HENNY PENNY
Engineered to Last

OPERATION MANUAL

Velocity Series™
KFC Pressure Fryer

PXE-100

FM05-078G

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Safety

Henny Penny fryers have many safety features incorporated. However, the only way to ensure safe operation is to fully understand the proper installation, operation, and maintenance procedures. The instructions in this manual have been prepared to aid you in learning the proper procedures. Where information is of particular importance or is safety related, the words DANGER, WARNING, CAUTION, or NOTICE are used. Their usage is described as follows:

DANGER	**DANGER!** indicates hazardous situation which, if not avoided, will result in death or serious injury.
DANGER!	
WARNING	**WARNING!** indicates hazardous situation which, if not avoided, could result in death or serious injury.
WARNING!	
CAUTION	**CAUTION!** indicates hazardous situation which, if not avoided, could result in moderate or minor injury.
CAUTION!	
NOTICE	*NOTICE* is used for information considered important regarding property damage.

Chapter 1 Overview

This chapter outlines basic information needed by installers and operators to safely install and operate the appliance.

WARNING **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.**

1.1 Technical Support

Call your local service provider or distributor first. For additional help, call or e-mail Henny Penny (HP) Technical Support at:

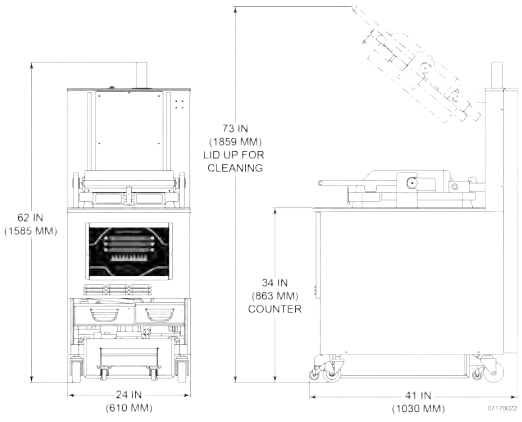
- Inside the U.S.: 1-800-417-8405 or technicalservices@hennypenny.com.
- Outside the U.S.: 1-937-456-8405 or intltechsupport@hennypenny.com.

1.2 Dimensions and Clearance

Ensure the appliance is installed with the required clearance. Also refer to 2.2 *Selecting The Location*, page 5.

Table 1-1 Dimensions and Clearance

Dimensions		
Height	62.00 in.	(1585 mm) to top of stack
Height	73.00 in.	(1859 mm) lid up to clean
Width	24.00 in.	(610 mm)
Depth	41.00 in.	(1030 mm)
Clearance		
Top	6 in.	(152 mm) lid up to clean
Sides	6 in.	(152 mm) air flow
Back	6 in.	(152 mm) air flow
Front	38 in.	(965 mm) remove drain pan



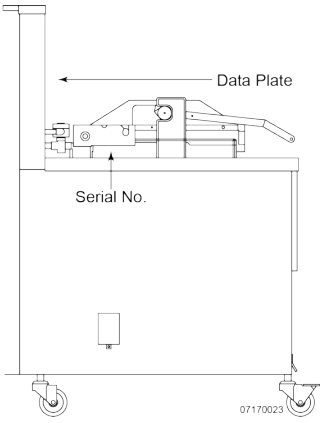
1.3 Operating Specifications

Review the information below to become familiar with the appliance operation.

Table 1-2 Operation Specifications

Pressure	
Operating pressure	12.0 psi
Safety valve setting	14.5 psi
Heating	
2 immersed elements: each with three heaters.	8500 watts
Capacity	
Product	24 lbs. (11 kg) 8 heads of chicken
Fry VAT Oil	83 lbs. (37.6 liters)
Oil Reservoir	15 lbs. (6.8 liters)

1.4 Data Plate Location



A data plate located on the front shroud to the left of the nylatron filler strip identifies the fryer model, serial number, warranty date and other information. In addition, the serial number is stamped on the outside of the counter top.

Chapter 2 Unpacking and Installation

This chapter outlines the unpacking and installation requirements. Read and follow the instructions carefully.

WARNING **Fryer must be installed and used in such a way to prevent water from contacting the shortening.**

NOTICE

- Any shipping damage should be noted in the presence of the delivery agent and signed prior to his or her departure.
- Installation of this unit should be performed only by a qualified service technician.
- This appliance is not intended to be operated by means of an external timer, extension cord or a separate remote control system.

2.1 Unpacking the Appliance

Carefully remove the shipping crate and packing.

WARNING

- **Take care when moving the fryer to prevent personal injury. The fryer weighs approximately 877 lbs (398 kg).**
- **Do not puncture the fryer with any objects such as drills or screws, as electrical shock or component damage may result.**

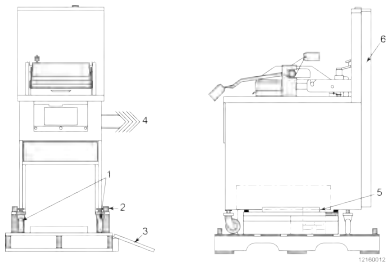
CAUTION **To avoid personal injury, all counterweights must be installed and secured before attempting to unlatch the lid.**

1) Cut and remove the plastic bands from the packing box.
2) Remove the packing box lid, and then lift the remaining packing box sides off the appliance.
3) Remove the 4 corner packing supports.
4) Cut the stretch film from around the carrier/rack box and remove it from the top of the lid.
5) Cut, remove and dispose of the metal bands holding the fryer to the pallet.

2.1.1 Unloading the Appliance

Carefully remove the appliance from the shipping pallet.

WARNING **The following steps requires a two person lift to prevent injury or damage to the appliance.**



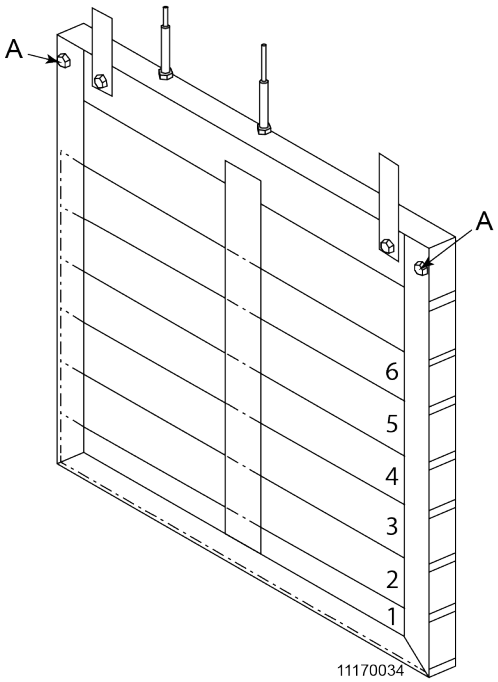
1. Set the casters in a forward position to prevent unexpected movement.
2. While one installer steadies the appliance, to prevent it from falling off the pallet, pry both side rails off the pallet.
3. Remove the counterweights from beneath the appliance.
4. Either prop a ramp against the pallet for each set of casters, and then roll the appliance off the pallet or lift the appliance off the pallet and set it on the floor.

2.1.2 Installing Counterweights

Counterweights are used to offset the heavy lid, which is used to seal the vat during cooking. Carefully install the counterweights in to the rear of the appliance.

CAUTION

- **Do not drop counterweights or personal injury may result. Each counterweight weighs approximately 20 lbs. (9 kg.) each.**
- **To avoid personal injury, all counterweights must be installed and secured before attempting to unlatch the lid.**



1. Remove the top and rear panel covers to access the counterbalance weight carriage assembly.
2. Insert the first through sixth counterweight segments into the counterbalance weight carriage assembly.
3. Remove the two bolts marked A to release the counterbalance weight carriage assembly.
4. Install the rear panel cover, and then the top panel cover.

2.1.3 Finish Unpacking the Appliance

1. Cut warning tags from lid assembly.
2. Open the carrier by unlatching the lock.
3. Remove the accessories from inside the filter drain pan.
4. Remove the protective paper from the fryer cabinet.
5. Clean exterior surfaces with a damp cloth.

2.2 Selecting The Location

The proper location of the appliance is very important for operation, speed, and convenience. Choose a location which provides easy loading and unloading without interfering with the final assembly of food orders. Operators find that frying from raw to finish, and holding the product in a warmer provides fast continuous service. Landing or dumping tables should be provided next to the fryer. The best efficiency is obtained by a straight line operation, i.e. raw in one side and finish out the other side. Order assembly can be moved away with only a slight loss of efficiency. To properly service the fryer, 24 inches (60.96 cm) of clearance is needed on all sides of the fryer including access for servicing by removing a side panel.

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

CAUTION **To avoid fire and ruined supplies, the area under the fryer should not be used to store supplies.**

2.3 Leveling The Fryer

For proper operation, level the fryer from side to side and front to back. Use a leveling tool on the flat areas around the vat collar and a crescent wrench to adjust the castors.

DANGER **Failure to follow these leveling instructions can result in oil overflowing the vat which may cause serious burns, personal injury, fire and/or property damage.**

2.4 Ventilation of the Fryer

The fryer should be located with provision for venting into adequate exhaust hood or ventilation system to permit efficient removal of steam exhaust and frying odors. The exhaust canopy must be designed to avoid interference with the operation of the fryer. 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 Electrical Requirements

WARNING **This fryer must be adequately and safely grounded (earthed) or electrical shock may result. 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. 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.**

The electric fryer requires 208, 240 or 480 volt, three phase, 50/60 Hertz service. The power cord may be already attached to the fryer, or provided at installation. Check the data plate to determine the correct power supply.

A separate disconnect switch meeting over-voltage category III conditions with proper capacity fuses or breakers must be installed at a convenient location between the fryer and the power source. It should be an insulated copper conductor rated for 600 volts and 90° C. For runs longer than 50 feet (15.24 m), use the next larger wire size.

2.6 International Electrical Requirements

Units being used outside the United States may not be shipped with the power cord attached to the unit because of the different wiring codes. The fryers are available from the factory wired for 200, 240, 380 and 415 volts, 3 phase, 50 Hertz service. A terminal block is mounted inside the fryer for the cable wiring.

WARNING

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.

NOTICE:

- CE units require a minimum wire size of 4 mm to be wired to the terminal block. If a flexible power cord is used, it must be HO7RN type.
- 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.

Chapter 3 Initial Startup

3.1 Loading Setpoints

In general, default cook menus with product settings such as Wings, Fries, Fish, etc. are entered in to the unit during the manufacturing process. These preset products can be deleted or modified by operators as necessary to meet business requirements, refer to Chapter 8 *Programming*, page 53. Some companies prefer their operators download proprietary setpoints from a corporate website using a USB drive and then loading them on to the units. This ensures product (cook) menu items are current. It also makes menu item updates across many units quick and easy for operators. The following steps explain the process for loading the software file.

INFO: Sometimes a pre-loaded USB drive is shipped with the unit per customer request.

1) Once the .xml setpoint file is downloaded to a USB drive, insert the USB drive in to the external USB port on the front of the unit.
2) Press and hold the **Main Menu** button until *MAIN* displays. Refer to 4.2 *Controls and Indicators*, page 17.
3) Select **3. USB/DATA** from the Main Menu. Refer to 4.5 *Main Menu*, page 18.
4) Select **2. Setpoints** from the USB/DATA menu.
5) Select **GET FROM USB** from the setpoint menu. A password prompt displays.
6) Enter **123**. Setpoint files display.
7) Press the up and down arrows to locate the file to be loaded.
8) Press the √ or right-arrow button to select the desired file. LOAD? displays.
9) Select **YES**. The file loads. -DONE- displays when complete.
10) Press the √ or right-arrow button. A menu displays.
11) Select **3. REMOVE USB**. Ok To Remove displays.
12) Remove the USB drive, and then press **X** to exit back to normal operation.

3.2 Drain Pan Assembly

Use these steps after disassembling and cleaning the drain pan, to install a new filter and reassemble the filtration system and pan assembly.

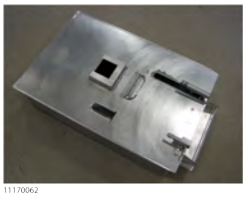
NOTICE

During assembly be sure to apply oil to all O-rings to lubricate and to help prevent tears and oil loss.

1. Slide a filter envelope on to the filter screen so the plug is protruding through the hole.
2. Slide the two handle clamps on to the ends of the filter screen assembly with the handles facing the plug.

3. Place the filter screen in the bottom of the drain pan with the plug side up.
4. Align the hole in the pickup tube with the filter screen plug, and then press down.

5. Position the pick-up tube so that both sides of the guides slide in to the holder bracket notches.
6. Press down on the pick-up tube to confirm it is fully engaged on the filter screen plug.



7. Place the crumb catcher into the drain pan so the legs straddle the filter screen.
8. Place the lid onto drain pan.

9. Push the drain pan into place and lock it into place using the locking latch.

3.3 Initial Oil Fill

Read all warnings and then proceed to 3.3.1 *Purge the Oil Lines*, page 11.

Failure to follow these instructions may result in oil overflowing the frypot which could cause serious burns, personal injury, fire and/or property damage.

- **Do not manually stir the oil at any time.**
- **Brush all cracklings from the frypot surfaces during daily cleaning.**
- **The fryer must be setting level.**

WARNING

- **Be certain the oil is never above the upper oil fill line.**
- **Use recommended product load size (maximum 24 lbs.).**
- **It is recommended that a high quality frying oil be used in the pressure fryer. Some low grade oils have a high moisture content and cause foaming and boiling over.**
- **The oil level must always be above the heating elements when the fryer is heating and at the vat level indicators on the rear of the vat. Failure to follow these instruction may result in a fire and/or damage to the fryer.**

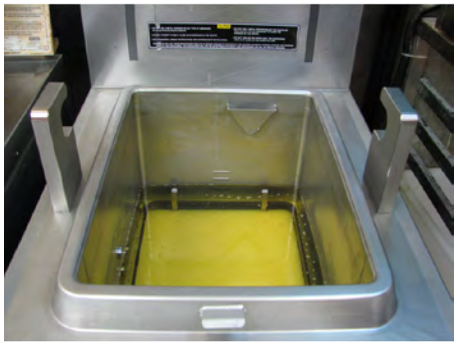
3.3.1 Purge the Oil Lines

Before filling the vat with frying oil for the first time, purge the oil lines to ensure all water or mineral oil is removed. Also wipe out the vat to remove dust or other debris.

1) Turn the unit on.
2) Press and hold the menu button until *MAIN* displays.
3) Select 1. FILTER from the menu.
4) Press the menu button once. The 6. FILL menu displays.
5) Select 6. FILL from the menu. The fill pot (vat) menu displays.
6) Press and hold PUMP (hold). Oil pumps in to the vat.
7) Release the PUMP (hold) button when lines are purged.
8) Wipe out the vat with a clean disposable towel.

3.3.2 Manually Fill the Vat

The vat has 2 level indicator lines inscribed on the rear wall. The upper line is the fill limit for hot oil. The lower line is the fill limit for cold oil.



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1. Fill the vat with cold new oil to the lower limit line.
2. Power on the unit to begin normal operation.

3.3.3 Bulk Fill the Vat

If you have a bulk oil supply system connected to the appliance you can fill the vat using the control panel. The vat has 2 level indicator lines inscribed on the rear wall. The upper line is the fill limit for hot oil. The lower line is the fill limit for cold oil.

1) Turn the unit on.
2) Press and hold the menu button until *MAIN* displays.
3) Select 1. FILTER from the menu.
4) Press the menu button once. The 6. FILL menu displays.
5) Select 6. FILL from the menu. The fill pot (vat) menu displays.
6) Press and hold PUMP (hold). Oil pumps in to the vat.
7) Release the PUMP (hold) button when the oil reaches the oil line.

