HENNY PENNY
Engineered to Last

SERVICE MANUAL

EVOLUTION ELITE™ (Gas)

Open Fryer

EEG-16X
EEG-241
EEG-242
EEG-243
EEG-244

FM06-058D

Table of Contents

Safety and Compliance

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.

These are the original version controlled Henny Penny instructions for Evolution Elite Gas (EEG) model 252, 253 or 254 (EEG-252/253/254). This manual is available on the Henny Penny Public website (www.hennypenny.com). Read these instructions completely prior to installation and operation of this appliance to ensure compliance to all required installation, operation and safety standards. Read and obey all safety messages to avoid damage to the appliance and personal injury.

WARNING

- **This fryer must be installed and used in a way that water does not contact the oil which can cause splashing and boiling over of oil and steam leading to personal injury; excludes normal product moisture.**
- **Burn risk! Do not move the fryer or filter drain pan while containing hot oil. Personal injury or serious burns can result from splashing hot oil.**

This appliance is intended for commercial use in kitchens of restaurants, bakeries, hospitals, etc. but not for the continuous mass production of food such as in a factory setting. During use the units airborne A-weighted emission sound pressure is below 70 db(A). All repairs must be performed by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

Always use strain relief. The provided power cord must be installed with a strain relief in a way that if the strain relief fails, wires L1, L2, L3 and N must draw taunt and fail first. If the supplied power cord or an existing one becomes damaged, do not use it; rather, replace it with a known good power cord. The power cord must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

Proper daily, weekly, monthly, quarterly and yearly maintenance must be performed on this appliance to ensure safe and continuous operation. This appliance must never be cleaned with a water jet or steam cleaning tool. Cleaning brushes are shipped with the appliance and proper cleaning instructions are included in this manual.

Proper maintenance also increases the usable life of the appliance and oil, which reduces lifetime operating costs. Additionally, old oil increases the possibility of surge boiling and fire due to the reduced flash point of the oil. The oil temperature must never exceed 450º F (230º C).

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. Children should be supervised to ensure that they do not play with the appliance.

This appliance is not intended to be operated by means of an external timer or a separate remote control system.

Technical Data For CE/AGA Marked Products

Nominal Heat Input (Net):	Natural (I_{2H}) = 19.8 KW (67,560 Btu/h)
	Natural (I_{2E}) = 19.8 KW (67,560 Btu/h)
	Natural (I_{2E}+) = 19.8 KW (67,560 Btu/h)
	Natural (I_{2L}) = 19.8 KW (67,560 Btu/h)
	Natural (I_{2HS}) = 19.8 KW (67,560 Btu/h)
	Natural ($I_{2E\ (43.46 - 45.3\ mj/m^3\ (0°c))}$) = 19.8 KW (67,560 Btu/h)
	Liquid Propane (I_{3P}) = 19.8 KW (67,560 Btu/h)
	Liquid Propane / Butane ($I_{3\ B/P}$) = 19.8 KW (67,560 Btu/h)
Nominal Heat Input (Gross):	Natural (I_{2H}) = 21.98 KW (75,000 Btu/h) (79.13 MJ/h)
	Natural (I_{2E}) = 21.98 KW (75,000 Btu/h)
	Natural (I_{2E}+) = 21.98 KW (75,000 Btu/h)
	Natural (I_{2L}) = 21.98 KW (75,000 Btu/h)
	Natural (I_{2HS}) = 21.98 KW (75,000 Btu/h)
	Natural ($I_{2E\ (43.46 - 45.3\ mj/m^3\ (0°c))}$) = (75,000 Btu/h)
	Liquid Propane (I_{3P}) = 21.98 KW (75,000 Btu/h) (79.13 MJ/h)
	Liquid Propane / Butane ($I_{3\ B/P}$) = 21.98 KW (75,000 Btu/h) (79.13 MJ/h)
Supply Pressure:	Natural (I_{2H}) = 20 mbar (2.0 kPa)
	Natural (I_{2E}) = 20 mbar
	Natural (I_{2E}+) = 20/25 mbar

	Natural (I_{2L}) = 25 mbar
	Natural (I_{2HS}) = 25 mbar
	Natural ($I_{2E\ (43.46\ -\ 45.3\ mj/m^3\ (0°c))}$) = 25 mbar
	Liquid Propane (I_{3P}) = 30/37/50 mbar (3.0/ 3.7/5.0 kPa)
	Liquid Propane / Butane ($I_{3\ B/P}$) = 30/37/50 mbar (3.0/3.7/5.0 kPa)
Test Point Pressure	Natural (I_{2H}) = 8.7 mbar (0.87 kPa)
	Natural (I_{2E}) = 8.7 mbar
	Natural (I_{2E}+) = N/A
	Natural (I_{2L}) = 8.7 mbar
	Natural (I_{2HS}) = 8.7 mbar
	Natural ($I_{2E\ (43.46\ -\ 45.3\ mj/m^3\ (0°c))}$) = 8.7 mbar
	Liquid Propane (I_{3P}) = 25 mbar (2.5 kPa)
	Liquid Propane / Butane ($I_{3\ B/P}$) = 25 mbar (2.5 kPa)
Injector Size	Natural (I_{2H}) = 2.08 mm
	Natural (I_{2E}) = 2.08 mm
	Natural (I_{2E}+) = 1.70 mm
	Natural (I_{2L}) = 2.30 mm
	Natural (I_{2HS}) = 2.30 mm
	Natural ($I_{2E\ (43.46\ -\ 45.3\ mj/m^3\ (0°c))}$) = 2.30 mm
	Liquid Propane (I_{3P}) = 1.30 mm
	Liquid Propane / Butane ($I_{3\ B/P}$) = 1.30 mm

This appliance must be installed in accordance with the manufacturer's instructions and the regulations in force and only used in suitably ventilated location. Read the instructions fully before installing or using the appliance.

For gas appliance installations in South Africa, the installation shall be carried out by a registered installer, and the installation shall comply with requirements of SANS 10087-1 or SANS827 as applicable.

Use an approved flexible hose with a length that does not exceed 1.5 m. Also follow these guidelines:

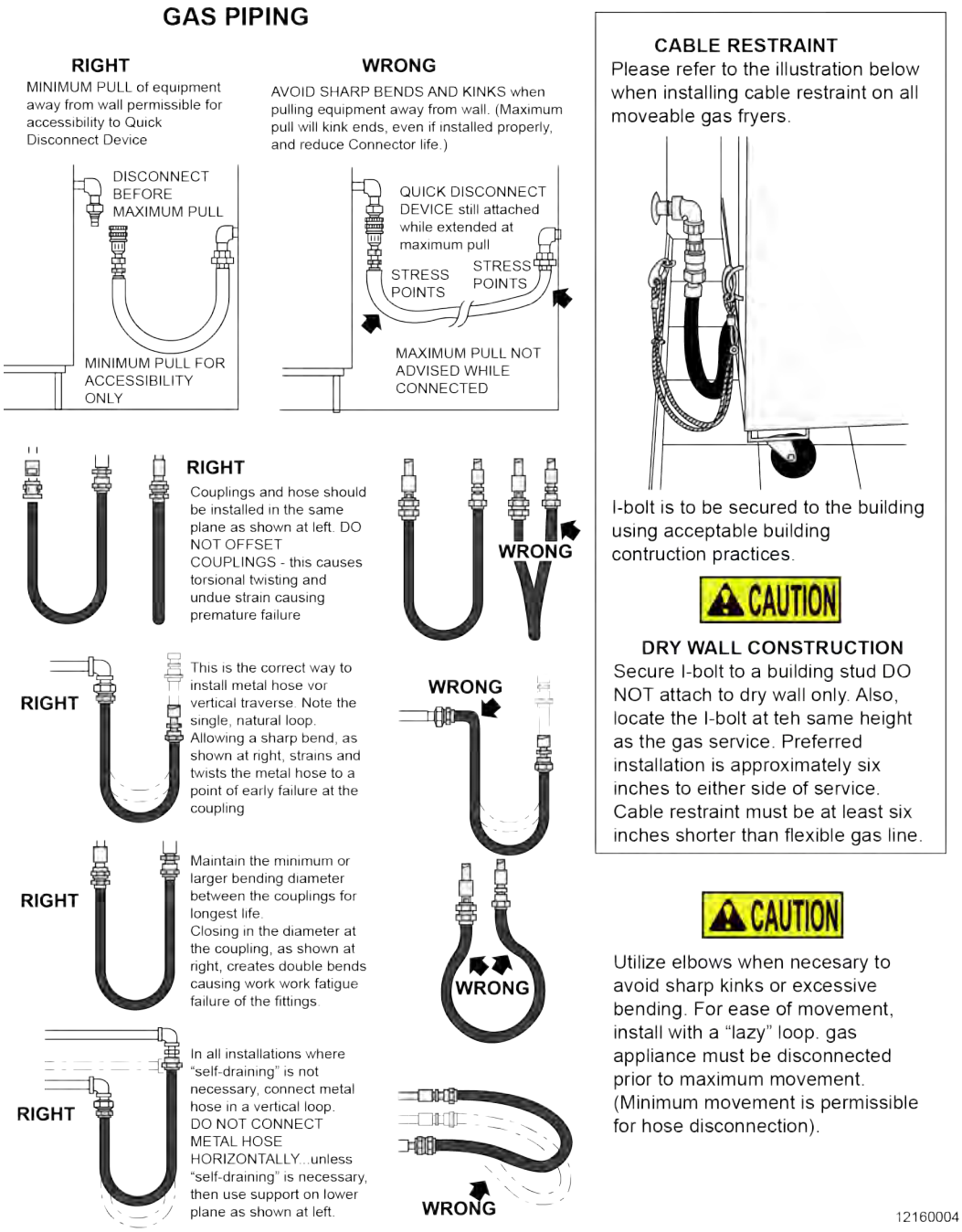

Figure-1 Guidelines for Gas Piping

Chapter 1 Troubleshooting

1.1 Introduction

This section provides troubleshooting information in the form of an easy to read table. If a problem occurs during the first operation of a new fryer, recheck the installation per Chapter 2 of Operator's manual.
Before troubleshooting, always recheck the operation procedures per Chapter 3 of Operator's Manual.

1.2 Troubleshooting

To isolate a malfunction, proceed as follows:

1) Clearly define the problem (or symptom) and when it occurs.
2) Locate the problem in the Troubleshooting table.
3) Review all possible causes. Then, one-at-a-time work through the list of corrections until the problem is solved.
4) Refer to the maintenance procedures in the Maintenance Section to safely and properly make the checkout and repair needed.

WARNING

- **If maintenance procedures are not followed correctly, injuries and/or property damage could result.**

Table 1-1 Troubleshooting

Problem	Cause	Correction
Power switch ON but fryer completely inoperative.	Open circuit.	• Plug fryer in. • Check breaker or fuse at supply box.
Control error code "E-10".	High limit.	Let unit cool down (15-20 minutes), push up on metal reset button under right side of the controls; if high limit does not reset, high limit must be replaced.
Vat is underfilled.	JIB is low or empty.	Fill the JIB.
	JIB oil line is clogged or collapsed.	Check JIB line.
	Filter pan needs cleaned.	Clean filter pan and change paper or pad.
Oil foaming or boiling over top of vat.	Water in oil.	Drain and clean oil.
	Improper or bad oil.	Use recommended oil.

Problem	Cause	Correction
	Improper filtering.	Refer to filtering procedures.
	Improper rinsing after cleaning the vat.	Clean and rinse vat and then dry thoroughly.
Oil will not drain from vat.	Drain valve clogged with crumbs.	Open valve, force cleaning brush through drain.
	Drain trough clogged.	Remove right side panel and remove plug from end of trough, clean trough.
Filter motor runs but pumps oil slowly.	Filter line connections loose.	Tighten all filter line connections.
	Filter paper or pad clogged.	Change filter paper or pad.
	Filter not reassembled properly.	Refer to assembly instructions on inside door.
Bubbles in oil during entire filtering process.	Filter pan not completely engaged.	Make sure filter pan return line is pushed completely into the receiver on the fryer.
	Filter pan clogged.	Clean pan and change paper or pad.
	Damaged O-ring on filter line receiver on fryer.	Replace O-ring.
Filter motor will not run.	Thermal reset button on the rear of the pump motor is tripped. **WARNING**	Allow motor to cool, then, using a screwdriver, press hard against the button until it clicks. • **To prevent burns caused by splashing shortening, turn the unit's power switch to the OFF position before resetting the filter pump motor's manual reset protection device.**

1.3 Error Codes

In the event of a control system failure, the digital display shows an error message. The message codes are shown in the display column below. A constant tone is heard when an error code is displayed, and to silence this tone, press any button.

Table 1-2 Error Codes

Display	Cause	Panel Board Correction
“E-4”	Control board overheating.	Turn switch to off position, then turn switch back to on; if display shows “E-4”, the control board is getting too hot; check the louvers on each side of the unit for obstruction.
“E-5”	Oil overheating.	Turn switch to off position, then back to on; if display shows “E-5”, the heating circuits and temperature probe should be checked.
“E-6A”	Temperature probe open.	Turn switch to off position, then turn switch back to on; if display shows “E-6A”, the temperature probe should be checked.
“E-6B”	Temperature probe shorted.	Turn switch to off position, then turn switch back to on; if display shows “E-6B”, the temperature probe should be checked.
“E-10”	High limit.	Let unit cool down (15-20 minutes), push up on metal reset button under right side of the controls; if high limit does not reset, high limit must be replaced.
“E-15”	Drain switch.	Make sure drain knob is completely pushed-in; if “E-15” persists, have drain switch checked.
“E-18-A”	Left level sensor open.	Turn switch to off position, then back to on; if display still indicates a failed sensor, have the connections checked on the control board. Have sensor checked and replaced if necessary.
“E-18-B”	Right level sensor open.	
“E-18-C”	Both level sensors open.	
“E-20-A” “FAN SENSOR STUCK CLOSED”	Pressure switch failure.	If fan is not running, have pressure switch checked; should be open circuit if no air pressure.
	Wiring problem.	If fan is running, wiring error, or relay on I/O board closed.
	I/O board failure.	
“E-20-B” “NO DRAFT” “CHECK FAN”	Pressure switch failure/hose loose.	Press power button to vat off and back on again, if E-20-B persists, have pressure switch checked; should be open circuit if no air pressure; make sure hose is connected to fan and pressure switch.
	Draft fan failure/ low voltage.	Have draft fan checked; low voltage going to fan.

Display	Cause	Panel Board Correction
	Flue or hood obstruction.	Check the fryer flue and hood system for obstructions.
“E-20-D" “IGNITION FAILURE”	Failure to ignite/ no flame sense.	Press power button to vat off and back on again, if E-20-D persists, check gas line connections; check gas shut-off valve; have ignition module checked; gas valve checked; flame sensor gap checked; gas valve and ignition module wiring checked.
	Plugged atmospheric equalization hole in regulator cap resulting in pilot flame slowly fading.	Clear obstruction from hole.
“E-21”	Slow heat recovery.	Have a certified service technician check the fryer for correct voltage to the unit; have heat circuit checked; have unit checked for loose or burnt wires.
“E-22” ”NO HEAT” “CHECK GAS VALVE”	Burner not igniting.	Have gas valve and heat circuit checked.
“E-41” “E-46”	Programming failure.	Turn power switch to vat off, then back to on; if display shows an error code, have the controls re-initialized; if error code persists, have the control board replaced.
“E-47”	Analog converter chip or 12-volt supply failure.	Turn power switch to vat off, then back to on; if “E-47” persists, have the I/O board, or the PC board replaced; if speaker tones are quiet, probably I/O board failure; have the I/O board replaced.
“E-48”	Input system error.	Have PC board replaced.
“E-54C”	Temperature input error.	Turn power switch to off, then back to on; have control PC board replaced if “E-54C” persists.
“E-60” “FILTER IN USE”	AIF PC board not communicating with PC board.	Turn power switch to off, wait 15 seconds, then turn switch back to on. If “E-60 persists, have connector between the PC boards checked; replace AIF PC board or control PC board if necessary.
“E-70C”	Drain valve jumper wire missing or disconnected.	Have the jumper wire checked on the PC board at drain switch interlock position.
“E-82D”	Selector Valve Failed	No activity is detected. Check motor encoder, selector valve motor, and AIF board.

Display	Cause	Panel Board Correction
“E-83A”	Pressure too high.	Check filter system in Vat #1.
“E-83B”	Pressure too high.	Check filter system in Vat #2.
“E-83C”	Pressure too high	Check filter system in Vat #3.
“E-83D”	Pressure too high.	Check filter system in Vat #4
“E-83E”	Pressure too high.	Check filter system in Vat #5.
“E-83J”	Bulk JIB FILL switch on when pressure too high.	Check JIB fill valves.
“E-83R”	Bulk Dispose switch on when pressure too high.	Check Bulk Dispose quick-disconnect behind fryer.
“E-93I” “24 VDC SUPPLY TRIPPED”	Autolift motor malfunction or failure.	If AutoLift feature is not operating, have each of the Auto-lift motors checked.

Chapter 2 Information & Filter Button Stats

NOTE: If no buttons are pressed within 5 seconds in any of stats modes, the controls revert back to normal operation.

2.1 Info Button Stats

2.1.1 Actual Oil Temperature

Press the info button and the actual oil temperature shows in the display, for each vat.

2.1.2 Set-point Temperature

Press the info button twice and “SP” shows in the display, along with the set-point (preset) temperature of each vat.

2.1.3 Recovery Information For Each Vat

Press the info button 3 times and “REC” shows in the left display and the recovery time that oil temperature went from 250°F (121°C) to 300°F (149°C) shows in the right display. For example, “REC 5:30” means it took 5 minutes and 30 seconds for the oil temperature to recover to 300°F (149°C) from 250°F (121°C).

2.2 Filter Button Stats

2.2.1 Cook Cycles Remaining before Filtering

Press either filter button and the left display shows “COOKS REMAIN” and the right display shows the number of cook cycles before the next auto filter. For example, “REMAINING” “3” “6” means after 3 more cook cycles on the left vat, the controls asks the operator if they are ready to filter or not. But, 6 more cook cycles remain on the right vat.

2.2.2 Time and Date

Press either filter button twice and “FILTERED” shows in the displays followed by the time of day and the date of the last filter.

2.2.3 Filter Pad Hours

Press either filter button three times and “FLTR PAD” “XX HOURS” shows in displays to indicate the number of hours the existing filter has been used.

Information & Filter Button Stats

Chapter 3 Information Mode

This historic information can be recorded and used for operational and technical help and allows you to view the following:

1. E-LOG
2. LAST LOAD
3. DAILY STATS
4. OIL STATS
5. REVIEW USAGE
6. INPUTS
7. OUTPUTS
8. OIL TEMP
9. CPU TEMP
10. COMMUNICATION INFO
11. ANALOG INFO
12. ACTIVITY LOG
13. OIL LEVELS
14. PUMP VALVE INFO
15. AIF INFO
16. USB SUPPORT

NOTE: Not all Information Mode functions are discussed in this section. To ensure proper operation of fryer, please consult Henny Penny Corp. before changing any of these settings. For more information on these functions, contact Technical Support at 1-800-417- 8405, or 1-937-456-8405.

3.1 Information Mode Details

NOTE: Press the info button and program buttons at the same time to exit Information Mode at any time.

3.1.1 E-LOG (Error Code Log)

The E-Log section provides an error code log.

1) Press the info button and program button at the same time and “*INFO MODE*” shows in the display, followed by “1. E-LOG”.
2) Press the down arrow and “A. (date & time) *NOW*” show in displays. This is the present date and time.

3) Press the down arrow and if an error was recorded, “B. (date, time, and error code information)” shows in display. This is the latest error code that the controls recorded. Sometimes the characters “L:” and “R:” appear in front of the error code on the display which refers to the left or right vat of a split vat.

4) Press the down arrow and the next latest error code information can be seen. Up to 10 error codes (B to K) can be stored in the E-LOG section.

3.1.2 Last Load

The Last Load section provides information on recent cook cycles.

1) Press the right arrow and “2. LAST LOAD” shows in displays.

2) Press timer 1 or 2 for the product you want to view the cook data and the LED flashes.

3) Press the down arrow to start viewing the cook data.
For example, if the left timer 1 LED is flashing, “PRODUCT FRY L1” shows in displays.
If the right timer 2 LED is flashing, “PRODUCT FRY R2” shows in displays.

4) Press the down arrow to start viewing the cook data.

Function	Display Example	
Product (Last Product Cooked)	PRODUCT	FRY L1
Time Of Day The Last Cook Cycle Was Started	STARTED	FEB-04 2:25P
Actual Elapsed Cook Time	ACTUAL TIME	1:06
Programmed Cook Time	PROG TIME	1:00
Max Temp During Cook Cycle	MAX TEMP	350°F
Min Temp During Cook Cycle	MIN TEMP	313°F
Avg Temp During Cook Cycle	AVG TEMP	322°F
Heat On (%) During Cook Cycle	HEAT ON	45%
Ready? (Was Fryer Ready Before Start?)	READY?	YES
When Cook Cycle Was Stopped:		
Early	QUIT AT0:	10 REM
After Complete Cook Cycle	*DONE*	+6 SEC
Difference (%) Between Actual And Programmed Cook Time	ACT/PROG	1%

3.1.3 Daily Stats

The Daily Stats section provides operational information of the fryer for the last 7 days.

1) Press the right arrow and ”3. DAILY STATS” shows in displays.
2) Press the down arrow to start viewing the cook data.
3) Press right timer 1 to view data for other days of the week.

Function	Display Example
Day for which this data was recorded	APR-30 TUE*
Number of Hours: Minutes the fryer was on	(L/R) ON HRS TUE* 3:45
Number of times filtered	(L/R) FILTERED TUE* 4
Number of times filter skipped	(L/R) SKIPPED TUE* 4
Number of times oil added	(L/R) ADD OIL TUE* 4
Number of times oil discarded	(L/R) DISPOSE TUE* 0
Oil temperature recovery time	(L/R) RECOVERY TUE* 1:45
Total number of cook cycles that day	(L/R) TOT CK TUE* 38
Number of cycles stopped before *DONE*	QUIT CK TUE* 2
Cook Cycles for Product #1	COOK -1- TUE* 17
Cook Cycles for Product #2	COOK -2- TUE* 9
Cook Cycles for Product #3	COOK -3- TUE* 5
Cook Cycles for Product #4	COOK -4- TUE* 0
Cook Cycles for Product #5	COOK -5- TUE* 0
Cook Cycles for Product #6	COOK -6- TUE* 6
Cook Cycles for Product #7	COOK -7- TUE* 0
Cook Cycles for Product #8	COOK -8- TUE* 0
Cook Cycles for Product #9	COOK -9- TUE* 1
Cook Cycles for Product #0	COOK -0- TUE* 0

3.1.4 Oil Stats

The Oil Stats section provides information of current oil and average of last four batches of oil.

1) Press the right arrow and “4. OIL STATS” shows in displays.
2) Press the down arrow to start viewing the cook data.

Function	Display Example	
Start date of new oil	(L/R) NEW OIL	MAR-23
Number of days oil in use	(L/R) OIL USE	4 DAYS
Number of filters on this oil	(L/R) FILTERED	4
Number of times filter skipped	(L/R) SKIPPED	0
Number of cook cycles on this oil	(L/R) TOT CK	38
Average number of days per oil change	(L/R) AVG DAYS PER OIL CHANGE	13.8 DAYS
Average number cook cycles per oil change	(L/R) AVG CKS PER OIL CHANGE	388 CKS

3) Press and hold a product button (1 to 4) to view the data from one of the previous 4 batches of oil used.
   - Press product button 1 to view oldest oil data: Ex: OIL-4 14 DAYS
   - Press product button 2 to view 3rd oldest oil data: Ex: OIL-3 12 DAYS
   - Press product button 3 to view 2nd oldest oil data: Ex: OIL-2 15 DAYS
   - Press product button 4 to view previous batch of oil: Ex: OIL-1 13 DAYS

   NOTE: To obtain the most accurate oil information, use the “3.DISPOSE” step in the Filter Menu (press and hold the filter button) to drain the oil from the vat.

3.1.5 Review Usage

The Review Usage section provides accumulated info since the data was last reset.

1) Press the right arrow and “5. REVIEW USAGE” shows in displays.
2) Press the down arrow to start viewing the cook data.

