# HEANY PENNY 

Global Foodservice Solutions

# Henny Penny High Volume Open Fryer 

Model OFE/OFG-341
Model OFE/OFG-342
Model OEA/OGA-341
Model OEA/OGA-342

## TECHNICAL MANUAL



This manual should be retained in a convenient location for future reference.
A wiring diagram for this appliance is located on the inside of the right side panel.
Post in a prominent location, instructions to be followed in event user smells gas. This information shall be obtained by consulting the local gas supplier.

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

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

## CAUTION

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


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


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

Model OFE/OFG/OEA/OGA-341, 342

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## SECTION 1. TROUBLESHOOTING

## 1-1. INTRODUCTION

## 1-2. SAFETY



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 Section of the Operator's Manual.

Before troubleshooting, always recheck the Operation Section of the Operator's Manual.

Where information is of particular importance or is safety related, the words DANGER, WARNING, CAUTION, or NOTE are used. Their usage is described on the next page:

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

NOTICE is used to highlight especially important information.

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

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

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

1-3. 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.


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

| PROBLEM | CAUSE | CORRECTION |
| :---: | :--- | :--- |
| With the switch in <br> the ON position, <br> fryer is completely <br> inoperative | • Open circuit | • Check to see if unit is plugged in |
| • Check breaker or fuse at supply box |  |  |

## 1-3. TROUBLESHOOTING(Continued)

| PROBLEM | CAUSE | CORRECTION |
| :---: | :---: | :---: |
| Heating of shortening too slow | - Low or improper voltage (elec. unit) <br> - Weak or burnt out elements (elec. unit) <br> - Wire(s) loose <br> - Burnt or charred wire connection <br> - Faulty contactor <br> - Supply line too small - low gas volume (gas unit) <br> - Improper ventilation | - Use a meter and check the receptacle voltage against the data plate <br> - Check heating elements per Heating Elements Section <br> - Tighten <br> - Replace wire and clean connectors <br> - Check contactor per Heating Contactors Section <br> - Increase supply line size; refer to Installation Section of Operator's Manual <br> - Refer to Installation Section of Operator's Manual |
| Shortening overheating | - Temperature probe needs calibrated <br> - Mercury contactor stuck closed <br> - Bad control board | - Calibrate temperature probe if $\pm 10^{\circ}$ off; if more than $\pm 10^{\circ}$ off, replace temperature probe <br> - Check mercury contactor for not opening; replace if necessary (elec. unit) <br> - Replace control board if heat indicator stays on past ready temperature |
| Foaming or boiling over of shortening | - Water in shortening <br> - Improper or bad shortening <br> - Improper filtering <br> - Improper rinsing after cleaning the fryer | - At end of cook cycle, drain shortening and clean <br> - Use recommended shortening <br> - Refer to the Filtering the Shortening Section in Operator's Manual <br> - Clean and rinse the frypot; then dry thoroughly |

## 1-2. TROUBLESHOOTING

(Continued)

| PROBLEM | CAUSE | CORRECTION |
| :--- | :--- | :--- |
| Shortening will not <br> drain from frypot | • Drain valve clogged <br> with crumbs | • Open valve, force cleaning brush through <br> drain |
|  | • Drain valve will not <br> open by turning <br> handle | • Replace cotter pins in valve coupling |

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1-4. ERROR CODES
In the event of a control system failure, the digital display shows An error message. These messages are coded: "E4", "E5", "E6", "E10", "E15", "E20", "E31", "E41", "E46", and "E92". A Constant tone is heard when an error code is displayed, and to silence this tone, press any button.

| DISPLAY | CAUSE | PANEL BOARD CORRECTION |
| :---: | :---: | :--- |
| "E4" | Control board <br> overheating | Turn switch to OFF position, then turn switch back to ON; <br> if display shows "E4", the control board is getting too hot; <br> check the louvers on each side of the unit for obstructions |
| "E5" | Shortening |  |
| overheating | Turn switch to OFF position, then turn switch back to ON; <br> if display shows "E5", the heating circuits and temperature <br> probe should be checked |  |
| "E6-A" | Temperature <br> probe open | Turn switch to OFF position, then turn switch back to ON; <br> if display shows "E6" the temperature probe should be <br> checked |
| "E6-B" | Temperature <br> probe shorted | Turn switch to OFF position, then turn switch back to ON; <br> if display shows "E6" the temperature probe should be <br> checked to replace, per Temperature Probe Replacement <br> Section |
| "E10" | High limit | Reset the high limit by manually pushing up on the red <br> reset button; if high limit does not reset, high limit must be <br> replaced per High Limit Temperature Control Section |
| "E15" | Drain switch <br> failure | Close drain, using the drain valve handle; if display still <br> shows "E-15", check the drain microswitch per Drain <br> Microswitch Section |
| "E31" | Elements not <br> hinged all the <br> way down | Check to make sure the elements are hinged all way down <br> into the frypot; check for obstructions under elements |
| "E46" | failure |  |

