the Clean-Out Mode.

a. Follow steps 1 and 2 above.

b. Press PROG until “SP-10” and “CLEAN-OUT MINUTES” shows in display, along with the preset minutes.

c. Press to change the number of minutes, up to 99.

Clean-Out Temperature (SP-19)
This allows you to set the temperature of the Clean-Out Mode.

a. Follow steps 1 and 2 above.

b. Press PROG until “SP-11” and “CLEAN-OUT TMP” shows in display, along with the set temperature.

c. Press to change the temperature, up to 212°F (100°C).
4-4. CLOCK SET MODE

This mode allows the operator to set the time and date into the controls.

1. Press and hold \( \text{P} \) for 5 seconds until “L-2” and “LEVEL 2”, followed by, “SP PROG” shows in the display. Release the \( \text{P} \), then immediately press and release \( \text{P} \) again. “CLOCK SET” shows in the display, followed by “ENTER CODE”.

2. Enter code 1, 2, 3, and “CS-1, SET MONTH” shows in the display.

   If a bad code is entered, a tone sounds and “BAD CODE” shows on the display. Wait a few seconds, the control reverts back to the Cook Mode, and repeat the above steps.

To exit from the Clock Set Mode at any time, press and hold \( \text{P} \) button for 2 seconds.

Set Month

3. The month value (1-12) flashes. Press \( \text{ } \) to change the month value.

Set Date

4. Press \( \text{P} \) and “CS-2, SET DATE” shows in display.

5. The day of the month (1-31) flashes. Press \( \text{ } \) to change the day of the month.

Set Year

6. Press \( \text{P} \) and “CS-3, SET YEAR” shows in display.

7. The year setting flashes. Press \( \text{ } \) to change year.

Set Hour (12 or 24 Hour)

8. Press \( \text{P} \) and “CS-4, SET HOUR” shows in display.

9. If in 12 hour mode, the hour (1-12) flashes along with AM or PM. Press \( \text{ } \) to change the hours and AM/PM settings.
4-4. CLOCK SET MODE  
(Continued)  
9. If in 24-hour mode, “24-HR” shows in display, and the hour (1-24) flashes. Press \( \downarrow \) to change hours.

Set Minutes  
10. Press \( \text{PROG} \) and “CS-5, SET MINUTE” shows in display.

11. The minutes flash, and press \( \downarrow \) to change.

Clock Mode (12 Hour or 24 Hour)  
12. Press \( \text{PROG} \) and “1. AM/PM”, or “2. 24-HR” shows in display,

13. Press \( \downarrow \) to toggle from “1. AM/PM”, which is 12-hour mode, or “2. 24-HR”, which is 24-hour mode.

Daylight Savings Setting  
14. Press \( \text{PROG} \) and “1.OFF”, or “2.US”, or “3.CE” shows in display.

15. Press \( \downarrow \) to toggle between settings.
   a. “1.OFF” won’t have automatic Daylight Savings adjustment in the controls.
   b. “2.US” automatically adjusts for United States’ Daylight Savings, starting the first Sunday in April, and ending the last Sunday in October.
   c. “3.CE” automatically adjusts for CE Daylight Savings, starting on the last Sunday in March, and ending the last Sunday in October.

4-5. DATA LOGGING, HEAT CONTROL, TECH MODE, AND STAT MODE  
The Data Logging, Heat Control, Tech and Stat Modes are advanced diagnostic and program modes, mainly for Henny Penny use only. For more information on these Modes, contact the Service Department at 1-800-417-8405, or 937-456-8405.
## SECTION 5. TROUBLESHOOTING

### 5-1. TROUBLE SHOOTING GUIDE

<table>
<thead>
<tr>
<th>Problem</th>
<th>Cause</th>
<th>Correction</th>
</tr>
</thead>
</table>
| POWER switch ON but fryer completely inoperative | • Open circuit | • Plug fryer in  
• Check breaker or fuse at supply box |
| Shortening will not heat but lights are on | • Open high limit circuit  
Error message “E10”  
• Drain valve open  
Error message “E15” | • Reset high limit per High Limit Temperature Control Section  
• Turn drain valve handle to closed position |
| Foaming or boiling over of shortening | • Water in shortening  
• Improper or bad shortening  
• Improper filtering  
• Improper rinsing after cleaning fryer | • At end of Cook Cycle, drain shortening and clean  
• Use recommended shortening  
• Refer to the procedure covering filtering the shortening  
• Clean and rinse the frypot, then dry thoroughly |
| Shortening will not drain from frypot | • Drain valve clogged with crumbs | • Open valve, force cleaning brush through drain |
| Filter switch on, motor does not run | • Motor thermal protector tripped | • Reset thermal switch per section on Filter Pump Motor Protector – Manual Reset |