Function	Display Example	
Day the usage data was previously reset	SINCE	APR-19 3:00P
Number of Hours the fryer was on	(L/R) ON HRS	4
Number of times filtered	(L/R) FILTERED	4
Number of times filter skipped	(L/R) SKIPPED	0
Number of times oil added	(L/R) ADD OIL	4

Function	Display Example
Number of times oil discarded	(L/R) DISPOSE 1
Total number of cook cycles	(L/R) TOT CK 38
Number of cycles stopped before *DONE*	QUIT CK 2
Cook Cycles for Product #1	COOK -1- 17
Cook Cycles for Product #2	COOK -2- 9
Cook Cycles for Product #3	COOK -3- 5
Cook Cycles for Product #4	COOK -4- 0
Cook Cycles for Product #5	COOK -5- 0
Cook Cycles for Product #6	COOK -6- 6
Cook Cycles for Product #7	COOK -7- 0
Cook Cycles for Product #8	COOK -8- 0
Cook Cycles for Product #9	COOK -9- 1
Cook Cycles for Product #0	COOK -0- 0
Reset usage data: Enter the Usage Code - 1, 2, 3 on this step to zero out all the usage information	RESET USAGE / ENTER CODE - - - - -

3.1.6 Inputs

1) Press the right arrow and “6. INPTS” and “HDF” show in displays.
   H = HIGH LIMIT - If “H” is present, the high limit is good. If “-” shows then the high limit is tripped out (overheated) or disconnected.
   D = DRAIN SWITCH - If “D” is present, the drain handle (when applicable) is closed. If “-” shows then the drain is open or the switch is faulty.
   F = FAN (PRESSURE SWITCH) - If “F” is present, the pressure switch is good. If “-” shows in the display, the switch is faulty.
2) Press the down arrow and a “_” indicates the input is not presently detected. A ✓ indicates the signal is detecting a normal input. A blinking **X** indicates the signal is presently detected, but is detected as a half-wave (partially failed) input.

NOTE: The H, D, F signals above are wired in series. The first signal missing out of this sequence l generally causes all signals to the right of it to be missing as well.

3.1.7 Outputs

1) Press the right arrow and “7. OUTP” and “F-S-I-H-” show in displays.
   F = FAN (PRESSURE SWITCH) - Press product button 1 or 6 to open and close the pressure switches
   S = SAFETY GAS VALVE (if available) - Press product button 2 or 7 to open and close the gas safety valves.

I = IGNITION MODULE - Press product button 3 or 8 to open and close the outputs on the ignition modules.
H = HEAT OUTPUTS - Press product button 4 or 9 to turn on and off the heating outputs (ex: gas valve).

3.1.8 Oil Temperature

1) Press the right arrow and “8.OIL TMP” and the oil temperature displays.

3.1.9 CPU Temperature

1) Press the right arrow and “9.CPU TMP” and the current PC board temperature displays.

3.1.10 COM MMC

1) Press the right arrow and “10.COM MMC” displays.

3.1.11 Analog

1) Press the right arrow and “11.ANALOG” displays.

3.1.12 Activity Log

1) Press the right arrow and “12.ACT LOG” displays.

3.1.13 Oil Levels

1) Press the right arrow and “13.OIL LVL” displays.

3.1.14 Pumps and Valves

1) Press the right arrow and “14.PUMPS VALVES” displays.
2) For selector valve information, press the down arrow button 3 times. “SEL VALVE” displays.

   To calibrate the selector valve, press product button 3 and the left ✓ button. The selector valve will make 3 revolutions and returns to the home position. Successful calibration is 2.00R 10P E/R2000 +/- S

   To move the selector valve one position forward, press product button 4 and the left ✓ button. Continue to press the left ✓ button to move the selector valve forward one position.

   To set the selector valve on continuous run, press product button 5 and the left ✓ button. Pressing the left ✓ button again ends the continuous run and the selector valve returns to the home position.

3.1.15 AIF Info

1) Press the right arrow and “15.AIF INFO” displays.

3.1.16 USB Support

Follow the procedure below to extract a normal report log from the fryer control.

1) Press the right arrow and “16.USB” SUPPORT displays.
2) Press the down arrow and REPORTS NO DRIVE displays.
3) Insert USB drive into USB port. PRINT displays.
4) Press the ✓ button. The right display cycles through the reports and logs.

When the upload is complete, *REPORT* *DONE* displays.

5) When REMOVE USB? displays in the left display, press the ✓ button. WAIT displays.

6) Once OK TO REMOVE displays, you can remove the USB drive.

7) Insert USB drive into USB port on laptop or desktop computer.

8) Navigate to the USB file folder on the computer.

9) Open the spreadsheet file to review the report.

Chapter 4 Product Program Mode

This mode allows you to program the following:

- Change Product Name
- Assign Button
- Change Times & Temp
- Change Cook ID
- Alarms
- Quality Timers
- Include in Filter Count (Global)
- Filter at X no. of loads (Mixed)
- Load Compensation
- Load Compensation Reference
- Full Heat
- PC Factor

4.1 Modifying Product Settings

1) Press and hold the program button until “PROG” shows in the display, followed by “ENTER CODE”.
2) Enter code 1, 2, 3 (first 3 product buttons). “PRODUCT” and “PROGRAM” show in the displays, followed by “SELECT PRODUCT’ and “-P 1-” (ex: NUG).

Change Product Names

3) Use the up or down arrow to scroll through the 40 products, or press the desired product button.
4) Press the right arrow and “NAME” shows in the left display and the product (ex: NUGGETS) shows in the right display.
5) Press ✓ button and the first letter in the name flashes. Press a product button and the flashing letter changes to the first letter under the product button that was pressed. For example, if product button one is pressed, the flashing letter changes to an “A”. Press the same button again and the flashing letter changes to a “B”. Press it again and flashing letter changes to a “C”. Once the desired letter shows in display, press the right arrow to continue to next letter and repeat the procedure. Press and hold the right **X** button to exit Program Mode, or press the right arrow to continue on to “COOK TIME”.

Assign Button

6) Press the right arrow until “ASSIGN BTN” shows in the display, along with the product (ex: NUGGETS). If this product already has a product button assigned to it, that LED will be lit. To assign other product buttons to that product, press and hold the product button for 3 seconds and that LED stays lit. To remove a product from a button, press and hold the product button with a lit LED and the LED goes out.

Change Times & Temperature

7) Press the right arrow until “COOK TIME” shows in the display, and then use the product buttons, or up or down arrow, to change the time in minutes and seconds, to a maximum of 59:59.

8) Press the right arrow and “TEMP” shows in the display, along with the preset temperature on the right side of the display. Press the product buttons, or up or down arrow, to change the temperature. The temperature range is 190°F (88°C) to 375°F (191°C).

Cook ID Change

9) Press the right arrow until “COOK ID” shows in the display along with the product ID. For example, “NUG” would be the ID for nuggets. Use the product buttons, or up or down arrow, to change the ID.

Alarms (1 & 2)

10) Press the right arrow until “ALRM 1” shows in the left display, and an alarm time in the right display. Press the product buttons, or up or down arrow, to set an alarm. Ex., If a Cook Cycle was set at 3 minutes, and an alarm was to go off after 30 seconds into the Cook Cycle, “2:30” would be set in the display at this time. When the timer counts down to 2:30 the alarm sounds. After alarm time is set, press the right arrow and “ALRM 2” shows in display, and a second alarm can be programmed.

Quality Timer (Hold Time)

11) Press the right arrow until “QUAL TMR” shows in the display along with the preset holding time. Press the product buttons, or up or down arrow, to adjust holding time up to 2 hours : 59 minutes.

12) **A. Global Filter Tracking - Include In Filter Count**
Press the right arrow until “INCL IN FLTR CNT” flashes in display along with “YES” or “NO”. Using the up or down arrow, change the display to “YES” if that product’s Cook Cycles are to be counted as part of the recommended filter process. Set to “NO” if it is not to be included.

B. Mixed Filter Tracking - Filter After “X” Number Of Loads
Press the right arrow until “FILTER AFTER ...” flashes in the left display, and the number of cook cycles between filters shows in the right display. Press the product buttons, or up or down arrow, to change this value of 0 to 99 loads. This needs set for each product.

Load Compensation

13) Press the right arrow until “LD COMP” shows in the display along with the load compensation value. This automatically adjusts the time to account for the size

and temperature of the cooking load. Press the product buttons, or up or down arrow, to change this value of 0 to 20.

Load Compensation Reference

14) Press the right arrow until “LCMP REF” shows in the display along with the load compensation average temperature (if load compensation is set to “OFF”, then “_ _ _” shows in display and setting cannot be programmed). This is the average cooking temperature for each product. The timer speeds up at temperatures above this setting and slows down at temperatures below this setting. Press the product buttons, or up or down arrow, to change this value.

Full Heat

15) Press the right arrow until “FULL HT” shows in the display along with the full heat value in seconds, which means the heat is on as soon as a timer button is pressed, for the programmed length of time. Press the product buttons, or up or down arrow, to change this value of 0 to 90 seconds.

PC Factor

16) Press the right arrow until “PC FCTR” shows in the display along with the proportional temperature, which helps to keep the oil from over-shooting the set-point temperature. Press the product buttons, or up or down arrow, to change this value of 0 to 50 degrees.

NOTE:

- Use the left arrow to go back to previous menu items.
- Press the right arrow when finished with current product, to return to the “SELECT PRODUCT” step.
- Press and hold the program button to exit Product Program Mode.

Chapter 5 Level 2 Programming

Used to access the following:

- Special Program Mode
- Clock Set
- Data Communication
- Heat Control

5.1 Special Program Mode

The Special Program Mode is used to set more detailed programming. Prior to accessing individual program modes, see the following procedure.

1) Press and hold the program button for five seconds until “LEVEL 2” followed by “SP PROG” and “ENTER CODE” show in the display.
2) Enter code 1, 2, 3, and “SP-1” “TEMP” “FORMAT” show in the displays.
NOTE:
   - If a bad code is entered, a tone sounds and “BAD CODE” shows on the display. Wait a few seconds, the controls revert back to the cook mode, and repeat the above steps.
   - To exit from the Special Program Mode at any time, press and hold the program button for 2 seconds.
   - Use the left arrow to go back to previous menu items.
   - Press the right arrow when finished with current Level 2 step.

Table 5-1 Special Program Modes

SP-1	Temperature: Degrees Fahrenheit or Celsius
SP-2	Language: English, Greek “ΕΛΛΗΝΙΚΑ”, Russian “РУССКИИ”, Swedish “SVENSKA”, German “DEUTSCHE”, Portuguese “PORTUG.”, Spanish “ESPANOL”, or French “FRANCAIS”.
SP-3	System Initialization (Factory Presets)
SP-4	Audio Volume (Loudness)
SP-5	Audio Tone (Frequency)
SP-6	Melt Cycle Selection - 1.LIQUID; 2.SOLID
SP-7	Idle Mode Enabled - YES or NO
SP-7A	Use “0” for IDLE
SP-7B	Auto Idle Minutes

SP-7C	Idle Set-Point Temperature
SP-8	Filter Tracking Mode - 1.MIXED or 2.GLOBAL
SP-8A	Suggest Filter At... - 75% to 100% (MIXED)
SP-8B	Filter Lockout Enabled? - YES or NO (MIXED)
SP-8A	Left Vat Filter Cycles - 0 to 99 (GLOBAL)
SP-8B	Right Vat Filter Cycles - 0 to 99 (GLOBAL)
SP-8C	Filter Lockout Enabled? - YES or NO (GLOBAL)
SP-9	Polish Time Duration - X:XX M:SS
SP-10	Change Pad Reminder Time - XX HRS
SP-11	Clean-Out Time - XX MIN
SP-12	Clean-Out Temperature - XXX °F or °C
SP-13	Cooking User IO - After Cook Cycle, display shows previous menu item or "——"
SP-14	Number of Baskets - 2 BASKETS or 4 BASKETS
SP-15	Show Cooking Indicator - YES or NO
SP-16	2nd Language: English, Greek "ΕΛΛΗΝΙΚΑ", Russian "РУССКИЙ", Swedish "SVENSKA", German "DEUTSCHE", Portuguese "POR-TUG.", Spanish "ESPANOL", or French "FRANCAIS".
SP-17	2nd Audio Volume
SP-18	Energy Save Enabled? - YES or NO
SP-19	Fryer Type - GAS or ELECTRIC
SP-20	Vat Type - SPLIT or FULL
SP-21	Autolift Enabled? - NO LIFT or YES LIFT
SP-22	Bulk Oil Supply? - YES or NO
SP-23	Direct Oil Dispose? - NO / FRONT / REAR
SP-24	Serial No. of Fryer
SP-25	Change Mgr. Code- 1 = YES
SP-26	Change Usage Code - 1 = YES
SP-27	Dispose Requires Code ? - YES or NO
SP-28	Longer Fill Time Enabled - YES or NO
SP-29	Let User Exit Fill? - YES or NO

SP-30	Skip 'SKIM' Prompt? - YES or NO
SP-31	Skip 'EXP FLTR CONFIRM' Prompt? - YES or NO
SP-32	2-Stage Wash Enabled? - YES or NO
SP-33	Daily Filter Lockout Enabled? - YES or NO
SP-34	Daily Filter Period Start Time (i.e.: 5:00)
SP-35	Daily Filter Reminder Time (i.e.: 21:00)
SP-36	SKIP.... (Quick Configuration Menu)

5.1.1 SP-1 Temperature

1) The left display flashes "SP-1" and "TEMP", "FORMAT".
2) Press the up or down arrow button to choose °F or °C.

5.1.2 SP-2 Language

1) Press the right arrow until "SP-2" "LANGUAGE" flashes on the left display.
2) Press the up or down arrow to select desired language.

5.1.3 SP-3 System Initialization

1) Press the right arrow until "SP-3" "DO SYSTEM INIT" flashes in the display, along with "INIT" on the right display.
2) To reset the controls to factory default settings, press and hold the ✓ button and controls count down "IN 3", "IN 2", "IN 1". Once the display shows "-INIT-" and "*DONE*", the controls are reset to factory defaults.

5.1.4 SP-4 Audio Volume

1) Press the right arrow until "SP-4" "VOLUME" flashes in the left display.
2) Press the up or down arrow, or product buttons, to adjust the speaker volume, 10 being loudest and 1 being the most quiet.

5.1.5 SP-5 Audio Tone

1) Press the right arrow until "SP-5" "TONE" flashes in the left display.
2) Press the up or down arrow button, or product buttons, to adjust the tone of the speaker, 2000 being the maximum value and 50 being the minimum.

5.1.6 SP-6 Melt Cycle Selection

1) Press the right arrow until "SP-6 MELT CYCLE SELECT" scrolls in the left display. Unless solid oil is being used in the vats, the right display should show "1.LIQUID".
2) If solid shortening is used, the unit must be equipped to handle solid oil.
3) Use the up or down arrow to change the right display to "2.SOLID".

5.1.7 SP-7 Idle Mode Enabled

An Idle Mode allows the oil temperature to drop to a lower temperature when not in use. This saves on oil and utilities.

1) Press the right arrow until “SP-7” “IDLE MODE ENABLED?” flashes in the left display.
2) Press the up or down arrow to choose “YES” or “NO”.
3) With “YES” in the display, press the right arrow and “SP-7A” “USE ‘0’ FOR IDLE” flashes on the left display. Press the up or down arrow to select “YES” or “NO”. If “YES” is selected, an Idle Mode can be programmed in product button 0.
4) Press the right arrow and “SP-7B” “AUTOIDLE MINUTES” flashes in the left display.
5) Press the up or down arrow, or use the product buttons, to set the time (0 to 60 minutes) fryer stays idle before auto-idle is enabled. Ex., “30” means, if product is not cooked in that vat for 30 minutes, the control automatically cools the oil down to the idle set-point temperature.
6) Press the right arrow and “SP-7C” “IDLE SETPT” flashes in the left display.
7) Press the up or down arrow, or use the product buttons, to set idle temperature 200°F to 375°F (93°C to 191°C).

5.1.8 SP-8 Filter Tracking Mode

Filter Tracking signals the operator when the oil needs filtering by counting the number of Cook Cycles between filters.

1) Press the right arrow until “SP-8” “FILTER TRACKING MODE” shows in the display.
2) Use the up or down arrow to choose either “1.MIXED” filter tracking or “2. GLOBAL”
NOTE:
   - GLOBAL means all the products have the same number of cook cycles between filters
   - MIXED means each product may be set with different number of cook cycles between filters. The controls add the cycle count (see example below) and when the counts equal 1 or greater, filtering is suggested. Ex., 1 load of fish. 2 loads of french fries, a load of chicken equals 1. 1/2 + 1/8 + 1/8 + 1/4 = 1

Product	No. Cook Cycles	Cycle Count
Fish	2	1/2
French Fries	8	1/8
Chicken	4	1/4

5.1.8.1 MIXED

1) If MIXED is selected, press the right arrow and “SP-8A” “SUGGEST FILTER AT...” shows in the left display, and a value between 75% and 100% shows on the right display.
2) Press the up or down arrow to change this value. The lower the value, the sooner the control recommends to filter. Ex: If set to 75%, the control suggest

filtering after 3/4 of the programmed cook cycles must be completed before the control suggests filtering.

3) Press the right arrow and “SP-8B” “LOCKOUT ENABLED?” shows in the left display.
4) Press the up or down arrow to choose “YES or “NO”.
5) If set to “YES”, when controls suggest filtering, “FILTER LOCKOUT”/“YOU *MUST* FILTER NOW”, shows in display; more cook cycles are refused until vat is filtered.
6) Press the right arrow and “SP-8C” “FILTER LOCKOUT AT...” shows in left display and a value between 100% and 250% shows on right display.
7) Press the up or down arrow to change this value. The lower the value, the sooner the “lockout” occurs. Ex., If set at 100%, “lockout” occurs when the cycle count reaches 1 or greater. Set at 200%, twice as many cycles are counted before “lockout” occurs.

5.1.8.2 GLOBAL

1) If GLOBAL is selected, press the right arrow.

5.1.8.2.1 Split Vat

1) If unit is a split vat, “SP-8A” and “LEFT VAT FILTER CYCLES” shows in the left display, and the number of cook cycles between filters shows on the right display (0 to 99).
2) Use the up or down arrow, or product buttons, to change this number.
3) Press the right arrow and “SP-8B” and “RIGHT VAT FILTER CYCLES” shows in the left display, and the number of cook cycles between filters shows on the right display (0 to 99).
4) Press the right arrow and “SP-8C” and “LOCKOUT ENABLED?” shows in the left display.
5) Press the up or down arrow to choose “YES” or “NO”.
6) If set to “YES”, press the right arrow and the left display shows “SP-8D” and “LEFT VAT LOCKOUT CYCLES” and the number of cook cycles before filter lockout shows on the right display (0 to 99). Use the up or down arrow, or product buttons, to change this number.
7) Press the right arrow and the left display shows “SP-8E” “RGHT VAT LOCKOUT CYCLES” and the number of cook cycles before filter lock-out shows on the right display (0 to 99).
8) Use the up or down arrow, or product buttons, to change this number. Once this number of cook cycles is reached, “FILTER LOCKOUT”/”YOU *MUST* FILTER NOW”, shows in the display, and it refuses further cook cycles until the vat is filtered.

5.1.8.2.2 Full Vat

1) If unit is a full vat, “SP-8A” and “FULL VAT FILTER CYCLES” shows in the left display, and the number of cook cycles between filters shows on the right display (0 to 99).
2) Use the up or down arrow to change this value.
3) Press the right arrow and “SP-8B” “FILTER LOCKOUT ENABLED?” shows in the left display. Press the up or down button to choose “YES” or “NO”.
4) If set to “YES”, press the right arrow and the left display shows “SP-8C” “FULL VAT LOCKOUT CYCLES” and the number of cook cycles before filter lockout shows on the right display (0 to 99).
5) Use the up or down arrow, or product buttons, to change this value.
6) Once this number of cook cycles is reached, “FILTER LOCKOUT”/”YOU *MUST* FILTER NOW”, shows in the display; more cook cycles are refused until vat is filtered.

5.1.9 SP-9 Polish Duration

1) Press and the release the right arrow until “SP-9 POLISH TIME” flashes in the left display.
2) Press the up or down arrow, or the product buttons, to change the polish time, from 0 to 10 minutes.

5.1.10 SP-10 Change Filter Pad Reminder Time

1) Press the right arrow until “SP-10 CHANGE PAD REMINDER” flashes in the left display.
2) Press the up or down arrow, or the product buttons, to change the time from 0 to 100 hours.

5.1.11 SP-11 Clean-Out Time

1) Press the right arrow until “SP-11 CLEAN-OUT TIME” flashes in left display.
2) Press the up or down arrow, or the product buttons, to change the time, from 0 to 99 minutes.

5.1.12 SP-12 Clean-Out Temperature

1) Press the right arrow until “SP-12 CLEAN-OUT TEMP” flashes in the left display.
2) Press the up or down arrow button, or the product buttons, to change the temperature, from 0 to 195°F (-18 to 90°C).

5.1.13 SP-13 Cooking User IO

1) Press the right arrow until “SP-13 COOKING USER IO” flashes in the display.
2) Press the up or down arrow to choose “SHOWPREV” or “SHOW- - - -”.
3) Setting SP-13 to “SHOWPREV” means after a cook cycle, the display shows the last menu item cooked. “SHOW- - - -” means after a cook cycle “- - - -” shows in the display and a menu item needs selected before starting the next cook cycle.

5.1.14 SP-14 Number Of Baskets

1) Press the right arrow until “SP-14 NUMBER OF BASKETS” flashes in the left display.
2) Press the up or down arrow to choose 2 or 4 baskets per well.

5.1.15 SP-15 Cooking Indicator

1) Press the right arrow until “SP-15 SHOW COOKING INDICATR” flashes in the left display.
2) Press the up or down arrow to choose “YES” and during a cook cycle “*” shows which timer is counting down. Choose “NO” and “*” will not shows during a cook cycle

5.1.16 SP-16 2nd Language

1) Press the right arrow until “SP-16 2ND LANGUAGE” flashes in the left display.
2) Press the up or down arrow to selected the desired 2nd language.

NOTE: By settings a 2nd language in the controls, 2 languages can now be chosen by pressing the program button during normal operation. One language shows in the right display. Pressing the ✓ button selects the language in the display.

5.1.17 SP-17 2nd Volume

1) Press the right arrow until “SP-17 2ND VOLUME” flashes in the left display.
2) Press the up or down arrow, or product buttons, to select the desired 2nd volume.

NOTE: Be setting a 2nd volume in the controls, 2 volumes can now be chosen by pressing the program button twice during normal operation. One volume setting shows in the left display (NONE to 10; 10 being the loudest) and the seconds volume shows in the right display. To select the volume, press the ✓ button under the desired volume.

5.1.18 SP-18 Energy Save Mode

1) Press the right arrow until “SP-18 ENERGY SAVE ENABLED?” flashes in the left display.
2) Press the up or down arrow to choose “YES” or “NO”.
3) If set to “YES”, during times of non-use, the fryer automatically starts an Energy Save Mode, which turns off the blowers. Then once a product is selected to start a cook cycles, the blowers and heat come back on. If set to “NO”, the blowers are on constantly.

5.1.19 SP-19 Fryer Type

1) Press the right arrow until “SP-19 FRYER TYPE” flashes in the left display.
2) Press the up or down buttons to choose “GAS” or “ELEC”.

5.1.20 SP-20 Vat Type

1) Press the right arrow until “SP-20 VAT TYPE” flashes in the left display.
2) Press the up or down arrow to choose “SPLIT” or “FULL”.

5.1.21 SP-21 Auto-Lift Enabled

1) Press the right arrow until “SP-21 AUTOLIFT ENABLED?” flashes in the left display.
2) Press the up or down arrow to choose “YES LIFT” or “NO LIFT”.
3) If fryer is fitted with the auto-lift option, SP-21 must be set to “YES LIFT”, otherwise, set SP-21 to “NO LIFT”.

5.1.22 SP-22 Bulk Oil Supply

1) Press the right arrow until “SP-22 BULK OIL SUPPLY?” flashes in the left display.
2) Press the up or down arrow to choose “YES SUPL” or “NO SUPL”.
3) Set to “YES” if the oil is pumped into the vat from an outside oil reservoir. Otherwise, set SP-22 to “NO”.

5.1.23 SP-23 Bulk Oil Disposal

1) Press the right arrow until “SP-23 BULK OIL DISPOSE?” flashes in the left display.
2) Press the up or down arrow to choose “YES DISP” or “NO DISP”.
3) Set to “YES DISP” if the oil is pumped from the vats to an outside oil reservoir when discarding the oil. Otherwise, set SP-23 to “NO DISP”.