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## 1-4. ERROR CODES

(Continued)

| DISPLAY | CAUSE | PANEL BOARD CORRECTION |
| :---: | :--- | :--- |
| "E-20 A" | Vacuum <br> switch failure <br> (stuck closed) | Press the timer button to try the ignition process again, <br> and if "E-20 A" persists, check the air switch per Vacuum <br> Switch Section |
| "E-20 B" | Draft fan or <br> vacuum <br> switch failure <br> (stuck open) | Press the timer button to try the ignition process again, <br> and if "E-20 B" persists, check the vacuum switch per <br> Vacuum Switch Section or the blower motor per Blower <br> Motor Assembly Section |
| "E-20 C" | Ignition modules <br> not responding | Press the timer button to try the ignition process again; if <br> "E-20 C" persists, check the ignition module per Ignitor <br> Module Section, the spark ignitor per Pilot/Ignitor <br> Assembly Section, or the I/O board per Control \& I/O <br> Boards Section |
| "E-20 D" | Pilots not lit or <br> no flame sense | Press the timer button to try the ignition process again; if <br> "E-20 D" persists, check the ignition module per Ignition <br> Module Section, the I/O board per Control \& I/O Boards <br> Section, or the flame sensor per Flame Sensor Section |
| "E-47" | Analog converter <br> chip or 12 volt <br> supply failure | Turn switch to OFF, then back to ON; if "E47" persists, <br> replace the I/O board, or the PC board; if speaker <br> tones are quiet, probably I/O board failure |
| "E-92" | 24 VAC fuse <br> on I/O open | Input system <br> error |
| Check for shorted component in 24 volt circuit; |  |  |
| (i.e., high limit, drain switch, vacuum switch) |  |  |

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## SECTION 2. MAINTENANCE

## 2-1. INTRODUCTION

## 2-2. MAINTENANCE HINTS

## 2-3. HIGH TEMPERATURE LIMIT CONTROL (Gas Units)



Figure 2-1

## Checkout



Figure 2-2

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

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

This high temperature control is a safety, manual reset control, which senses the temperature of the shortening. If the shortening temperature exceeds $425^{\circ} \mathrm{F}\left(218^{\circ} \mathrm{C}\right)$, this switch opens and shuts off heat to the frypot. When the temperature of the shortening drops to a safe operation limit, the control must be manually reset by pressing the red reset button. The red reset button is located under the control panel, in the front of the fryer. (Figure 2-1). This allows heat to be supplied to the frypot.

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


The shortening temperature must be below $380^{\circ} \mathrm{F}\left(193^{\circ} \mathrm{C}\right)$ to accurately perform this check.


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

1. Remove the control panel. Figure 2-2.

1-3. HIGH TEMPERATURE LIMIT CONTROL
(Gas Units) (Continued)


Figure 2-3


Figure 2-4


Figure 2-5
2. Using a Phillip's head screwdriver, remove the screws securing the inner heat shield and remove from unit. Figure 2-3.
3. Remove the screw securing the high limit bracket to the frame and remove the high limit and bracket from unit. Figure 2-4.
4. Remove the two screws securing the high limit to the bracket and remove the high limit from bracket.
5. Remove the two electrical wires from the high temperature limit control. Figure 2-5.
6. Manually reset the control, then check for continuity between the two terminals after resetting the control. If the circuit is open, replace the control, then continue with this procedure. (If the circuit is closed, the high limit is not defective. Reconnect the two electrical wires.)

## 2-3. HIGH TEMPERATURE LIMIT CONTROL (Gas Units) (Continued)

## Replacement



Figure 2-6


Figure 2-7


Figure 2-8

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

1. If the tube is broken or cracked, the control opens, shutting off electrical power to the heat circuit. The control cannot be reset, and it continuously clicks when pushed.
2. Drain the shortening from the frypot and discard. A substance from the tube could contaminate the shortening.
3. Remove the control panel.
4. Using a $5 / 16$ " wrench, loosen small inside screw nut on capillary tube. Figure 2-6.
5. Using a $11 / 16$ " crows-foot, remove the larger nut securing the capillary tube to the pot. Figure 2-7.
6. Remove the two screws securing the high limit guard and remove guard. Figure 2-8
7. Straighten the capillary tube inside the frypot, and pull the capillary tube through the frypot, from behind the control panel. Remove the defective high limit from the control panel area.
8. Replace new high limit in reverse order.


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

## 2-4. COMPLETE CONTROL <br> PANEL REPLACEMENT



Figure 2-9


Figure 2-10

## 2-5. POWER SWITCH



Figure 2-11

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

1. Remove electrical power supplied to the unit.


To avoid electrical shock or property damage, 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 and lift out. Figure 2-9.
3. Unplug the wire connectors going to the control panel. Figure 2-10.
4. Remove transformer(s) from control panel. They must be installed on the replacement panels.
5. Install new control panel in reverse order.

## CAUTION

When plugging connectors onto new control panel, be sure the connectors are inserted onto all of the pins, and that the connectors are not forced onto the pins backwards. If not connected properly, damage to the board could result.

1. Remove electrical power supplied to fryer.


To avoid electrical shock or property damage, move the power switch to OFF and disconnect main circuit breaker, or unplug cord at wall receptacle.
2. Remove control panel.
3. Label and remove wires from the switch. With test instrument check across the terminals of the switch with switch in the on position, and the circuit should be closed. In the off position, the circuit should be open. If the switch checks defective, replace by continuing with this procedure. Figure 2-11.

## 2-5. POWER SWITCH (Continued)



Figure 2-12
2-6. TEMPERATURE PROBE REPLACEMENT (Gas)
4. With control panel removed, and the wires off the switch, push in on tabs on the switch to remove from panel. Figure 2-12.
5. Replace with new switch, and reconnect wires to switch.
6. Replace the control panel.