3.4 Fill the Fresh Oil Tank

The fresh oil tank automatically tops off the oil in the vat when it senses the vat's oil level is low. Operators should add new oil to the fresh oil tank as needed. Do not add new oil directly to the vat unless performing an oil disposal cycle. Refer to 7.8 *Oil Disposal*, page 39 for oil disposal steps.

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After three failed attempts to fill the vat from the fresh oil tank, the fill oil tank message displays:

- The upper display reads FILL OIL TANK.
- The middle display flashes, representing the location of the tank.


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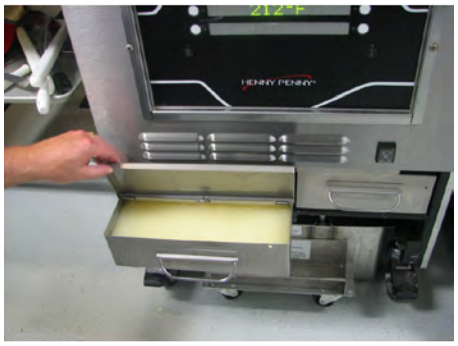
Fill the fresh oil tank by doing the following:

1. Pull out the fresh oil tank.
2. Open the fresh oil tank lid and locate the marks on the inside wall of the tank.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3. Using new oil, fill the fresh oil tank to the marks on the inside of the tank.
4. Shut the fresh oil tank lid, and then slide back into position.
5. Press the √OK button on the control panel.

Chapter 4 Operation

4.1 Operating Components

This section lists the major components of the fryer.

Figure 4-1 KFC

Item No.	Description	Function
1	Steam-Stack and Safety Release Valve	• The Steam-Stack houses the dead-weight. It releases steam when the vat is pressurized above 12 PSI, which is optimal for cooking. • The Safety Release Valve functions as a safety and actives when pressure rises above 14 PSI. It should never be used to release pressure from the vat during a normal cook cycle.
2	Locking Roller Bearing	A part of the high pressure locking system, the roller bearings on each side of the lid lock in to each of the hook arms (4) in the down (sealed) position.
3	Lid Gasket	Seals the lid to the vat so 12 lbs. of pressure can be maintained throughout the cooking cycle.
4	Lid Hook Arms	A part of the high pressure locking system, there are two lid hook arms that accept the roller bearings (2) which holds the lid in the down (sealed) position.

Item No.	Description	Function
5	Movable Rear Caster Wheel	Provides mobility for precise positioning of the appliance.
6	Condensation Pan	A reservoir that holds excess condensation (water) that wicks from the product cooking in the vat.
7	Stationary Front Caster Wheel	Provides stability for precise positioning of the appliance.
8	Oil Drain Pan	Oil in the vat is drained in to this pan for cleaning, filtering and disposal.
9	Fresh Oil Tank	Filled with new oil, the appliance pulls fresh oil from this reservoir when the low oil sensor detects additional oil is needed. Never over fill the reservoir or vat.
10	Power Switch	Turns the power (electricity) to the appliance on/off. To ensure the complete deactivation of the appliance and all its components, unplug the unit from the wall outlet.
11	Control Panel (Board)	Used to program, control and operate the appliance.
12	Carrier Slides	A multi tray carrier, which holds up to 8 head of product, slides on to the arms and is raised and lowered in to the vat of oil as the lid is raised and lowered.
13	Lid	The lid seals the vat during the cook cycle. It slides up and down with the aid of counter weight assembly. A temporary non-pressurizing latch on the front keeps the lid in the down position while engaging the high pressure locking handle. Always use the high pressure locking handle during a cook cycle.

4.2 Controls and Indicators

This section provides an overview of the control board.

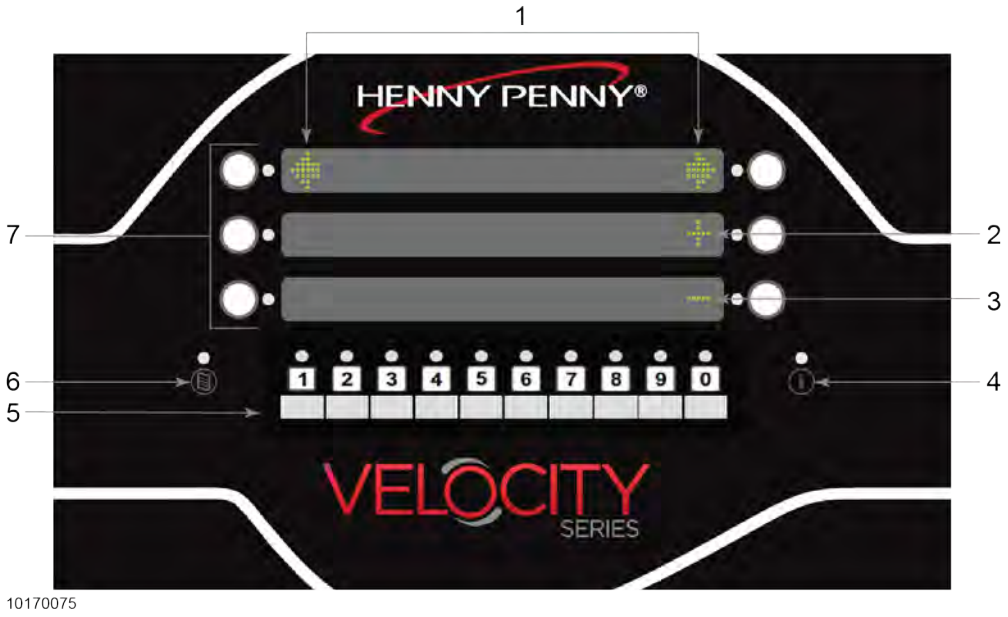


Figure 4-2 KFC

Item No.	Feature	Function
1	Arrow Icon	Arrow buttons are used to navigate menus.
2	Plus Sign Icon	Used to change the value of the currently displayed item.
3	Minus Sign Icon	Used to change the value of the currently displayed item.
4	Info (Information) Button	• Press once to display the pressure and temperature. • Press twice to activate the wipe feature. • Press three times to access the last filter information.
5	Product Buttons	Used as pre-programmable product buttons.
6	Main Menu Button	Press and hold to access the Main menu.
7	Action Buttons	When a light illuminates or an icon displays next to a button it is active, press the button to perform the displayed action.

4.3 Action Buttons

The functions of the action buttons can vary based on the nature of the currently displayed setting:

- Arrow buttons are used to navigate (step through) programmable items.
- Small triangle symbols highlight the value of the currently displayed item.
- Number buttons, or plus and minus buttons (+,-) are used to change the value of the currently displayed item.
- Numeric values are entered calculator style using the number buttons.
- Alphanumeric text values are entered using the number buttons to select characters from a scrolling list of all available characters for the currently active language.
- Multiple-choice items, where two or more predefined options are available, are selected by using the plus and minus buttons (+,-) to scroll through the list of available options. For example, the plus and minus buttons (+,-) might be used to choose Yes or No for a particular setting, or to choose On or Off, or to step through a list of several options like English, French, German, Spanish, etc.

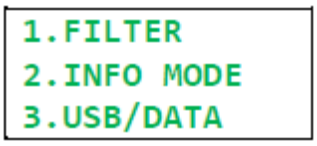
4.4 Mode Overview

Some options appear multiple times throughout the menus but behave differently depending on the mode the unit is logged in to, such as normal operation verses manager or technician mode. A hard coded password is used when logging in to a secure mode to protect the integrity of the system settings from accidental or malicious actions. Also, some options are intentionally redundant such as the exit menu which always displays as the last menu item with the same functionality regardless of mode or menu.

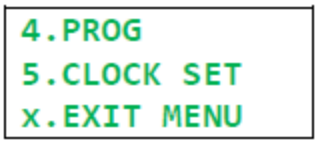
4.5 Main Menu

Access the main menu by pressing and holding the Main Menu button, located at the lower-left corner of the control panel. Once the menu activates, release the button. To select a menu item, press and release the lighted button next to it. Menu items may activate other menus or may activate various programming modes. If a function menu has multiple pages, press and release the Menu button to step through them. After the last page of the menu, the display circles around to the first page again. The x. EXIT MENU option, if available, always appears as the last item in the function menu. Select the x. EXIT MENU option to exit the menu without choosing any of the offered items. The main menu options display as follows:

Menu (screen) 1



Menu (screen) 2



4.6 Menu Structure

This section provides a high level visual overview of the menu structure.

MAIN Menu

1.FILTER	4.PROG
2.INFO MODE	5.CLOCK SET
3.USB/DATA	x.EXIT MENU

FILTER Menu

1.QUICK ↓↑	4.DRAIN →⎿_⎾	7.DISPOSE	x.EXIT MENU
2.DAILY ww—	5.FILL ←⎿_⎾	8.CLEAN-OUT	
3.POLISH ⮌	6.FILL ←ATO	9.FILL ←BULK	

"ww—" = brush icon

"⎿_⎾" = drain pan icon

USB/DATA Menu

1.REPORTS	4.REFLASH SW
2.SETPOINTS	x.EXIT MENU
3.REMOVE USB	

PROG Menu

1.PRODUCTS	4.DATA COMM	7.TECH MODE
2.COOK MENUS	5.HEAT CTRL	8.STATS MODE
3.SPCL PROG	6.FLTR CTRL	x.EXIT MENU

4.7 Display Options

To change the display option see 8.5 *Special Programming*, page 63 and the Chapter 8 *Programming*, page 53 for information on setting up menus. This section describes three individual display options.

4.7.1 4 + Title Option

The 4+TITLE option displays up to four cook items along with the title of the menu.

- When in a cook menu, the title of the menu displays in the top section.
- Pressing the left or right arrow button allows you to scroll through each menu option.
- Pressing the item you want to cook starts the heating process.
- DROP► is displayed when the unit is ready to cook the selected item.

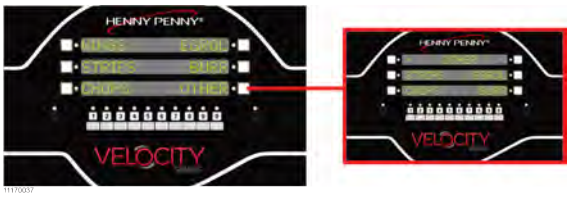
4.7.2 5 + Next Option

The 5+NEXT option shows up to five cook items, along with a button that steps to the next cook menu.

All the cook options are displayed on the screen with the bottom-right reading next►. Press **next►** to access the next set of cook options.

4.7.3 6 Items Option

The 6 ITEM option lets the user control all six items on the cook menu.



If there is more than one cook menu, the user must program navigation links to other menus. If there are more than 6 products, and this option is selected, one of the buttons must be designated as a link to a sub-menu, or those options will not be accessible.

Chapter 5 Oil Maintenance

This unit was designed to operate with a reduced amount of oil as compared to previous models. Additionally it is designed with software driven controls that optimize oil life. Typically operators can expect 30 days of useful life from one vat of oil before replacement is required. These results vary based on the amount and frequency of product cooked and the operators adherence to a consistent maintenance schedule, which includes operator specific settings, filtering and polishing frequency, and cooking habits.

- To lengthen oil life and to keep product quality high do not skip oil filtration.

NOTICE:

- The proper level of cooking oil is automatically maintained as long as the fresh oil tank is filled. See 3.4 *Fill the Fresh Oil Tank*, page 13 for procedures for filling the fresh oil tank.

5.1 W.A.S.S.H.

W.A.S.S.H. is an acronym that Henny Penny uses to describe the environmental elements that breaks down oil prematurely, shortening the useful life of the oil, which drives up the cost of ownership. They are as follows:

- Water - Moisture naturally occurring in product along with other sources of water degrades oil. Reducing water contamination by filtering often and cleaning off excessive ice crystals before dropping product can extend the life of the oil.
- Air - Oil slowly oxidizes when it is in contact with air. Properly maintaining the fryer mechanically and hygienically, and following recommended cooking procedures can reduce oil usage. Close the lid when the unit is not in use.
- Salt - Salt within product and breading makes its way in to the oil during the cooking process. Reducing additional salt contamination by following best practices when breading, cooking, and seasoning product increases oil life. Never season or shake excess breading off over a vat of oil.
- Soap - Soap residue, even in undetectable amounts, left behind after the washing process degrades oil. Ensure vats are rinsed thoroughly after washing to protect oil life.
- Heat - The controls are designed to make frying product the most efficient process as possible. Following best practices when using the Henny Penny fryer ensures the longest oil life possible. One best practice is selecting a product menu and placing the fryer in Cool Mode when not in use.

5.2 Boil-Over Prevention

The following rules are provided to prevent personal injury to the operator and damage to the appliance. Failure to follow these instructions can result in oil overflowing the vat which may cause serious burns, personal injury, fire and/or property damage.

WARNING

- **The oil may be stirred only during the morning start up procedure. Do not stir the oil at any other time.**
- **Brush all cracklings from vat surfaces during the vat clean out process.**
- **Make sure the unit is sitting on a stable surface and has been leveled during installation before use.**
- **Be certain the oil is never above the vat upper fill line.**
- **Be certain that the gas control valve and burners are properly adjusted (gas units only).**
- **Do not overload the racks with product (24 lbs. (10.9 kg) maximum), or place product with extreme moisture content into racks.**
- **Always use a high quality frying oil. Some low grade oils have a high moisture content and cause foaming and boiling over.**
- **When it is necessary to drop frozen product, dip the basket of product in the oil for just a moment and then remove. Wait a moment and then place the basket of product back in to the vat, and then start the timer.**

5.3 Filtering

Filtering prolongs the life of the oil, the unit as well as improves product quality. There are various ways to filter the oil. As an example, a quick filter automatically runs between cook cycles to clean the oil and remove debris from the vat. A daily filter is run at the end of the day to thoroughly clean the unit. A polish is a prolonged filtration cycle used to extend the useful life of the oil. This section explains how to access and navigate the filtration menus.

WARNING

With prolonged use, the flashpoint of the oil—the point at which oil bursts in to a flame—is reduced. Discard oil immediately if it shows signs of excessive smoking or foaming. Serious burns, personal injury, fire, and/or property damage may result.

INFO: Drain the oil at 250° F (121° C) or less. Higher temperatures cause cracklings to burn on the steel vat surfaces after the oil has drained.

5.3.1 Filter Menus

1) Press and hold the **Menu** button until *MAIN* displays. Refer to 4.5 *Main Menu*, page 18.
2) Select **1. FILTER** from the menu. Menu options display.
3) Push the **Menu** button repeatedly to access additional menus.

Menu (screen) 1	Menu (screen) 2	Menu (screen) 3	Menu (screen) 4
1.QUICK ↓↑ 2.DAILY ww— 3.POLISH ⮌	4.DRAIN →⎿_⎾ 5.FILL ←⎿_⎾ 6.FILL ←ATO	7.DISPOSE 8.CLEAN-OUT 9.FILL ←BULK	x.EXIT MENU
"ww—" = brush icon	"⎿_⎾" = drain pan icon		

5.3.2 Quick Filter

The 1. QUICK option allows operators to perform a quick filter of the oil on-demand. A quick filter runs automatically after every cook cycle. During the filtering cycle the oil does not fully drain. It maintains a constant level during filtering. Arrows pointing up and down with a sequence of tracing light displays.

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1. Select 1. QUICK FILTER. A confirm prompt displays. If the operator selects:

- NO x, the display returns to the previous menu.
- √ YES, the drain opens automatically and the oil begins filtering.

After a few moments, the drain closes and the oil returns to the vat. When the vat is close to full, the control panel chirps and a display timer starts counting down.

If the unit does not detect the oil returning to the vat and displays IS POT FILLED?, check the oil level to confirm the vat is full.

If the oil is:

- Level with the hot fill line on the back of the vat, press √ YES.
- Not level with the hot fill line on the back of the vat, press NO x. The filter pump motor runs for an additional 30 seconds and pumps oil from the drain pan.