5.1.24 SP-24 Serial Number Log

1) Press the right arrow until “SP-24 S/N ✓EDIT” flashes in the displays, along with the serial number of the unit.

NOTE: This serial number should match the serial number on the data plate, on the doors. If not, it can be recorded.

5.1.25 SP-25 Program Code Change

This allows the operator to change the program code (factory set at 1, 2, 3) used to access Product Programming and Level 2 Program Mode.

1) Press the right arrow until “SP-25 CHANGE MGR CODE? 1=YES” flashes in the display.
2) Press product button 1 and “ENTER NEW CODE, P=DONE, I=QUIT” scrolls through the display. Press the product buttons for new code.
3) If satisfied with the code, press the program button and “REPEAT NEW CODE, P=DONE, I=QUIT” shows in display. Enter the same code you previously entered.
4) If satisfied with code, press the program button and “CODE CHANGED*” shows in display.
5) If not satisfied with code, press the info button and “*CANCEL*” shows in display, then reverts back to “SP-25” “CHANGE MGR CODE? 1=YES”. Now the above steps can be repeated.

5.1.26 SP-26 Usage Code Change

This allows the operator to change the reset usage code (factory set at 1, 2, 3) to reset the usage amounts of each product. See 3.1.5 *Review Usage*, page 12 in Information Mode.

1) Press the right arrow until “SP-26 CHANGE USAGE CODE? 1=YES” flashes in the display.
2) Press product button 1 and “ENTER NEW CODE, P=DONE, I-QUIT” scrolls through display. Press product buttons for new code.
3) If satisfied with code, press the program button and “REPEAT NEW CODE, P= DONE, I=QUIT” shows in the display. Enter the previously entered code.
4) If satisfied with code, press the program button, “*CODE CHANGED*” shows in display.
5) If not satisfied with code, press the info button and “*CANCEL*” shows in display the reverts back to “SP-26” “CHANGE USAGE CODE? 1=YES”. Now the above steps can be repeated.

5.1.27 SP-27 Dispose Requires Code?

1) Press the right arrow and “SP-27 DISPOSE REQUIRES CODE?” flashes in the left display.
2) Press the up or down arrow to choose “YES” or “NO”. If set to “YES”, code 1, 2, 3, must be entered to discard the oil from the vat using the Dispose Mode.

5.1.28 SP-28 Longer Fill Time

1) Press the right arrow until ”SP-28 LONGER FILL TIME ENABLED?” flashes in the left display.
2) Press the up or down buttons to choose “YES” or “NO”.

5.1.29 SP-29 Let User Exit Fill

1) Press the right arrow until ”SP-29 LET USER EXIT FILL” flashes in the left display.
2) Press the up or down arrow to choose “YES” or “NO”. If “YES” is chosen, the user can exit the Express Filter™ fill operation.

5.1.30 SP-30 Skip Skim Prompt

1) Press the right arrow until ”SP-30 SKIP SKIM?” flashes in the left display.
2) Press the up or down arrow to choose “YES” or “NO”. If “YES” is chosen, the user is not prompted to skim.

5.1.31 SP-31 Skip Exp Filter Confirm

1) Press the right arrow until ”SP-31 SKIP EXP FILTER” flashes in the left display.
2) Press the up or down arrow to choose “YES” or “NO”. If “YES” is chosen, the user is not required to confirm an Express Filter™.

5.1.32 SP-32 2–Stage Wash Enabled

1) Press the right arrow until ”SP-32 2–STAGE WASH” flashes in the left display.
2) Press the up or down arrow to choose “YES” or “NO”. If “YES” is chosen, the wash cycle is two stages.

5.1.33 SP-33 Daily Filter Lockout Enabled

1) Press the right arrow until ”SP-33 DAILY FILTER LO” flashes in the left display.
2) Press the up or down arrow to choose “YES” or “NO”. If “YES” is chosen, the user is locked out while a daily filter is performed.

5.1.34 SP-34 Daily Filter Period Start Time

1) Press the right arrow until ”SP-34 DAILY FILTER ST” flashes in the left display.
2) Press the up or down arrow, or the product buttons, to change when the daily filter begins. The two digit hour and two digit minute must be set (HH:MM)

5.1.35 SP-35 Daily Filter Reminder Time

1) Press the right arrow until ”SP-35 DAILY FILTER RM” flashes in the left display.
2) Press the up or down arrow, or the product buttons, to change when the user is reminded to perform the daily filter. The two digit hour and two digit minute must be set (HH:MM)

5.1.36 SP-36 Quick Configuration Menu

1) Press the right arrow until ”SP-36 SKIP” flashes in the left display.
2) Press the up or down arrow to choose “YES” or “NO”.

5.2 Clock Set

1) Press and hold the Program button for 5 seconds until “LEVEL 2” “SP PROG" “ENTER CODE” shows in the display.
2) Press the program button twice and “CLK SET” “ENTER CODE” flashes in the left display.
3) Enter code 1, 2, 3.
4) “CS-1 ENTER DATE MM-DD-YY” flashes in the left display. Use the product button to set the date in the right display.
5) Press the right arrow and “CS-2 ENTER TIME” flashes in the left display and the time flashes in the right display. Press the up or down arrow, or product buttons, to change the time.
6) Press the right arrow and “CS-2 ENTER TIME” flashes in the left display and “AM” or “PM” flashes in the right display. Use the up or down arrow to choose “AM” or “PM”.
7) Press the right arrow and “CS-3 TIME FORMAT” flashes in the left display and “12-HR” or 24-HR” shows in the right display. Use the up or down arrow to choose a 12-hour time format or a 24-hour time format.
8) Press the right arrow and “CS-4 DAYLIGHT SAVING TIME” flashes in the left display. Use the up or down arrow to choose daylight saving time for your area: 1.OFF; 2.US (2007 & after); 3.EURO; or 4.FSA (US before 2007).
9) Press and hold the program button to exit.

5.3 Data Logging, Heat Control, Tech, Stat, & Filter Control Modes

The Data Logging, Heat Control, Tech, Stat and Filter Control Modes are advanced diagnostic and program modes, mainly for Henny Penny Corp. use only. For more information on these modes, contact the Service Department at 1-800-417-8405 or 1-937-456-8405.

5.4 Tech Mode

The TECH Mode has self-diagnostic information, which can be used by certified technicians for troubleshooting purposes, such as:

- T-1 Software
- T-2 Fryer Type (Gas or Elec.)
- T-3 Push Button Test
- T-4 All On Display Test
- T-5 Display Segment Test
- T-6 Display Digits Test
- T-7 Display Decimal Point Test
- T-8 LED's Test
- T-9 Left Temp. Probe Calibration & Offset
- T-10 Left Level 1 Probe Calibration & Offset
- T-11 Left Level 2 Probe Calibration & Offset
- T-12 Right Temp. Probe Calibration & Offset
- T-13 Right Level 1 Probe Calibration & Offset
- T-14 Right Level 2 Probe Calibration & Offset
- T-15 CPU Control Temp. Calibration/Offset/Highest
- T-16 View A - D Channel
- T-17 Inputs
- T-18 Outputs S-H-S-H
- T-19 Basket Lifts
- T-20 AIF Info
- T-21 Pumps and Valves
- T-22 Recovery Test Valves
- T-23 Heat Err Enabled?

- T-24 Change Tech Code?
- T-25 Total Initialization

NOTE: Not all Tech Mode functions are discussed in this section. To ensure proper operation of fryer, please consult Henny Penny Corp. before changing any of these settings. For more information on these functions, contact the Service Department at 1-800-417-8405, or 1-937-456-8405.

1) Press and hold the program button for 5 seconds until “LEVEL 2”, followed by, “SP PROG” and “ENTER CODE” show in the display.
2) Press the program button 4 times and “TECH” and “ENTER CODE” flash in the left display.
3) Enter code 1, 1, 2, 2, 1, 1, 2, 2 (first 2 product buttons).
4) “T-1 SOFTWARE” flashes in the left display and “EV-ELITE” shows in the right display. Use the left and right arrows to select the steps.

NOTE: If a bad code is entered, a tone sounds and “BAD CODE” shows on the display. Wait a few seconds, the controls revert back to the cook mode, and repeat the above steps. Press and hold the program button at anytime to return to normal operation.

5.4.1 T-1 - Software

- Press product button 1 to view HP Part No. of eprom.
- Press product button 2 to view software ID.
- Press product button 3 to view software version.

5.4.2 T-3 - Push-Button Test

1) Press any of the control buttons to test operation. You should hear a beep, and the LED should light and/or a display.

5.4.3 T-4 - All On Display Test

1) Press any of the product buttons and all the LEDs and display segments should illuminate.

5.4.4 T-5 - Segments Test

1) Press the timer 1 button to view the different segments of the display characters.

5.4.5 T-6 - Digits Test

1) Press the timer 1 button to view all segments of each digit across the control panels.

5.4.6 T-7 - Decimal Pts Test

1) Press the timer 1 button to view all decimal points display across the control panel.

5.4.7 T-8 - LED’S Test

1) Press the timer 1 button to view each LED illuminate across the control panel.

5.4.8 T-17 - Inputs - HDF

H = HIGH LIMIT - If “H” is present, the high limit is good. If “-” shows then the high limit is tripped out (overheated) or disconnected.

D = DRAIN SWITCH - If “D” is present, the drain handle (when applicable) is closed. If “-” shows then the drain is open or the switch is faulty.

F = FAN (PRESSURE SWITCH) - If “F” is present, the pressure witch is good. If “-” shows in the display, the switch is faulty.

1) Press the down arrow and an underscore (“_”) indicates the input is not presently detected. A checkmark (“√”) indicates the signal is detecting a normal input. A blinking (“X”) indicates the signal is presently detected, but is detected as a half-wave (partially failed) input.

NOTE: The H, D, F signals above are wired in series. The first signal missing out of this sequence l generally causes all signals to the right of it to be missing as well.

5.4.9 T-18 - Outputs

S = SAFETY GAS VALVE (if available) - Press product button 7 to open and close the gas safety valves.

H = HEAT OUTPUTS - Press product button 9 to turn the heating outputs (ex: gas valve) on and off .

1) Press the right arrow and “7. OUTP” and “F-S-I-H-” display.
   - F = FAN (PRESSURE SWITCH) - F- = fan de-energized; off, F* = fan energized, pressure switch open; on F.* = fan energized, pressure switch closed; on.
     - Full vat — Press product button 6 to turn the burner fan on and off.
     - Left split vat — Press product button 1 to turn the burner fan on and off..
     - Right split vat — Press product button 6 to turn the burner fan on and off.
   - S = SAFETY GAS VALVE (if available) - S- safety gas valve de-energized; closed S* safety gas valve energized; open
     - Full vat — Press product button 7 to open and close the safety gas valve.
     - Left split vat — Press product button 2 to open and close the safety gas valve.
     - Right split vat — Press product button 7 to open and close the safety gas valve.
   - I = IGNITION MODULE - I- ignition module de-energized; close, I* ignition module energized without pilot flame sense; open, I.* ignition module energized with pilot flame sense; open.
     - Full vat — Press product button 8 to open and close the outputs on the ignition modules.
     - Left split vat — Press product button 3 to open and close the outputs on the ignition modules.
     - Right split vat — Press product button 8 to open and close the outputs on the ignition modules.
   - H = HEAT OUTPUTS - H- heat main valve de-energized; off, H* heat main valve energized (will time out after 30 seconds); on.

- Full vat — Press product button 9 to turn on and off the heating outputs (ex: gas valve).
- Left split vat — Press product button 4 to turn on and off the heating outputs (ex: gas valve).
- Right split vat — Press product button 9 to turn on and off the heating outputs (ex: gas valve).

5.4.10 T-19 - Basket Lifts

NOTE: This is an optional feature. Not all units are equipped with basket lifts. If you have an automatic drain valve, you do not have the option of basket lifts.

1) Press the timer 1 button to view the basket lift position.
2) To lower or raise the baskets
   - In a full vat or right split vat, press the timer 2 button.
   - In a left split vat, press the timer 1 button.

5.4.11 T-20 - AIF INFO

1) Press the down arrow until AIF ✓✓ displays. This is the software version of the AIF board.
2) Press the down arrow and “CPU POSN” displays. This indicates which controls are plugged into each port on the AIF board. For example, the left control should be plugged into port 1, and on a 3 control fryer, shows “1 OF 3” on the display. If the right control is unplugged, then the left control would show “1 OF 2” instead of “1 OF 3”.
3) Press the down arrow until INP 24 ✓ PAN ✓ displays. A checkmark indicates the PAN is in the correct position and an X indicates it is out of place.
4) Press the down arrow until RTI DTF DSW JFS displays.
   - A * next to DTF indicates the bulk supply oil dispose tank is full and you are not able to dipose. An underscore indicates the tank is not full.
   - A * next to DSW indicates the bulk supply oil dispose switch is engaged. An underscore indicates the bulk supply oil dispose switch is not engaged.
   - A * next to JFS indicates the JIB fill switch is actively filling the JIB from bulk supply. An underscore indicates the JIB fill switch is not currently active filling the JIB.
5) Press the down arrow and “FILR IN” and “USE BY 1(ex)” displays. These displays shows which controls are using the filtering system.
   “USE = 0” = not in use
   “USE = 7” = used by AIF
   “USE = 1 to 5” = used by control PCB
6) Press the down arrow until PAD = 0 HR displays. The number indicates the amount of hours the current filter pad has been in use in the unit.
7) Press the down arrow until PRESSURE 00.0 PSI displays. This indicates the amount of pressure used to pump when filtering oil, pumping oil from the JIB, or pumping oil from the bulk oil system.

8) Press the down arrow until OIL IN PAN? NO displays. This indicates whether or not the drain pan currently contains oil during a drain procedure.

9) Press the down arrow until and “INP E_P_” and “JL_Rx DF_” displays.

E = Stop button

Ex = E-Stop pressed.

P = Drain Pan

Px = drain pan is missing.

JL = JIB

Jx = JIB oil level is low.

R = RTI

Rx = RTI System NOT Detected

DT = Discard Tank

DTx = tank full

10) Press the down arrow until “OUT F_J_” and “N_DI_JF_” displays. This indicates the AIF board outputs requested by the control board and the current outputs status from AIF board.

- F = Filter Pump (F* = Filter pump is on)
- J = JIB Pump (J* = JIB pump is on)
- N = New Oil Pump(if present) (N* = RTI new oil pump on)
- DI = Discard Valve(if present) (DIo = Disc. valve open/DIc=closed)
- JF = JIB Fill Valve (JFo = JIB fill valve open/JFc=closed)

11) Press the down arrow and “AIF REQ” and “RQ=Y OK=Y” displays. REQ=Y” indicates that this particular control is currently requesting control of the AIF Board outputs. “OK=Y” indicates that the AIF Board has granted this control the authority to control the AIF Board outputs.

12) Press the down arrow until and “REQ F_J_” and “N_DI_JF_” displays.

13) Press the down arrow until and “LIGHTS” “DLT_” displays.

5.4.12 T-21 - Pumps & Valves

1) Press product button 1 and left Filter Beacon lights (split vats) and press product button 2 and right Filter Beacon lights (display shows “DLTo” when on).

NOTE: This applies to units with manual drains only.

2) Press the down arrow and “VALVES” “DcRc” displays.

- Full vat or right split vat — Press product button 7 to open and close the return valve and press product button 6 to open and close the drain valve.
- Left split vat — Press product button 2 to open the return valve and press product button 1 to open and close the drain valve.
- “DcRc” indicates the valve and drain are closed, “DcRo” indicates the drain is closed and valve is open (Driven by the control board).

3) Press the down arrow and “DISCARDc” and “JIBFILLc” shows in the displays (Driven by the AIF board).

- Press product button 1 to open and close the bulk oil discard valve (display shows “DISCARDo” when open).
- Press product button 2 to open and close the bulk oil JIB fill valve (display shows “JIBFILLo” when open).

4) Press the down arrow for selector valve calibration, index, or continous run.
   - Press product button 3 and then press the left timer 1 button to calibrate the selector valve. The selector valve will rotate until it is at home position, port 10.
   - Press product button 4 and then press the left timer 1 button to index, or rotate through each position of the selector valve. NEXT POS AT 9 indicates the valve is in the JIB fill position. NEXT POS AT 10 indicates the valve is in the home position.
   - Press product button 5 and then press the left timer 1 button to set the selector valve on continuous run. Press left timer 1 button again to end continuous run.
5) Press the down arrow and “PUMP FP_” and “JP_ NP_” shows in the displays (Driven by the AIF board).
   - Ensure return or discard valve is open and press product button 1 to turn off and on the filter pump (display shows “FP*” when on).
   - Ensure return valve is open and press product button 2 to turn off and on the JIB pump (display shows “JP*” when on).
   - Ensure return or JIB fill valve is open and press product button 3 to turn off and on the new oil pump (if available - display shows “NP*” when on).

5.5 Stats Mode

This mode allows a technician to view advanced information on the operation of the fryer and controls.

1) Press and hold the program button for 5 seconds until “LEVEL 2”, followed by, “SP PROG” and “ENTER CODE” show in the display.
2) Press the program button 5 times and “STATS” and “ENTER CODE” flash in the left display.
3) Enter code 1, 1, 2, 2, 1, 1, 2, 2 (first 2 product buttons).
4) “ST-1 STATS LAST RESET ON...” flashes in the left display and the date shows in the right display. Use the left and right arrows to select the steps.

NOTE:

- If a bad code is entered, a tone sounds and “BAD CODE” shows on the display. Wait a few seconds, the controls revert back to the cook mode, and repeat the above steps.
- Press and hold the program button at anytime to return to normal operation.

Available Stats Modes:

- ST-1 Stats Last Reset Date

- ST-2 Fryer Total Running Hours
- ST-3 Left Vat Melt Cycle Hours
- ST-4 Left Vat Cook Cycle Hours
- ST-5 Left Vat Idle Hours
- ST-6 Right Vat Melt Cycle Hours
- ST-7 Right Vat Cook Cycle Hours
- ST-8 Right Vat Idle Hours
- ST-9 Power-Ups Count
- ST-10 Error Counts
- ST-11 Left Vat Heat On Hours
- ST-12 Right Vat Heat On Hours
- ST-13 Highest Left Vat Oil Temperature
- ST-14 Highest Right Vat Oil Temperature
- ST-15 Highest CPU Temperature
- ST-16 System RAM Fade Count
- ST-17 Cook RAM Fade Count
- ST-18 Product RAM Fade Count
- ST-19 Stat RAM Fade Count
- ST-20 RAM Data Error Count
- ST-21 Data Total Loss Count
- ST-22 User Initialization Count
- ST-23 Automatic Initialization Count
- ST-24 Cooks Count per Product
- ST-25 Cook Cycle Stop Counts
  - ST-25A = number of stops in the first 30 sec.
  - ST-25B = 0
  - ST-25C = 0
  - ST-25D = complete cook cycles counted
- ST-26 Reset All Stats

5.6 Do Not Disturb

Time periods of peak operations during which the “FILTER NOW?” message will not appear, may be programmed into the fryer. There are three groupings of days - Monday thru Friday (M-F), Saturday (SAT), and Sunday (SUN). Within each day grouping, up to 4 time periods (M-F 1 thru M-F 4, SAT 1 thru SAT 4, and SUN 1 thru

SUN 4) may be programmed. A time period may be anywhere from 1 to 180 minutes in length.

1) Press and hold the program button for 5 seconds until “LEVEL 2” “SP PROG” “ENTER CODE” shows in the display.
2) Press the program button once more and “DO NOT DISTURB” “ENTER CODE” flash in the left display.
3) Enter code 1, 2, 3.
4) “DO NOT DISTURB ENABLED?” flashes in the left display and “YES” or “NO” appears in the right display. Press the up or down buttons to choose “YES” or “NO”.
5) Press the program button and “M-F 1” shows in the left display and the time flashes in the right display. Press the up or down arrow, or product buttons, to change the time.
6) Press the program button and “M-F 1” shows in the left display and “A” or “P” flashes in the right display. Use the up or down arrow to choose AM or PM.
7) Press the program button and “M-F 1” shows in the left display and far right character display flashes. Press the product buttons to enter amount of time (up to 180 minutes) during which filtering will be inhibited, after time entered in step 5.
8) Press the program button to move to the next timer period, M-F 2.
9) Repeat steps 5, 6, 7, and 8 for other desired time periods.

Chapter 6 Maintenance

6.1 Introduction

This section provides checkout and replacement procedures, for various parts of the fryer. Before replacing any parts, refer to the Troubleshooting Section to aid you in finding the cause of the malfunction.

6.2 Maintenance Hints

- A multimeter will help you to check the electric components.
- When the manual refers to the circuit being closed, the multimeter should read zero unless otherwise noted.
- When the manual refers to the circuit being open, the multimeter should read infinity.

WARNING

BURN RISK

- **Do not move the fryer with hot oil in the vat or filter pan. Severe burns can result from splashing hot oil.**

6.3 Preventative Maintenance

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

Table 6-1 Preventative Maintenance Schedule

Procedure	Frequency
Filtering of shortening. See Daily Filtering Section of Operator's Manual.	Daily.
Changing the filter pad. See Changing The Filter Pad Section of Operator's Manual.	Daily.
Lubricate filter pan O-rings. See Check/Replace Filter Drain Pan O-Rings Section of Operator's Manual.	Every filter pad change.
Inspect/Change Filter Pan O-Rings. See Check/Replace Filter Drain Pan O-Rings Section of Operator's Manual.	Quarterly.
Changing of oil.	When oil smokes, foams up violently, or tastes bad.
Cleaning the vat. See Clean-Out Mode Section of Operator's Manual.	Every change of oil.
Clean blower and vents. See Clean Blower & Vents Section of Operator's Manual	Semi-annually.

6.4 Control Panel & Menu Card Replacement

Should the control panel become inoperative, or the menu card needs changed, follow these instructions:

1) Remove electrical power supplied to the vat.

WARNING

SHOCK HAZARD
To avoid electrical shock, move the power switch to off and disconnect main circuit breaker, or unplug cord at wall receptacle.

2) Remove the two screws securing the control panel.

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3) Pull the top of the panel down, allowing the panel to be supported by the 2 brackets in the slots in the control shroud. If changing control panel, continue onto step 5.

4) If changing the menu card, loosen the tape securing the menu card at the bottom, side of the control panel and pull menu card from panel. Carefully, slide changed menu card back into slot in panel and secure with tape.


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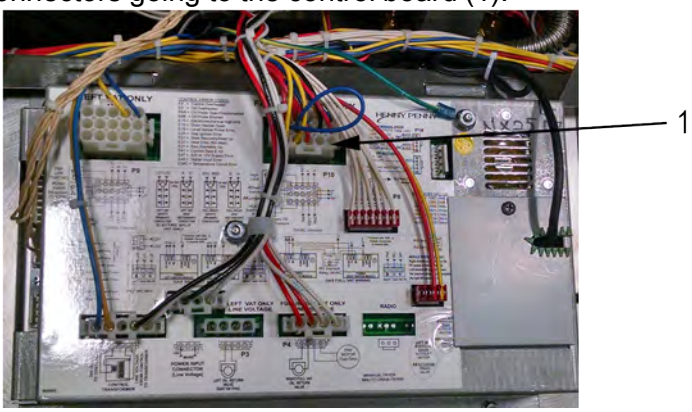
5) Unplug the connectors going to the control board (1).



6) Install a new control panel in reverse order.

6.5 High Temperature Limit Control

1) Remove electrical power supplied to the unit.

WARNING

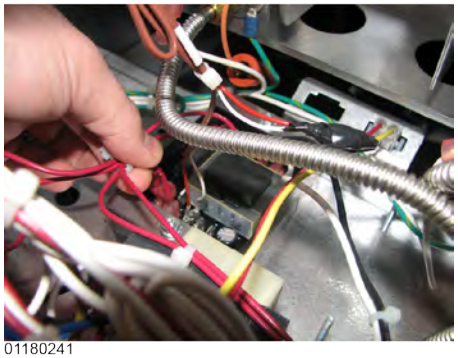
SHOCK HAZARD

To avoid electrical shock, move the power switch to off and disconnect main circuit breaker, or unplug cord at wall receptacle.

2) Lower the control board (refer to the Control Board section).

3) Remove the heat shield which covers the high limit control.

4) Mark and disconnect the wires located on the high limit control.