5.2. ERROR CODES

In the event of a control system failure, the digital display will show an “Error Message.” These messages are coded: “E4”, “E5”, “E6”, “E10”, “E15”, “E20”, “E-31”, “E41”, “E46”, “E54”, E-70-A & B and “E92”. A constant tone is heard when an error code is displayed, and to silence this tone, press any button.

<table>
<thead>
<tr>
<th>DISPLAY</th>
<th>CAUSE</th>
<th>PANEL BOARD CORRECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>“E-4”</td>
<td>Control board overheating</td>
<td>Turn switch to OFF position, then turn switch back to ON; if display shows “E-4”, the control board is getting too hot; check the louvers on each side of the unit for obstructions</td>
</tr>
<tr>
<td>“E-5”</td>
<td>Shortening overheating</td>
<td>Turn switch to OFF position, then turn switch back to ON; if display shows “E-5”, the heating circuits and temperature probe should be checked</td>
</tr>
<tr>
<td>“E-6 A”</td>
<td>Temperature probe open</td>
<td>Turn switch to OFF position, then turn switch back to ON; if display shows “E-6”, check the temperature probe; to replace, refer to Technical Manual</td>
</tr>
<tr>
<td>“E-6 B”</td>
<td>Temperature probe shorted</td>
<td>Turn switch to OFF position, then turn switch back to ON; if display shows “E-6”, check the temperature probe; to replace, refer to Technical Manual</td>
</tr>
<tr>
<td>“E-10”</td>
<td>High limit</td>
<td>Reset the high limit by manually pushing up on the reset button; if high limit does not reset, high limit must be replaced; refer to Technical Manual</td>
</tr>
<tr>
<td>“E-15”</td>
<td>Drain switch failure</td>
<td>Close drain, using the drain valve handle; if display still shows “E-15”, check the drain microswitch; refer to Technical Manual</td>
</tr>
<tr>
<td>“E-41”,</td>
<td>Programming failure</td>
<td>Turn switch to OFF, then back to ON; if display shows any of the error codes, try to reinitialize the control (Special Program Section) if error code persists, replace the control board; refer to Technical Manual</td>
</tr>
</tbody>
</table>
5-2. ERROR CODES  
(Continued)

<table>
<thead>
<tr>
<th>DISPLAY</th>
<th>CAUSE</th>
<th>PANEL BOARD CORRECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>“E-20 A”</td>
<td>Vacuum switch failure (stuck closed)</td>
<td>Press the timer button to try the ignition process again; if “E-20 A” persists check vacuum switch; refer to Technical Manual</td>
</tr>
<tr>
<td>“E-20 B”</td>
<td>Draft fan or vacuum switch failure (stuck open)</td>
<td>Press the timer button to try the ignition process again; if “E-20 B” persists, check vacuum switch or the blower motor; refer to Technical Manual</td>
</tr>
<tr>
<td>“E-20 C”</td>
<td>Ignition modules</td>
<td>Press the timer button to try the ignition process again; if not responding “E-20 C” persists, check the ignition module, the spark ignitor, or the I/O board; refer to Technical Manual</td>
</tr>
<tr>
<td>“E-20 D”</td>
<td>Pilots not lit or no flame sense</td>
<td>Press the timer button to try the ignition process again; if “E-20 D” persists, check the ignition module, the I/O board, or the flame sensor; refer to Technical Manual</td>
</tr>
<tr>
<td>“E-31”</td>
<td>Elements up- Electric units only Fan switch jumper wire missing</td>
<td>Lower elements into frypot Check for jumper wire on 12-pin connector &amp; add if missing</td>
</tr>
<tr>
<td>“E-54”</td>
<td>PCB component failure</td>
<td>Turn switch to OFF position, then turn switch back to ON; if “E-54” persists, have PCB replaced</td>
</tr>
<tr>
<td>“E-70A”</td>
<td>Fan switch jumper missing</td>
<td>Have jumper wire checked on 12 pin connect to panel</td>
</tr>
<tr>
<td>“E-70B”</td>
<td>MV jumper missing</td>
<td>Have jumper wire checked on connectors to panel</td>
</tr>
<tr>
<td>“E-92”</td>
<td>24 VAC fuse on I/O open</td>
<td>24 VAC fuse on I/O board open; check for shorted component in 24-volt circuit (i.e., hi limit, drain switch, air switch)</td>
</tr>
</tbody>
</table>
G L O S S A R Y
HENNY PENNY HOLDING CABINETS