5.3.3 Daily Filter

The 2. DAILY option allows operators to perform a daily filter of the oil and a wash cycle if desired. This filter cycle drains the oil from the vat completely enabling the user to clean the crumbs out of the vat and wash then down the drain. The crumb catcher in the drain pan holds the debris and the filter cleans the oil.

1. Select 2. DAILY. A confirm prompt displays. If the operator selects:

- NO x, the display returns to the previous menu.
- √ YES, the drain opens automatically and the oil begins draining. As the oil drains a brush symbol displays. Then three prompts display: FILL, WASH, DRAIN.

The control attempts to detect when the pot does not empty properly. The control monitors the main temperature probe, and looks for it to begin cooling at a predetermined rate, as evidence that the oil has drained down below the probe and the probe is now air cooling. If by the end of the initial -Draining- step, the control has not detected sufficient temperature cooling on the main temperature probe, the control activates a display that graphically represents a blocked drain, and displays the messages DRAIN BLOCKED?, CLEAR THE DRAIN. The display continues until the expected cooling rate is observed on the main probe, or until the operator presses a button to acknowledge the message.

Do the following:

2. Select the WASH option and the wash cycle begins, WASHING displays. Once completed, the display returns to the previous menu. Press STOP at any time to discontinue wash.

3. Press FILL to return the filtered oil to the vat. After a few moments, the drain closes and the oil returns to the vat. When the vat is close to full, the control panel chirps and a display timer starts counting down. Press STOP at any time to discontinue fill.

If the unit does not detect the oil returning to the vat or if the vat sensor detects the oil is below the full line the message IS POT FILLED? displays. Check the oil level to confirm the vat is full. If the oil is:

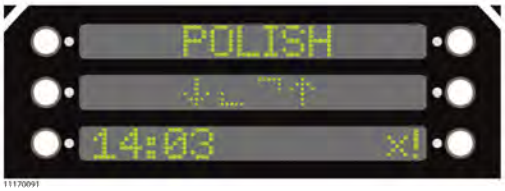
- Level with the hot fill line on the back of the vat, press √ YES.
- Not level with the hot fill line on the back of the vat, press NO x and the filter pump motor runs for an additional 30 seconds.

5.3.4 Polish

The 3. POLISH option extends the usable life of the oil by removing debris through an extended polishing (filtration) process. An automatic polish to help increase the life of the oil automatically occurs during the morning startup, after every cook cycle, and during the daily filter. To manually start a polish, do the following:

1. Press 3. POLISH. A confirm prompt displays. If the operator selects:

- NO x, the display returns to the previous menu.
- √ YES, the drain opens automatically and the oil begins draining. Downward pointing arrows display indicating the vat is draining.



A 15 minute timer displays and starts. The oil cycles repeatedly through the drain pan filtration system until the timer expires, ultra cleaning the oil, also referred to as a polish.

When the polish cycle completes, the display indicates that the oil is returning to the vat. The control panel chirps and a timer starts. Once the timer counts down, IS POT FILLED? displays.

If the unit does not detect the oil returning to the vat or if the vat sensor detects the oil is below the full line the message IS POT FILLED? displays. Check the oil level to confirm the vat is full.

2. If the oil is:

- Level with the hot fill line on the back of the vat, press √ YES.
- Not level with the hot fill line on the back of the vat, press NO x and the filter pump motor runs for an additional 30 seconds.

Chapter 6 Cooking

6.1 Start-up

If the oil is below 180° F (82° C), with the Main Power switch in the ON position, the display flashes START UP and AUTO MELT. The oil heats slowly to prevent scorching of the oil. The heat cycles on and off to slowly heat the oil. When the oil temperature reaches 215° F (102° C), Auto Melt mode terminates and the fryer begins heating up to the Auto Mix temperature of 360° F (182° C). During Start-up, the display informs the user by displaying a bar graph to represent the stages of the start-up process. These stages consist of the following:

- Melt (Mlt) - Auto Melt mode.
- Mix (Mix) - Automatic filter to ensure oil is mixed to prevent cold pockets.
- Top Off (Top) - Checks to see if oil level is filled to the proper mark. If the unit senses the oil level is low, it completes an Auto Top Off.
- Polish (Pol) - The unit completes a polish cycle.

- During each stage, the bar graph fills as each stage completes.
- The duration of each stage depends on the temperature of the oil at the initial start and the programmed setpoints.
- Once start-up is complete, the display goes to the main cook menu and is ready for operations.

6.2 Heating Times

Typical heating times and temperatures are as follows.

Table 6-1 Temperature and Timing

Function	Minutes	Temperature	Description
Melt	13 Min.	71 to 215 F (21 to 110 C)	
Mix	7 Min.	325 F (162 C)	Unit displays Insert Pan. Press **X** to delay 2 Min. When oil pan is detected, oil drops to complete the mix.
Top	5 Min.		Unit heats oil and checks level probe, adds oil if needed.
Polish	2 Min. first polish and 15 Min. for each additional polishes	325 to 360 F (162 to 182 C)	

6.3 Lid Operation

DANGER

- **The lid handle must be fully latched prior to starting a cook cycle or pressurized scalding oil and steam may escape the vat.**
- **The vat is under pressure during the cook cycle and should not be opened until the pressure inside the vat drops to 0 PSI. Lifting the lid handle or opening the lid while the vat is under pressure releases pressurized scalding oil and water laded vapors.**
- **Do not operate without the lid cover in place and all components installed.**
- **Do not tamper with any component of the lid's locking mechanism.**
- **Failure to follow these rules can cause serious personal injury to the operator.**

NOTICE: Always lower the lid handle before attempting to raise the lid, or damage to the lid may result. If the lid becomes difficult to operate, stop using and call for service. This indicates the counterweight cables are worn and need replaced.

6.3.1 Closing the Lid

There are two mechanical lid latches. The front lid latch just keeps the lid in the down position. It can not be used to seal the lid for pressure cooking. To pressure cook product the lid handle must be fully engaged in the forward position and locked down before beginning the pressure cooking cycle. If not, the vat will not build pressure. Once pressure builds inside the vat a mechanical safety latch locks the handle in the down position to prevent the lid from being opened under pressure. To pressure cook product do the following:


1. Pull the lid down until it latches.
2. Pull the lid handle forward until it stops.


3. Lift up on the lid handle until it stops.
4. Pull the lid handle forward until the roller bearings seat in to the hook arms.

5. Push the lid handle down until it stops.

6.3.2 Opening the Lid

There are two mechanical lid latches. The front lid latch just keeps the lid in the down position. It can not be used to seal the lid for pressure cooking. The lid handle must be fully engaged and locked in the down position for pressure cooking to work. During the cooking cycle pressure builds to 12 PSI to facilitate a quicker cook cycle. Pressure releases according to the programmable cook cycle. Typically near the end of the cycle. Once the vats internal pressure drops low enough, the mechanical safety latch disengages and allows the lid handle to be raised.

DANGER **The vat is under pressure during the cook cycle and should not be opened until the pressure inside the vat drops to 0 PSI. Lifting the lid handle or opening the lid while the vat is under pressure releases pressurized scalding oil and water laded vapors.**

The pressure inside the vat must be fully released before lifting the lid handle. To check the internal vat pressure, press the Info (information) button on the lower right corner of the control panel. The pressure remaining in the vat displays. Wait for the pressure to drop to 0 PSI before lifting the handle.

1. Gently raise the lid handle until it stops.
2. Push the lid handle back until it stops.

3. Lower the lid handle.
4. Push the lid handle back.

5. Unlatch the front lid latch and raise the lid.

6.4 Product Racking Recommendations

The bottom position is to be avoided on small loads because it is closer to the cold zone. The oil is cooler at the bottom of the vat and hotter at the top. With bigger loads, however, there is generally enough turbulence in the oil that the bottom rack gets sufficient heat. The top position is to be avoided on small loads because of insufficient oil coverage. With bigger loads, the top rack has good oil coverage because the volume of product on the lower racks raises the overall oil level.

Table 6-2 Product Racking Recommendations

General Market	2 Head Bags
• 8-Head: Loads all four racks as shown above. • 6-Head: Loads racks 1, 2, and 3 only. • 4-Head: Loads racks 2 and 3 only. • 2-Head loads rack 2 only.	• 4-Bags: Loads all four racks as shown above. • 3-Bags: Loads racks 1, 2, and 3 only. • 2-Bags: Loads racks 2 and 3 only. • 1-Bag: Load rack 2 only.

FULLY LOADED WITH 8-HEAD
(ALL 4 RACKS USED)

6.5 Pressure Frying

Follow the procedure below to complete a cook cycle.

WARNING **Do not overload the racks with product (24 lbs. (10.9 kg) maximum), or place product with extreme moisture content into fryer. Doing so can cause boil over of the oil and may cause personal injury.**

INFO:

- Push the info button to see setpoint and true temperature of oil.
- The heat cycles (pulses) on and off approximately 10 degrees before the setpoint temperature, to help prevent overshooting the setpoint temperature (proportional control).

1) Make sure the vat is filled to the lower limit cold oil line. The line is etched in the back of the vat.
2) Turn the power switch to the ON position.
3) Wait, allow fryer to heat until the setpoint is reached.
4) Before loading product onto the racks, lower the racks into the oil to keep the product from sticking to the racks.
5) Load product as necessary onto the rack(s).
6) Slide the racks of breaded product onto the carrier on the lid, starting with the bottom tier, to prevent damaged product.
7) Select product button and allow temperature to reach setpoint. Once the setpoint has been reached, the display reads DROP.
8) Lower the lid until the front temporary lid latch locks into place.
9) Pull the lid handle forward and push down in to the locked position.
10) Press the start button.
11) At the end of the cycle, pressure begins venting automatically as an alarm sounds and the display shows DONE. At this time, press the DONE button.
12) Press the Info (information) button on the lower-right corner of the control panel to view the remaining pressure in the vat.
13) Wait, until the pressure (PSI) reaches 0.
14) Unlock and raise the lid handle, and then unlatch the front lid latch. Oil and water laded vapors escape from beneath the lid.
15) Using Personal Protective Equipment (PPE) such as gloves and rack handles, remove the racks of product from the carrier starting with the top rack.

6.6 Quick Filtering

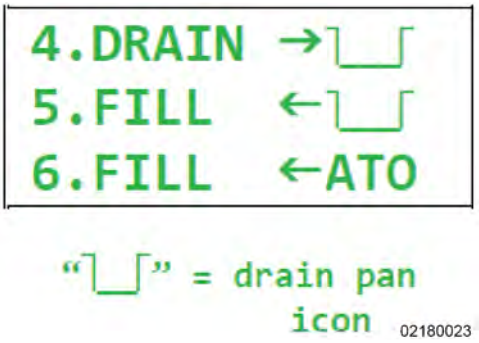
A quick filter runs automatically after every cook cycle. During the filtering cycle the oil does not fully drain. It maintains a constant level during filtering. Refer to 5.3.2 *Quick Filter*, page 23.

6.7 Auto Top Off (ATO)

The fryer is equipped with an automatic top off feature that keeps the oil level in the vat within the operating limits. To function properly operators must keep the fresh oil tank filled

with oil. Refer to 3.4 *Fill the Fresh Oil Tank*, page 13. Occasionally when a manual fill is required, do the following:

INFO: Do not manually fill the vat with oil using the ATO feature when the oil is cold.



INFO: Be very careful and **DO NOT** overfill the vat with oil.

1. Press and hold the menu button until *MAIN* appears on the display.
2. Press the number one product button to enter the filter menu.
3. Press the right arrow until 6. FILL <- ATO displays.
4. Press and hold the select button next to 6. FILL <- ATO. Oil pumps from the reservoir into the vat.

6.8 Automix

The automix feature runs automatically as required by the fryer to keep the oils temperature consistent throughout the vat. The fryer drains two inches of oil into the drain pan then pumps it back into the vat to reduce cold spots and keep the oil thoroughly mixed.

WARNING

Never manually stir the oil. Moisture and cracklins settles to the bottom of the vat during normal operation. Manually stiring the oil brings the water and hot oil into contact and may cause foaming and/or boil over of the oil, which may cause personal injury.

Chapter 7 Maintenance

The following cleaning procedures ensures the fryer is sanitary while keeping product quality high and downtime to a minimum.

7.1 Regular Maintenance Schedule

This appliance requires care and proper maintenance. The table below provides a summary of scheduled maintenance. The following table provide preventive maintenance procedures to be performed by the operator.

Table 7-1 Regular Maintenance Schedule

Procedure	Frequency
Change the oil	As required - Refer to 7.8 *Oil Disposal*, page 39
Change the filter envelope	Daily - Refer to
Clean the vat	Daily - Refer to 7.9 *Clean-Out Mode*, page 48
Clean the drain pan	Daily - Refer to 7.3.5 *Clean the Drain Pan*, page 35
Clean the condensation box	Daily - Refer to
Clean ATO reservoir	Weekly - Refer to 7.3.4 *Clean the Fresh Oil Tank (ATO)*, page 35
Clean the Caster Wheels	Weekly - Refer to 7.4 *Clean the Castor Wheels - Weekly*, page 36
Clean the lid gasket	Monthly - Refer to 7.7 *Clean the Lid Gasket - Monthly*, page 38
Clean the nylatron filler strips	Monthly - Refer to 7.5 *Cleaning Nylatron Filler Slides - Monthly*, page 36
Clean the deadweight assembly	Monthly - Refer to 7.6 *Cleaning Deadweight - Monthly*, page 36

7.2 Wipe Mode

This appliance is equipped with a WIPE mode. This mode gives 10 seconds to wipe the control board clean of any debris without activating the control buttons.

1. Press the Info (information) button twice.
2. Press the √ button to confirm.
3. The control board starts a count down timer set for 10 seconds.
4. Once the 10 seconds expires, the control returns to the previous screen.

7.3 General Cleaning - Daily

Always clean the fryer after the oil has cooled, and be sure to cover the vat(s) with a clean sheet pan to protect the oil from debris, water and soap splashes during the cleaning process.

- Empty the condensation drain pan and rinse it out with clean water.
- Clean the drain pan and replace the filter.

7.3.1 Daily Filter

A daily filtering of the oil is essential to prolong the life of the oil and the unit. This unit uses less oil than traditional fryers so attention must be paid to the build-up of crumbs and cooking debris in the bottom of the vat(s). A quick filter runs after every cook cycle to keep the oil clean and debris to a minimum; however, a daily filter allows for a more thorough cleaning of the oil, vat, drain pan and a filter change.

1) Perform a daily filter cycle. Refer to 5.3.3 *Daily Filter*, page 24.

7.3.2 Wipe Down the Unit

Wiping down the outside of the unit is a sanitary practice that presents a professional appearance and improves product quality. While the unit is in Daily Filter mode do the following:

1) After covering the vat(s) with a sheet pan, use warm, soapy water and a cleaning sponge to wipe down the external components of the unit. Keep the sponge dry as possible to prevent the warm, soapy water from splashing in to the vat, contaminating the oil.
2) Clean around the vat band being careful not to drip water or drop debris in to the vat.
3) Wipe off the nylatron filler strips. Once a month a more thorough cleaning is required. Refer to 7.5 *Cleaning Nylatron Filler Slides - Monthly*, page 36.
4) Once the daily filter cycle is complete, clean the control board after enabling Wipe Mode. Refer to 7.2 *Wipe Mode*, page 33.