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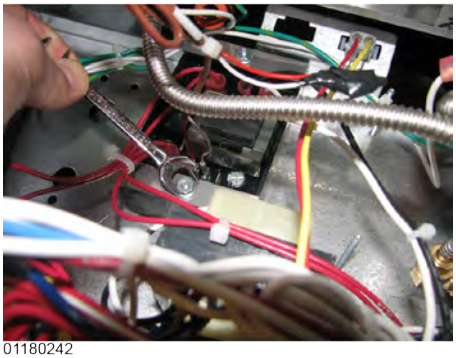
5) Using a 3/8” wrench, remove the nuts.



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6) Remove the clamp bars.
7) Slide the high limit control off of mounting studs.
8) Install the new control in reverse order.

6.6 Main Power Switch

1) Lower the control board (see 6.4 *Control Panel & Menu Card Replacement*, page 40).
2) Press on the switch from the inside of the fryer to release from the metal shroud.
3) Mark and disconnect the wires from the switch.

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4) Connect the wires onto the new switch on the correct terminals.
5) Press back into factory location.

6.7 Temperature Probe

The temperature probe is the center probe inside the vat and it relays the actual oil temperature to the control. If it becomes disabled, “E-6A or B” shows in the display. The oil level probes (left & right) monitor the oil level by temperature differences. If they becomes disabled, the display shows: “E-18A”= left probe; “E18-B”= right probe; “E18C”= both.

Also, if any of the probes are out of calibration more than 5°F, or 5°C, the probe should be replaced. An Ohm check can be performed also. See chart below.

Table 6-2 RTD Resistance Chart

°F	°C	Resist-ance Ohms	°F	°C	Resist-ance Ohms	°F	°C	Resist-ance Ohms
50	10.00	1039.02	190	87.78	1338.57	325	162.78	1620.77
60	15.56	1060.65	200	93.33	1359.69	330	165.56	1631.09
70	21.11	1082.24	210	98.89	1380.79	340	171.11	1651.72
80	26.67	1103.80	212	100.00	1385.00	350	176.67	1672.31
90	32.22	1125.32	220	104.44	1401.84	360	182.22	1692.86
100	37.78	1146.81	230	110.00	1422.86	365	185.00	1703.13
110	43.33	1168.26	240	115.56	1443.85	370	187.78	1713.38
120	48.89	1189.67	250	121.11	1464.79	380	193.33	1733.87
130	54.44	1211.05	260	126.67	1485.71	390	198.89	1754.31
140	60.00	1232.39	270	132.22	1506.58	400	204.44	1774.72
150	65.56	1253.70	280	137.78	1527.43	410	210.00	1795.10
160	71.11	1274.97	290	143.33	1548.23	420	215.56	1815.44
170	76.67	1296.20	300	148.89	1569.00	430	221.11	1835.74
180	82.22	1317.40	310	154.44	1589.73	440	226.67	1856.01
185	85.00	1327.99	320	160.00	1610.43			

6.7.1 Temperature Probe Checkout

WARNING

SHOCK HAZARD

To avoid electrical shock, move the power switch to off and disconnect main circuit breaker, or unplug cord at wall receptacle.

1) Using a Phillip's-head screwdriver, or cordless drill, loosen the screw securing the top of the control panel and secure control panel in the slots of the shroud.
2) Pull the probe connector from the control panel and locate the terminals in the connector for the probe being tested. Attach meter leads onto those terminals and refer to the chart above to determine if probe is good or not. (Probe wires are labeled, with #1 being the far left probe.)

6.7.2 Temperature Probe Replacement

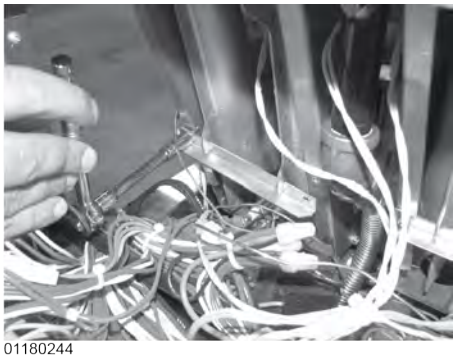
1) Pull out on the drain valve knob and drain the oil from the vat.

WARNING

SHOCK HAZARD

To avoid electrical shock, move the power switch to off and disconnect main circuit breaker, or unplug cord at wall receptacle.

2) Using a 3/8" socket, remove the 2 screws securing the burner jet bracket and remove bracket.



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3) Pull both burner jets from unit.
4) Using a 1/2" wrench, remove the nut on the compression fitting, and remove the temperature probe from the vat.

5) Using a terminal extractor, remove the probe terminals from the connector and pull remove probe from unit.

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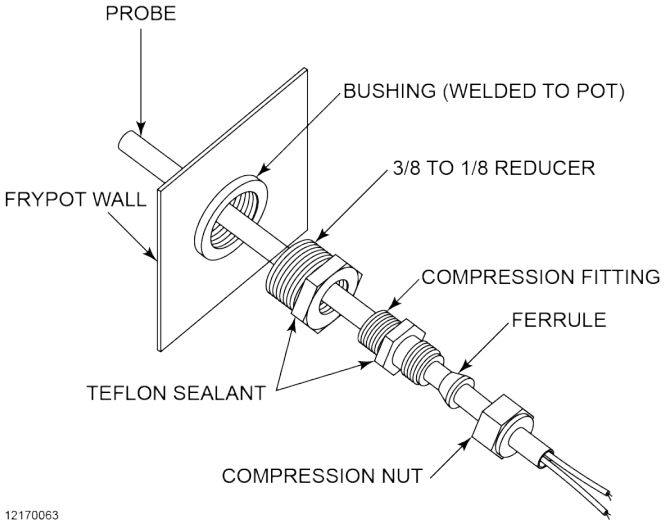
6) Place the nut and new ferrule on the new temperature probe and insert the temperature probe into the compression fitting. See drawing below.



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7) Using the probe gauge in the kit, follow the instructions on drawing below.

8) Hand-tighten compression nut and then a half turn with wrench.

NOTICE Excess force will damage temperature probe.

9) Locate temperature probe through pot wall.

10) Place gauge against pot wall as shows in Figure 6-1 *Probe Assembly Install*, page 46.

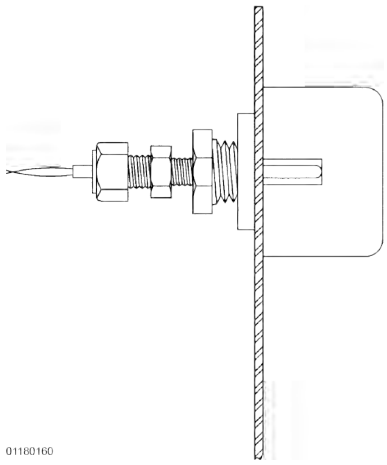


Figure 6-1 Probe Assembly Install

11) Push temperature probe through until it makes contact with gauge.

12) Tighten temperature probe in place.

CAUTION

Excess force will damage temperature probe. Hand-tighten nut and then 1/2 turn with a wrench.

13) Connect new temperature probe to the connector and fasten connector onto control panel.

14) Replace control panel and reconnect power to vat.

15) Fill vat by pressing and holding the filter button until *FILTER* *MENU* shows in the display. Then once “1.EXPRESS FILTER” shows in the display, press ▸4 times until “5.FILL FROM PAN” shows in the display. Press ✓ button and “PUMP” “EXIT” shows in the display. Press √ button again, and oil fills vat. Once vat is full, press **X** twice to return to normal operation.

6.8 Solenoid Valves

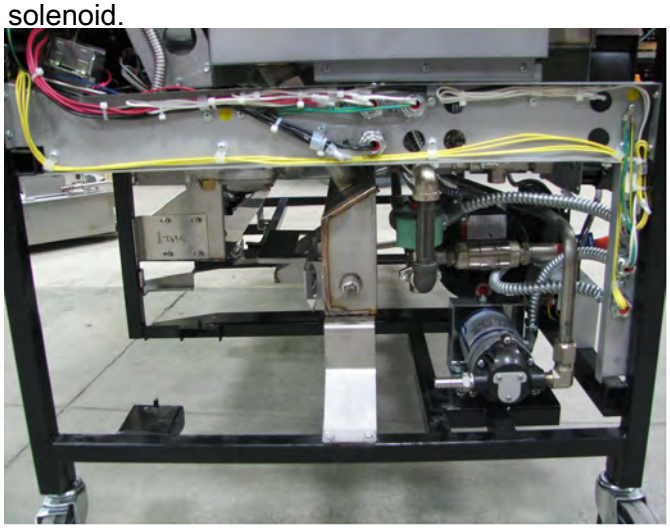
Fryers with serial numbers beginning with NA, NB, and NX will have solenoid for each vat plumbed into the oil return lines. They are normally closed, but open when power is supplied.

WARNING

SHOCK HAZARD

To avoid electrical shock, move the power switch to off and disconnect main circuit breaker, or unplug cord at wall receptacle.

1) Remove both top and bottom rear panels, or a side panel, depending upon the location of the solenoid.

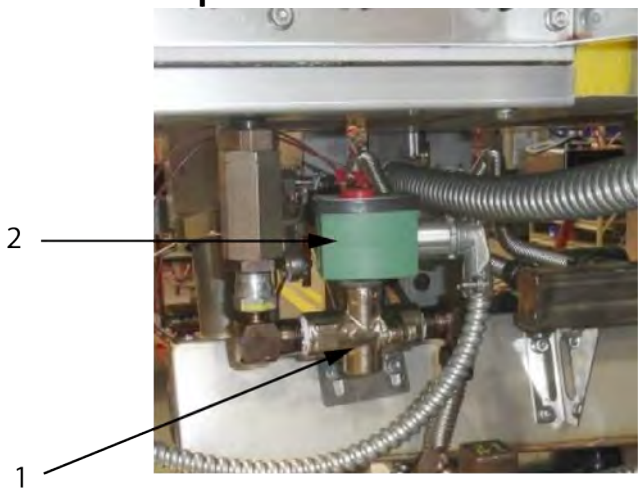


6.8.1 Solenoid Valve Checkout

Follow the wires from the solenoid and through the conduit and then cut the wires. Strip the wires back and take an ohm reading:

Voltage	Result
120 Volts - 60Hertz	50 Ohms
220-240 Volts -50/60 Hertz	230 Ohms

6.8.2 Solenoid Valve Replacement



1) Using an adjustable wrench, loosen the front and rear fittings to solenoid (1).
2) Remove the conduit (2) from the fryer and pull the solenoid assembly from the fryer.
3) Remove the conduit from the solenoid.
4) Remove elbow and fittings from solenoid stem assembly and attach them to the new solenoid, using pipe sealant on the threads.
5) Reattach the conduit to the new solenoid, threading the wires through the conduit.
6) Reattach the solenoid assembly to the fryer.
7) Reattach the conduit to the fryer and connect the wires to the fryer using wirenuts.
8) Replace rear side panels or rear panels and reconnect power to the fryer.

6.9 Selector Valve Motor Encoder Replacement

Fryers with serial numbers after NE1707001 will have selector valve for each vat plumbed into the oil return lines.

NOTE : The selector valve applies to all Del Taco fryers.

WARNING

SHOCK HAZARD

To avoid electrical shock, move the power switch to off and disconnect main circuit breaker, or unplug cord at wall receptacle.

1) Remove right side panel.
2) Disconnect both the selector valve 24VDC motor connection (1) and the AIF communication harness (2) at the AIF board.

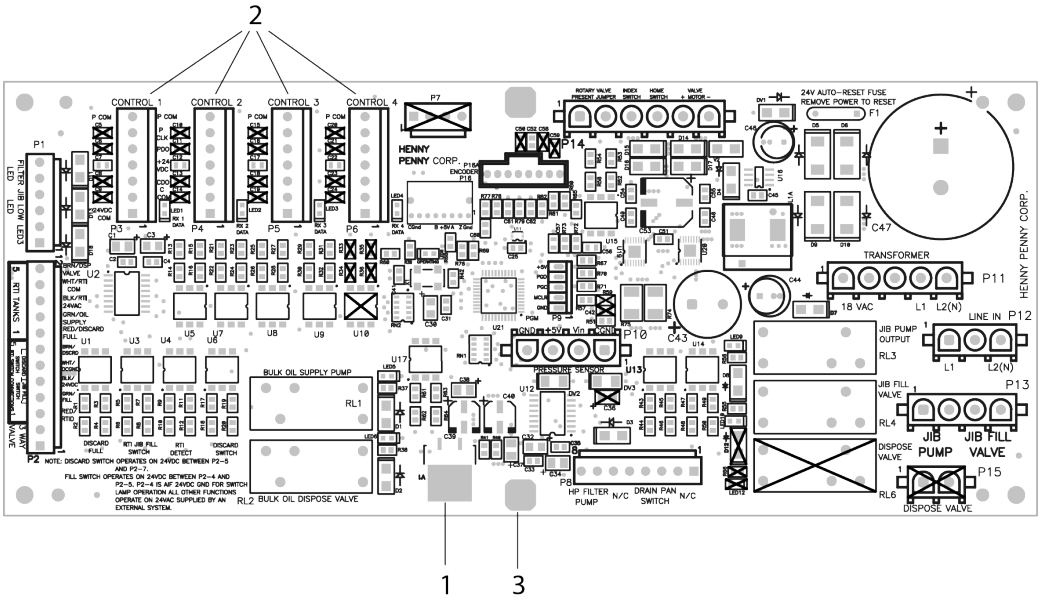


Figure 6-2 AIF Board

3) Remove 3 button head cap screws (1) .

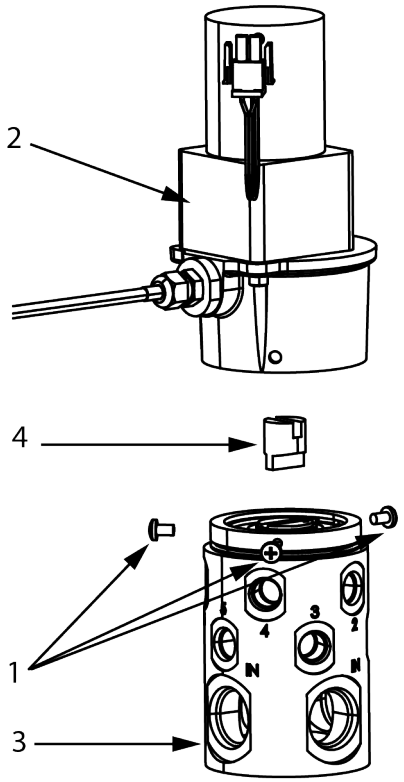


Figure 6-3 Motor Encoder Assembly, Spool Coupler, and Selector Valve

4) Separate old motor encoder assembly (2) from selector valve (3). See Figure Figure 6-3 *Motor Encoder Assembly, Spool Coupler, and Selector Valve*, page 50.

5) Connect both harnesses from new motor encoder assembly to AIF board.

6) Power up fryer to let valve find home position.

Selector valve calibration occurs automatically upon power up.

7) Turn selector valve so that new motor encoder spool alignment indicators center over port 10.

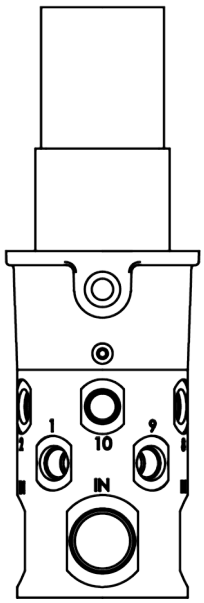


Figure 6-4 Spool Alignment Indicators over Port 10

CAUTION

SHOCK HAZARD

Manually rotating the motor encoder assembly may cause damage to the motor. If manual rotation is required for proper alignment, only manually rotate selector valve.

8) Align spool coupler (4), valve, and motor encoder assembly, and then seat motor encoder assembly on valve. See Figure Figure 6-3 *Motor Encoder Assembly, Spool Coupler, and Selector Valve*, page 50.

9) Replace 3 button head cap screws.

10) Connect AIF communication wire harnesses to AIF board.

11) Test selector valve by running calibration. Enter INFO Mode and refer to 3.1.14 *Pumps and Valves*, page 14 for calibration instructions. Successful calibration is 2.00R 10P E/R2000 +/- S

12) Install right side panel.

6.10 JIB Pump Replacement

1) Remove electrical power supplied to the unit.

WARNING

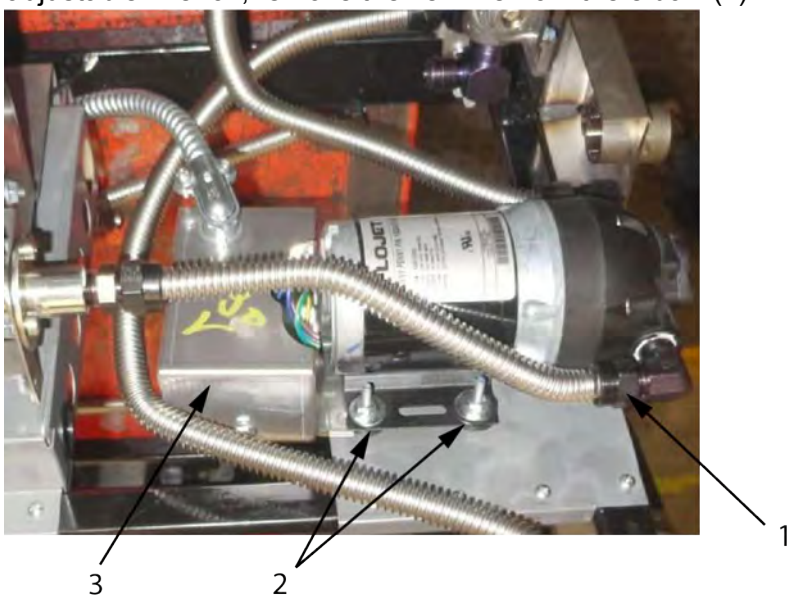
SHOCK HAZARD

To avoid electrical shock, move the power switch to off and disconnect main circuit breaker, or unplug cord at wall receptacle.

2) Remove the lower back shroud.

3) Remove blower (refer to 6.12 *Blower Replacement*, page 55).

4) Using an adjustable wrench, remove the flex line from the elbow.(1)



5) Loosen the hose clamp with a flat blade screw driver and disconnect the hose.

6) Use a 3/8” socket or wrench and remove the four nuts and washers (2) from the pumps feet.

7) Pull the pump off of the studs.

8) Remove the wire nuts.

9) Wire the new pump into the existing wires.

10) Place the pump onto the studs. Be sure to have the shield box (3) in place on the studs before placing the pump onto studs.

11) Tighten the pump nuts and washers onto the feet of the pump.

12) Reconnect fittings.

13) Replace blower.

6.11 Blower Cleaning

WARNING

SHOCK HAZARD

To avoid electrical shock, move the power switch to off and disconnect main circuit breaker, or unplug cord at wall receptacle.

6.11.1 In Housing Wheel Cleaning

1) Use foam brush and bristle brush to remove debris from in between each fan blade.
2) Wipe wheel back plate and blades with cloth towel to remove remaining debris.
3) Cover open vats of oil to keep any debris discharge out of the flue from falling into the oil and, if serial number is NX1611006 or higher, turn fan on to verify fan pressure is 1.7 inwc at 60 Hz (1.4 inwc at 50 Hz) or greater.

If less than 1.7 inwc at 60 Hz (1.4 inwc at 50 Hz) continue to “WHEEL REMOVAL CLEANING”.

NOTICE: If maintenance cleaning of blowers is conducted every 6 - 12 months cleaning of blower wheel should be successful. The key is to not to let the blower collect too much debris.

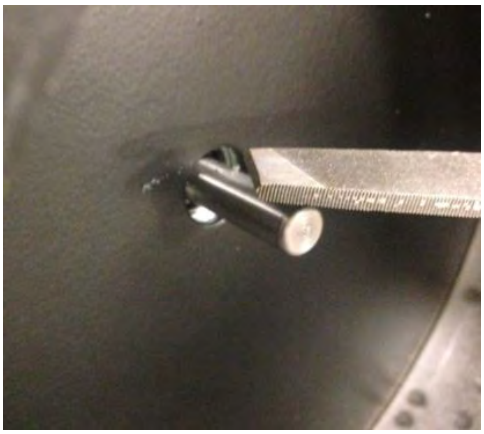
6.11.2 Wheel Removal Cleaning

1) Loosen set screw using a hex-key.
2) Attach wheel puller to OD of wheel hub by tighten 3 hex head bolts down with 1/2" wrench, making sure to keep the puller centered along the wheel/shaft axis.

3) Turn screw to remove the wheel from the motor shaft.

4) With wheel removed apply degreaser and wash wheel in dishwasher or sink to remove dirt and grease. Use of a soft bristle brush is permissible.

5) File down the burr on the shaft left by the set screw, to allow wheel to slide onto shaft freely.



6) Install wheel with hub set to end of shaft and tighten set screw.

7) If serial number is NX1611006 or higher, turn on blower and verify that pressure is 1.7 inwc at 60 Hz (1.4 inwc at 50 Hz) or greater.

If less than 1.7 inwc at 60 Hz (1.4 inwc at 50 Hz) verify the flue is not obstructed then continue to “WHEEL REPLACEMENT”.

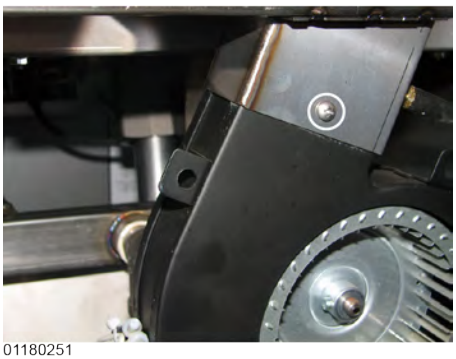
6.12 Blower Replacement

WARNING

SHOCK HAZARD

To avoid electrical shock, move the power switch to off and disconnect main circuit breaker, or unplug cord at wall receptacle.

1) Remove electrical power supplied to the unit.
2) Remove the lower back shroud.
3) Using a crosshead screw, remove the two screws that secures the blower to the flue. One screw is located on the back side of the flue.



01180251

4) Cut zip ties that are holding the wires to the blower. Remove the wire nuts from the wires.
5) Remove blower (refer to 6.12 *Blower Replacement*, page 55).
6) Reconnect new blower wires to the existing wires with wire nuts.
7) Tighten the new blower onto the flue with the two screws.
8) Zip tie wires back to the blower.

6.13 Blower Wheel Replacement

Refer to images in 6.11 *Blower Cleaning*, page 53 for visual reference.

WARNING

SHOCK HAZARD
To avoid electrical shock, move the power switch to off and disconnect main circuit breaker, or unplug cord at wall receptacle.

1) Loosen set screw using a hex-key.
2) Attach wheel puller to OD of wheel hub by tighten 3 hex head bolts down with 1/2" wrench, making sure to keep the puller centered along the wheel/shaft axis.
3) Turn screw to remove the wheel from the motor shaft.
4) File down the burr on the shaft left by the set screw, to allow wheel to slide onto shaft freely.
5) Install wheel with hub set to end of shaft and tighten set screw.
6) Turn on blower and verify that pressure is 1.7 inwc at 60 Hz (1.4 inwc at 50 Hz) or greater.

If less than 1.7 inwc at 60 Hz (1.4 inwc at 50 Hz) verify that flue is not obstructed and clean as needed to achieve 1.7 inwc.

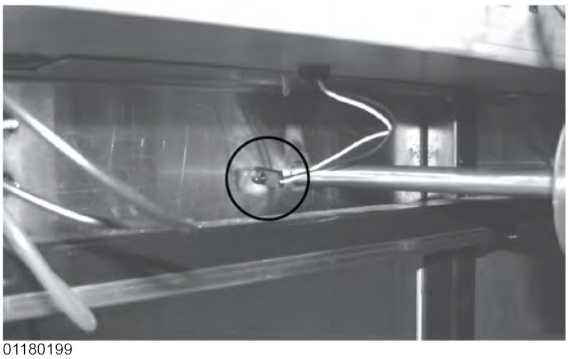
6.14 FILTER BEACON™ Replacement

WARNING

SHOCK HAZARD

To avoid electrical shock, move the power switch to off and disconnect main circuit breaker, or unplug cord at wall receptacle.

1) Hinge-down the control panel for center vats.
2) Pull apart the light by pulling on the rear of the light and removing the front part of the light from the front of the fryer. See Figure 6-5 *Filter Beacon Rear*, page 57 and Figure 6-6 *Pulling Front of Filter Beacon*, page 57.