The temperature probe relays the actual shortening temperature to the control board. If it becomes disabled, "E06" shows in the display. Also, if the shortening temperature is out of calibration more than $10^{\circ} \mathrm{F}$ or $\mathrm{C}^{\circ}$, the probe should be replaced. An Ohm check can be performed also. See chart below.

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

1. Remove electrical power supplied to the fryer.


To avoid electrical shock or property damage, move the power switch to OFF and disconnect main circuit breaker, or unplug cord at wall receptacle.
2. Drain the shortening from the frypot.
3. Remove the control panel and heat shield from control area.

Figure 2-13.
4. Using a $1 / 2$ inch wrench, remove the nut on the compression fitting. Figure 2-14.

2-6. TEMPERATURE PROBE
REPLACEMENT (GAS) (Continued)


Figure 2-15


Figure 2-16

## 2-7. TEMPERATURE PROBE REPLACEMENT (Gas) REPLACEMENT (ELECTRIC)

5. Remove the probe from the frypot, and disconnect wire connector from the control panel. Figure 2-15.
6. Place the nut and new ferrule on the new probe and insert the probe into the compression fitting until it extends one (1) inch $(2.54 \mathrm{~cm})$ into the frypot. Figure 2-16.
7. Tighten hand tight and then a half turn with wrench.

## CAUTION

Excess force will damage probe.
8. Connect new probe to PC board and replace control panel.
9. Replace shortening, and turn power on to check out fryer.

The temperature probe relays the actual shortening temperature to the control board. If it becomes disabled, "E06" shows in the display. Also, if the shortening temperature is out of calibration more than $10^{\circ} \mathrm{F}$ or $\mathrm{C}^{\circ}$, the probe should be replaced. An Ohm check can also be performed. See chart on page 2-5.

1. Remove electrical power supplied to the fryer.


To avoid electrical shock or property damage, move the power switch to OFF and disconnect main circuit breaker, or unplug cord at wall receptacle.
2. Drain the shortening from the frypot.

Figure 2-17

2-7. TEMPERATURE PROBE REPLACEMENT (ELECTRIC)(Continued)


Figure 2-18

## 2-8. FLAME SENSOR/ PILOT / IGNITOR ASSEMBLY (GAS)

4. Using a $1 / 2$ inch wrench, remove the nut on the compression fitting. Figure 2-18.
5. Remove the probe from the frypot, and disconnect probe.
6. Place the nut and new ferrule on the new probe and insert the probe into the compression fitting until it extends one (1) inch $(2.54 \mathrm{~cm})$ into the frypot.
7. Reconnect new probe onto wires, replace rear cover, and fryer is now ready for use.

The Henny Penny open fryer (gas) has electronic spark ignition that lights a standing pilot. The gap between the spark electrode and the pilot hood should be $1 / 8$ of an inch ( 3.18 mm ). The flame sensor recognizes the pilot flame and allows gas to continue to the pilot. The flame sensor must send a minimum of two (2) micro amps to the ignition module. The pilot flame should be split in two by the flame sensor, causing the flame sensor to be bright red in color.

1. Remove electrical power supplied to the unit.


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

$$
\frac{\text { A DANGER }}{\text { EXPLOSION RISK }}
$$

TO AVOID PERSONAL INJURY OR PROPERTY DAMAGE, BEFORE STARTING THIS PROCEDURE, MOVE THE MAIN POWER SWITCH TO THE OFF POSITION. DISCONNECT THE MAIN CIRCUIT BREAKERS AT THE CIRCUIT BREAKER BOX OR UNPLUG SERVICE CORD FROM WALL RECEPTACLE. TURN OFF THE MAIN GAS SUPPLY TO THE FRYER AND DISCONNECT AND CAP THE MAIN SUPPLY LINE TO FRYER, OR POSSIBLE EXPLOSION COULD RESULT.

## 2-8. FLAME SENSOR/

PILOT / IGNITOR
ASSEMBLY (Gas)
(Continued)

2. Remove the control panel and heat shield from control area. Figure 2-19.

Figure 2-19

3. Disconnect the flame sense wire from ignition module. Figure 2-20.

Figure 2-20


Figure 2-21


Figure 2-22
4. Using a $7 / 16$ " wrench, loosen the nut on the pilot tube and pull tube from assembly. Figure 2-21.
5. Remove the two screws securing the assembly and pull assembly from unit. Figure 2-22.
6. Now the flame sensor or or pilot assembly can be removed from bracket.

## 2-9. IGNITION MODULE



Figure 2-23


Figure 2-24


Figure 2-25

During normal operation, the ignition modules send 24 volts to the ignitors and gas valve. If a module does not sense a pilot flame, the module starts the ignition process again. But, if a pilot light goes out for longer that 10 seconds, or it goes out 3 times within 10 seconds, the module keeps the 24 volts from reaching the gas valve. The burners shut down.

1. Remove electrical power supplied to the unit.


To avoid electrical shock or property damage, move the power switch to OFF and disconnect main circuit breaker, or unplug cord at wall receptacle.
2. Remove the control panel and heat shield from control area. Figure 2-23.
3. Using a $3 / 8$ inch socket, remove the two nuts securing the module. Figure 2-24.
4. Label and remove the wires at module. Figure 2-25.
5. Install new module in reverse order.

## 2-10. TRANSFORMER REPLACEMENT



Figure 2-26


Figure 2-27

## 2-11. CONTROL \& I/O BOARDS REPLACEMENT



Figure 2-28

The transformer reduces voltage down (to 24 V ) to accommodate those components with low voltage.