7.3.3 Empty the Condensation Tank

Excess condensation (water) forms in the vat during the cook cycle and drains in to the condensation tank. The tank is equipped with a weep hole to indicate the tank is full and needs to be emptied. A little oil mixed with the water is normal. If the condensation tank is full of oil, and very little water, this typically means the vat is overfilled with oil or product. Overfilling the vat causes the oil to drain in to the condensation tank.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To empty the condensation pan, do the following:

1. Slide the condensation pan completely out of the appliance.
2. Empty the water in to a sink with an oil trap.
3. Clean the tank with warm soapy water, and then rinse and dry thoroughly.
4. Slide the condensation pan back in to the appliance. Ensure the lid is up and the weep hole is positioned in the upper, right corner.

7.3.4 Clean the Fresh Oil Tank (ATO)

The fresh oil tank (box) is a storage tank of fresh oil for the Automatic Top Off (ATO) system. Daily pull the tank out half-way, lift the lid, and then top off with fresh oil. As necessary, pull the tank out, clean, and then refill with fresh oil. While the daily filtering process is cycling do the following:

NOTICE: Inspect the fresh oil tank o-rings and replace if damaged or every 90 days.

1) Pull out the fresh oil tank halfway and open the lid. Refer to 3.4 *Fill the Fresh Oil Tank*, page 13 and Chapter 4 *Operation*, page 15.
2) Pull the tank out half way and then lift up, continue pulling out the tank.
3) Empty the oil in to a bulk oil disposal container.
4) Clean the tank with warm soapy water, and then rinse thoroughly.
5) Dry thoroughly, and then install the tank back in to the unit.
6) Add fresh oil to the tank as required.
7) Close the lid and carefully push the fresh oil tank back in to place.

7.3.5 Clean the Drain Pan

The drain pan is a self-contained assembly underneath the unit that filters and polishes the oil to prolong oil life. In addition it catches and holds debris such as breading that falls off product during the cooking cycle. Once the daily filter process completes do the following:

NOTICE: Inspect the drain pan o-rings and replace if damaged or every 90 days.

1) Carefully pull the drain pan assembly out from under the unit.
2) Remove the lid, clean, dry, and then set aside.
3) Remove the crumb catcher, clean, dry, and then set aside.
4) Remove the filter assembly.
5) Remove the filter envelope and discard.
6) Clean, dry, and then set aside the filter assembly components.

7) Clean, dry, and then set aside the drain pan.

8) Refer to 3.2 *Drain Pan Assembly*, page 10, install a new filter envelope, and then reassemble the drain pan.

9) Insert the drain pan under the unit until it latches.

7.4 Clean the Castor Wheels - Weekly

Spray Henny Penny biodegradable, food safe, foaming degreaser (part no.12226) on castor wheels at least once a week as part of the normal cleaning routine. This prevents the long term build up of grease and dirt which can inhibit the normal operation of the wheels. Wheels laden with grease and dirt may stick or stop rolling which can make the fryer wobbly and unstable when moving. An unstable fryer can spill oil or tip over, causing damage to the fryer or serious personal injury.

7.5 Cleaning Nylatron Filler Slides - Monthly

The Nylatron Filler Strips prevent food debris from entering the inside of the unit. Keeping them clean prolongs the life of the strips. Missing, broken or worn strips must be replaced. Or the internal mechanics of the unit becomes clogged with oil and food debris.

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1. Spray Henny Penny biodegradable, food safe, foaming degreaser (part no.12226) on Nylatron filler strips.
2. Raise the lid up and down several times to spread the degreaser.
3. Wipe the Nylatron filler strips to remove food soil, grease, and degreaser residue.

7.6 Cleaning Deadweight - Monthly

The deadweight is key in building pressure within the vat to pressure cook product. If the deadweight is stuck open due to neglect the product will take longer to cook. If the deadweight is stuck shut it becomes a safety concern for the operator, as the vat builds excessive pressure. Remove and clean the deadweight monthly by performing the following maintenance procedure.

DANGER **Do not remove deadweight assembly while fryer is operating or severe burns or other injuries will result.**

WARNING **Allow the steam stack enough time to cool before proceeding with the following steps.**

CAUTION **The deadweight is not captive inside the steam stack and can fall out. Keep the steam stack in the upward orientation or the deadweight can fall out and may cause personal injury or damage to the deadweight.**

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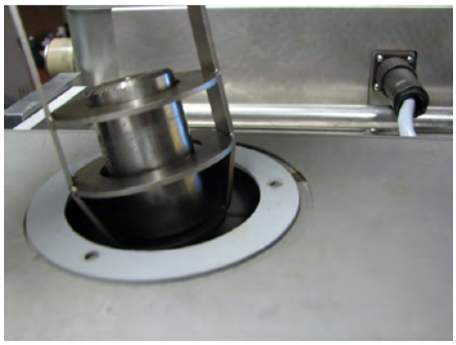
1. Loosen the 3 thumb screws that secure the steam stack to the top of the fryer.
2. Pull the steam stack out of the fryer revealing the deadweight.
3. Clean out the steam stack and ensure any obstructions are removed.
4. Clean the dead-weight orifice at the bottom of the condensation box.



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5. Use a towel to wipe any build up from the dead-weight and gasket.
6. Place the gasket onto the factory location, aligning the 3 screw holes.
7. Place the steam stack back into place and tighten the 3 thumb screws.

7.7 Clean the Lid Gasket - Monthly

WARNING

- **DO NOT REMOVE the gasket retainer screws or retainer to remove the gasket. Damage and personal injury may occur if removed. Remove ONLY the gasket.**
- **Objects can fall and splash hot oil or hot water while performing this procedure. Cover the vat with a sheet pan or drain the vat and allow to cool otherwise serious burns may result.**
- **Lid may be hot. Allow lid to cool before performing this procedure, or burns may result. Performing this procedure during normal operation can cause serious burns.**

Clean the lid gasket every 30 days to prevent steam leaks and to ensure a tight lid seal. The fryer must pressurize quickly and fully to ensure proper cooking of the product. A poorly maintained fryer lid gasket can allow oil and water laden vapors to escape the lid, causing poor fryer performance as well as creating a danger to operators. This procedure may be performed in conjunction with a complete fryer cleaning.

INFO: Henny Penny recommends replacing the lid gasket if blackened, hardened or brittle and every 12 months as part of the fryer's maintenance schedule.

7.7.1 Remove the Gasket

INFO: A quick cleaning may be required prior to removing the gasket to aid in the removal process. Do not use a sharp tool to perform this procedure. Use care not to cut the gasket.

Pull the gasket out from the gasket retainer and inspect. If the gasket is:

- 12 months old or older, blackened, hardened or brittle order a new gasket.
- Less than 12 months old, not blackened, hardened or brittle, proceed to 7.7.2 *Clean the Lid and Gasket*, page 38.

7.7.2 Clean the Lid and Gasket

Cleaning the lid and gasket is a sanitary practice that keeps the oil and product cleaner. Removing cooked on oil and food debris also helps the lid and gasket seal tightly. Clean the gasket by doing the following:

1) Put on Personal Protective Equipment (PPE).
2) Using degreaser or hot soapy water scrub the gasket clean.
3) Use a putty knife or scraping tool to remove cooked on debris from the bottom of the lid.
4) Using degreaser or hot soapy water scrub the bottom of the lid clean.
5) Ensure the gasket channel is free of cooked on oil and/or debris.
6) Use a clean dry towel to dry the bottom of the lid and gasket channel.
7) Clean the rim (top) of the vat where the lid gasket contacts and seals.

7.7.3 Install the Gasket

Replace the gasket by doing the following:

1) Starting at one corner begin pushing the gasket into the lid gasket channel.
2) Continue by pushing all four sides in to the lid gasket channel a few inches at a time along the length of the gasket until completely seated.
3) Close the lid and engage the lid handle.
4) Ensure the gasket is not pinched or the lid hindered.

7.8 Oil Disposal

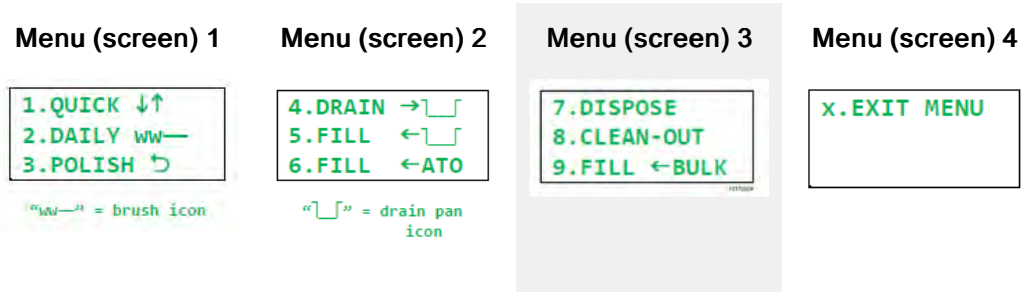
Oil disposal is unique to each fryer. Three unique oil disposal types are available; manual, rear or front disposal.

- The manual method of bulk oil disposal, which requires a mobile cart Oil Disposal Shuttle (ODS), replaces the filter drain pan during the disposal process. The oil is drained directly from the vat in to the cart. Once the cart is full it is removed and taken to a bulk oil container where it is emptied. This process is repeated until the vat is drained of old unusable oil.
- The rear disposal process requires an on site external bulk oil disposal container which is permanently connected to the rear of the fryer by tubing. The oil is pumped from the rear of the fryer to a remote bulk oil container.
- The front disposal method requires a portable tank or external bulk oil disposal container that uses a hose to connect to a spigot on the front of the fryer, just to the left of the drain pan.

The disposal type must be initially selected in the Special Programming menu by the installer at setup. If the disposal method changes over time the setting can be modified as required. Refer to 8.5 *Special Programming*, page 63, SP-17 menu for detailed instruction.

7.8.1 Dispose Menu Overview

Select the 1. FILTER menu, and then press the Main menu button twice to select 7. DISPOSE and perform disposal tasks.



7.8.2 Manual Oil Disposal

This section explains the manual process for draining and disposing of oil. Once the oil has degraded, the vat is drained completely and refilled with new oil. The degraded oil is manually transported to an oil storage container, using an Oil Disposal Shuttle (ODS).

WARNING

Use PPE. Oil can be dangerously hot. Allow the oil to cool to 100 degrees before removing. Hot oil should not be manually transported in a non-approved container, even for short distances. Always use an Oil Disposal Shuttle (ODS) or approved container, such as a metal pan with insulated handles and a locking lid. Ensure the drain pan is empty prior to preforming these procedures. The ODS and all metal pans transfer heat, which can cause serious burns. Pumping hot oil through the ODS damages the pump over time.

NOTICE:

To protect community sewer lines, oil must be trapped and disposed of through bulk removal. Hot oil can coagulate when cooled, which clogs pipes and sewer lines. Always dispose of oil in to an approved bulk oil disposal storage container or approved grease trap. Never pour oil down a public sanitation drain. Henny Penny recommends using an automated bulk oil disposal system, or a manually operated Oil Disposal Shuttle (ODS) to drain degraded oil from the vat and transport it to an approved oil disposal storage container.

7.8.2.1 Access the Dispose Menu

Use the following steps to access the disposal menu.

WARNING

Use PPE. Moving a drain pan containing hot oil may cause splashing and serious burns can result. Always pump the oil back in to the vat from the drain pan and dispose in to the ODS shuttle.

NOTICE: An indicator light displays next to active options during procedure.

1) Press and hold the **Main** menu button until *MAIN* displays. The Main menu displays.
2) Press the **1. FILTER** button. Additional menu items display.
3) Ensure the drain pan is empty and then do the following:
   - If the drain pan is empty, press the **Main** menu button twice, and then continue at 7.8.2.2 *Drain the Oil*, page 41.
   - If the drain pan contains oil:

     a). Press the **Main** menu button once, then press **5. FILL**.

     b). Wait, oil pumps up to the vat.

c). Press the **Main** menu button once, and then continue at 7.8.2.2 *Drain the Oil*, page 41.

7.8.2.2 Drain the Oil

Using an Oil Disposal Shuttle (ODS) drain the oil from the vat by doing the following:

WARNING **Use PPE. The ODS 300 holds approximately half the volume of oil contained in the vat. To prevent splashing and spillage, drain no more than half of the oil in to the ODS 300 at one time.**

1) Put on Personal Protective Equipment (PPE).
2) Remove the drain pan and insert the ODS. Ensure the ODS's lid is open and the drain spigot aligns with the ODS opening.

WARNING!: **Do not overfill the oil disposal shuttle. Hot oil overflowing onto the floor may cause severe burns and / or a fall risk.**

3) Press the **7. DISPOSE** button. The message =DISPOSE= IS CART OR PAN IN PLACE? and YES NO displays.
4) Press the **YES** button. DRAIN (hold) displays.
5) Press and hold the **DRAIN (hold)** button until the ODS is half-full, then release.
6) Remove the ODS carefully to prevent splashing and spillage, and then close and lock the lid.
7) Transport the ODS to an approved oil storage container and empty.
8) Repeat steps 5 through 7, making multiple trips until the vat is empty.

7.8.2.3 Purge the Fittings

Degraded oil remains inside the lines, valves and fittings. To completely purge the degraded oil, do the following:

1) Press the **next►** button. The message =PURGE= Pump new oil push old oil from ports displays.
2) Press the **PUMP** button. The pump runs for a few seconds, new oil pumps in to the vat, then the pump stops.
3) If necessary, press the **PUMP** button again to ensure the lines, valves and fittings are purged.
4) Press the **next►** button. The = WIPE = OPEN DRAIN option displays.
5) Press the **OPEN DRAIN** button. OPENING... displays. Oil drains from the vat. =WIPE= Wipe pot with cloth or paper towel displays.

7.8.2.4 Wipe Out the VAT

To ensure degraded oil does not mix with new oil, do the following:

1) Use a cloth or paper towel to wipe the remaining oil down the vat drain and clean the vat surface.

2) Remove the ODS carefully to prevent splashing and spillage, and then close and lock the lid.
3) Transport the ODS to an approved oil storage container and follow ODS procedures to empty the oil.
4) When done, store the ODS in a safe location.

7.8.2.5 Fill the Vat with Oil

Fill the vat with new oil by doing the following:

1) Press the **next►** button. EXIT DISPOSE? and YES NO displays.
2) Press **YES**. - OFF - displays.
3) Clean and dry the drain pan and install a new filter. Refer to 3.2 *Drain Pan Assembly*, page 10 for instructions.
4) Insert the drain pan under the unit.
5) Align and push the quick disconnect filter tube, on the drain pan, in to the filter tube receptacle on the bottom of the unit.
6) Fill the vat to the lower limit line with fresh oil.
7) Power on the fryer unit and return to normal operation.

7.8.3 Rear Bulk Oil Disposal

This section explains the bulk oil process for draining and disposing of oil. Once the oil has degraded, the vat is drained completely and refilled with new oil. The degraded oil is pumped in to a bulk oil storage container using menu commands from the fryer's control board.

NOTICE: To protect community sewer lines, oil must be trapped and disposed of through bulk removal. Hot oil can coagulate when cooled, which clogs pipes and sewer lines. Always dispose of oil in to an approved bulk oil disposal storage container or approved grease trap. Never pour oil down a public sanitation drain.

7.8.3.1 Access the Dispose Menu

Use the following steps to access the disposal menu. An indicator light displays next to active options during procedure.

1) Press and hold the **Main** menu button until *MAIN* displays. The Main menu displays.
2) Press the **1. FILTER** button. Additional menu items display.
3) Press the **Main** menu button twice. The dispose menu displays.

7.8.3.2 Drain the Oil

Drain the oil from the vat by doing the following:

1) Press the **7. DISPOSE** button. The message DRAIN POT? and YES NO displays.
2) Press the **YES** button. DRAINING displays.
3) Wait. The oil from the vat drains in to the drain pan. When complete, the message =PURGE= Pump new oil push old oil from ports displays.