01180199

Figure 6-5 Filter Beacon Rear

01180200

Figure 6-6 Pulling Front of Filter Beacon

3) Locate and cut the light wires and pull the light from unit. See Figure 6-7 *Filter Beacon Wires*, page 58.

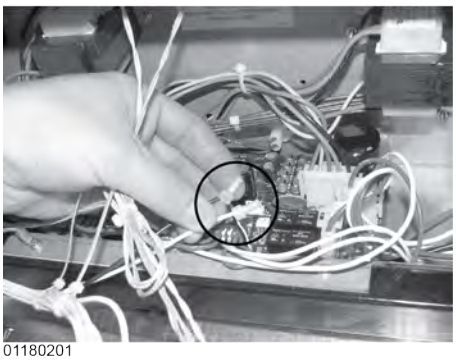


Figure 6-7 Filter Beacon Wires

4) Connect new light wires, using wirenuts and install light in reverse order.
5) Restore power to the unit.

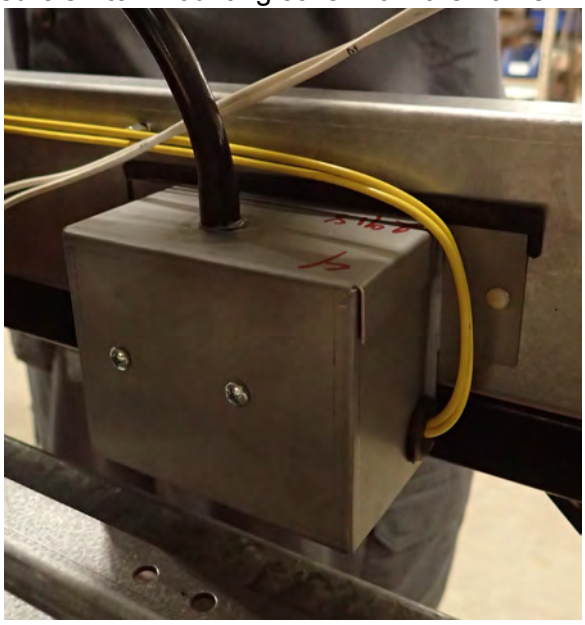
6.15 Air Pressure Switches

WARNING

SHOCK HAZARD

To avoid electrical shock, move the power switch to off and disconnect main circuit breaker, or unplug cord at wall receptacle.

1) Remove electrical power supplied to the unit.
2) Remove the lower back shroud.
3) Remove the pressure switch mounting cover from the frame.



4) Remove the vacuum hose from switch.
5) Using a cross bit or screwdriver, remove the two screws securing switch to the cover.
6) Disconnect the wires on the switch.

01180253

7) Replace switch in reverse order.

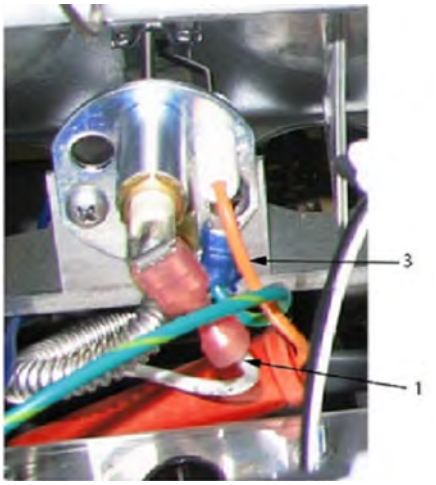
6.16 Pilot Replacement

WARNING

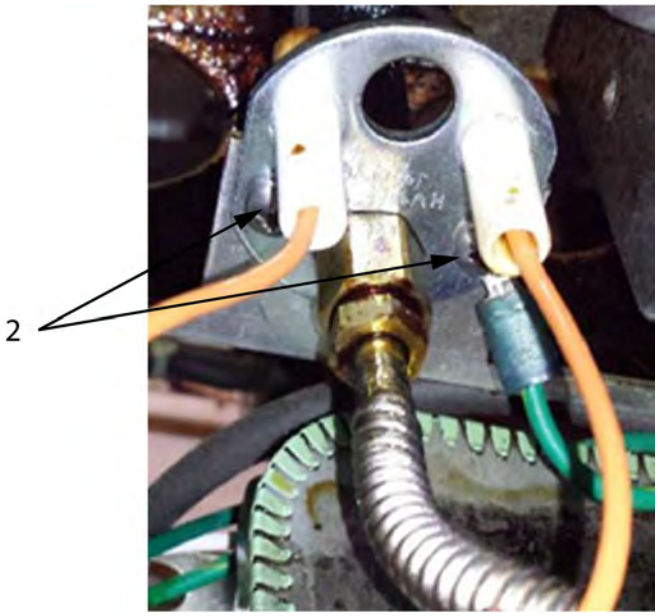
SHOCK HAZARD

To avoid electrical shock, move the power switch to off and disconnect main circuit breaker, or unplug cord at wall receptacle.

1) Remove electrical power supplied to the unit.
2) Lower the control board.
3) Remove burner tubes.
4) Remove the flame sensor wire from the red insulated terminal(1).



5) Remove the two screws securing the pilot to the burner assembly (2). The right hand screw will have the ground wire.



6) Disconnect the pilot wire (3) located in the orange rubber sleeve.

7) Using a 7/16” wrench, loosen the pilot tube from the pilot.


01180257

8) Disconnect the flame sensor.

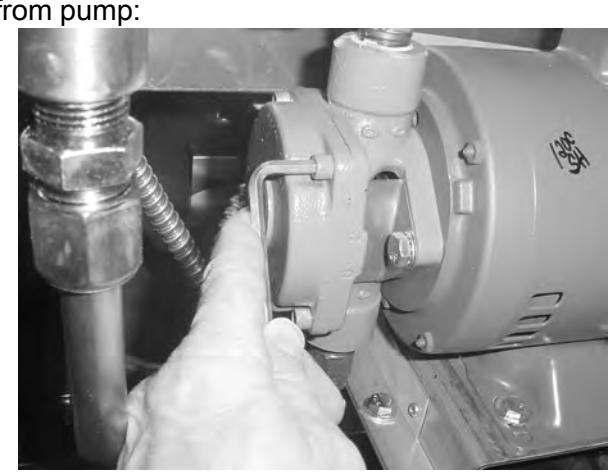

01180258

9) Replace pilot in reverse order.

10) When screwing the pilot back to the burner assembly, be sure to connect the ground wire to the right hand screw.

6.17 Cleaning the Filter Pump

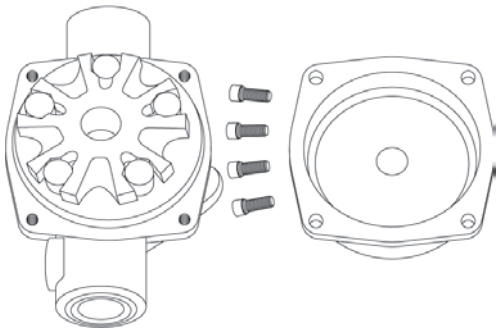
To remove debris from pump:



1) Loosen four Allen head screws on the end of pump and remove cover. (Removing the bottom rear panel may help in accessing the set screws.)

CAUTION

For filter pump and motors manufactured after September 2018, removing rotor will break pump body internal seal. To prevent product damage, DO NOT remove rotor from pump body.



2) The inside is now exposed leaving a rotor and five teflon rollers. Clean the rotor and rollers. For filter pump and motors manufactured after September 2018, rollers may be removed but rotor must remain in pump body.

3) To reassemble, place rotor on drive shaft (if necessary), and place roller into rotor.

NOTICE —

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

CAUTION

Indicators, on the side of the two halves of the pump, must align together.

6.18 Replacing the Filter Pump and Motor Assembly

CAUTION

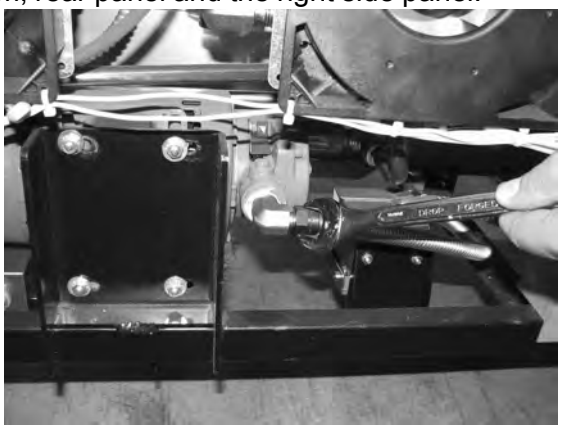
The following procedure only applies to units with serial numbers prior to NX1708071 for 60Hz pumps and NE1711020 for 50Hz pumps. For units with serial numbers after NX1708071 or NE1711020, entire pump assembly must be replaced. Follow procedure associated with serial number indication, otherwise property damage may occur.

WARNING

SHOCK HAZARD

To avoid electrical shock, move the power switch to off and disconnect main circuit breaker, or unplug cord at wall receptacle.

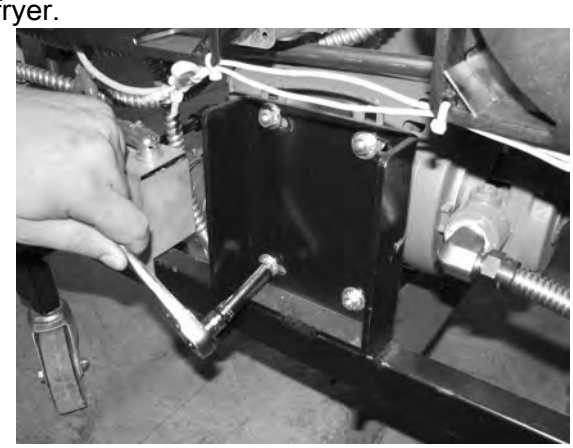
1) Remove the bottom, rear panel and the right side panel.



2) Using a 5/8” wrench, loosen the front, flexible line fitting, on the pump.

3) Using a 1” wrench, loosen the rear pump fitting.

4) Locate the appropriate conduit on right side of the unit and disconnect the conduit from the fryer.



5) Using a 1/2 in. wrench, remove 4 bolts securing motor to motor bracket and pull pump and motor assembly from fryer.

6) Using a 1/2 in. wrench, remove the 2 bolts securing pump to the motor and pull the pump from the motor.

7) Install a new seal kit (part no. 17476) onto shaft of motor.

8) Align the shaft of motor with the rotor on the inside of the pump and push pump onto shaft of motor.

9) Secure the pump onto the motor with the 2 bolts.

6.19 Replacing the Hubmounted Filter Pump and Motor Assembly

CAUTION

The following procedure only applies to units with serial numbers after to BH1810136. Follow procedure associated with serial number indication, otherwise property damage may occur.

WARNING

SHOCK HAZARD

To avoid electrical shock, move the power switch to off and disconnect main circuit breaker, or unplug cord at wall receptacle.

6.19.1 Removing the Hubmounted Filter Pump and Motor Assembly

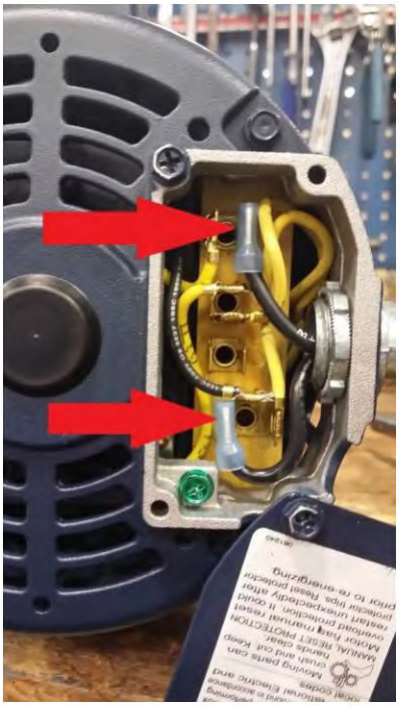
1) Using a 5/8” wrench, loosen the front, flexible line fitting, on the pump.
2) Open the door to the left of the hubmounted filter pump and motor assembly.
3) Using a 1” wrench, loosen the compression fitting from the plug and play.
4) Open the door to the right of the hubmounted filter pump and motor assembly.
5) Remove the JIB and the ignition module cover.
6) Using the 3/8” wrench, remove the 3/8” nut at the top of the inside of the ignition box.

7) Using the 3/8” wrench, remove the three 3/8” nuts on the back of the ignition box.

8) Using a bungee cord, secure the ignition box out of the way.

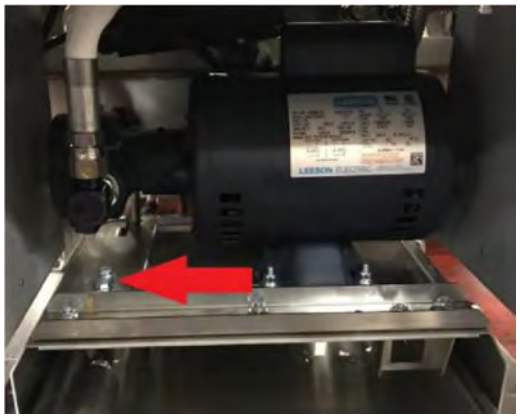
9) Open the motor access panel.

10) Remove the M1 and M2 terminal connectors and unscrew the conduit connector.



11) Using the 3/8” wrench, remove the two 3/8” nuts on the plug and play support bracket.

12) Remove the two 7/16” bolts from the front of the motor bracket.



13) Reach around the module box housing and remove the last 7/16” bolt from the motor bracket.

14) Remove the hubmounted filter pump and motor assembly.

6.19.2 Installing the Hubmounted Filter Pump and Motor Assembly

1) Place the hubmounted filter pump and motor assembly on the motor bracket and feed the wires back into the motor.
2) Connect the M1 terminal connector to terminal 1 and the M2 terminal connector to terminal 4.
3) Tighten the conduit connector.
4) Reinstall motor access panel onto motor.
5) Remove ignition box from bungee cord and reinstall using 3/8” wrench.
6) Finger thread the three 7/16” bolts into the motor bracket. (Do not tighten)
7) Attach and hand tighten the flexible line fitting and plug and play connection.
8) Reinstall plug and play support bracket, finger tightening the two 3/8” nuts.
9) Slide in drain pan until it latches to ensure proper plug and play and drain pan alignment.
10) Pull the motor towards the front of the fryer as far as possible.
11) Tighten the three motor bolts, plug and play compression fitting, flexible line fitting, and nuts on plug and play bracket.

6.20 Installing the Sitesage Radio

WARNING

SHOCK HAZARD

To avoid electrical shock, move the power switch to off and disconnect main circuit breaker, or unplug cord at wall receptacle.

1) Remove power from fryer.

2) Remove screws from control panel and tilt down.

3) Using 3/8” nut driver, remove bottom control shroud mounting nut.

4) Position radio assembly over stud and push towards rear of fryer.

5) Install the control shroud mounting nut.

6) Guide radio cable through rear of fryer, to the right of the gas valve, through wire clip and secure with wire tie as shown.

CAUTION

To avoid property damage from heat:

- **Ensure the radio cable does not contact the burner assembly.**
- **DO NOT secure the radio cable routing by securing it to ignition cables.**

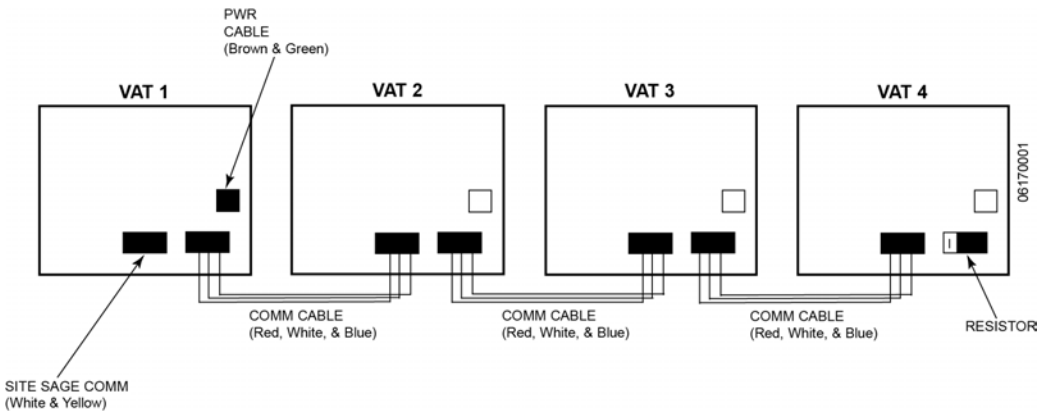
NOTE: When facing the front of the fryer, ensure the far right vat has wire tie radio cable secured to existing bundle as shown.

7) Remove existing control panel access covers and discard.

8) Insert radio communication harness connector into place for each control.

9) Install new control access cover provided in kit with existing hardware.

10) Connect SiteSage radio wires in first control from left as shown.



11) Connect control communication wires provided in kit to control and all controls. On the last control, add provided resistor as shown.

12) Lift control panels into place and install screws.

13) Restore power to fryer and ensure the power LED is lit on the radio.

14) Press and hold the P button until Level 2 shows in the display.

15) Use the left/right arrow button to navigate to the DATA COMM menu and enter password 123.

16) Use the left arrow button to navigate backwards to DC-11, MODBUS ENABLED.

17) Use the up/down button to select YES.

18) Press and hold the P button to save the change and exit DATA COMM mode.

19) Connect radio to network/gateway in store. Once the connection is made information can flow from the control to the radio and then the gateway.

Chapter 7 Parts

7.1 Introduction

This section lists the replaceable parts of the Henny Penny Evolution Elite® fryer.

7.2 Genuine Parts

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

7.3 When Ordering Parts

Once the parts that you want to order have been found in the parts list, write down the following information:
Ex.:

Item Number	2
Part Number	86349
Description	O-Ring, 116 Suction line

From the data plate, list the following information:
Ex.:

Product Number	EEG243.01
Serial Number	NE1801001
Voltage	208

7.4 Prices

Your distributor has a price parts list and will be glad to inform you of the cost of your parts order.

7.5 Delivery

Commonly replaced items are stocked by your distributor and will be sent out when your order is received. Other parts will be ordered, by your distributor, from Henny Penny Corporation. Normally, these will be sent to your distributor within three working days.

7.6 Warranty

All replacement parts (except lamps and fuses) are warranted for 90 days against manufacturing defects and workmanship. If damage occurs during shipping, notify the carrier at once so that a claim may be properly filed. Refer to warranty in the front of this manual for other rights and limitations.

7.7 Recommended Spare Parts For Distributors

Recommended replacement parts are indicated with A or B in the parts lists:
A = parts to be stocked on service vans or trucks.
B = parts to be stocked at the distributor/KES location.
Inventory on all other parts not identified, should be based upon usage in the territory. Please use care when ordering recommended parts, because all voltages and variations are marked. Distributors should order parts based upon comm voltages and equipment sold in their territory.

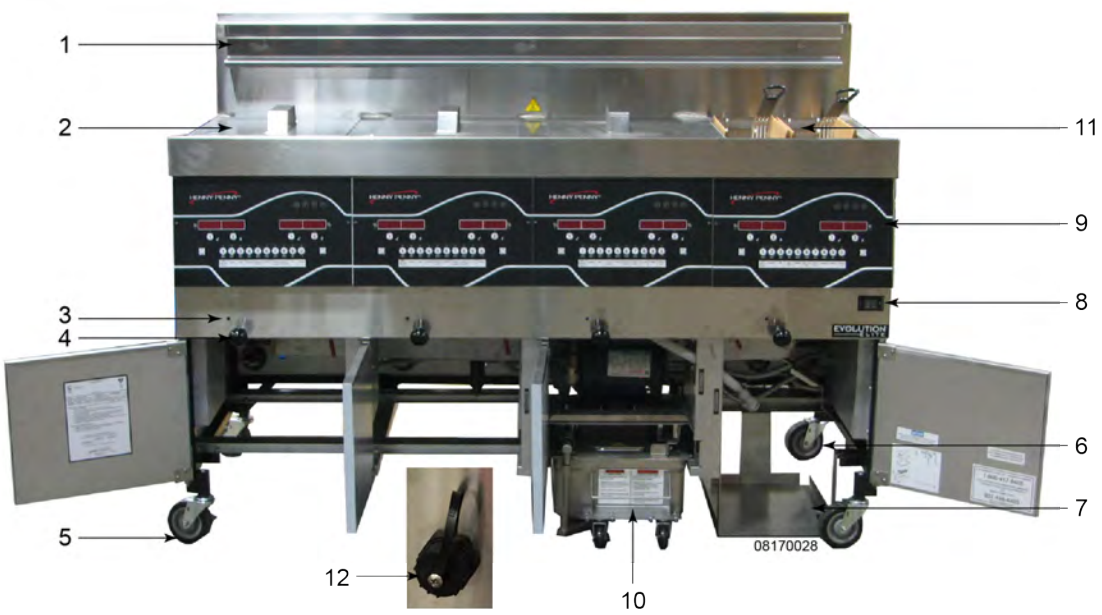


Figure 7-1 Operating Components

Table 7-1

Stock Level	Item No.	Part No.	Description	Qty.
* = Not Shown / A/R = As Required Recommended Parts Stock Level: A = Truck Stock / B = Dist. Stock				
	1	152508	WELD ASSY - BASKET HANGER EEGXX4	1/WELL
	1*	155430	WELD ASSY - FULL BASKET HANGER LOW PROFILE	
	2	03646	WELD ASSY - COVER FULL	1/VAT
B	3	81980	LED - 5MM BLUE - PULL HANDLE ONLY	1/VAT

Stock Level	Item No.	Part No.	Description	Qty.
	4	- - - - -	DRAIN VALVE/LINKAGE ASSEMBLY (SEE Figure 7-11 *Manual Drain Valve Linkage (Units Manufactured prior to April 2018)*, page 95 FOR BREAKDOWN)	1/VAT
	5	77575	CASTER - SWIVEL W/ BRAKE (FRONT)	2
	6	77679	CASTER - SWIVEL W/O BRAKE (BACK)	2
	7	151704	JIB SHELF	1
A	8	52224	COVERED POWER SWITCH	1
B	9	140402	KIT - EEX CONTROL W/ THUMB DRIVE (SMART TOUCH)	1/VAT
	9	140468	KIT - EEX-CONTROL MAN/DRN-SONIC	1/VAT
	9	140469	KIT - EEX-CONTROL MAN/DRN-ARBY	1/VAT
	9	140470	KIT - EEX-CONTROL MAN/DRN-MAGGiANOS	1/VAT
	9	140471	KIT - EEX-CONTROL MAN/DRN-BRINKERS	1/VAT
	9	140472	KIT - EEX-CONTROL MAN/DRN-GM	1/VAT
	9	140498	ASSY - CONTROL PANEL EEX GM MAN/DRN AL	1/VAT
	9	140510	KIT - EEG2/3/4 XBEE RAD CONTROL MAN/DRN	1/VAT
	9	140602	KIT - EEG241 XBEE RAD CONTROL MAN/DRN	1/VAT
	10	- - - - -	COMPLETE DRAIN PAN FILTER ASSY (SEE Figure 7-2 *Drain Pan Assembly*, page 76)	1
	11	81915	BASKET - 1/2 SIZE BLK FRONT SUPP	A/R
	11	85136	BASKET - FULL SIZE BLACK FR SPRT	A/R
	12	152487	CABLE - USB PORT AND	1/VAT
	12	152488	CAP - USB	1/VAT
B*	13 *	85738	ASSY - JIB TUBE & QUICK DISC	1
	14 *	85737	ASSY - JIB TUBE & QUICK DISC CE	1
	15 *	FP05-017	QUICK DISCONNECT - 3/8 (MALE)	1
B*	16*	26974	ASSY - SPEAKER	1/WELL

Stock Level	Item No.	Part No.	Description	Qty.
	17*	157278	BASKET-LID	1/ BASKET
	18*	97974	TETHER, EEG24X	1