1. Remove electrical power supplied to the unit.


To avoid electrical shock or property damage, move the power switch to OFF and disconnect main circuit breaker, or unplug cord at wall receptacle.
2. Remove the control panel
3. Remove the two wire connectors to disconnect transformer From panel. Figure 2-26.
4. Using a $3 / 8$ " nut-driver, remove the two nuts securing the transformer to the panel and remove transformer. Figure 2-27.
5. Install the new transformer in reverse order.

1. Remove electrical power supplied to the unit.


To avoid electrical shock or property damage, move the power switch to OFF and disconnect main circuit breaker, or unplug cord at wall receptacle.
2. Remove the control.
3. Using a $5 / 16$ " nut-driver or wrench, remove the 4 nuts securing the PC shield and remove shield. Figure 2-28.
4. Disconnect the wire assemblies from the appropriate board.
5. Using a $5 / 16$ " nut-driver or wrench, remove the 4 nuts securing the appropriate board to the shroud.
6. Install the new board in reverse order.

2-12. VACUUM SWITCHThis switch senses the airflow from the induction blower. If

REPLACEMENT


Figure 2-29


Figure 2-30


Figure 2-31
the airflow is reduced below a set amount, the switch opens and the I/O board cuts power to the gas control valve, which shuts the pilot flame off.

1. Remove electrical power supplied to the unit.


To avoid electrical shock or property damage, move the power switch to OFF and disconnect main circuit breaker, or unplug cord at wall receptacle.
2. Remove the control panel.
3. Remove the 2 screws securing the switch to the heat shield. Figure 2-29.
4. Remove the air hose from the air switch. Figure 2-30.
5. Label and remove wires from air switch. Figure 2-31.
6. Install new vacuum switch in reverse order.


To avoid property damage, do not tamper with, or disassemble this component. It is set and sealed from the factory and is not to be adjusted.

2-13. DRAIN MICROSWITCH REPLACEMENT


Figure 2-32


Figure 2-33

## 2-14. FILTER SWITCH

REPLACEMENT


Figure 2-34

Upon turning the drain handle, the drain microswitch should "open", cutting off the pilot flame. This will prevent the fryer from heating while shortening is being drained from the frypot.

1. Remove electrical power supplied to the unit.


To avoid electrical shock or property damage, move the power switch to OFF and disconnect main circuit breaker, or unplug cord at wall receptacle.
2. The following check should be made to determine if the drain microswitch is defective.
a. Remove the two screws and nuts securing the microswitch to the drain rod valve bracket, and remove microswitch. Figure 2-32.
b. Remove wires from the switch. Figure 2-33.
c. Check for continuity across the two outside terminals of the drain switch. If the circuit is open, the drain switch is defective. The circuit opens by pressing on the actuator of the microswitch.
3. If defective, replace switch in reverse order.

1. Remove electrical power supplied to the unit.


To avoid electrical shock or property damage, move the power switch to OFF and disconnect main circuit breaker, or unplug cord at wall receptacle.
2. Open the door (left door on 2 well units), and remove the 2 screws securing the switch box cover. Figure 2-34.

## 2-14. FILTER SWITCH REPLACEMENT (Continued)



Figure 2-35


Figure 2-36
2-15. GAS CONTROL VALVE REPLACEMENT
3. Label and remove the wires from the switch. With test instrument check across the terminals of the switch. With the switch in the on position, the circuit should be closed. With the switch in the off position, the circuit should be open. If the switch is defective, replace by continuing with this procedure. Figure 2-35.
4. With wires removed from the switch, push in on tabs on the switch and remove switch from front of switch box cover. Figure 2-36.
5. Push new switch into panel and reconnect wires.

The gas valve assembly controls the flow of gas to the pilot and the main burner. The valve has two 24 -volt coils, which are regulated by the P and M terminals on the valve. The C terminal is the common terminal. For gas flow to the pilot, 24 VAC must be present between the P and C terminals. For gas flow to the main burner, 24 VAC must be present between the M and C terminals.

## © DANGER

EXPLOSION RISK
TO AVOID PERSONAL INJURY OR PROPERTY DAMAGE, BEFORE STARTING THIS PROCEDURE, MOVE THE MAIN POWER SWITCH TO THE OFF POSITION. DISCONNECT THE MAIN CIRCUIT BREAKERS AT THE CIRCUIT BREAKER BOX OR UNPLUG SERVICE CORD FROM WALL RECEPTACLE. TURN OFF THE MAIN GAS SUPPLY TO THE FRYER AND DISCONNECT AND CAP THE MAIN SUPPLY LINE TO FRYER, OR POSSIBLE EXPLOSION COULD RESULT.

## 2-15. GAS CONTROL VALVE REPLACEMENT (Continued)



Figure 2-37


Figure 2-38


Figure 2-39

4. Using a 1-inch wrench, loosen the nut securing the main gas inlet line to the gas valve. Figure 2-40.

Figure 2-40

## 2-15. GAS CONTROL VALVE

REPLACEMENT (Continued)


Figure 2-41


Figure 2-42

## 2-16. BLOWER MOTOR REPLACEMENT



Figure 2-43
5. Using a pipe wrench, loosen the outlet fitting to the burner. Figure 2-41.
6. Using a Phillips screwdriver, remove the 2 screws securing the gas valve to the bracket and remove gas valve from unit. Figure 2-42.
7. Remove the fittings from the gas valve and install in new gas valve.
8. Install the new gas valve in reverse order.