7.8.3.3 Purge the Fittings

Degraded oil remains inside the lines, valves and fittings. To completely purge the degraded oil, do the following:

1) Press the **PUMP** button. The pump runs for a few seconds, new oil pumps in to the vat, then the pump stops.
2) If necessary, press the **PUMP** button again to ensure the lines, valves and fittings are purged.

7.8.3.4 Wipe Out the Vat

To ensure degraded oil does not mix with new oil, do the following:

1) Put on Personal Protective Equipment (PPE).
2) Use a cloth or paper towel to wipe the remaining oil down the vat drain and clean the vat surface.
3) When done, press the **next►** button. A dispose, pump oil to waste tank message displays.

7.8.3.5 Rear Disposal of the Oil - Only

INFO: If set for Front Disposal—the bulk oil hose is connected to the front of the fryer—continue to 7.8.4.6 *Front Disposal of the Oil - Only*, page 46.

To pump the degraded oil from the drain pan to the bulk oil storage container, do the following:

1) Press the **PUMP** button. STOP displays.
2) Wait. The pump begins siphoning the oil out of the drain pan.
3) When the drain pan is emptied of oil, press the **STOP** button.
4) Continue at next step:

- If you fill the vat manually continue at, 7.8.3.6 *Fill the Vat Manually*, page 44.
- If you fill the vat from bulk continue at, 7.8.3.7 *Fill the Vat from Bulk*, page 44.

7.8.3.6 Fill the Vat Manually

Fill the vat with new oil by doing the following:

1) Press the **next►** button. EXIT DISPOSE? and YES NO displays.
2) Press the **YES** button. CLOSING... and then - OFF - displays.
3) Remove, clean and dry the drain pan and install a new filter. Refer to 3.2 *Drain Pan Assembly*, page 10 for instructions.
4) Insert the drain pan under the unit until it latches.
5) Manually fill the vat, by pouring oil from a container, to the lower limit line with new oil.
6) Power on the unit and return to normal operation.

7.8.3.7 Fill the Vat from Bulk

Fill the vat with new oil by doing the following:

1) Press the **next►** button. EXIT DISPOSE? and YES NO displays.
2) Press the **YES** button. CLOSING... and then - OFF - displays.
3) Remove, clean and dry the drain pan and install a new filter. Refer to 3.2 *Drain Pan Assembly*, page 10 for instructions.
4) Insert the drain pan under the unit until it latches.
5) Press the **Add <- New** button until the oil reaches the lower limit line with new oil.
6) Power on the unit and return to normal operation.

7.8.4 Front Bulk Oil Disposal

This section explains the bulk oil process for draining and disposing of oil. Once the oil has degraded, the vat is drained completely and refilled with new oil. The degraded oil is pumped in to a bulk oil storage container using menu commands from the fryer's control board.

NOTICE: To protect community sewer lines, oil must be trapped and disposed of through bulk removal. Hot oil can coagulate when cooled, which clogs pipes and sewer lines. Always dispose of oil in to an approved bulk oil disposal storage container or approved grease trap. Never pour oil down a public sanitation drain.

7.8.4.1 Access the Dispose Menu

Use the following steps to access the disposal menu. An indicator light displays next to active options during procedure.

1) Press and hold the **Main** menu button until *MAIN* displays. The Main menu displays.
2) Press the **1. FILTER** button. Additional menu items display.
3) Press the **Main** menu button twice. The dispose menu displays.

7.8.4.2 Front Disposal Reminder - Connect the Hose

INFO: Rear dispose systems should always have the hose connected to the fryer, so no such reminder displays.

If set for front disposal (hose), the control displays a reminder to connect the hose between the fryer and the disposal cart (tank). Confirm that the hose is securely connected on both ends—at the tank and at the fryer—then press the **YES** button to proceed.

7.8.4.3 Drain the Oil

Drain the oil from the vat by doing the following:

1) Press the **7. DISPOSE** button. The message DRAIN POT? and YES NO displays.
2) Press the **YES** button. DRAINING displays.
3) Wait. The oil from the vat drains in to the drain pan. When complete, the message =PURGE= Pump new oil push old oil from ports displays.

7.8.4.4 Purge the Fittings

Degraded oil remains inside the lines, valves and fittings. To completely purge the degraded oil, do the following:

1) Press the **PUMP** button. The pump runs for a few seconds, new oil pumps in to the vat, then the pump stops.
2) If necessary, press the **PUMP** button again to ensure the lines, valves and fittings are purged.

7.8.4.5 Wipe Out the Vat

To ensure degraded oil does not mix with new oil, do the following:

1) Put on Personal Protective Equipment (PPE).
2) Use a cloth or paper towel to wipe the remaining oil down the vat drain and clean the vat surface.
3) When done, press the **next►** button. A dispose, pump oil to waste tank message displays.

7.8.4.6 Front Disposal of the Oil - Only

INFO: If set for Rear Disposal—the bulk oil hose is connected to the rear of the fryer—continue to 7.8.3.5 *Rear Disposal of the Oil - Only*, page 44.

To pump the degraded oil from the drain pan to the bulk oil storage container, do the following:

1) Press the **PUMP** button.
2) Wait. The pump begins siphoning the oil out of the drain pan.
3) When the drain pan is emptied of oil, or the bulk oil storage container is full, release the **PUMP** button.

WARNING! Do not overfill the oil disposal shuttle. Hot oil overflowing onto the floor may cause severe burns and / or a fall risk.

INFO: Depending on the size of the bulk oil disposal container, this procedure may need to be performed several times to fully drain the vat. Release the PUMP button at any time to stop pumping.

4) Continue at next step:

- If you fill the vat manually continue at, 7.8.4.7 *Fill the Vat Manually*, page 46.
- If you fill the vat from bulk continue at, 7.8.4.8 *Fill the Vat from Bulk*, page 46.

7.8.4.7 Fill the Vat Manually

Fill the vat with new oil by doing the following:

1) Press the **next►** button. EXIT DISPOSE? and YES NO displays.
2) Press the **YES** button. CLOSING... and then - OFF - displays.
3) Remove, clean and dry the drain pan and install a new filter. Refer to 3.2 *Drain Pan Assembly*, page 10 for instructions.
4) Insert the drain pan under the unit until it latches.
5) Manually fill the vat, by pouring oil from a container, to the lower limit line with new oil.
6) Power on the unit and return to normal operation.

7.8.4.8 Fill the Vat from Bulk

Fill the vat with new oil by doing the following:

1) Press the **next►** button. EXIT DISPOSE? and YES NO displays.
2) Press the **YES** button. CLOSING... and then - OFF - displays.
3) Remove, clean and dry the drain pan and install a new filter. Refer to 3.2 *Drain Pan Assembly*, page 10 for instructions.

4) Insert the drain pan under the unit until it latches.
5) Press the **Add <- New** button until the oil reaches the lower limit line with new oil.
6) Power on the unit and return to normal operation.

7.9 Clean-Out Mode

After the initial installation of the fryer and during every oil change, the vat must be thoroughly cleaned. There are two ways to clean the vat using the clean-out mode, heated and cold soak. Operators can fill the vat with warm water and cleaning solution, enable heat, and then scrub the vat immediately (P.M.) or let it soak overnight cold and scrub it in the morning (A.M.). Cleaning the vat immediately is called a Heated Clean-Out and allowing the vat to soak overnight is called a Cold-Soak Clean-Out. The choice of which type of clean-out an operator uses is set during installation within the software settings. Refer to Drain and dispose of the oil before performing these procedures. Refer to 7.8 *Oil Disposal*, page 39 for instructions.

DANGER

Do not close lid with water and/or cleaner in vat. Water under pressure becomes superheated. When lid is opened, escaping water and steam can result in severe burns.

WARNING

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

NOTICE:

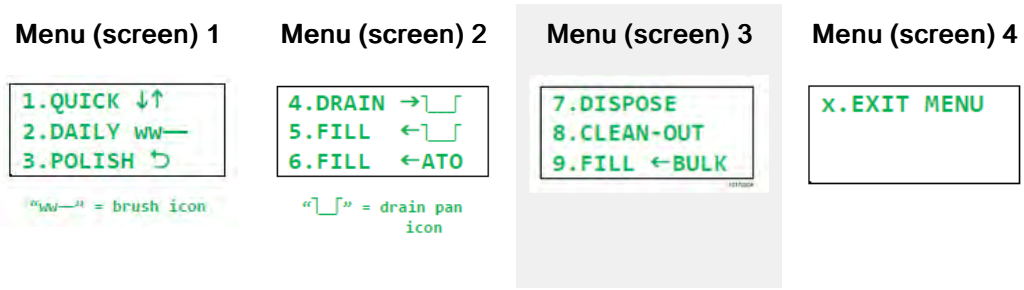
- Do not use steel wool, or other abrasive cleaners or cleaners/ sanitizer containing chlorine, bromine, iodine or ammonia chemicals, as these deteriorate the stainless steel material and shorten the life of the unit.
- Do not use a water jet (pressure sprayer) to clean the unit, or component damage may result.
- Do not bang brushes or scrapers on the pot band. Damage to the pot band may cause gaps around the gasket disallowing pressure to build when sealed.
- Make sure the inside of the vat, the drain valve opening, and all parts that come in contact with the new oil are as dry as possible.

7.9.1 Setting the Clean-Out Mode Type

Operators can choose between a Heated and a Cold-Soak clean-out. To select a clean-out mode refer to 8.5 *Special Programming*, page 63, SP-22 through SP-24.

7.9.2 Clean-Out Menu Overview

Select the 1. FILTER menu, and then press the Main menu button twice to select 8. CLEAN-OUT and perform clean out tasks.



7.9.3 Access Clean-Out Mode

Use the following steps to access the Clean-Out menu. An indicator light displays next to active options during procedure.

1) If necessary, drain and dispose of the old unusable oil. Refer to 7.8 *Oil Disposal*, page 39 for instructions.
2) Press and hold the **Main** menu button until *MAIN* displays. The Main menu displays.
3) Press the **1. FILTER** button. Additional menu items display.
4) Press the **Main** menu button twice. The 8. CLEAN-OUT menu displays.
5) Press the **8. CLEAN-OUT** button. =CLEAN OUT= HAS OIL BEEN REMOVED? YES NO displays.
6) Press **YES**. IS VAT FILLED WITH WATER & CLEANER? displays.
7) Proceed to 7.9.4 *Perform the Clean-Out Preparation*, page 49.

7.9.4 Perform the Clean-Out Preparation

1) Raise the lid and remove the racks and carrier, and then tilt the lid back so it is easier to clean.
2) Fill the vat with warm water half way to the oil level indicators. This can be done with a 5 gallon bucket or water hose connected to a spigot.
3) Add 8 to 10 ounces of fryer cleaning solution.
4) Continue to 7.9.5 *Perform the Cold-Soak Clean-Out*, page 49 or 7.9.6 *Perform the Heated Clean-Out*, page 50.

7.9.5 Perform the Cold-Soak Clean-Out

This procedure requires that the water stays in the vat overnight to soak off the crusty debris on the side of the vat.

1) If necessary, press the **OFF** button to power off the unit.
2) Allow the vat, filled with water and cleaner, to soak as long as necessary (overnight).
3) Use a scrub brush/pad on the vat walls to loosen any crumbs or debris.
4) Carefully clean the elements with a thin scrub brush.
5) Scrub the underside of the lid.

6) Remove and clean the lid gasket.
7) When completely scrubbed clean, press the **DONE** √ button. DONE SOAKING?, YES and NO displays.
8) Press **YES**, and then press the **next►** button.
9) Proceed to 7.9.7 *Drain the Water*, page 50.

7.9.6 Perform the Heated Clean-Out

This procedure requires immediate cleaning without soaking overnight.

1) If necessary, press the **ON** button to power on the unit. =CLEAN OUT= HEATING 78F x! displays.
2) WAIT. The temperature rises to 194 degrees, and then a 15:00 minute timer starts with a beeper sounding. =CLEAN OUT= cleaning displays.
3) Use a scrub brush/pad on the vat walls to loosen any crumbs or debris.
4) Carefully clean the elements with a thin scrub brush.
5) Scrub the underside of the lid.
6) Remove and clean the lid gasket. The time on the timer runs out. =CLEAN OUT= *DONE*, and then TURN FRYER OFF displays.
7) Press the power off button. =DRAIN= DRAIN (hold) and next► displays.
8) Proceed to 7.9.7 *Drain the Water*, page 50.

7.9.7 Drain the Water

A bucket, tub or the drain pan needs to be in place under the drain before proceeding to draining. If using the drain pan, remove all the internal parts so the pan is empty. Do not put the lid on the pan it must remain open for this procedure.

1) Press and hold the **▼DRAIN (hold)** button. Draining water, and then drain small amount to pan and then dump displays. The water drains in to the bucket/tub/pan.
2) When the bucket/tub/pan is partially full, release the button and the water stops draining.
3) Remove the bucket/tub/pan from under the fryer and dispose.
4) Repeat steps 3 and 4 in this section until the vat is completely drained.
5) Press the **next►** button. IS POT EMPTY? displays.
6) Confirm all the water is drained from the vat, and then press √ **YES**.
7) Proceed to 7.9.8 *Rinse the Vat With Clean Water*, page 50.

7.9.8 Rinse the Vat With Clean Water

During this procedure when the drain is open, all the water, cooking debris, and cleaner exits the bottom of the unit. The control board does not regulate, warn or display the amount of flow through the unit in to the bucket/tub/pan, this must be done manually. Do not overflow the bucket/tub/pan.

INFO: Some fryer cleaning solutions require a vinegar rinse. Please check product instructions.

1) Ensure the bucket/tub/pan is under the drain. ▼OPEN DRAIN displays.
2) Press ▼**OPEN DRAIN**. The drain opens.
3) Use clean water to rinse the side walls and bottom of the vat.
4) Stop when the bucket/tub/pan is full or the unit is rinsed clean.
5) Press the ►◄**CLOSE DRN** button.
6) Remove the bucket/tub/pan from under the fryer and dispose.
7) Repeat steps 2 through 5 until the vat is rinsed clean of cooking debris, cleaner and dirty water.
8) Press the ►◄**CLOSE DRN** button.
9) Ensure the bucket/tub/pan is under the drain.
10) Press the **next►** button. =PURGE= ►PUMP displays.
11) Proceed to 7.9.9 *Purge the Oil Lines*, page 51.

7.9.9 Purge the Oil Lines

Clear dirty, unusable oil, water and debris from the oil lines by doing the following:

1) Confirm the fresh oil tank has new oil in it.
2) Press and hold the ►**PUMP** button until clean, fresh oil comes through the jets in the bottom of the vat.
3) To clear the oil from the vat, refer to 7.9.8 *Rinse the Vat With Clean Water*, page 50.
4) Once the vat is rinsed, press the **next►** button. ==WIPE== ▼OPEN DRAIN display.
5) Proceed to 7.9.10 *Wipe the Vat*, page 51

7.9.10 Wipe the Vat

1) Place a bucket/tub/pan under the fryer.
2) Press the ▼**OPEN DRAIN** button.
3) Use a clean towel to wipe the sides and bottom of the pot. Guide all the remaining water and debris down the drain.
4) Press the ►◄**CLOSE DRN** button to close the drain.
5) Remove the bucket/tub/pan from under the fryer and dispose.
6) Press the **next►** button. EXIT CLEAN-OUT? displays.
7) Proceed to 7.9.11 *Exit Confirmation*, page 51.

7.9.11 Exit Confirmation

1) If the clean-out process is completed, press the √ **YES** button. If the drain is open, the control board automatically closes the drain. KEEP OFF UNTIL FILLED displays.
2) If the power switch is in the ON position, move it to the OFF position to power off the unit.
3) Fill the vat with fresh oil to the lower oil indicator line on the side of the vat.
4) Once the vat is filled with fresh oil, the fryer is ready for normal operations.