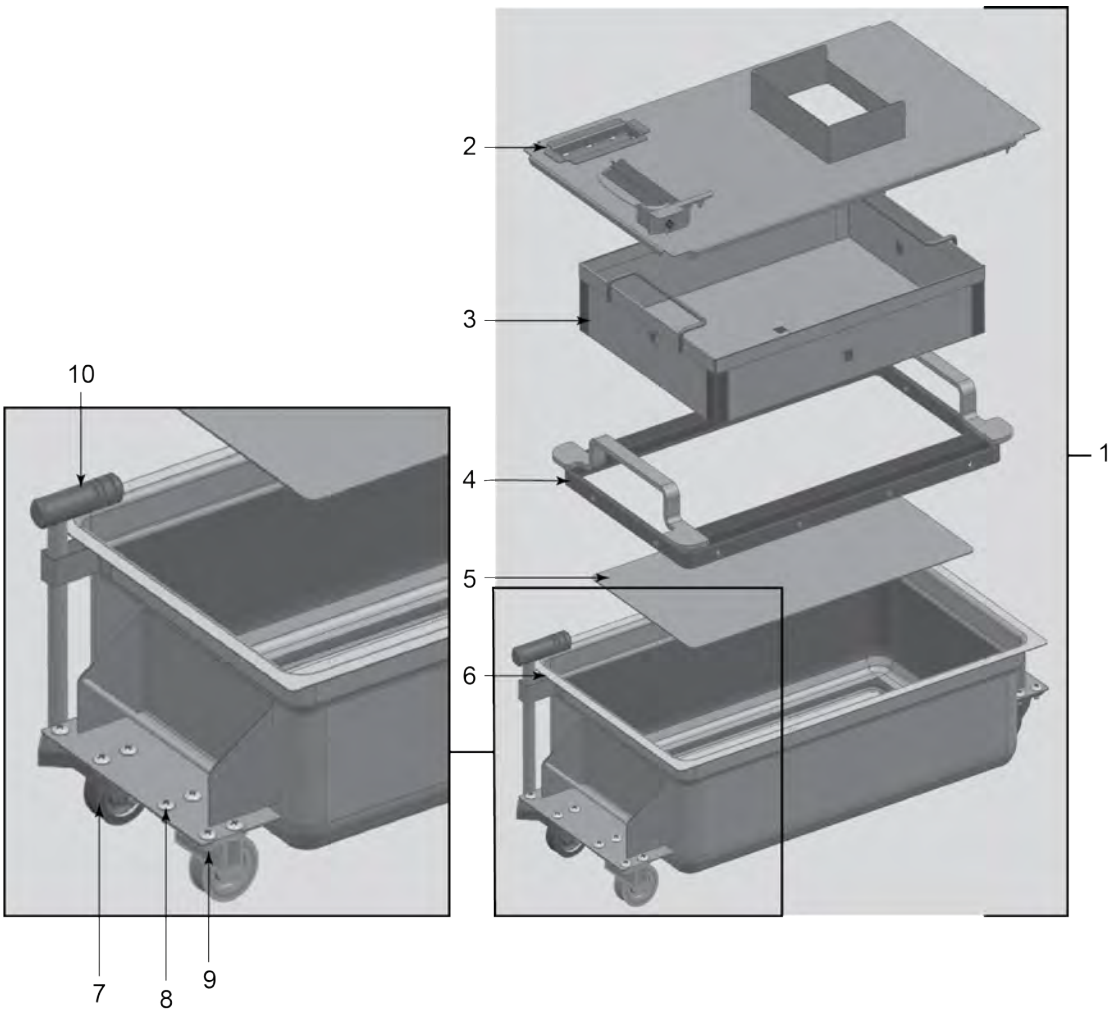


Figure 7-2 Drain Pan Assembly

Stock Level	Item No.	Part No.	Description	Qty.
	1	152634	ASSY - DRAIN PAN W/ CASTER PRIOR TO NX1603075 / NB1604001	1
	1	97845	ASSY - DRAIN PAN W/ CASTER AFTER NX1603075 / NB1604001	1
	2	—152635	— ASSY - DRAIN PAN COVER PRIOR TO NX1603075 / NB1604001	1
	2	—162059	— ASSY - DRAIN PAN COVER AFTER NX1603075 / NB1604001	1
	3	—163322	— WELD ASSY - CRUMB CATCHER	1
	4	—85503	— WELD ASSY - FILTER WEIGHT	1
	5	—85519	— FILTER SECTION	1
	6	—95842	— ASSY - DRAIN PAN PRIOR TO NX1603075 / NB1604001	1
	6	—164057	— ASSY - DRAIN PAN W/CASTERS AFTER NX1603075 / NB1604001	1
	7	—19004	— CASTER - SWIVEL 2 IN	4
	8	—SC01-009	— SCREW 1/4 - 20 X 1/2 THD	4/ WHEEL
	9	—NS04-005	— LOCKNUT 1/4 - 20	4/ WHEEL
	10	86349	O-RING - 116 SUCTION LINE	3
	11 *	12074	SMART FILTERS (PAD) - 30 COUNT	1
	11 *	12076	SMART FILTERS (PAPER) – 100/CT	1
	12*	140537	KIT, DRAIN PAN SWITCH	1
	13*	173392	ASSY - EEG-242, 243, 244 HD DRAIN PAN W/CASTERS	1
	14*	—173391	— ASSY - HD DRAIN PAN W/CASTERS	1
	15*	—162059	— ASSY - DRAIN PAN COVER	1
	16*	173393	ASSY - EEG-241 HD DRAIN PAN W/ CASTERS	1
	17*	—173391	— ASSY - HD DRAIN PAN W/CASTERS	1
	18*	—154163	— ASSY - EEG–241 DRAIN PAN COVER	1
* = Not Shown				

NOTICE — For units manufactured after , part NS04–005 is welded onto Drain Pan assembly.

Figure 7-3 Thermocouple & Probe Assembly

Stock Level	Item No.	Part No.	Description	Qty.
A	1	92717	THERMOCOUPLE - HIGH LIMIT	1/VAT
A	2	140098	ASSY - PROBE	3/VAT
Recommend Parts: A = Truck Stock / B = Dist. Stock				

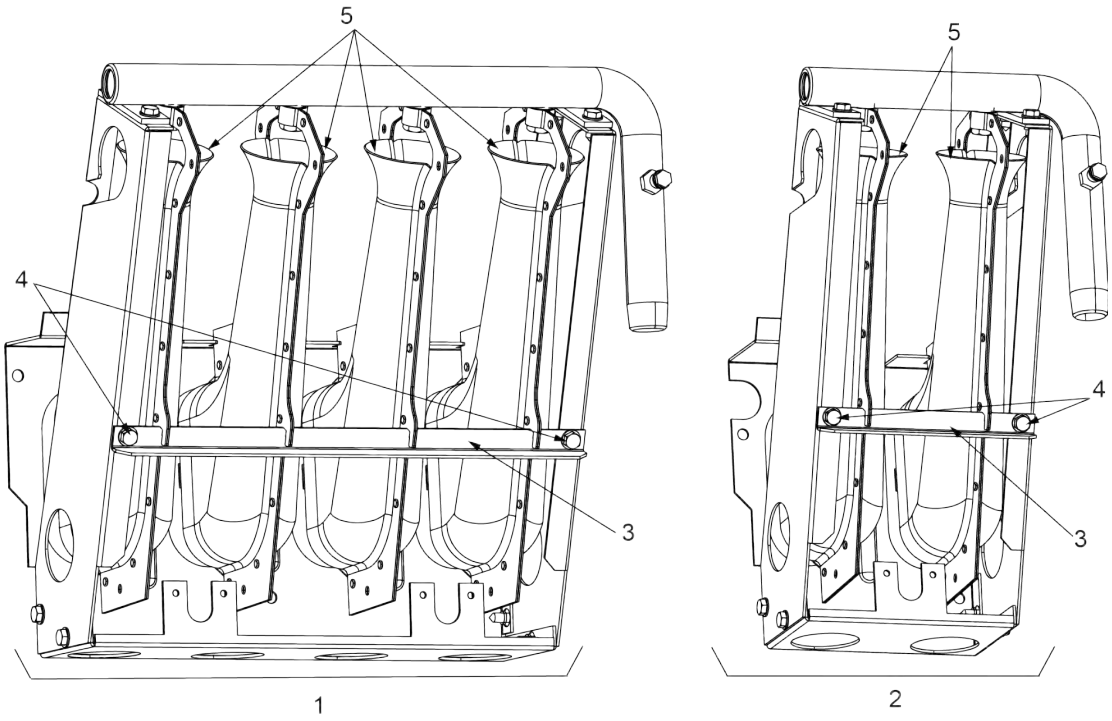


Figure 7-4 Burner Assembly

Table 7-2 Burner Parts

Stock Level	Item No.	Full or Split	Part No.	Description			Qty
				Burner Orifice Drill Size	Gas Type	Altitude	
A	1	Full	77941–001	#45 (0.082)	NATU-RAL	< 5,000	1/VAT
A	1	Full	77941–001	#45 (0.082)	I2H, I2E	< 5,000	1/VAT
A	1	Full	77941–002	1.3MM (0.0512)	PRO-PANE	< 5,000	1/VAT
A	1	Full	77941–002	1.3MM (0.0512)	I3P	< 5,000	1/VAT
A	1	Full	77941–004	#44 (0.086)	NATU-RAL	5,000–10,000	1/VAT
A	1	Full	77941–004	#43 (0.089)	NATU-RAL	5,000–10,000	1/VAT

Stock Level	Item No.	Full or Split	Part No.	Description			Qty
				Burner Orifice Drill Size	Gas Type	Altitude	
A	1	Full	77941–005	#42 (0.0935)	I2S	N/A	1/VAT
A	1	Full	77941–006	#51 (0.067)	I2E+	N/A	1/VAT
A	1	Full	77941–007	2.30MM (0.0906)	I2L	N/A	1/VAT
A	1	Full	77941–008	1.25MM (0.0492)	I3B/P	N/A	1/VAT
A	1	Full	77941–008	1.25MM (0.0492)	LP MIX	N/A	1/VAT
A	1	Full	77941–010	1.90MM (0.0768)	I3A	N/A	1/VAT
A	1	Full	77941–011	1.04MM (0.0409)	I3B/P, I3P	N/A	1/VAT
A	1	Full	77941–012	1.18MM (0.0465)	I3B/P, I3P	N/A	1/VAT
A	1	Full	77941–013	#54 (0.055)	PRO-PANE	5,000–10,000	1/VAT
A	2	Split	77942–001	#45 (0.082)	NATU-RAL	< 5,000	1/VAT
A	2	Split	77942–001	#45 (0.082)	I2H, I2E	< 5,000	1/VAT
A	2	Split	77942–002	1.3MM (0.0512)	PRO-PANE	< 5,000	1/VAT
A	2	Split	77942–002	1.3MM (0.0512)	I3P	< 5,000	1/VAT
A	2	Split	77942–004	#44 (0.086)	NATU-RAL	5,000–10,000	1/VAT
A	2	Split	77942–005	#42 (0.0935)	I2S	N/A	1/VAT
A	2	Split	77942–006	#51 (0.067)	I2E+	N/A	1/VAT

Stock Level	Item No.	Full or Split	Part No.	Description			Qty
				Burner Orifice Drill Size	Gas Type	Altitude	
A	2	Split	77942–007	2.30MM (0.0906)	I2L	N/A	1/VAT
A	2	Split	77942–008	1.25MM (0.0492)	I3B/P	N/A	1/VAT
A	2	Split	77942–008	1.25MM (0.0492)	LP MIX	N/A	1/VAT
A	2	Split	77942–010	1.90MM (0.0768)	I3A	N/A	1/VAT
A	2	Split	77942–011	1.04MM (0.0409)	I3B/P, I3P	N/A	1/VAT
A	2	Split	77942–012	1.18MM (0.0465)	I3B/P, I3P	N/A	1/VAT
A	2	Split	77942–013	#54 (0.055)	PRO-PANE	>5,000	1/VAT
	3	Full	80753	SUPPORT, BURNER			2/VAT
	3	Split	80751	SUPPORT, BURNER			2/VAT
	4	Both	SC02–005	SCREW — CONTROL MOUNTING BRACKET HEX			2/VAT
	5	Both	75998	BURNER — ANGLED			1/VAT

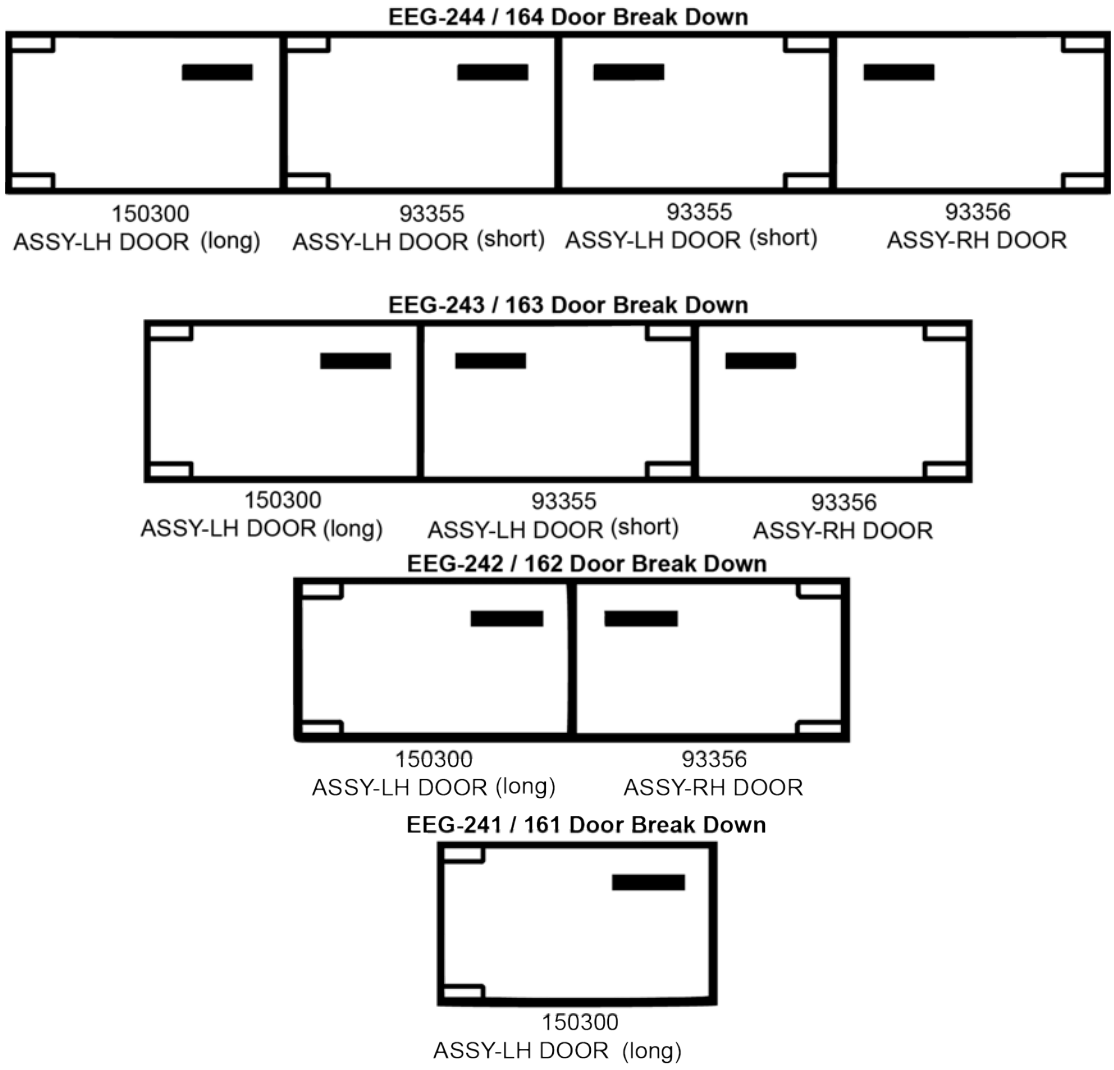


Figure 7-5 EEG-16X / 24X Door Break Down

Door Number	Top Hinge (Door)	Bottom Hinge (Door)	Bottom Hinge (Frame)	Bushing	Door Handle (Pocket Pull)
150300	93370	93369	150624	39752	41836
92348	93370	93369	85409	39752	41836
92617	93370	93369	85409	39752	41836
93355	93370	93369	85409	39752	41836
92616	99369	93370	150625	39752	41836
93356	99369	93370	150625	39752	41836

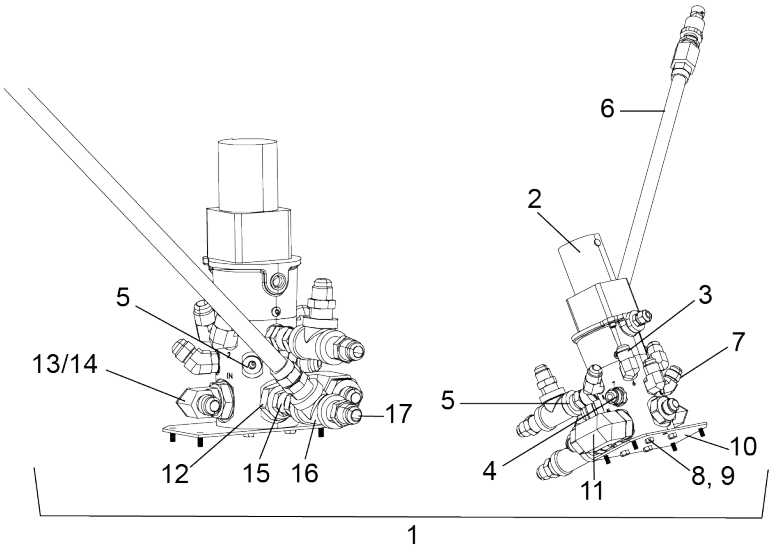


Figure 7-6 Selector Valve Assembly and Plumbing

Fig. / Code	Item No.	Part No.	Description	Qty.
	1	170144–001**	SVC PACK—EEG 10 PORT SELECTOR VALVE	
	2	168686	ASSY - SELECTOR VALVE MOTOR & ENCODER	1
	3	FP01-235	FTG - SAE ELBOW 45 DEG FLARE	A/R
	4	FP01-236	FTG - SAE STR 45 DEG FLARE	A/R
	5	FP01-237	FTG - SAE PLUG (NO BULK FILL)	A/R
	6	159856	ASSY — TRANSDUCER	1
	7	FP01–258	ELBOW-45DEG 6 SAE 8JIC FLARE	1
	8	SC01–184	SCREW — 1/4–20 X 1/2 HEX HD CAP	4
	9	MS01–149	LOCTITE THREAD-LOCK #249	A/R
	10	167035	STUD ASSY — SELECTOR VALVE MTG PL	1
	11	167064	ASSY — ELBOW 50 PSI — 12SAEXBJIC	1
	12	158282	VALVE — CHECK 12SAE ORB TO 45FLR	2

Recommended Parts: A = Truck Stock / B = Dist. Stock
*Not shown
**No fittings or plumbing are included.

Fig. / Code	Item No.	Part No.	Description	Qty.
B	13	FP01–254	ELBOW - 90DEG 12SAE 8JIC 45FLRD (BULK FILL)	1
	14	FP01–347	PLUG-12 SAE O-RING BOSS (NO BULK FILL)	1
	15	FP01–317	FTG 1/2 NPT M 8 JIC FEM SWVL	1
	16	FP01–112	1/2 NPT FEMALE PIPE TEE BI	1
	17	FP01–242	FTG-1/2 NPT M TO 45 FLARE M	1
	18	90479*	HARNESS - SELECTOR VALVE MOTOR	1
Recommended Parts: A = Truck Stock / B = Dist. Stock *Not shown **No fittings or plumbing are included.				

NOTE: All Del Taco fryers have selector valves.
NOTE: Part number 170144–001 requires approval from Henny Penny Technical Services prior to purchase.
NOTE: Applies to serial numbers with prefixes ND and NE.

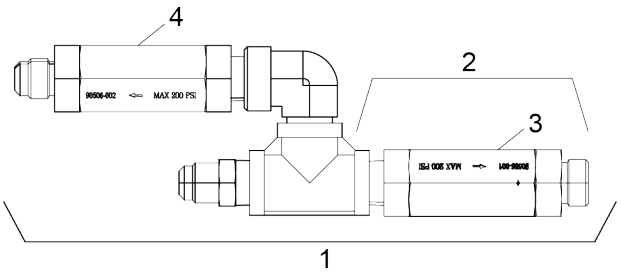


Figure 7-7 Check Valve Plumbing

Fig. / Code	Item No.	Part No.	Description	Qty.
Recommended Parts: A = Truck Stock / B = Dist. Stock * Not Shown				
	1	152165	ASSY - CHK VALVE PLUMBING (SN PREFIX: NA, NB, OR NX)	1
	2	– 152161	— ASSY - OIL MANF CHK VALVE	A/R
B	3	– 90506-001	— VALVE - CHECK SAE 12 3 PSI	A/R
	4	– 90506-002	— VALVE - CHECK SAE 12 4 PSI	A/R

	5	FP01-205*	ELBOW - 1/2 IN NPT MALE 45 FLARE	A/R
	6	FP01-277*	CONNECTOR - 6 SAE M 6 SAE F	A/R

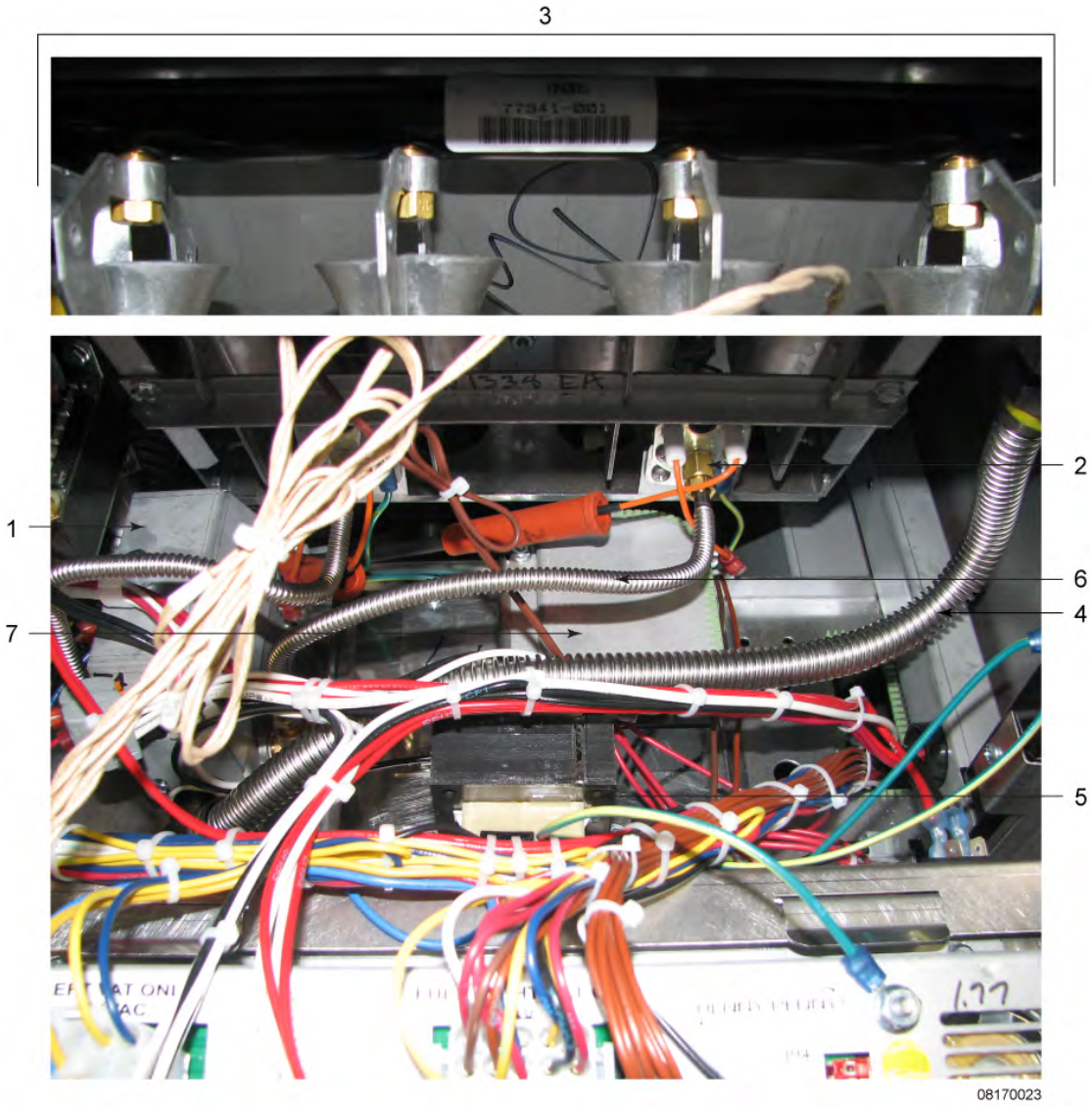


Figure 7-8 Burners, Gas Valves & Transformers

Stock Level	Item No.	Part No.	Description	Qty.
A	1	87663-101	SVC-PACK - GAS VALVE - NAT - FULL WELL	1
A	1	87663-102	SVC-PACK - GAS VALVE- NAT - SPLIT WELL	1
A	1	87663-103	SVC-PACK - GAS VALVE - LP - FULL WELL	1
A	1	87663-104	SVC-PACK - GAS VALVE - LP - SPLIT WELL	1
A	1	87663-105	SVC-PACK - GAS VALVE - NAT - CE FULL WELL	1
A	1	87663-106	SVC-PACK - GAS VALVE - NAT - CE SPLIT WELL - LEFT	1
A	1	87663-107	SVC-PACK - GAS VALVE - LP - CE FULL WELL	1
A	1	87663-108	SVC-PACK - GAS VALVE - LP - CE SPLIT WELL - LEFT	1
A	1	87663-109	SVC-PACK - GAS VALVE - NAT - CE SPLIT WELL RIGHT	1
A	1	87663-110	SVC-PACK - GAS VALVE - LP - CE SPLIT WELL - RIGHT	1
A	2	- - - - -	PILOT KIT (SEE Table 7-3 *Pilot Kit Numbers*, page 87)	- - - - -
	2	—153264-001	— INLET - FITTING PILOT ORIFICE (NAT)	1/VAT
	2	—153264-002	— INLET - FITTING PILOT ORIFICE (LP)	1/VAT
	3	76921-001	ORIFICE - MAIN BURNER (NAT)	4/BRNR
	3	76921-002	ORIFICE - MAIN BURNER (LP)	4/BRNR
B	4	- - - - -	FLEX TUBE (SEE Table 7-7 *Flex Tube Part Numbers*, page 88)	- - - - -
A	5	86086	ASSY - TRANSFORMER-120V	1/WELL
A	5	86087	ASSY - 24V/240V 75VA TRANSFORMER	1/WELL
	6	82491	TUBE - 1/4 X 12 FLEX SS PILOT	1/2-WELL
	7	89624-001	CONTROL - WATLOW HL	1/VAT
* = Not Shown / BRNR = Burner				