air valve:
a valve on the eight head fryer that allows air into the filter lines when the pump is on in the mixing mode on eight head fryers.

airflow switch:
a switch that senses the amount of airflow coming from the blower; if the airflow falls below a certain level, the switch cuts power to the gas control valve that shuts down the burners.

(based fryers only)

blower:
located on the rear of a gas fryer, the blower pulls flue gases out of the flue and provides the proper amount of air to the burner tubes for efficient combustion.

(based fryers only)

breading:
a flour and seasoning mixture used to coat the product prior to frying.

burner assembly:
an assembly on gas fryers that houses the pilot light which ignites the gas that heats the fryer.

(based fryers only)

burner tubes:
the tubes through which heated air is forced to heat the shortening.

(based fryers only)

carrier:
a wire frame inside the eight head frypot that holds five racks of product during the Cook Cycle.

casters:
the wheels on bottom of the fryer that allow the unit to roll; casters should be locked when unit is in use and not being moved; casters may be adjusted to help level the fryer.

cleaning solution:
an agent used to clean the frypot; see recommended cleaning procedures.

cold zone:
an area in the bottom of the frypot where shortening is cooler than the area above; the zone allows the crumbs to settle without burning.

cook cycle:
a programmed cycle that cooks a particular product at a preselected temperature and for a preselected time.

cooking load:
the amount of product cooked during a Cook Cycle.

counterweight:
the weights shipped with the fryer that, when installed in the counterweight assembly, enable the eight head fryer lid to lift easily.

counterweight assembly:
an assembly of weights and cables that enable the eight head fryer lid to lift easily.

cover:
a protective lid for the frypot when fryer is not in use.

cracklings:
the crumbs of breading that come off the product during a Cook Cycle.

crumb catcher:
the part of the filter assembly on four head fryers that filters crumbs out of the shortening before the shortening is pumped back into the frypot.
data plate

a label or plate located on the right side panel of the fryer that indicates the fryer type, serial number, warranty date, and other information

drain handle

the handle used to open and close the drain valve

drain interlock switch

a microswitch that automatically shuts off the fryer heat in the event the drain valve is inadvertently opened while the fryer power switch is in the ON position

drain valve

a valve that allows the shortening to drain from the frypot into the filter drain pan; the fryer power switch should be in the OFF position before the drain valve is opened; the drain valve should remain closed at all other times

dumping table

a table onto which the cooked product is dumped after removal from the frypot

fill lines

the four lines marked on the interior rear wall of the frypot that show the proper shortening level (also referred to as level indicator lines)

filter clips closed

the clips are the part of the filter screen assembly that holds the filter envelope closed

filter drain pan

a pan that slides under the fryer into which shortening is drained

filter envelope

a fiber envelope into which the filter screen is placed; the end of the envelope is folded and held closed with filter clips; a part of the filter screen assembly

filter heater switch

control panel switch that activates the strip heater (Model OE-100 only)

filter pan dolly

an optional transport cart for the filter drain pan

filter pump motor

the motor that powers the filtering system

filter screen assembly

an assembly that filters the shortening as it is pumped from the frypot; the assembly is made up of two filter screens, a filter envelope, two filter clips, and a crumb catcher (Note: eight head fryers have two filter screens with no crumb catcher)

filter union

the threaded connection between the fryer and the filter system that can be connected or released without tools

filter valve

the valve that must be opened to pump shortening back into the frypot during the filter cycle (Models OE-100, 320, and 340)

flame sensors (gas fryers only)

the sensors that shut off the gas supply to gas fryers if the pilot lights go out or do not light