The blower motor assembly induces the draft for the burners. If the blower motor fails, the air switch will fail to close, causing an "E-20B" error code in the display.

1. Remove electrical power supplied to the unit.


To avoid electrical shock or property damage, move the power switch to OFF and disconnect main circuit breaker, or unplug cord at wall receptacle.
2. Remove screws securing the rear cover to the unit. Figure 2-43.

## 2-16. BLOWER MOTOR

REPLACEMENT

## (Continued)


3. Remove the wire cover from the blower motor housing. Figure 2-44.

Figure 2-44


Figure 2-45


Figure 2-46

7. Remove screws connecting flue to blower. Figure 2-47.

## 2-16. BLOWER MOTOR <br> REPLACEMENT (Continued)



Figure 2-48

## 2-17. HEATING ELEMENTS

 (ELECTRIC)
## Checkout



Figure 2-49


Figure 2-50
8. Using $3 / 8$ inch nut driver, remove nuts securing blower to the unit. Figure 2-48. Pull blower from unit.
9. Install new blower in reverse order.


Heating elements are available for 208 and 230 voltage. Check data plate to determine correct voltage.

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

1. Remove electrical power supplied to the frypot to be checked


To avoid electrical shock or property damage, move the power switch to OFF and disconnect main circuit breaker, or unplug cord at wall receptacle, to the frypot to be worked on. Be aware the other control on 2-frypot units will have power.
2. Remove rear cover. Figure 2-49.
3. Using a flat-head screwdriver, remove the appropriate wires from the terminal blocks. Figure 2-50.

## 2-17. HEATING ELEMENTS

 (ELECTRIC) (Continued)4. Perform an ohm check on one element at a time, with wires disconnected. The 2 elements actually have 3 small heating elements inside the outer plate. It's important to check between the correct wires to obtain an accurate ohm reading. The wires are labeled for your convenience. If the resistance is not within tolerance, replace the element.

| Wire Nos. | Voltage | Wattage | Ohms (cold) |
| :--- | :---: | :---: | :---: |
| 1L1 to 1L1 | 208 | 11000 | 11.7 |
| 1L2 to 1L2 | 208 | 11000 | 11.7 |
| 1L3 to 1L3 | 208 | 11000 | 11.7 |
|  |  |  |  |
| 1L1 to 1L1 | 240 | 11000 | 15.7 |
| 1L2 to 1L2 | 240 | 11000 | 15.7 |
| 1L3 to 1L3 | 240 | 11000 | 15.7 |



Figure 2-51

## Replacement

1. Drain the shortening from the frypot
2. Remove the high limit bulb holder from the heating element inside the frypot. See High Limit Temperature Control-Electric Section.
3. Using a Phillip's-head screwdriver, remove the screws securing the element to the element hinges. Figure 2-51.
4. Pull element from fryer and replace with new element, following steps in reverse order.
5. Connect the power cord to the wall receptacle or close wall circuit breaker.

## CAUTION

Heating elements should never be energized without shortening in the frypot, or damage to the elements could result.
6. Replace the shortening in the frypot, and unit is ready for operation.

2-18. HEATING CONTACTORS
(ELECTRIC)

## Checkout (Power Removed)

Heat Contactor
(Mercury)

## $30 \quad 31 \quad 32$



Figure 2-52
Primary Contactor


Figure 2-53

Each well of an electric fryer requires two switching contactors. The first in line is the primary contactor and the second in line is the heat contactor. When open, the primary contactor does not allow power to flow to the heat contactor. When closed, the primary supplies voltage to the heat contactor. When the heat contactor is open, no voltage is supplied to the heating elements. When the heat contactor closes, voltage is supplied to the heating elements.

1. Remove electrical power supplied to frypot to be worked on.


To avoid electrical shock or property damage, move the power switch to OFF and disconnect main circuit breaker, or unplug cord at wall receptacle, to the frypot to be worked on. Be aware the other control on 2-frypot units will have power.
2. Remove the control panel.
3. Perform a check on the contactor as follows:

## Test Points

From 23 to 29
From 24 to 28
From 25 to 27
From 30 to 34
From 31 to 35
From 32 to 36
From 33 to 37
From 22 to 26

## Results

open circuit open circuit open circuit open circuit open circuit open circuit ohm reading 1700 ohm reading 415


Wires should be removed and labeled to obtain an accurate check of contactors.

## 2-18. HEATING CONTACTORS (ELECTRIC) (Continued)

Figure 2-54


To avoid electrical shock, make connections before applying power, take reading, and remove power before removing meter leads. The following checks are performed with the wall circuit breaker closed and the main power switch in the ON position.

1. Re-apply power to unit and turn power switch to ON.
2. Using illustrations from previous page, check voltage as follows:

## Test Points

Heat Contactor
From terminal 34 to 35
From terminal 35 to 36
From terminal 34 to 36

## Test Points

Primary Contactor
From terminal 27 to 28
From terminal 28 to 29
From terminal 27 to 29

Results
The voltage should read the same at each terminal

It should correspond to the voltage stated on the data plate.

If neither contactor is defective it must be replaced as follows:


To avoid electrical shock or property damage, move the power switch to OFF and disconnect main circuit breaker, or unplug cord at wall receptacle, to the frypot to be worked on. Be aware the other control on 2-frypot units will have power.

1. Remove only the wires directly connected to the contactor being replaced. Label the wires for replacement. Figure 2-54.