Stock Level	Item No.	Part No.	Description	Qty.
	7	89624-002	CONTROL - WATLOW HIGH LIMIT 230V	1/WELL
A	8 *	84987	SWITCH - HL	1/WELL
	9*	34802	VALVE — SOLENOID GAS 24V 50/ 60HZ PRIOR TO	1/WELL
	9*	170588	VALVE — SOLENOID GAS 24V 50/ 60HZ AFTER	1/WELL
* = Not Shown / BRNR = Burner				
	10*	79823	ASSY — SAFETY VALVE CONNEC-TOR CE PRIOR TO	1
	10*	170963	ASSY — SAFETY VALVE CONNEC-TOR CE AFTER	1
	11*	173085	COIL — GAS VALVE SOLENOID 25V	1

Table 7-3 Pilot Kit Numbers

Kit Number	Description
140296	KIT - EEG16X/2XX NAT BASO PILOT
140297	KIT - EEG16X/2XX LP BASO PILOT

Table 7-4 Vat (Pot) Replacement Kit Numbers

Kit Number	Description
140289	KIT — REPL FULL POT ASSY — EEG2XX MANUAL PULL
140599	KIT — REPL SPLIT POT ASSY — EEG2XX MANUAL PULL
140600	KIT — REPL FULL POT ASSY — EEG2XX SMART TOUCH
140601	KIT — REPL SPLIT POT ASSY — EEG2XX SMART TOUCH

Table 7-5 Gas Conversion Kits for Units with Serial Numbers Prior to NX1611006 (Black Housing)

Kit Number	Description
140290	KIT - NAT TO LP F UP TO 5000 FT
140291	KIT - LP TO NAT F UP TO 5000 FT

Table 7-6 Gas Conversion Kits for Units with Serial Numbers After NX1611006 (Silver Housing)

Stock Level	Kit Number	Description
B	140483	KIT-EEG24X NAT to LP W/O FLUE
B	140541	KIT-EEG2X SPLIT BLWR NAT-LP- < 5000 FT
B	140542	KIT-EEG2X FULL BLWR NAT-LP- < 5000 FT
B	140543	KIT-EEG2X SPLIT BLWR NAT-LP- > 5000 FT
B	140544	KIT-EEG2X FULL BLWR NAT-LP- > 5000 FT
B	140545	KIT-EEG2X SPLIT BLWR LP-NAT- < 5000 FT
B	140546	KIT-EEG2X FULL BLWR LP-NAT- < 5000 FT
B	140547	KIT-EEG2X SPLIT BLWR LP-NAT- > 5000 FT
B	140548	KIT-EEG2X FULL BLWR LP-NAT- > 5000 FT

Table 7-7 Flex Tube Part Numbers

Stock Level	Part Number	Length (in.)
B	77523-001	12.0
B	77523-002	18.0
B	77523-003	24.0
B	77523-004	30.0
B	77523-005	36.0
B	77523-006	42.0
B	77523-007	48.0
B	77523-008	7.0
B	77523-009	13.0
B	77523-010	54.0
B	77523-011	10.0
B	77523-012	13.0
B	77523-013	14.0
B	77523-014	28.0

B	77523-015	32.0
B	77523-016	16.0

03747

03757

03759

03750

03752

Stock Level	Item No.	Part No.	Description	Qty.
	1	03747	ASSY - 3/4DIA X 48LG GAS L INSTL	1
	2	03757	ASSY - 1DIA X 48LG GAS L INSTL	1
	3	03759	ASSY - 1DIA X 60LG GAS L INSTL	1
	4	03750	ASSY - 1/2DIA X 48LG GAS L INSTL	1
	5	03752	ASSY - 3/4DIA X 36LG GAS L INSTL	1
* = Not Shown				

Table 7-8 MISC Kit Numbers

Kit Number	Description
140229	KIT — EE & LV SOLENOID REPAIR
140282	KIT — EEG16X OIL TST/BOILOUT PKT
140283	KIT — EEG16X FRYER SUPPLY (Chili's)
140295	KIT — EEG16X FRYER SPLY - MAGGIANO
140307	KIT — EEG16X/2XX BULK DISPOSE/FILL 120V
140347	KIT — EEG16X/2XX BULK DISPOSE 120V
—21611	— DISCONNECT-MALE 3/4"
— 21612	— DISCONNECT-FEMALE 3/4"
— 21753	— HOSE —SHORTENING DISCARD
140348	KIT — EEG16X/2XX BULK DISPOSE 230V (see note)
140353	KIT — EEG16X/2XX BULK FILL 120V
140354	KIT — EEG16X/2XX BULK FILL 230V
140570	KIT — EEG/2XX BULK DISPOSE SELEC-TOR VALVE
140572	KIT — EEG16X/2XX BULK FILL SELEC-TOR VALVE
140473	KIT — EE FRYER UTENSIL HOLDER
— 83790	— BASKET HANGER
— 83791	— HOLDER-ACCESSORY
140612	KIT — EEG2XX-PULL HANDLE REPLMT-FULL
140613	KIT — EEG2XX-PULL HANDLE REPLMT-SPLIT
03617	ACCESSORY-JUG-AUTO TOP OFF
157850	ASSY — CRUMB TRAY
140602	KIT — EEG241 XBEE RADIO MANUAL DRAIN
140603	KIT — EEG241 XBEE RADIO W/O CONTROL
140604	KIT — EEG241 XBEE RADIO AUTOMATIC DRAIN
140498	ASSY- PANEL EEX GM MANUAL DRAIN

Kit Number	Description
140550	KIT - EEG243 SITESAGE RADIO M/A
140551	KIT - EEG244 SITESAGE RADIO M/A

NOTICE: Kit 140348 also includes parts 21611, 21612, and 21753.

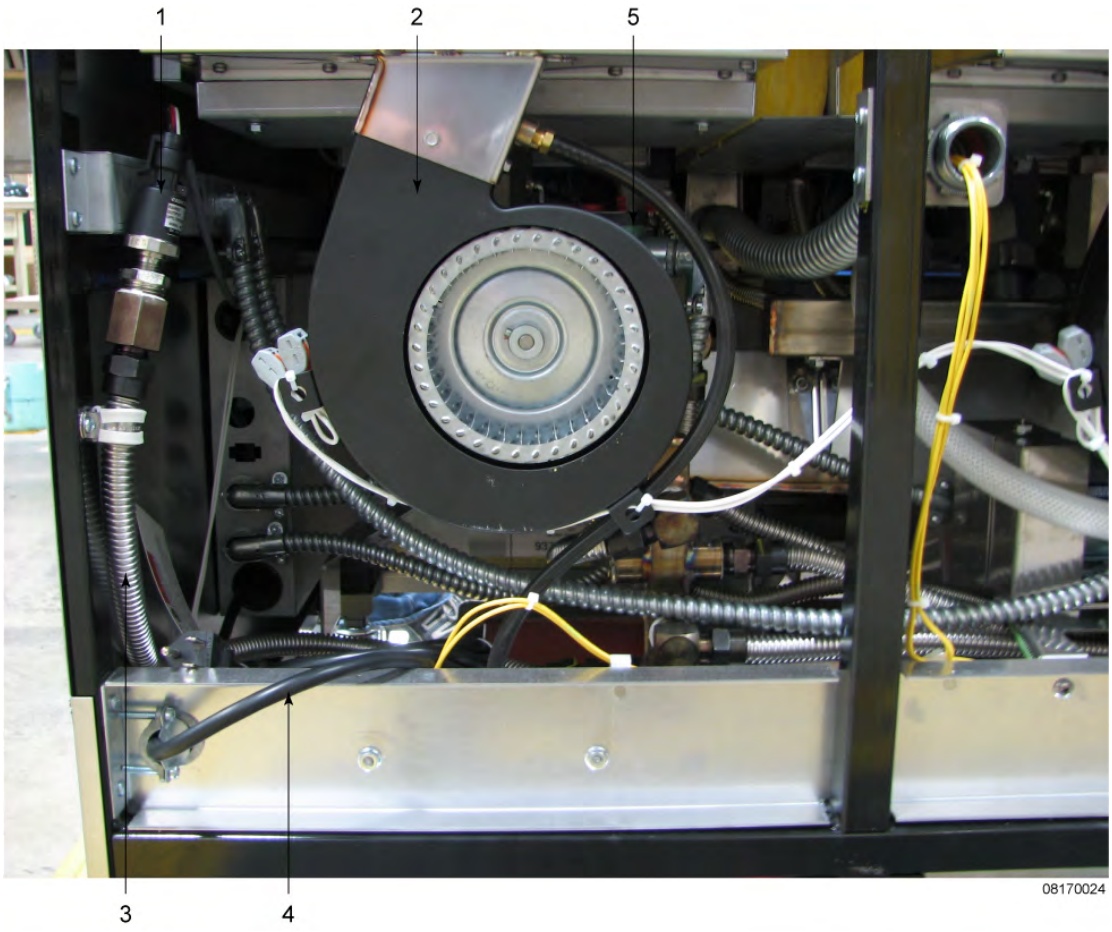


Figure 7-9 Blower Motor Assembly

Stock Level	Item No.	Part No.	Description	Qty.
A	1	79213	TRANSDUCER - PRESSURE 30 PSI	1
B	2	92963-001	BLOWER MOTOR - FLUE EX-HAUST 115V— Applies to serial numbers before NX1611006	1/WELL
* = Not Shown				

Stock Level	Item No.	Part No.	Description	Qty.
B	2	92963-002	BLOWER MOTOR - FLUE EX-HAUST 230V — Applies to serial numbers before NX1611006	1/WELL
B	2	162245–001	BLOWER MOTOR — FLUE EX-HAUST 115V — Applies to serial numbers after NX1611006	1/WELL
B	2	162245–002	BLOWER MOTOR — FLUE EX-HAUST 220–240V— Applies to serial numbers after NX1611006	1/WELL
B	3	77523–XXX	FLEX TUBE (SEE Table 7-7 *Flex Tube Part Numbers*, page 88)	- - - - -
	4	152902-001	CORD - POWER	1
A	5	151744	VALVE - 120V SOLENOID 1/2NPT	1/VAT
A	5 *	154048	VALVE —220–240V SOLENOID 1/2NPT	1/VAT
A	6 *	151725	ASSY - POT CHECK VALVE	1/VAT
A	6*	— 90506–001	— VALVE CHECK SAE 12–3PSI	1/vat
A	6*	— 90506–002	— VALVE-CHECK SAE 12-41 PSI	1/vat
	7 *	97599	SVC PACK - LV/EE JIB RETRO - 115V	1
	7*	—153417–001	—PUMP - JIB - 115V	1
	7 *	97600	SVC PACK - LV/EE JIB RETRO - 230V	1
	7*	—153417–002	—PUMP - JIB - 230V	1
A	8 *	162212	SWITCH — PRESSURE 0.40	1
	9 *	77923–03	CABLE-24" SUPPRESSION	1
* = Not Shown				

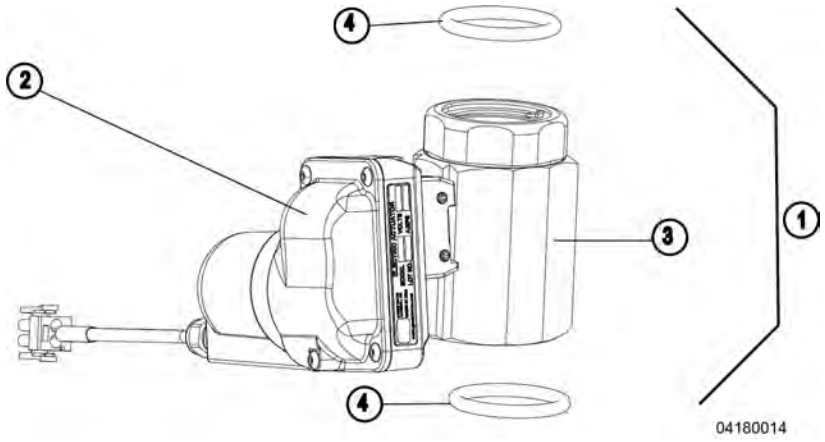


Figure 7-10 Smart Touch Drain Valve

Stock Level	Item No.	Part No.	Description	Qty.
B	1	81911	DRAIN VALVE AND ACTUATOR ASSEMBLY	1
B	2	86157	DRAIN VALVE ACTUATOR MOTOR ONLY	1
B	3	140244	DRAIN VALVE (Includes O-ring)	1
B	4	84415	O-RING	2
	* = Not Shown Recommended Parts Stock Level: A = Truck Stock / B = Dist. Stock			

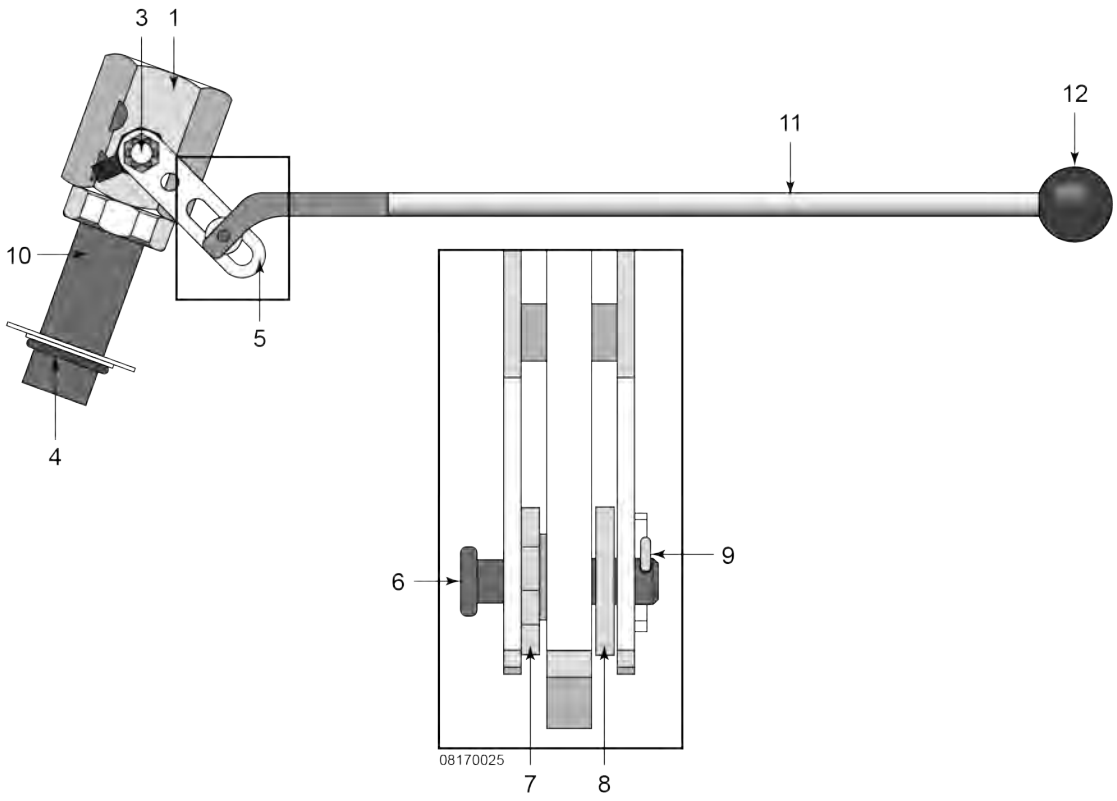


Figure 7-11 Manual Drain Valve Linkage (Units Manufactured prior to April 2018)

Stock Level	Item No.	Part No.	Description	Qty.
B	1	154051	VALVE - DRAIN 1 1/2 NPT & CAM LOCK	1/VAT
B	1	81911	DRAIN VALVE/ACTUATOR ASSY	1/VAT
	1	— 86157	— DRAIN VALVE ACTUATOR (ACTUA-TOR ONLY)	1/VAT
	1	— 140244	— DRAIN VALVE WITH O RING	1/VAT
	2 *	81573	STOP - PULL HANDLE PIVOT	1/VAT
	3	NS03-103	NUT - CASTLE 1/2 - 20 18-8 STEEL	1/VAT
	3	17255	PIN - COTTER	1/VAT
	4	76948	O-RING - 325	1/VAT
	5	151106	ARM - PIVOT	1/VAT
	6	PN01-012	CLEVIS PIN 1/4 X 1 IN. SS	1/VAT
* = Not Shown				

Stock Level	Item No.	Part No.	Description	Qty.
	7	151156	PIVOT BUSHING ROD LINKAGE	1/VAT
	8	150181	SPACER - DRAIN ROD LINKAGE	1/VAT
	9	PN01-039	PIN - COTTER 3/32 X 1	1/VAT
	10	95704-002	TUBE - VALVE TO TROUGH 4.5	1/VAT
	11	170163	ROD - DRAIN	1/VAT
	12	16101	KNOB - SPINDLE (BLACK)	1/VAT
	13 *	50764	MICROSWITCH - RIGID LEVER	1/VAT
* = Not Shown				

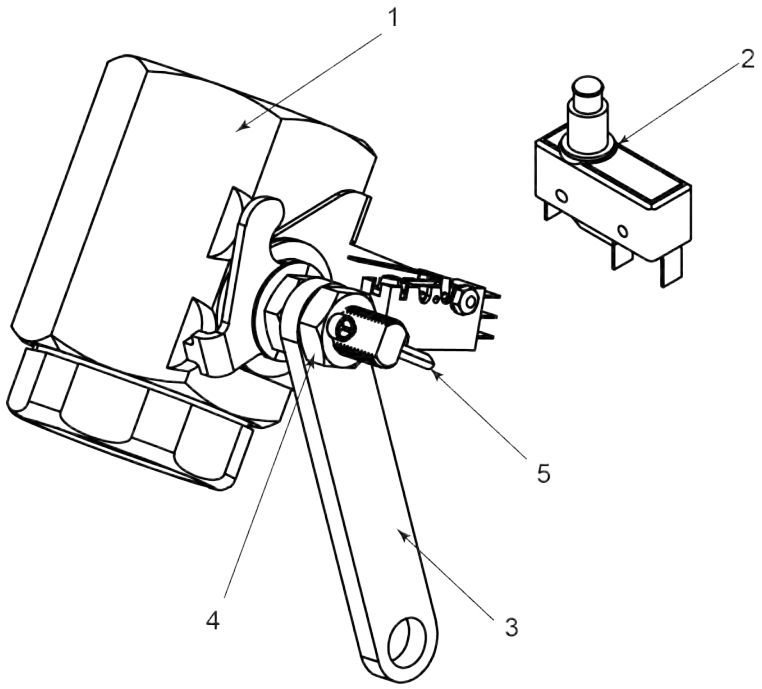


Figure 7-12 Manual Drain Valve Linkage (Units Manufactured after April 2018)

Stock Level	Item No.	Part No.	Description	Qty.
* = Not Shown (see notice)				
B	1	154051	VALVE - DRAIN 1 1/2 NPT & CAM LOCK	1/VAT
	2	18227	SWITCH-MICRO-250F X	1/VAT
	3	163730	WELD ASSY-DRAIN SWITCH LINKAGE	1/VAT
	4	NS01–020	NUT 3/8-24 HEX	2/VAT
	5	PN01–001	PIN - COTTER 3/32 X 1 1/4	2/VAT
	6*	170163	ROD - DRAIN	1/VAT
	7*	16101	KNOB - SPINDLE (BLACK)	1/VAT

NOTICE — for Item No. 11 and 12 see Figure 7-11 *Manual Drain Valve Linkage (Units Manufactured prior to April 2018)*, page 95.

NOTICE — Microswitch attached to drain valve is old style. The correct microswitch is item number 2.