Chapter 8 Programming

8.1 Program Menu

From the MAIN menu, refer to 4.5 *Main Menu*, page 18, select 4. PROG, and then 1. PRODUCTS.

8.2 Product Programming Menu

Access the Product Programming menu by doing the following:

1) Press and hold the menu button until *MAIN* displays.
2) Press the menu button again. The 4. PROG menu displays.
3) Select **4. PROG**.
4) Type **123**. The 1. PRODUCTS menu displays.
5) Select **1. PRODUCTS**. The Products menus display.
6) Use the left or right arrow to navigate through the options.

This section describes how to program a new product into an empty slot or override a current product.

1. Press the **+** or **-** button to scroll through the list to create or select a product to program.
2. Press the right-arrow to program the selected product.

3. Press ◄ **CHANGE** to create a name. The name becomes the displayed title.

4. Press the left or right arrows to navigate screens 1 through 5.

- Screen 1: A B C D E F G H I J
- Screen 2: K L M N O P Q R S T
- Screen 3: U V W X Y Z + - /
- Screen 4: 1 2 3 4 5 6 7 8 9 0
- Screen 5: Ins Del Clr

5. Press the number buttons, 1 through 0, to select an option.

6. Press the **“”** button to confirm completion.

7. Press the right-arrow button. LINK ID displays.

The Link ID is an abbreviation for the cook menu.

8. Change the Link ID by pressing the ◄ **change** button.

9. Press the number buttons to set the name.

10. Press the right-arrow button. COOK TIME displays.

11. Press the number buttons to set the cook time.

12. Press the right-arrow button. STEP 2 AT displays.

STEP 2 AT determines the time the next Set Temperature settings activate.

13. Press the number buttons to set the time.

14. Press the right-arrow button. STEP 3 AT displays.

Enter 0:00 at anytime and this automatically ends the cook cycle.

15. Use the right-arrow button. TEMP 1 displays.

16. Press the number buttons to set the temperature.

17. Press the right-arrow button. TEMP 2 displays.

18. Press the number buttons to set the temperature.

19. Press the right-arrow button. ALARM 1 displays.

20. Press the number buttons to set the alarm.

21. Press the right-arrow button. LOAD COMP displays.

22. Press the number buttons to set the LOAD COMP (Load Compensation) value.

INFO: A setting of 0 disables the Load Compensation feature.

23. Press the **+** or **-** button to set the LOAD COMP REF (Load Compensation) to SETPT (Setpoint) or OTHER.

- If OTHER is selected, press the right-arrow button and continue at step 24. LC REF TEMP displays.
- Otherwise continue at step 26.

24. Press the number buttons to set the temperature for the load compensation calculation to reference.

25. Press √ **YES** to confirm.

26. Press the right-arrow button. FULL HEAT displays.

Full heat is the amount of time the heat is applied full force (thermostatically) at the start of the cook cycle, before the control switches over to PC (pulsed control) heating.

27. Press the number buttons to set the time.

28. Press √ **YES** to confirm.

29. Press the right-arrow. PC FACTOR displays.

30. Press the number buttons to set the temperature range for pulsed heating. Set to 0 for full heat. This is the number of degrees below setpoint during cooking at which pulsed heat is used, which can help avoid overshoots. The smaller the setting, the more it approaches thermostatic heat control.

31. Press √ **YES** to confirm.

32. Press the right-arrow button. BATCH SIZE REQD displays.

Batch size required, is used for units with Online Projection Systems.

33. Select **YES**, and the operator is prompted to enter a batch size after product is cooked.

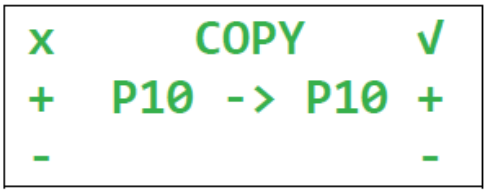
8.3 Product Programming Mode

While in the Product Programming menu, refer to 8.2 *Product Programming Menu*, page 53, press the MENU button once to access the Product Programming Mode screen. This screen displays additional maintenance options to assist with programming products that can be used in the cook menu. Select a menu item to copy (replicate), and then follow the on-screen prompts.

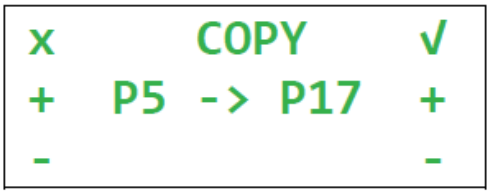
- EXIT PROG - Exit without making changes.
- COPY - Allows operators to copy (Px to Py) one menu item to another.
- ERASE PROD - Allows operators to delete one pre-programmed menu and add an operator specific menu item. Refer to 8.2 *Product Programming Menu*, page 53.
- ERASE ALL - Allows operators to delete all pre-programmed menus and add operator specific menu items. Refer to 8.2 *Product Programming Menu*, page 53.

8.3.1 Copy Menu Items

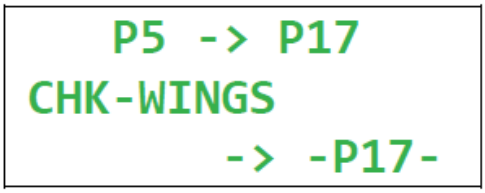
Use this feature to copy (replicate) any product (Px) in to any other product (Py). As an example, the cook settings for 2 Head of chicken is manually entered item by item into product P1. P1 is then copied in to P2 as a starting point for programming the 4 Head settings. If the products are similar, it is much easier to modify the 4 Head settings than to enter in all of the settings manually. To copy, do the following:



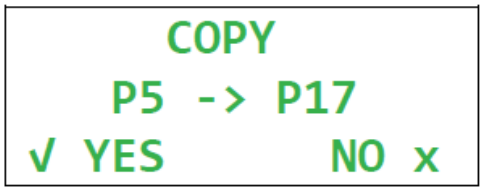
1. Select **2. COPY**. Copy from product number displays on the left and the copy to product number displays on the right.



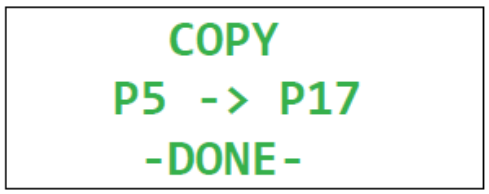
2. Press the **+** or **-** button to select any product to copy from, and any product to copy too.



3. Press and hold the **INFO** button to view the product name. Release to return to the previous screen.



4. Press the √ **YES** button. The confirmation screen displays.



5. Press the **YES** button. The left-side product is copied in to the right-side product position. The original product (left side) is not affected in any way. The right-side product is completely overwritten by the settings from the left-side product. -DONE- displays, and then select product displays.

8.4 Info Mode Menu Overview

To access the information menu from the Main menu, press the **2. INFO MODE** button. Refer to4.6 *Menu Structure*, page 19.

INFO: An alternate way to access Info Mode is to press and hold the Menu and Info buttons simultaneously until =INFO MODE= flashes on the display.

Table 8-1 Info Mode Menu Function

Menu Item	Function
E-Log (Error Log Codes)	Displays the history of the previous 25 error codes starting with the most recent code first. Codes includes the date and time that the error occurred.
Last Load	Displays information about the most recent cook cycle, including total cook time, early stops, if timer is left beeping too long and min./max./avg. temperatures.
Daily Stat (Statistics)	Displays operating statistics for each of the past seven days, including hours on, cook cycles, number of filters, etc.
Review Usage	Displays ongoing accumulations of operating statistics, which continues to accumulate until a manual reset is performed. To reset (requires password), navigate to the bottom of the list.
Activity Log	Displays history of Activity Log events as: • On/Off • Start/Stop Cook • Filter • Pan Removed or Replaced
CPU Info (Information)	Displays live temperature reading for the CPU (controller), software version, and software part number.
Temperatures	Displays live readings for main oil, level probe, and the bottom of vat temperature.
(Digital) Inputs-1	• ✓ - Signal present • - - No signal present • A - Power Switch • H - High Limit • D - Drain Switch Jumper • S - Power Switch Interlock • F - Fan Switch Jumper
(Digital) Inputs-2	• ✓ - Signal present • - - No signal present • 24dc - 24 DC Supply • Pan - Filter Drain Pan

Menu Item	Function
	• *Lid - Lid Liner Pin – Lid Liner Pin shows OK if pin is down – Lid Liner Pin shows PR when pin is raised (under pressure)
(Bulk Oil) Inputs-3	• ✓ - Signal present • - - No signal present • DTF - Discard Tank Full • FULL - Discard tank is full and cannot dispose to it • OK - Discard tank not full, okay to dispose
Pressure Inputs	Displays reading from the pressure transducer as: • OK - Safe to open lid (not under pressure) • PR - Lid under pressure, cannot open
Manifold Pressure	Displays pump pressure reading if optional transducer is installed in plumbing manifold as: • * - On • - - Off otherwise displays NO SENSOR.
Fryer Outputs	• * - On • - - Off • Pri - Primary Contactor • Ht - Heat (regulating) Contactor • Pr - Pressure Solenoid • BSV - Bulk Supply Valve (optional)
Drain Valve (Control) Status	• Par - Partially open • Stp - Forced Stop • Opn - Fully Open • Cls - Fully Closed • ► - The current state of the drain valve • At - indicates the drain valve position – 0 - Fully Closed – 20+ - Fully Open
Selector Valve (Bulk Oil Fryers Only)	Displays in the lower right with the current port position as: • No Selector Valve - unit is not equipped with a Bulk Oil System

Menu Item	Function
	• E=001 - Encoder Position Displays in the lower left with the activity of the valve as: • STPD - Stopped • FWD - Forward • REV - Reverse
Pump Outputs	• * - On • - - Off • Fltr - Filter Pump • ATO - Top Off Pump • Bulk - Bulk oil Supply
Analog Inputs	Displays analog input readings directly from ADC chip displayed as volts and as ADC counts (bits). Use the up and down arrows to step through available inputs.
Memory (Status) Info (Information) (MEM INFO)	Displays the status and size of the control's internal microSD storage memory as: • ✓ - Memory OK • X - Memory problem
USB Drive Status (USB INFO)	If installed, displays the status and size of the USB flash drive as: • ✓ - Flash Drive OK • X - Flash Drive not present or drive error • hcc - 16 is normal if no USB drive is plugged in Scroll down to see flash drive volume name.

Menu Item	Function
ATO (Auto-Top-off) Level	• LVL - Levels – FULL – LOW – - - - - Displays when an assessment is not possible • Delta - Displays the temperature difference between the main probe and the level probe. • Cnt - Count shows how many ATO pulses have been generated in the current top-off attempt.
OPS Radio	If OPS and QPM are enabled, displays the ZigBee radio status as: • ✓ - Good communication in past 15 seconds • - - No good message for 15 to 60 seconds • X - No good message for 60+ seconds Press the down arrow to view: • Join status • Channel number • PAN ID • Radio ID • Reset (un-join) button

8.5 Special Programming

Access the Special Programming menu by doing the following:

INFO: Starting with v1.60 , initializing operations performed in Special Program mode no longer reset the product settings and cook menus to default values.

1) Press and hold the menu button until *MAIN* displays.
2) Press the menu button again. The 4. PROG menu displays.
3) Select **4. PROG**.
4) Type **123**. The 3. SPCL PROG menu displays.
5) Select **3. SPCL PROG**. The Special Program menu displays.
6) Use the left or right arrow to navigate through the options.

Table 8-2 Special Program Menu Function

Menu	Display Name	Function
SP-1	TEMP UNIT	Press the plus or minus button to select either FAHRENHEIT (°F) or CELSIUS (°C).
SP-2	LANGUAGE	Press the plus or minus button to scroll through a list of languages. Press a language to select. **INFO**: Supports the Russian language for v1.60 or higher.
SP-3	SYSTEM INIT	Press the **hold->** button for three seconds to reset the controls to factory defaults.
SP-4	OPS/QPM SYSTEM ENABLED?	Press the plus or minus buttons to enable or disable the OPS or QPM wireless communications for this control. Requires an optional radio module.
SP-4A	OPS/QPM USE COOK ID CODE	Press the plus or minus button to select: • YES - to apply user specific programmable numbers to identify each product. • NO - to always use the default product number to identify each product.
SP-5	AUDIO VOLUME (Loudness)	Press the plus or minus button to adjust the volume (loudness) of the speaker between 1-10, then press the **TEST** button to test the loudness.
SP-6	AUDIO TONE (Frequency)	Press the plus or minus button to adjust the frequency (tone) setting, then press the **TEST** button to test the tone.
SP-7	MELT CYCLE	Press the plus or minus button to select either the SOLID or LIQUID melt mode heating cycle.
SP-8	START-UP POLISH ENABLED?	Press the plus or minus button to select either YES or NO to specify whether an automatic polish operation should be performed as part of the normal morning startup process.
SP-9	START-UP GO WHERE?	Press the plus or minus button to select a default cook menu that displays after exiting the melt mode.

Menu	Display Name	Function
SP-10	COOK MENUS OPTIONS	Press the plus or minus button to navigate through cook menu options. • 4+TITLE • 5+NEXT • 6 ITEMS Refer to 3.3 Display Options section of the Operator's Manual.
SP-11	COOK MENU BUTTONS	Press the plus or minus button to select: • SELECT - to begin preheating when a cook menu button is pressed. • COOK - to begin the cook cycle immediately.
SP-12	COOK DONE GO WHERE?	Press the plus or minus button to select the default cook menu to display after each cook cycle completes.
SP-13	AUTO-MENU MINUTES	Press the plus or minus button to select a time in minutes. When a selected product begins preheating, and the drop temperature is reached but a cook cycle is not started, after X minutes the control automatically returns to a cook menu.
SP-14	AUTO-MENU GO WHERE?	If Auto-Menu feature is enabled, press the plus or minus button to select a default cook menu that displays after the timer times out.
SP-15	COOL TEMP	Press the plus or minus button to select a global cool temperature setting.
SP-16	PROD PROG ENTER ALL TIMES FIRST?	Press the plus or minus button to select: • YES - to step through all the times first, then all temps and then all pressures. • NO - to step through Time1, Temp1, Pressure1 and then Time2, Temp2, Pressure2, etc.
SP-17	BULK OIL DISPOSE?	Press the plus or minus button to select one of three options: • NONE - Dispose by draining into a disposal cart or shuttle. • REAR HOSE - Dispose by pumping through the rear plumbing connection. • FRONT HOSE - Dispose by pumping through the front hose connection by pressing and holding the button. **INFO**: The optional front hose kit must be installed and enabled by a field technician or at the factory in Tech Mode screen T-4A before it displays in Special Programming SP-17.

Menu	Display Name	Function
SP-17A	BULK DISP TANK FULL SIGNAL	Set to match tank full signal logic of your bulk disposal tank: • NONE - Disables tank full signal. • 24V=FULL - 24V signal on DTF wires means tank is full (do not pump). No signal means it is OK to pump. • 24V=OK - 24V signal on DTF wires means it is OK to pump. No signal means the tank is full (do not pump).
SP-18	BULK OIL SUPPLY?	Press the plus or minus button to select either YES, NO, or YES+BSV to indicate if a bulk oil supply is available for re-filling the ATO oil tank and vat with fresh oil.
SP-19	COOKING: SHOW PSI?	Press the plus or minus button to select YES or NO to display the live pressure reading (in PSI) on the bottom line of the control board during the cook cycle for pressure fryers only.
SP-20	CHANGE MGR CODE	Provides access to change the Manager password code, which is defaulted to 123 from the factory. The manager password code is used to access modes such as Product, Cook, Special Programming, etc.
SP-21	CHANGE USAGE CODE	Provides access to change the Reset Usage password code, which is defaulted to 123 from the factory. The Reset Usage password code is used to access the usage statistics, it does not grant any programming privileges.
SP-22	CLEAN-OUT TYPE	The Clean-Out function supports two different water based clean-out modes, Heated and Cold-Soak. Heated is heated and timed while Cold-Soak is unheated and not timed. KFC software is hard-coded for Cold-Soak only, it cannot be changed.
SP-23	CLEAN-OUT TEMP	• If Heated mode is selected in the SP-22 menu, operators may select a temperature between 40°F – 195°F with which to heat the water. Higher temperatures require Personal Protective Equipment (PPE) to prevent burns. • If Cold-Soak mode is selected in the SP-22 menu, this setting displays Cold-Soak and can not be changed.
SP-24	CLEAN-OUT MINUTES	• If Heated mode is selected in the SP-22 menu, operators may select a time 1 Min. to 99 Min. The timer starts after the water is heated to the temperature selected in SP-23. The clean cycle time allows the amount of time necessary to scrub the vat and lid before prompting to drain and rinse. • If Cold-Soak mode is selected in the SP-22 menu, this setting displays Cold-Soak and can not be changed.