## 2-18. HEATING

CONTACTORS
(ELECTRIC)
Continued)


Figure 2-55

## Replacement (Primary Contactor)



Figure 2-56


Figure 2-57
2. Remove the screws securing the contactor to the shroud, and remove contactor. Figure 2-55.
3. Install new contactor, and see steps 4 and 5 .

1. Remove only the wires directly connected to the contactor being replaced. Label the wires for replacement. Figure 2-56.
2. Remove screws securing contactor to unit and remove contactor. Figure 2-57.
3. Install new contactor.
4. Reinstall the control panel.
5. Reconnect power to the fryer and test for proper operation.

2-19. SPEAKER ASSEMBLY


Figure 2-58


Figure 2-59


Figure 2-60


Figure 2-61


Figure 2-62

The speaker assembly emits audible signals to let the operator know when cooking and hold times are finished.

1. Remove electrical power supplied to unit.


To avoid electrical shock or property damage, move the power switch to OFF and disconnect main circuit breaker, or unplug cord at wall receptacle.
2. Remove control panel.
3. Pull the power switch connector from back of panel. Figure 2-58.
4. Pull the transformer connectors from back of panel. Figure 2-59.
5. Using a $5 / 16$ " nutdriver or wrench, remove the 4 nuts securing the PC board shield and pull shield from studs. Figure 2-60.
6. Pull the speaker connector from control board. Figure 2-61.
7. Using a $5 / 16$ " nut-driver or wrench, remove the 2 nuts securing the speaker to the shield and remove speaker from panel.
Figure 2-62
8. Install new speaker in reverse order.

2-20. HIGH TEMPERATURE LIMIT CONTROL (ELECTRIC)


Figure 2-63

Checkout


Figure 2-64


Figure 2-65

This high temperature control is a safety, manual reset control, which senses the temperature of the shortening. If the shortening temperature exceeds $425^{\circ} \mathrm{F}\left(218^{\circ} \mathrm{C}\right)$, this switch opens and shuts off heat to the frypot, and E10 shows in control display. When the temperature of the shortening drops to a safe operation reset the high limit by pressing the reset button. The reset button is located behind the frypot, in the element hinge. A small instrument, such as a Phillip's head screwdriver, or Allen wrench must be used to reset the high limit. This allows heat to be supplied to the frypot once again. See Figure 2-63.

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


The shortening temperature must be below $380^{\circ} \mathrm{F}\left(193^{\circ} \mathrm{C}\right)$ to accurately perform this check.

1. Remove electrical power supplied to fryer.


To avoid electrical shock or property damage, move the power switch to OFF and disconnect main circuit breaker, or unplug cord at wall receptacle.
2. Remove rear cover of fryer. Figure 2-64.
3. Remove the two screws securing the high limit to the bracket and pull high limit from bracket. Figure 2-65.

## 2-20. HIGH TEMPERATURE <br> LIMIT CONTROL <br> (ELECTRIC) <br> (Continued)



Figure 2-66

## Replacement



Figure 2-67


Figure 2-68
4. Pull back cardboard cover and remove the two electrical wires from the high temperature limit control. Figure 2-66.
5. Manually reset the control, then check for continuity between the two terminals after resetting the control. If the circuit is open, replace the control, then continue with this procedure. (If the circuit is closed, the high limit is not defective. Reconnect the two electrical wires.)


To avoid electrical shock or property damage, move the power switch to OFF and disconnect main circuit breaker, or unplug cord at wall receptacle, to the frypot to be worked on. Be aware the other control on 2-frypot units will have power.

1. Drain the shortening from the frypot.
2. Remove capillary from brackets on upper part of element. Figure 2-67.
3. Remove capillary bulb from bulb holder inside the frypot.

## 2-20. HIGH TEMPERATURE

LIMIT CONTROL
(ELECTRIC)
(Continued)


Figure 2-69
4. Straighten the capillary tube, and pull capillary tube through the hole in the element hinge, from the rear of the fryer.
5. Remove the defective control from the fryer.
6. Straighten the capillary tube on the new high limit, and thread the capillary tube through the hole in the element hinge. Figure 2-69.
7. Reattach the capillary to the brackets on the upper and lower parts of the elements.

## CAUTION

DO NOT crimp or kink the capillary tube during installation. Also, keep capillary tube behind element to protect from damage from the basket or during cleaning. Damage to the capillary tube reduces the life of the high limit, or causes the high limit to fail.
8. Connect wires to new high limit body and fasten to bracket, using the two screws removed in the checkout part of this section.


Make sure red reset button of high limit lines up with the plunger that inserts into the element hinge.


To avoid electrical shock or other injury, run the capillary line under and away from all electrical power wires and terminals. The tube must never be in such a position where it could accidentally touch the electrical power terminals
9. Re-install the rear cover and unit is now ready for use.

## 2-21. FILTER PUMP AND <br> MOTOR REMOVAL



Figure 2-70


Figure 2-71


Figure 2-72


Figure 2-73

1. Remove electrical power supplied to unit.


To avoid electrical shock or property damage, move the power switch to OFF and disconnect main circuit breaker, or unplug cord at wall receptacle.
2. Open the door (left door on 2 well units), and remove the 2 screws securing the switch box cover and pull filter motor wires from filter switch. Figure 2-70.
3. Remove the 2 screws securing the switch box to the frame. Figure 2-71
4. Loosen screws on conduit connector and pull conduit from the connector. Figure 2-72.
5. Disconnect filter union to filter in drain pan.
6. Using a pipe wrench, disconnect the outlet pipe to frypot. Figure 2-73.