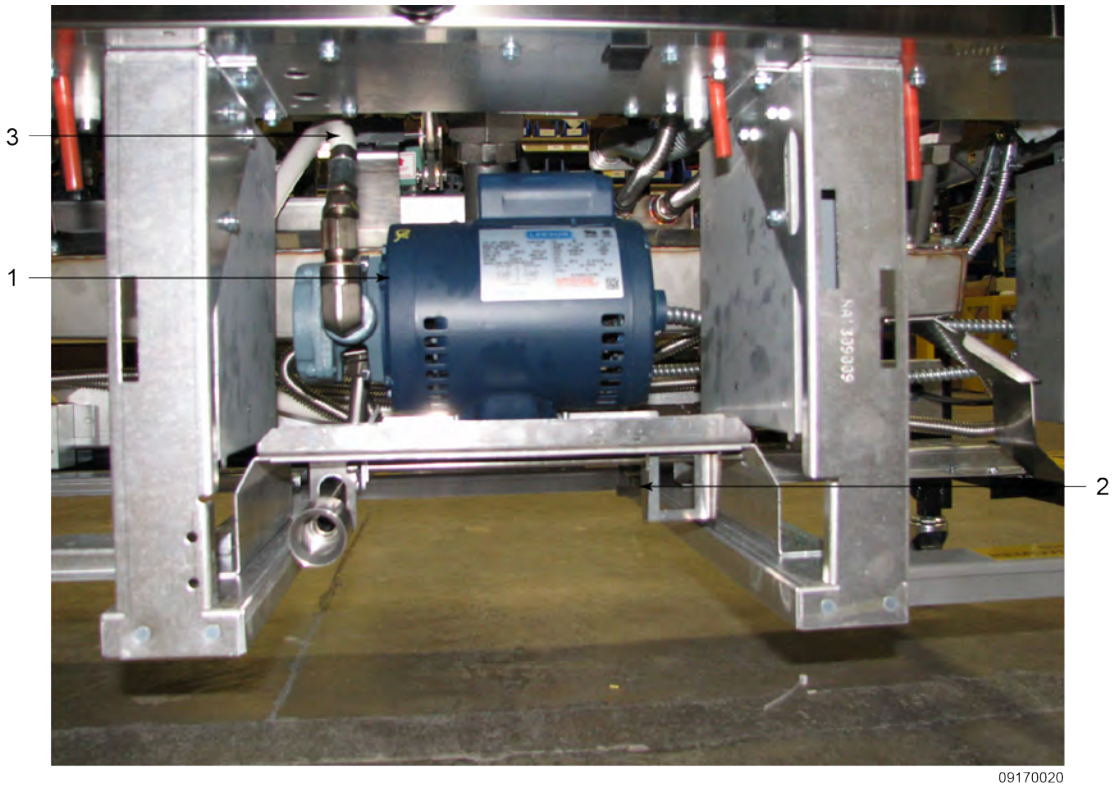


Figure 7-13 Filter Pump Motor Assembly (Units Manufactured Prior to Sept. 2018)

Stock Level	Item No.	Part No.	Description	Qty.
A	1	151534-001	ASSY - FILTER PUMP MOTOR 60HZ— Applies to serial numbers prior to NX1708071	1
A	1	— 67583	— MOTOR - 1/2 HP FILTER PUMP	1
A	1	— 17437	— ASSY - SUB PUMP 5 GPM	1
A	1	— 17476	— SEAL KIT	1
A	1	151534-002	ASSY - FILTER PUMP MOTOR 50HZ— Applies to serial numbers prior to NE1711020	1
A	1	— 92850	— MOTOR - 1/2 HP FILTER PUMP 50HZ	1
A	1	— 17437	— ASSY - SUB PUMP 5 GPM	1
A	1	— 17476	— SEAL KIT	1
* = Not Shown / A/R = As Required				

Stock Level	Item No.	Part No.	Description	Qty.
	2	140537	KIT — DRAIN PAN SWITCH	1
	3	151686–002	HOSE — OIL DISPOSE (34 IN)	1
* = Not Shown / A/R = As Required				

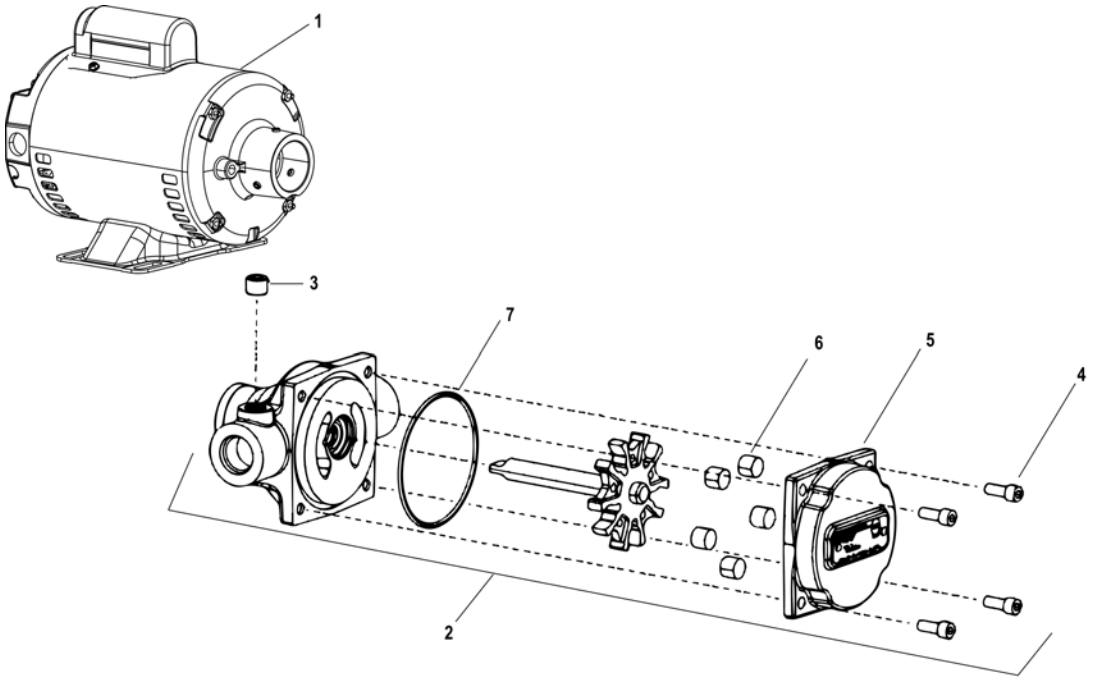


Figure 7-14 Filter Pump Motor Assembly (Units Manufactured After Sept. 2018)

Stock Level	Item No.	Part No.	Description	Qty.
B	1	164184–001	MOTOR, 1/2 HP — 60 Hz — Applies to serial numbers after NX1708071	1
B	1	164184–002	MOTOR, 1/2 HP — 50 Hz — CE — Applies to serial numbers after NE1711020	1
B	2	164323	PUMP ASSEMBLY, 5 GPM HUBMOUNTED FILTER	1
	3	— FP01–020	PLUG, 1/4-18 HEX SOCKET	1
	4	— SC01–132	SCREW, PUMP COVER	4
	5	— 157404	COVER, PUMP	1
A	6	— 171169	ROLLER, PUMP KIT (5 PC.)	1
A	7	— 162498	O-RING	1
	8*	140598	KIT — FILTER PUMP MOTOR HARDWARE RETROFIT (see note)	1
	9*	173418	O-RING, SAE FITTING	1

NOTICE: Kit 140598 does NOT include filter pump or motor. It only includes hardware.

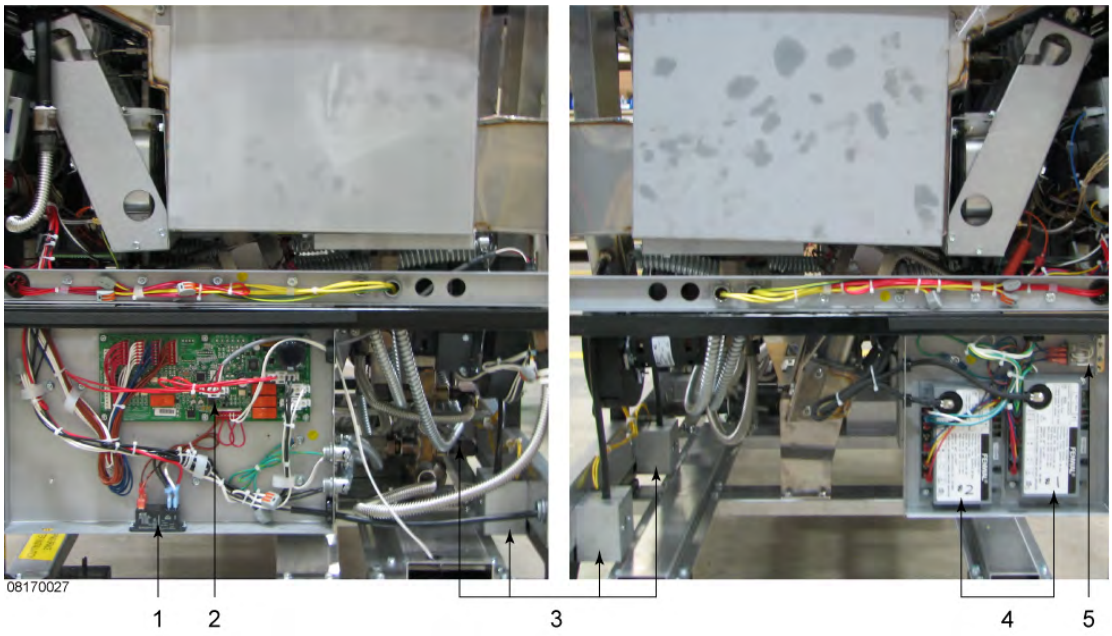
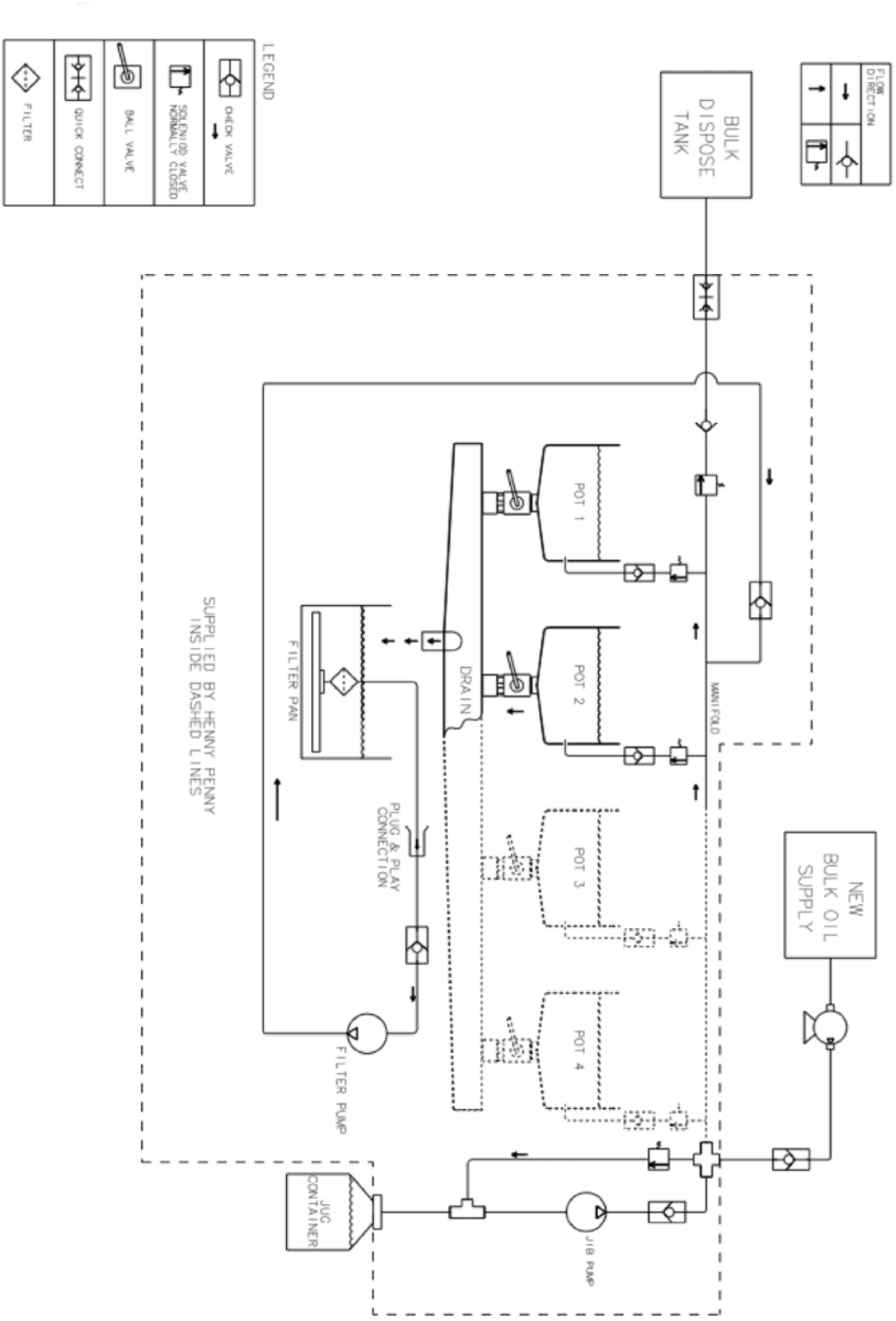


Figure 7-15 Behind Side Panels

Stock Level	Item No.	Part No.	Description	Qty.
B	1	ME90-008	P&B T92 RELAY 12VDC COIL 30AMP	1
B	1	ME90-005	RELAY 12V OC COIL SPDT	1
A	2	85698	ASSY - LOV SELECTOR AIF	1
A	3	77992	SWITCH - PRESSURE 0.80	1/VAT
A	3 *	79443	TUBE - PRESSURE SWITCH	1/VAT
A	4	77839	MODULE - IGNITION NON CE	2/WELL
A	4 *	77602	MODULE - IGNITION CE	2/WELL
B	5	60818	RELAY - 24VAC COIL	1/WELL

Chapter 8 Diagrams

8.1 Plumbing Diagram



8.2 Wiring Diagrams

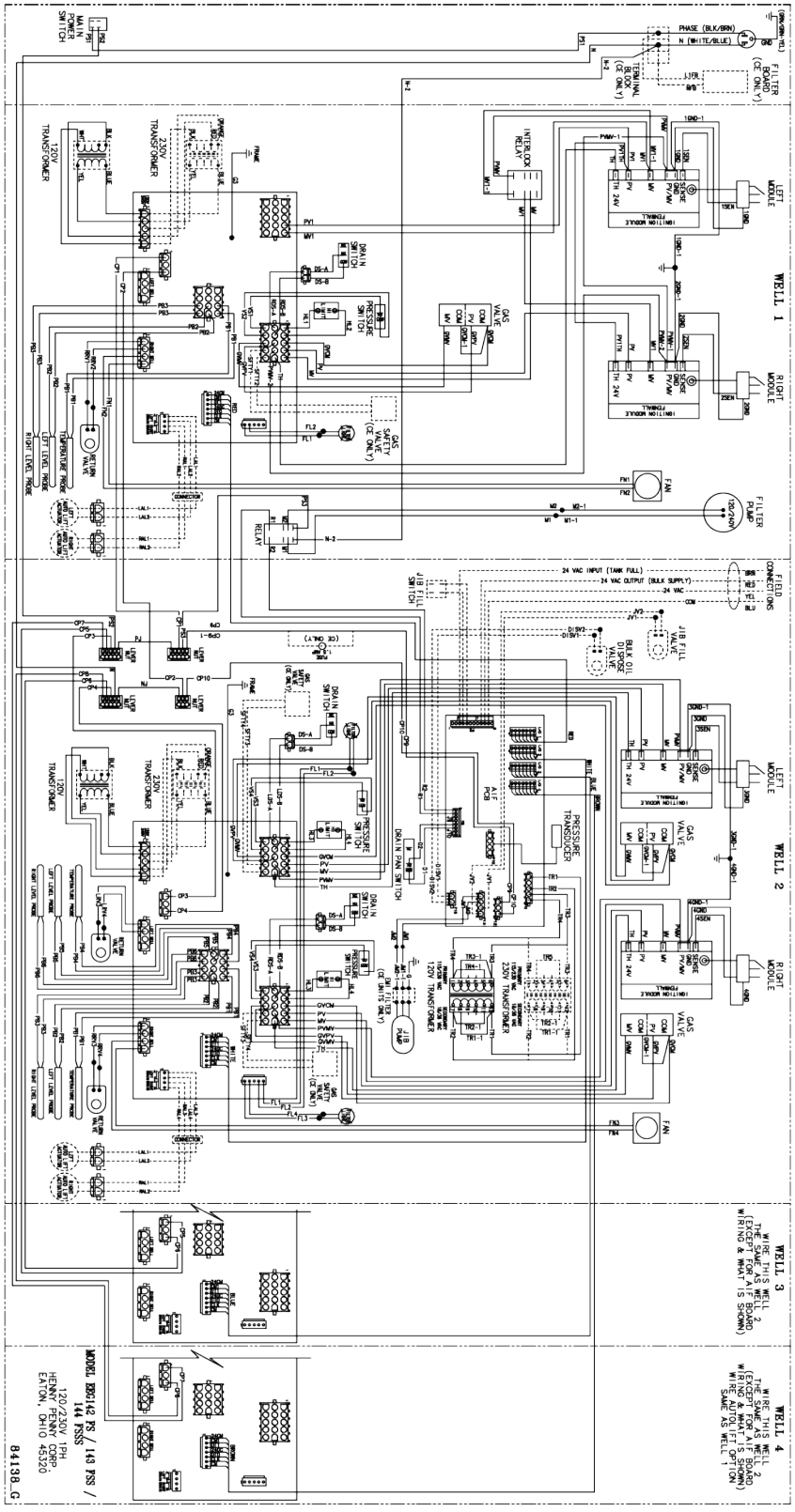
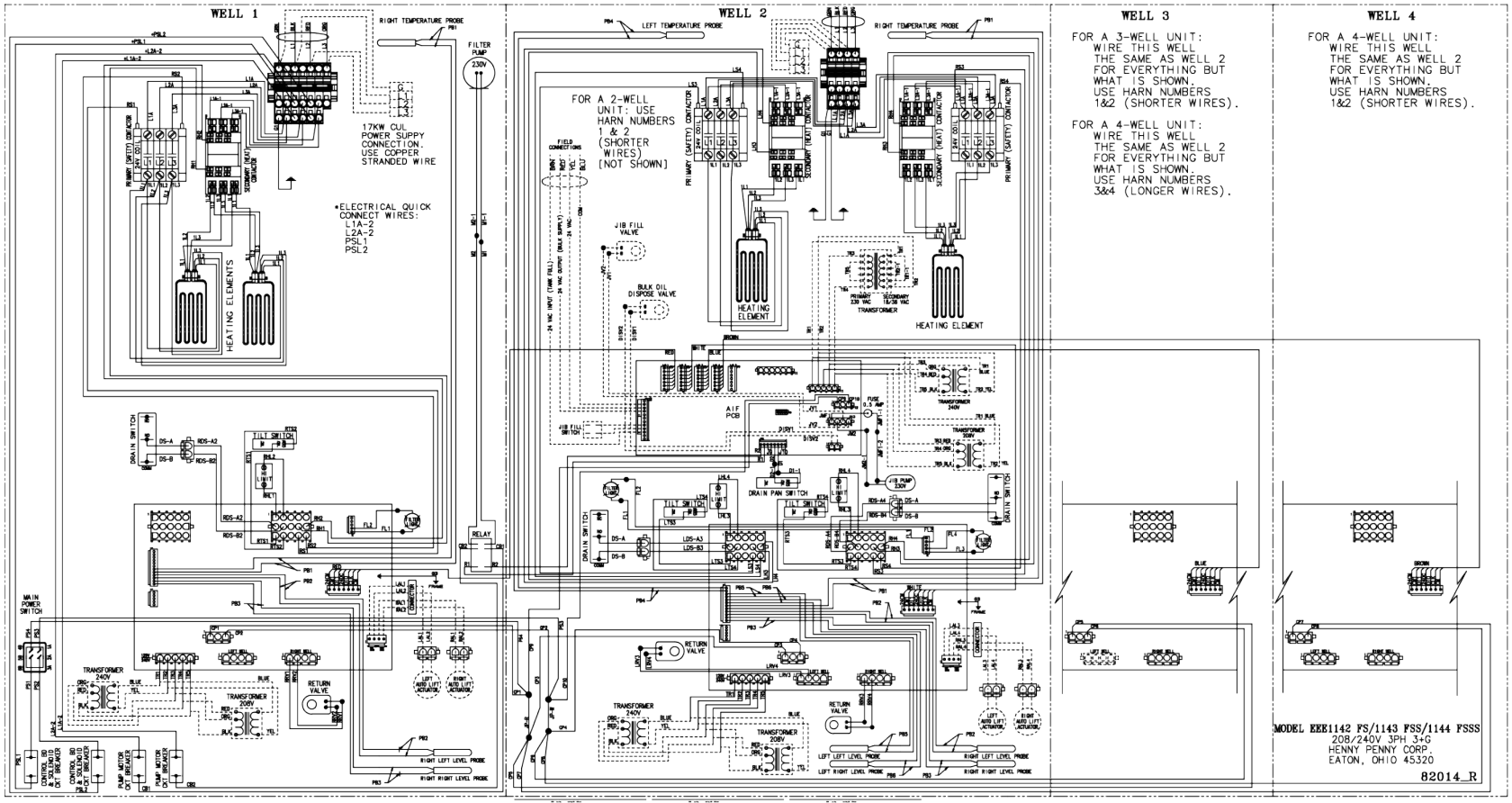


Table 8-1 WIRING LEGEND

ABBREVIATION	DEFINITION	ABBREVIATION	DEFINITION
CB	CIRCUIT BREAKER	RDS	RIGHT DRAIN SWITCH
CP	CONTROL POWER	RH	RIGHT HEAT
D	DRAIN	RHL	RIGHT HIGH LIMIT
DISV	OIL DISPOSAL VALVE	RRV	RIGHT RETURN VALVE
DS	DRAIN SWITCH	RS	RIGHT SAFETY
FL	FILTER LIGHT	RTS	RIGHT TILT SWITCH
G	GROUND	TR	TRANSFORMER
J	JUMPER	LAL	LEFT AUTOLIFT
JM	JIB MOTOR	RAL	RIGHT AUTOLIFT
JMF	JIB MOTOR FUSE	JV	JIB FILL VALVE
JP	JUMPER POWER	—	Ext. of the same signal
L1	LINE 1		
L2	LINE 2		
L3	LINE 3		
LDS	LEFT DRAIN SWITCH		
LH	LEFT HEAT		
LHL	LEFT HIGH LIMIT		
LRV	LEFT RETURN VALVE		
LS	LEFT SAFETY		
LTS	LEFT TILT SWITCH		
M	MOTOR		
PB	PROBE		
PS	POWER SWITCH		
R	RELAY		


WELL 1
WELL 2
WELL 3
WELL 4
RIGHT TEMPERATURE PROBE
LEFT TEMPERATURE PROBE
FILTER PUMP 230V
17KW CUL POWER SUPPY CONNECTION. USE COPPER STRANDED WIRE
*ELECTRICAL QUICK CONNECT WIRES: L1A-2 L2A-2 PSL1 PSL2
HEATING ELEMENTS
FOR A 2-WELL UNIT: USE HARN NUMBERS 1 & 2 (SHORTER WIRES) [NOT SHOWN]
JIB FILL VALVE
BULK OIL DISPOSE VALVE
HEATING ELEMENT
TRANSFORMER
AIF PCB
DRAIN PAN SWITCH
TILT SWITCH
DRAIN SWITCH
RETURN VALVE
MAIN POWER SWITCH
RELAY
FOR A 3-WELL UNIT: WIRE THIS WELL THE SAME AS WELL 2 FOR EVERYTHING BUT WHAT IS SHOWN. USE HARN NUMBERS 1&2 (SHORTER WIRES).
FOR A 4-WELL UNIT: WIRE THIS WELL THE SAME AS WELL 2 FOR EVERYTHING BUT WHAT IS SHOWN. USE HARN NUMBERS 3&4 (LONGER WIRES).
FOR A 4-WELL UNIT: WIRE THIS WELL THE SAME AS WELL 2 FOR EVERYTHING BUT WHAT IS SHOWN. USE HARN NUMBERS 1&2 (SHORTER WIRES).
MODEL EEE1142 FS/1143 FSS/1144 FSSS
208/240V 3PH 3+G
HENNY PENNY CORP.
EATON, OHIO 45320
82014_R

Chapter 9 Annual Inspection Checklist Form

Table 9-1 Annual (12 month) Inspection Checklist

#	Assess Vat 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.	Replace filter pump seals and rollers.			
9.	Clean and replace the Nylatron slides as necessary.			
10.	Remove rear cover and clean vents.			
11.	Remove and clean blower wheels.			
12.	Inspect flue restrictor for clogging or debris.			
13.	Inspect plumbing and valves for leaks.			
14.	Inspect frypots for leaks.			
Behind Service Access Panel - Pressure System				
15.	Inspect the steam exhaust hose insert.			
16.	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 reinstall all components after step 13 is complete.			
17.	Clean the Safety Relief Valve – Install only after step 13 is complete.			
18.	Remove the solenoid valve and clean and reassemble. Install only after step 13 is complete.			

19.	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				
20.	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.			
21.	Inspect and lubricate filter pan o-rings.			
22.	Verify drain pan slides into place without obstruction.			
23.	Remove ATO reservoir (not used in bulk fill applications). Inspect that reservoir is clean with no obstructions. Replace any damaged or missing O-rings.			
24.	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.			
25.	If a bulk oil system is connected to the fryer, dispose a small amount of oil to make sure this system is working correctly.			
26.	Using the appropriate step in the filter menu to test the ATO pump (not used in bulk fill applications). Make sure the fry pot fills from the ATO reservoir.			
Heat System				
27..	Tighten heating element spreader bars and high limit bracket.			
28.	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.			
29.	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.			
30.*	Inspect for excessive oil migration behind left side panel.			
31.	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.			
32.	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.			
33.*	Check that all six heating circuits have similar amp draw. Electrically troubleshoot issues if any are found.			
Pressure System				
34.	Remove lid cover and inspect lid components – Please read and follow PXE-100 Lid Inspection instructions for this step.			
35.*	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.			
36.	Inspect Lid Handle Rollers – Please read and follow all instructions for this step.			
37.	Inspect cam slide fillers located on each side of the lid cover.			
38.	Inspect front lid latch and make adjustments as necessary.			
39.	Inspect pressure pads. Rotate if excessively worn, replace if cracked or both sides are excessively worn.			
40.	Manually test lid pin switch. Refer to test instructions.			
41.	Check error log and address recent pressure errors.			
General Fryer, ATO, and Filtration System				
42.	Verify all labels are in place and legible on fryer.			
43.	Note errors from the last week.			
44.	Test the JIB pump.			

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