8.6 Filter Control

The Filter Control mode allows the parameters during a filter cycle to be modified for the best results depending on the oil type. Each parameter is grouped into a section that controls a particular settings. See Table 8-3 *Filter Settings*, page 67. To access the Filter Control menu do the following:

1) Press and hold the menu button until *MAIN* displays.
2) Press the menu button again. The 4. PROG menu displays.
3) Select **4. PROG**.
4) Type **123**. The 6. FLTR CTRL menu displays.
5) Select **6. FLTR CTRL**.
6) Use the left or right arrow to navigate through the options.

Table 8-3 Filter Settings

Program Code	Display	Description
Quick Filter Settings		
INFO: • The Start-up Mix and the Cook Mode Auto Mix operations are specialized versions of the Quick Filter, and share some of the Quick Filter programmable parameters. For example, both of the Mix operations use the Quick Filter's Max Pump Time setting. • For very thin (low viscosity) cooking oils, drain opening setting may need to reduce from the default value and you might need to reduce the drain opening setting from the default value. • For 50 Hz systems, or if the control routinely gives up before the pot is refilled, you might need to increase the max pump time from the default value–50 Hz pumps may run more slowly than 60 Hz pumps.		
These parameters control the Quick Filter operation. The Quick Filter has three basic steps: **1.** DROP - Opens the drain and drops the oil level by a certain amount. Depending on settings, may drop the oil level just a few inches during this phase, or could drain the entire pot. **2.** FILTER - Runs the filter pump with the drain partially open for a given time, pumping the oil through the filter paper to clean the oil. This operation typically holds a relatively constant oil level in the pot. **3.** FILL - Closes the drain fully and runs the filter pump to refill the pot. Watches for a temperature rise on the upper temperature probe (level probe) to indicate that the pot has refilled. Runs the pump a bit longer to get the last of the oil out of the drain pan, then turns the pump off.		
FC-1	FILTER TRACKING MODE	There are two options, GLOBAL and MIXED MODE. • GLOBAL - If selected, continue at FC-1A.

Program Code	Display	Description
		• MIXED - If selected, skip FC-1A, and then go to Product Programming mode to specify the filter cycles allowance for each individual product. Refer to Chapter 8 *Programming*, page 53. A new Info button status screen has been added to display how many cook cycles remain before the next auto-filter is activated if Global mode, or to indicate the current accumulated filter usage as a percent, accumulating up toward 100% – at which point the next auto-filter is activated if Mixed mode. **INFO**: The control defaults to Global Mode filtering, with the global Filter After X Cooks parameter set to 1.
FC-1A	QUICK FILTER: AFTER 'X' COOKS	Controls automatic activation of the Quick Filter after the specified number of cook cycles. 1. Enter a new value by using the product numbers. 2. Press "" to accept the new value. 3. Press "X" to return to default or previous setting.
FC-2	QUICK FILTER: DROP OIL: TIME	During the Drop cycle, controls the duration of time the vat drains. 1. Enter a new value by using the product numbers. 2. Press "" to accept the new value. 3. Press "X" to return to default or previous setting.
FC-3	QUICK FILTER: DROP OIL: DRAIN OPENING	During the Drop cycle, controls how far to open the drain valve. 1. Enter a new value by using the product numbers. 2. Press "" to accept the new value.

Program Code	Display	Description
		3. Press “X” to return to default or previous setting.
FC-4	QUICK FILTER: FILTER: TIME	At the end of the Drop cycle, controls how long the filter pump runs for the specified filter time. 1. Enter a new value by using the product numbers. 2. Press “” to accept the new value. 3. Press “X” to return to default or previous setting.
FC-5	QUICK FILTER: FILTER: DRAIN POSITION	At the end of the Drop cycle, controls how far the drain closes to a partially open position. 1. Enter a new value by using the product numbers. 2. Press “” to accept the new value. 3. Press “X” to return to default or previous setting.
FC-6	QUICK FILTER: FILL: DETECT AT LEVEL PROBE, KEEP PUMPING	When refilling the pot, controls how long to keep pumping after the oil initially reaches or splashes on the upper probe and the expected temperature rise is observed. 1. Enter a new value by using the product numbers. 2. Press “” to accept the new value. 3. Press “X” to return to default or previous setting.
FC-7	QUICK FILTER: NORMAL FILL TIME	The expected time it takes to refill the vat at the end of a Quick Filter. 1. Enter a new value by using the product numbers. 2. Press “” to accept the new value. 3. Press “X” to return to default or previous setting.
FC-8	QUICK FILTER: FILL: NO DE-TECT: MAX PUMP	If the fryer pumps for this amount of time during the Fill phase without observing a temperature

Program Code	Display	Description
		rise on the upper temperature probe, the control turns the pump off, and asks IS POT FILLED?. 1. Enter a new value by using the product numbers. 2. Press “” to accept the new value. 3. Press “X” to return to default or previous setting.
Daily Filter Settings		
INFO: • In a Daily Filter, a FILL operation can be stopped by the user at any time. • For very thin (low viscosity) cooking oils, drain opening setting may need to reduce from the default value and you might need to reduce the drain opening setting from the default value. • For 50 Hz systems, or if the control routinely gives up before the pot is refilled, you might need to increase the max pump time from the default value–50 Hz pumps may run more slowly than 60 Hz pumps.		
FC-9	DAILY FILTER: DROP OIL: TIME	During the Drop cycle, controls the duration of time the vat drains. 1. Enter a new value by using the product numbers. 2. Press “” to accept the new value. 3. Press “X” to return to default or previous setting.
FC-10	DAILY FILTER + POLISH: FILL: DETECT AT LEVEL PROBE, KEEP PUMPING	When refilling the pot, specifies how long to keep pumping after the oil reaches the upper probe and the expected temperature rise is observed. 1. Enter a new value by using the product numbers. 2. Press “” to accept the new value. 3. Press “X” to return to default or previous setting.
FC-11	DAILY FILTER: FILL: NO DETECT: MAX PUMP	If the fryer pumps for this amount of time during the FILL phase without observing a temperature rise on the upper temperature probe, the control

Program Code	Display	Description
		turns the pump off, and asks IS POT FILLED?. If pot is not filled completely, press NO and the pump attempts to fill further. 1. Enter a new value by using the product numbers. 2. Press “” to accept the new value. 3. Press “X” to return to default or previous setting.
Polish Settings		
INFO: • For very thin (low viscosity) cooking oils, drain opening setting may need to reduce from the default value and you might need to reduce the drain opening setting from the default value. • For 50 Hz systems, or if the control routinely gives up before the pot is refilled, you might need to increase the max pump time from the default value–50 Hz pumps may run more slowly than 60 Hz pumps.		
FC-12	POLISH: DROP OIL: TIME	During the Drop cycle, controls the duration of time the vat drains. 1. Enter a new value by using the product numbers. 2. Press “” to accept the new value. 3. Press “X” to return to default or previous setting.
FC-13	POLISH: DROP OIL: DRAIN OPENING	During the Drop cycle, controls how far to open the drain valve. 1. Enter a new value by using the product numbers. 2. Press “” to accept the new value. 3. Press “X” to return to default or previous setting.
FC-14	POLISH: FILTER: TIME	At the end of the Drop cycle, controls how long the filter pump runs for the specified filter time. 1. Enter a new value by using the product numbers.

Program Code	Display	Description
		2. Press “” to accept the new value. 3. Press “X” to return to default or previous setting.
FC-15	POLISH: FILTER: DRAIN OPENING	At the end of the Drop cycle, controls how far the drain closes to a partially open position. 1. Enter a new value by using the product numbers. 2. Press “” to accept the new value. 3. Press “X” to return to default or previous setting.
FC-16	POLISH: NORMAL FILL TIME	The expected time it takes to refill the vat at the end of a Polish operation. When refilling the vat, if the fryer pumps for one and a half times this expected time, the SLOW FILLING warning is activated, alerting that the fryer is pumping more slowly than expected. 1. Enter a new value by using the product numbers. 2. Press “” to accept the new value. 3. Press “X” to return to default or previous setting.
FC-17	POLISH: FILL: NO DETECT: MAX PUMP	If the fryer pumps for this amount of time during the FILL phase without observing a temperature rise on the upper temperature probe, the control turns the pump off, and asks IS POT FILLED?. If pot is not filled completely, press NO and the pump will attempt to fill further. 1. Enter a new value by using the product numbers. 2. Press “” to accept the new value. 3. Press “X” to return to default or previous setting.
Auto Top Off Settings		
INFO: If X pulses of oil have not brought the level up, the control assumes that the oil tank is empty—that no oil is being pumped into the pot—and displays FILL OIL TANK. If the fryer is		

Program Code	Display	Description
configured to use a Bulk Oil Supply system, the message displayed is CHECK BULK OIL SUPPLY rather than FILL OIL TANK. In this case, it is possible that the remote bulk supply tank is empty, that the bulk supply plumbing connection is not connected to the fryer, or that the bulk supply electrical connection is not connected.		
FC-18	AUTO TOP OFF: ENABLED?	Enables or disables all Auto Top Off (ATO) operations. 1. Press the + or - button to select either YES or NO. Disabling the Auto Top Off feature would normally be done only if the top off system itself has failed, in order to avoid the FILL OIL TANK messages that occur if the fryer doesn't detect oil at the proper level after 3 attempts.
FC-19	AUTO TOP OFF: PUMP TIME	Specifies how long the ATO pump runs for each individual ATO pulse. 1. Enter a new value by using the product numbers. 2. Press "" to accept the new value. 3. Press "X" to return to default or previous setting. This setting may be manually adjusted as needed. Ideally, each ATO pulse pumps about 1/8" (3.175 mm) to 3/16" (5 mm) of fresh oil into the pot.
FC-20	AUTO TOP OFF: REPEAT	Specifies how long the control waits before assessing the oil level and generating a second ATO pulse if the oil level is still low. 1. Enter a new value by using the product numbers. 2. Press "" to accept the new value. 3. Press "X" to return to default or previous setting.
FC-21	AUTO TOP OFF: AFTER 'X' ATTEMPTS, CHECK ATO	After each ATO pulse, the control monitors the level probe temperature to see if the oil has been brought up to the proper level. If not, a second ATO pulse is given. After a certain

Program Code	Display	Description
		number of pulses, as specified by this setting, if the oil level still has not been brought up to the proper level, the control beeps and displays FILL OIL TANK. 1. Enter a new value by using the product numbers. 2. Press “” to accept the new value. 3. Press “X” to return to default or previous setting.
FC-22	COOK MODE - FORCED ATO CHECK AFTER ‘X’ COOKS	Controls the number of cook cycles before forcing a check of the ATO. 1. Enter a new value by using the product numbers. 2. Press “” to accept the new value. 3. Press “X” to return to default or previous setting.
Start-up Mode Settings		
FC-23	START-UP: NEEDED IF TEMP < ‘X’	If the oil temperature is below 215° F when the fryer is turned on, the fryer always executes a Melt Mode regardless of the Start-up Needed setting. Sets temperature base to initiate a Start-up. 1. Enter a new value by using the product numbers. 2. Press “” to accept the new value. 3. Press “X” to return to default or previous setting.
Phase 2 of the morning startup procedure is to execute the Start-up Mix operation: drop all of the oil into the drain pan, filter it for a short time, and pump it back into the vat. This feature is important in thermally mixing the oil to eliminate cold spots and eliminate the milky oil in the bottom of the pot.		
FC-24	START-UP MIX: ENABLED?	There are two choices; Mix or Daily. Mix controls whether or not the Mix operation is performed automatically or manually as part of a morning start-up. Daily replaces the Mix with a Daily

Program Code	Display	Description
		filter. Some operators may prefer performing a daily filter in the morning instead of at night. Daily filter is manual only. The unit prompts for a Daily filter during Start-up if selected. Press the + or - button to select either Mix or Daily, and if Mix, YES or NO to run automatically.
FC-25	START-UP MIX: PRE-HEAT MAX TEMP	The Start-up Mix procedure consists of two steps: 1. Heat up the oil to the Mix Preheat temperature and 2. Drop the oil, filter, and refill the pot. 1. Enter a new value by using the product numbers. 2. Press “” to accept the new value. 3. Press “X” to return to default or previous setting.
FC-26	START-UP MIX: DROP OIL: TIME	Controls the time duration of the draining of the pot. 1. Enter a new value by using the product numbers. 2. Press “” to accept the new value. 3. Press “X” to return to default or previous setting.
FC-27	START-UP MIX: FILTER: TIME	This setting specifies how long the oil should be circulated during the FILTER phase of the Start-up Mix. 1. Enter a new value by using the product numbers. 2. Press “” to accept the new value. 3. Press “X” to return to default or previous setting.
FC-28	START-UP MIX: NORMAL FILL TIME	The expected time it takes to refill the vat at the end of a Start-up Mix operation.

Program Code	Display	Description
		1. Enter a new value by using the product numbers. 2. Press “” to accept the new value. 3. Press “X” to return to default or previous setting.
FC-29	START-UP MIX: FILL: NO DETECT: MAX PUMP	If the fryer pumps for this amount of time during the FILL phase without observing a temperature rise on the upper temperature probe, the control turns the pump off, and asks IS POT FILLED?. If pot is not filled completely, press NO and the pump will attempt to fill further. 1. Enter a new value by using the product numbers. 2. Press “” to accept the new value. 3. Press “X” to return to default or previous setting.
FC-30	START-UP ATO CHECK: ENABLED?	Specifies whether or not the ATO (Auto Top Off) Check, the third step of the Start-up Mode, is enabled. Press the + or - button to select either YES or NO.
FC-31	START-UP ATO CHECK: PREHEAT MAX TEMP	The Start-up Auto Polish procedure consists of two steps: 1. Heat up to the Polish Preheat temperature. 2. Drop the oil, filter (for a long time), and refill the pot.
Phase 4 of the morning startup procedure is to execute the Start-up Auto Polish: drop the oil into the drain pan, filter it for a long time, and pump it back into the pot. This feature is important in cleaning the oil and restoring clarity to it. Filter powder should be added to the drain pan in order for the Polish operation to be most effective.		
FC-32	START-UP POLISH: ENABLED?	Henny Penny recommends enabling the Start-up Polish to prolong the life of the oil. This adds time to the Start-up process. Press the + or - button to select either YES or NO.