## 2-21. FILTER PUMP AND MOTOR REMOVAL (Continued)



Figure 2-74

## 2-22. AUTOLIFT TRANSFORMER REPLACEMENT (if applicable)



Figure 2-75


Figure 2-76
7. Remove left side panel.
8. Using $9 / 16$ " socket or wrenches, remove the bolts and nuts securing the motor to the bracket and pull pump, motor, and piping from unit. Figure 2-74.

1. Remove electrical power supplied to unit.


To avoid electrical shock or property damage, move the power switch to OFF and disconnect main circuit breaker, or unplug cord at wall receptacle.
2. Remove control panel.
3. Label and remove wires from transformer. Figure 2-75.
4. Using $3 / 8$ " nut-driver or wrench, remove nuts securing transformer to panel and remove transformer from panel. Figure 2-76.
5. Install new transformer in reverse order.

## 2-23. AUTOLIFT PC BOARD REPLACEMENT (if applicable)



Figure 2-77

2-24. AUTOLIFT
ACTUATOR (MOTOR) REPLACEMENT (if applicable)


Figure 2-78


Figure 2-79

1. Remove electrical power supplied to unit.


To avoid electrical shock or property damage, move the power switch to OFF and disconnect main circuit breaker, or unplug cord at wall receptacle.
2. Remove control panel
3. Disconnect connectors from PC board.
4. Using $5 / 16$ " nut-driver or wrench, remove the 4 nuts securing the autolift PC board to the panel and remove PC board from panel.
5. Install new panel in reverse order.

1. Remove electrical power supplied to unit.


To avoid electrical shock or property damage, move the power switch to OFF and disconnect main circuit breaker, or unplug cord at wall receptacle.
2. Drain shortening from frypot.
3. Remove basket and knock pin from basket hanger. Figure 2-78.
4. Remove rear cover. Figure 2-79.


Figure 2-80


Figure 2-81


Figure 2-82


Figure 2-83
5. Disconnect actuator connector. Figure 2-80.
6. Remove female connector from plate. Figure 2-81.
7. Using $7 / 16$ " socket, remove the 4 nuts securing the support plate. 2 nuts are behind the insulation. Figures 2-82 \& 2-83.


Figure 2-84


Figure 2-85
8. Remove the 2 top screws securing the support plate and remove the plate from the unit. Figure 2-84.
9. Using a 15 T torx driver, remove the 2 torx screws from the back shroud, and pull the actuator from the unit. Figure 2-85.
10. Install new actuator in reverse order.







Drain switch wired N/C





Drain switch wired N/O


Drain switch wired N/O


Drain switch wired N/O


Drain switch wired N/O


Drain switch wired N/O


Drain switch wired N/O


Drain switch wired N/O

Model OFE/OFG/OEA/OGA-341, 342
Global Foodservice Solutions

3-1. INTRODUCTION

3-2. GENUINE PARTS

3-3. WHEN ORDERING PARTS

## 3-4 PRICES

3-5 DELIVERY

### 3.6 WARRANTY

### 3.7 RECOMMENDED SPARE PARTS FOR DISTRIBUTORS

## SECTION 3. PARTS INFORMATION

This section list the replaceable parts of the Henny Penny OFE/OFG- 32X Open Fryers.

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.

Once the parts that you want to order have been found in the parts list; write down the following information:
Item number
Part number
Description $\quad \frac{3}{\frac{60783}{\text { Vacuum Switch }}} \quad$ example:

From the data plate, list the following information:

| Product number | OFG341.0 |  |
| :--- | :--- | :--- |
| Serial number | example: |  |
| Voltage |  |  |

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

Commonly replaced items are stocked by your distributor and will be sent to you 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.

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.

Recommended replacement parts, stocked by your distributor, are indicated with $\sqrt{ }$ in the parts lists. Please use care when ordering recommended parts, because all voltages and variations are marked. Distributors should order parts based upon common voltages and equipment sold in their territory.


Item No.
Part No.
Description
Qty. per Well

| $\sqrt{ }$ | 1 | 60207 | Transformer $-120-24 \mathrm{~V}$ | 1 |
| :--- | :--- | :--- | :--- | :--- |
| $\sqrt{ }$ | 1 | 60536 | Transformer $-230-24 \mathrm{~V}$ | 1 |
| $\sqrt{ }$ | 2 | 50290 | Autolift PC Board | 1 |
| $\sqrt{ }$ | 3 | 54561 | Speaker Assy. | 1 |
| $\sqrt{ }$ | 4 | 72514 | Vacuum Switch (Gas Only) | 1 |
| $\sqrt{ }$ | 5 | TS22-012 | Transformer-Autolift | 1 |
| $\sqrt{ }$ recommended parts |  |  |  |  |



Item No.
$\sqrt{ } 1$
$\sqrt{ } 1$
77839

14933

14920

60241
60818
$\begin{array}{rrr}\sqrt{ } & 14849 \\ 5 & 60202\end{array}$
$\begin{array}{rrr}\sqrt{ } & 14849 \\ 5 & 60202\end{array}$
32792
Part No.
77602
$\sqrt{ } 2$
$\sqrt{ } 3$

6*
recommended parts/*not shown

Description
Qty. per Well
Ignition Module - CE (OFG-SN: BR0804001 \& Above) 2 (OGA-SN: BS0805001 \& Above)
Ignition Module - Non -CE
2
(OFG-SN: BR0804001 \& Above)
(OGA-SN: BS0805001 \& Above)
Kit - Ignition Module - Non-CE (OFG-SN: BR0803010 \& Below) (OGA-SN: BS0804002 \& Below)
Kit - Ignition Module - CE
1
(OFG-SN: BR0803010 \& Below) (OGA-SN: BS0804002 \& Below)
High Limit
Relay - 10A-24V 2
Temperature Probe Assy.
Vacuum Switch Hose
Assy - Gas Line (Flex) - $342 \quad 1$


## Electric Components



Item No.
Part No.