fryer brush

a brush included with the fryer used to scrub the inside of the frypot

frypot cooking

the interior portion of the fryer that holds the shortening and the product while cooking

frypot collar

the top flat surface area around the fryer lid
gas control valve (gas fryers only) an automatic dual controller that controls gas to both pilot lights and gas pressure to burners on fryers; if either pilot light goes out, the controller shuts off the gas to the other pilot light

gas valve knob (gas fryers only) the knob that opens and closes the gas control valve

gas pressure regulator (gas fryers only) a device located on the gas control valve that regulates the gas pressure; the pressure specifications are preset at the factory

heat indicator the light that illuminates when the shortening is being heated; the light goes off when the preset shortening temperature has been achieved

heating elements the coils located inside the frypot on electric fryers that heat the shortening

high limit a temperature control that opens and shuts off the heat to the frypot if it senses shortening temperature in excess of 420°F (216°C)

ignition modules two modules that send electrical energy to the spark igniters that ignite the pilot lights on gas fryers

L-shaped brush a brush included with the fryer that is used to clean around the burner tubes and heating elements

landing table another name for a dumping table (see dumping table)

level indicator lines the lines marked on the interior rear wall of the frypot that show the proper shortening level (also referred to as fill lines)

lid assembly an assembly comprised of lid, lid handle, and lid latch which raises and lowers product into shortening on eight head fryers

lid handle a handle that is attached to the lid and is used to lower the lid into contact with the frypot; the handle is then pulled forward and pushed down to lock the lid in place (see lid latch)

lid latch a mechanical catch on the front of the fryer lid that engages a bracket located on the front of the frypot; the latch holds the lid down

manual reset lever resets high limit (OE-100 only)

manual shutoff valve (gas fryers only) a valve located between the fryer and the wall that shuts off the flow of gas from the supply line; this is not the main shutoff valve for the store

melt cycle a heat mode that cycles on and off to slowly melt the shortening when the power switch is on and the shortening temperature is below a certain temperature; the melt cycle prevents scorching of the shortening

pilot orifice (gas fryers only) a controlled opening for the pilot light located on the burner assembly

pilot light (gas fryers only) a small flame that remains burning even when the fryer is not in use; the flame ignites the gas when the fryer is turned on
<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>power/pump switch</td>
<td>a three-way switch located on the front control panel of the fryer that serves as an off/on switch and a filter switch</td>
</tr>
<tr>
<td>product</td>
<td>a food item cooked in the fryer</td>
</tr>
<tr>
<td>rack</td>
<td>the wire grid that slides into the carrier to hold product during the Cook Cycle</td>
</tr>
<tr>
<td>setpoint</td>
<td>a preset cooking temperature; the setpoint is a programmable feature</td>
</tr>
<tr>
<td>shortening mixing system</td>
<td>an automatic system on eight head fryers that periodically uses the filter pump to mix the shortening in the frypot to prevent an accumulation of moisture to minimize the boiling action in the frypot</td>
</tr>
<tr>
<td>shortening shuttle</td>
<td>optional equipment used for shortening disposal</td>
</tr>
<tr>
<td>sift breading</td>
<td>the process of removing clumps from breading</td>
</tr>
<tr>
<td>spark igniters (gas fryers only)</td>
<td>the igniters that create a spark to ignite the pilot lights on gas fryers (see ignition modules)</td>
</tr>
<tr>
<td>standpipe</td>
<td>the pipe through which shortening is pumped back into the frypot after the filtering process is complete</td>
</tr>
<tr>
<td>standpipe assembly</td>
<td>the pipe and fittings that are part of the shortening filtering process</td>
</tr>
<tr>
<td>straight brush</td>
<td>a brush that is included with the fryer that is used to clear the drain in the bottom of the frypot</td>
</tr>
<tr>
<td>strip heater</td>
<td>keeps the filter lines free of solidified shortening when the filter heater switch is turned on (Model OE-100 only)</td>
</tr>
<tr>
<td>temperature probe</td>
<td>a round probe that is located in the inside of the frypot that measures the temperature of the shortening in the frypot; the probe communicates with the control panel</td>
</tr>
<tr>
<td>thermal protector</td>
<td>overheat protection switch for the filter motor that must be manually reset if tripped</td>
</tr>
</tbody>
</table>