Program Code	Display	Description
FC-33	START-UP POLISH: PRE-HEAT MAX TEMP	The Start-up Auto Polish procedure consists of two steps: 1. Heat up the Polish Preheat temperature. 2. Drop the oil, filter (for a long time), and refill the pot. 1. Enter a new value by using the product numbers. 2. Press “” to accept the new value. 3. Press “X” to return to default or previous setting.
Cook Mode Auto Mix Settings		
The Cook Mode Auto Mix is a modified Quick Filter operation. It consists of three phases: 1. Drop (drop the oil level). 2. Filter (circulate it through the filter paper). 3. Fill (pump the oil back into the pot).		
FC-34	COOK MODE AUTO MIX: ENABLED?	This setting determines whether or not the Cook Mode Auto Mix feature is enabled. Press the + or - button to select either YES or NO.
FC-35	COOK MODE AUTO MIX: DROP OIL: TIME	Controls the time duration of the draining of the pot. 1. Enter a new value by using the product numbers. 2. Press “” to accept the new value. 3. Press “X” to return to default or previous setting.
FC-36	COOK MODE AUTO MIX: FILTER: TIME	Controls how long the filter pump runs for the specified filter time. 1. Enter a new value by using the product numbers. 2. Press “” to accept the new value. 3. Press “X” to return to default or previous setting.

Program Code	Display	Description
FC-37	COOK MODE AUTO MIX: NORMAL FILL TIME	The expected time it takes to refill the vat at the end of an auto mix operation. 1. Enter a new value by using the product numbers. 2. Press “” to accept the new value. 3. Press “X” to return to default or previous setting.
FC-38	COOK MODE AUTO MIX: FILL: NO DETECT: MAX PUMP	If the fryer pumps for this amount of time during the FILL phase without observing a temperature rise on the upper temperature probe, the control turns the pump off, and asks IS POT FILLED?. If pot is not filled completely, press NO and the pump will attempt to fill further. 1. Enter a new value by using the product numbers. 2. Press “” to accept the new value. 3. Press “X” to return to default or previous setting.
FC-39	COOK MODE AUTO MIX: DESIRED BOTTOM TEMP	The purpose of the Cook Mode Auto Mix operation is to attempt to keep the bottom of the pot hot enough that crumbs don’t stick. 1. Enter a new value by using the product numbers. 2. Press “” to accept the new value. 3. Press “X” to return to default or previous setting.
FC-40	COOK MODE AUTO MIX: MIN REQUIRED OIL TEMP	This is the minimum oil temperature required in order to activate an Auto Mix operation. 1. Enter a new value by using the product numbers. 2. Press “” to accept the new value. 3. Press “X” to return to default or previous setting.
FC-41	COOK MODE AUTO MIX: MIN REPEAT	This setting controls how often a bottom-temperature triggered Auto Mix can repeat.

Program Code	Display	Description
		1. Enter a new value by using the product numbers. 2. Press “” to accept the new value. 3. Press “X” to return to default or previous setting.
FC-42	COOK MODE TIMED AUTO MIX, IF BAD BOTTOM PROBE	This option is used only if the temperature probe on the bottom of the pot has failed or is disconnected. 1. Enter a new value by using the product numbers. 2. Press “” to accept the new value. 3. Press “X” to return to default or previous setting.
Dispose Settings		
FC-43	DISPOSE: DROP OIL: DRAIN OPENING	This setting specifies the drain opening to be used when draining the oil to a disposal cart, shuttle, or bucket for disposal. (Does not apply to Bulk Dispose operations.) 1. Enter a new value by using the product numbers. 2. Press “” to accept the new value. 3. Press “X” to return to default or previous setting.
Miscellaneous Settings		

Program Code	Display	Description
FC-44	ALWAYS ASK, IS POT FILLED?	This option can be engaged to always ask – at the end of each Quick Filter, Auto Mix, and Polish operation, if the pot is filled. Normally, the control asks IS POT FILLED? only if it has pumped for a long time attempting to fill the pot, but no temperature rise was observed on the upper temperature probe. Press the + or - button to select either YES or NO.
FC-45	ANY FILL: NOT FILLED, EXTRA PUMP TIME	When refilling the pot at the end of a Quick Filter, Auto Mix, or Polish operation, the control closes the drain and runs the pump until a suitable temperature rise is observed on the upper temperature probe (the level probe). If no temperature rise is seen after pumping for a reasonable maximum pumping time, the control stops, turns the pump off, and asks IS POT FILLED?. 1. Enter a new value by using the product numbers. 2. Press “” to accept the new value. 3. Press “X” to return to default or previous setting.

Chapter 9 Troubleshooting

9.1 Filter Pump Motor Protector - Manual Reset

WARNING **To prevent burns caused by splashing oil, turn the unit's main power switch to off position before resetting the filter pump motor's manual reset protection device.**

The filter pump motor is equipped with a manual reset button located on the rear of the motor. Wait about 5 minutes before attempting to reset this protective device to allow motor to cool. Remove the condensation pan to reveal the reset button. It takes some effort to reset, and a screwdriver can be used to help reset the button.

9.2 Troubleshooting Guide

NOTICE: More detailed troubleshooting information is available in the Technical Manual, available at or contact Technical Support at 1-800-417-8405 or 1-937-456-8405.

Table 9-1 Troubleshooting Guide

Problem	Cause	Correction
Power switch is on but the fryer is completely inoperative.	Open circuit.	• Fryer plugged in. • Check breaker or fuse at wall. • Check circuit breakers between control panel and ATO tank.
Pressure not exhausting at end of Cook Cycle.	Solenoid or exhaust line clogged.	• Turn off heat, allowing the fryer to cool, releasing the pressure in the vat. Clean all lines. solenoids, and exhaust tank.
Relief valve vents.	Operating pressure too high.	Turn off heat, allowing the fryer to cool, releasing the pressure in the vat. Clean deadweight. Refer to 3.23 Preventative Maintenance in the Operator's Manual.
	Deadweight clogged.	
Pressure does not build.	Not enough product in vat.	Ensure full capacity of product in vat when using fresh oil.
	Pressure not programmed.	Check programming.
	Lid gasket leaking.	Reverse or replace lid gasket.
Oil not heating.	High temperature limit tripped.	Reset high temperature limit. Refer to 3.1 Operating Components in the Operator's Manual.
Foaming or boiling over.	Some customers choose not to use oil stabilizers which can cause foaming and boil-over.	Product with excessive ice crystals should be dipped once quickly then removed from the fryer to allow ice

Problem	Cause	Correction
		crystals to melt and excessive water to evaporate. Then place the product back into the fryer and cook normally.
	See boil-over chart on fryer and Boil-Over Prevention section of Operator's Manual.	Refer to 2.7 Boil-Over Prevention in the Operator's Manual.
Oil not draining.	Drain valve clogged.	Push cleaning rod through open drain valve.
Filter motor won't run.	Motor overheated.	Reset motor. Refer to Filter Pump Motor Protector - Manual Reset section of Operator's Manual.

9.3 Error Codes

In the event of a system failure the control board displays an error message. These messages are coded as E which represents an error, a number designation and error message, such as E-4 CPU TO HOT. Also, a constant tone sounds. To silence the tone, press any of the product buttons. Use the following table to interpret and correct an error code.

Table 9-2 Error Codes

Error	Cause	Correction
E-1 LOW OIL IN POT	The top heating element where the probe is located is getting hotter than it would if the element were submerged in oil.	If the Protection Probe monitoring function determines that the oil level is too low—below the main probe—it generates an E-1 error code and displays the message LOW OIL IN POT!, CHECK OIL LEVEL. Fill the vat with oil to the full line. If the error persists call for service.
E-4 CPU TOO HOT	Control board overheating.	Remove heat from the fryer, the control board is getting too hot. Once the front panel cools down the controls should return to normal operation. If the error persists call for service.
E-5 OIL TOO HOT	Oil overheating.	Remove heat from the fryer. Once the unit cools down, the controls should return to normal operation. If the error persists call for service.
E-6A MAIN TEMP PROBE FAILED (Open Circuit)	Temperature probe failure.	Turn the switch to off position, then turn the switch back to on. If the error persists call for service.
E-6B MAIN TEMP PROBE FAILED (Shorted)		
E-10 (A thru Y)	High limit tripped.	Reset the high limit trip. The reset momentary switch is below the control panel heat vents, under the lip, above the condensation tank (box). Perform a clean out, refer to 7.9 *Clean-Out Mode*, page 48. If the error persists call for service.
E-13	Pressure transducer failed.	Call for service.

Error	Cause	Correction
E-14 PRESSURE TOO HIGH	Pressure is to high within the vat.	Perform the 7.6 *Cleaning Deadweight - Monthly*, page 36 procedure. If the error persists call for service.
E-15C DRAIN VALVE ERROR	The drain valve doesn't fully closed.	Unclog the drain with a drain brush. If the error persists call for service.
E-15P DRAIN VALVE ERROR	The drain valve doesn't fully open.	Check drain for an obstruction. If the error persists call for service.
E-18A LEVEL SENSOR FAILED (Open Circuit)	The oil level probe has failed.	Call for service.
E-18B LEVEL SENSOR FAILED (Shorted)		
E-19 PROTECTION PROBE FAILED		Call for service.
E-41P-1-LOST	System data lost. Both the RAM copy and stored copy of the settings have been lost. Settings are reset to default.	Call for service.
E-41S SYSTEM DATA LOST	System data lost. Both the RAM copy and stored copy of the settings have been lost. Settings are reset to default.	Call for service.
E-46C INTERNAL	Issue with microSD chip.	Call for service.

Error	Cause	Correction
SD MEM ERR		
E-46W DATA SAVE FAILED	Unable to communicate and save data to the microSD chip.	Call for service.
	Corrupt file.	
E-47 ANALOG SYSTEM OR 12 VOLT FAILED	Problem reading the A-to-D Analog to Digital converter inputs.	Call for service.
E-48 INPUT SYSTEM ERROR	Failure of the CPU board.	Call for service.
E-54C MAIN TEMP CIRCUIT FAILURE	Fault on the CPU board.	Call for service.
E-54D MAIN TEMP DSC ERROR	Fault on the CPU board.	Call for service.
E-70A FAN JUMP MISSING	Jumper wire is loose or missing from 15 pin connector.	Call for service.
E-70B PWR SWITCH OR WIRES FAILED”	Short in wires/ loose connection.	Call for service.
	Power switch may be faulty.	Call for service.
E-70C DRN JUMPER MISSING	Loose connection on the 15 pin connector.	Call for service.
E-82 SELECTOR VALVE FAILURE	The selector valve failed calibration or not responding.	Call for service.
E-84C PRESSURE	Pressure pin did not fully engage.	Call for service.

Error	Cause	Correction
PIN DID NOT ACTIVATE		
E-84D PRESSURE PIN STUCK OR NOT CONNEC-TED	Cannot open lid - Pin is stuck and has not dropped down.	Call for service.
	Can open lid - wire may be disconnected or monitoring switch failed.	Call for service.
E-86B PRESSURE STUCK ON	Sticking solenoid.	Call for service.
	Clogged pressure ex-haust port.	Call for service.
	Faulty pressure transducer.	Call for service.
E-93 24V DC SUPPLY	2nd transformer dis-connected from control.	Call for service.
	Short in drain motor or selector valve motor.	

Chapter 10 Annual Inspection Checklist Form

Perform the following annual inspection in the order provided.

*Critical Item - Take fryer out of service until repaired.

Table 10-1 Annual Inspection Checklist

#	Assess Frypot and Frame (remove rear cover and both side panels)	OK	Clean	Replace
1.*	Inspect the fry pot for leaks or oil accumulation.			
2.	Ensure the fryer sits level. Inspect the casters and fryer frame for damage.			
3.*	Inspect the electrical cord and plug.			
4.*	Inspect lid cables as per instructions for this step.			
5.	Check that the counterweight frame hangs level.			
6.	Inspect and lubricate lid carriage rollers and cable pulleys. Make sure the lid moves up and down freely.			
7.	Inspect lid wiring for damage or excessive wear from lid pin switch to left side panel.			
8.	Clean Nylatron slides.			
Behind Service Access Panel - Pressure System				
9.	Inspect the steam exhaust hose insert.			
10.	Remove the condensation box cover. Inspect the condensation box gasket, deadweight, and orifice. Inspect and clean the condensation drain hose. Ensure each component is in good working condition. Clean and re-install all components after step 13 is complete.			
11.	Clean the Safety Relief Valve – Install only after step 13 is complete.			
12.	Remove the solenoid valve and clean and reassemble. Install only after step 13 is complete.			
13.	Remove all pressure system tubing. Inspect, clean, or replace any tubing or fitting that is blocked, or obstructed. If leaking is found at any fitting, clean and replace the compression fitting.			
Filter Components and Drain Oil				
14.	Verify all components of the drain pan are present and not damaged. Components include five O-rings, filter screen, two filter clips, standpipe, crumb basket,			

	drain pan, drain pan cover and drain pan casters. Replace any components that are missing or damaged.			
15.	Remove ATO reservoir (not used in bulk fill applications). Inspect that reservoir is clean with no obstructions. Replace any damaged or missing O-rings.			
16.	Use the filter menu to test the opening and closing of the drain valve. Visually ensure the drain valve is fully open and fully closed when commanded from the control. OK to drain oil in this step and leave oil in drain pan until finished with the heat system inspection.			
17.	If a bulk oil system is connected to the fryer, dispose a small amount of oil to make sure this system is working correctly.			
18.	Using the appropriate step in the filter menu to test the ATO pump. Make sure the fry pot fills from the ATO reservoir.			
Heat System				
19.	Tighten heating element spreader bars and high limit bracket.			
20.	Inspect both the temperature probe and level probe, verify neither is bent nor damaged. Check the insertion depth of each probe with a gauge – adjust if necessary.			
21.	Remove the covers on both oil return diverters. Clean and replace O-rings if necessary. Inspect the pressure transducer inlet inside the fry pot is clean and free from any obstruction.			
22.	Inspect for excessive oil migration behind left side panel.			
23.*	Verify that the high limit modules are wired in the high limit circuit and wires are secured on the terminals of the modules. Verify high limit thermocouples are clean and mounted properly to the heating elements.			
24.	Test filtration system – motor is running, oil is pumping freely back to fry pot. No leaks and no leaks back to drain pan (drain valve, check valve not leaking). Pump all oil back to fry pot.			
25.	Check that all six heating circuits have similar amp draw. Electrically troubleshoot issues if any are found.			
Pressure System				
26.*	Remove lid cover and inspect lid components – Please read and follow PXE-100 Lid Inspection instructions for this step.			

27.	Remove and inspect the lid gasket and check the tightness of lid liner screws as per the instructions for this step. Replace the gasket if it has not been replaced in the last 12 months, or if the gasket is hardened, brittle, damaged, or blackened.			
28.*	Inspect Lid Handle Rollers – Please read and follow all instructions for this step.			
29.	Inspect cam slide fillers located on each side of the lid cover.			
30.	Inspect front lid latch and make adjustments as necessary.			
31.	Inspect pressure pads. Rotate if excessively worn, replace if cracked or both sides are excessively worn.			
32.	Manually test lid pin switch. Refer to test instructions.			
33.	Check error log and address recent pressure errors.			
General Fryer, ATO, and Filtration System				
34.	Verify all labels are in place and legible on fryer.			

10.1 Required Tools

Ensure you have the following tools prior to performing the annual inspection:

- Temperature probe depth gauges
- Pipe snake
- Amp clamp
- Imperial size socket set
- Imperial size set of hex key wrenches
- Full range pliers set, from needle nose to 12” large slip joint
- Phillips and flat blade screwdriver set
- Pipe wrenches 8–12”
- Wire stripping tool
- Wire cutter
- Crimping tool
- Adjustable wrench set 8–12”
- Open end wrench set (imperial sizes)

10.2 Required Parts

Ensure you have the following parts prior to performing the annual inspection:

- Safety relief valve (one per fryer)

- Lid cables
- Pressure pads
- Lid gasket
- Temperature probe
- Spindle lube
- Pipe thread sealant
- Towels
- Steel and teflon sleeve fittings
- Condensation box hose
- Check valve
- Lid handle rollers
- Nylatron slides
- Side cam filters
- Lid latch
- Plumbing elbows
- Drain switch
- Splice connectors

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