29510
51795
65075
65074
18364
$\sqrt{ } 3$
$\sqrt{ } 3$
$\sqrt{ } 3$
$\sqrt{ } 3$
$\sqrt{ } 3$
$\sqrt{ } 4$
5
6* 7* 60838
$\sqrt{ }$ recommended parts/* not shown 707

Description
Qty. per Well

| $\sqrt{1}$ | 29510 | Mercury Contactor - 24V | 1 |
| :---: | :---: | :---: | :---: |
| $\sqrt{ } 2$ | 51795 | Standard Contactor - 24V | 1 |
| $\sqrt{ } 2$ | 65075 | Assy.-240v E/M Heat Contactor-CE-240V (UK) | 1 |
| $\sqrt{ } 2$ | 65074 | Assy.-240v E/M Heat Contactor-CE-230V | 1 |
| $\sqrt{ } 3$ | 18364 | Fuse and Holder Assembly (SN: BC0707002 \& below) | 2 |
| $\sqrt{ } 3$ | EF02-007 | Fuse - 15 Amp | 2 |
| $\sqrt{ } 3$ | EF02-006 | Fuse Holder - 15 Amp | 2 |
| $\sqrt{ } 3$ | EF02-125 | Breaker - Push Button Reset (SN: BC0707003 \& above) |  |
| $\sqrt{ } 3$ | EF02-105 | Fuse - 15 Amp - CE | 2 |
| $\sqrt{ } 3$ | EF02-104 | Fuse Holder - 20 Amp - CE | 2 |
| $\sqrt{ } 4$ | 14970 | Fuse-Class "G" - 60 Amp (Set of 3) | 1 |
| 5 | 60722 | Block-Fuse - 60 Amp | 1 |
| 6* | 19923 | Transformer - Large - 480V 1(per | er unit) |
| 7* | 60838 | Transformer-.05 KVA, 480-240V 1(p | er 342) |



Item No.

1
$\checkmark \quad 2$

Part No.
60367
14849

Description
Guard - High Limit
Temperature Probe Assembly (Gas units)

1
Qty. per Well

1
$\sqrt{ }$ recommended parts


| Item No. | Part No. |
| :---: | :---: |
| 1 | 14671 |
| 2 | 65211 |
| 3 | use 14671 |
| 4 | use 14671 |
| 4 | 65447 |
| 5 | 17505 |
| $\sqrt{2}$ | 12102 |
| 7 | 24769 |
| 7 | 70491 |
| 7 | 24770 |
| 7 | 70493 |
| 7 | 36223 |
| 7 | 70587 |
| 8 | 24297 |
| 8 | 70378 |
| 8 | 24298 |
| 8 | 70245 |
| 8 | 36225 |
| 8 | 70581 |
| 9 | 14656 |
| 9 | 14726 |
| 9 | 14657 |
| 9 | 14727 |
| 10 | use 69289 |
| 11 | 67799 |
| 11 | 70382 |
| 11 | 21044 |
| 11 | 70384 |
| 12 | 65208 |
| 13 | 74320 |
| 14 | 21039 |
| 14 | 21040 |
| 15 | 32794 |
| 16 | 03498 |
| 16 | 03551 |
| 16 | 03499 |
| 16 | 03552 |
| 17 | 03003 |
| $\sqrt{1}$ |  |
| recommended parts |  |
|  |  |

Description
Screen Assembly, Filter
Crumb Catcher
Top Filter Screen
Bottom Filter Screen - SN: BR0502006 \& below) 1
Bottom Filter Screen - SN: BR0502007 \& above) 1
Filter Envelope Clips2

Filter Envelope Paper (100 per Carton) 1
Drain Pan Cover - 341-Before Jan. 1, 20061
Drain Pan Cover - 341-Jan. 1, 2006 \& After 1
Drain Pan Cover - 342-Before Jan. 1, 20061
Drain Pan Cover - 342-Jan. 1, 2006 \& After 1
Cover-Single Capacity Pan-342-Before Jan. 1, 20061
Cover-Single Capacity Pan-342-Jan. 1, 2006 \& After 1
Drain Pan/Handle Assy. - 341-Before Jan. 1, 20061
Drain Pan/Handle Assy. - 341-Jan. 1, 2006 \& After 1
Drain Pan/Handle Assy. - 342-Before Jan. 1, 20061
Drain Pan/Handle Assy. - 342-Jan. 1, 2006 \& After 1
Assy.-342 Single Well Capacity Pan-Before Jan. 1, 20061
Assy.-342 Single Well Capacity Pan-Jan. 1, 2006 \& After 1
Kit - Tube - Pick-up - 341-Before Jan. 1, 20061
Kit-Tube-Pick-up-341-Short-Jan. 1, 2006 \& After 1
Kit - Tube - Pick-up - 342-Before Jan. 1, 20061
Kit-Tube-Pick-up-342-Short-Jan. 1, 2006 \& After 1
Union - Female Fitting 1
Tube - Pick-up - 341-Before Jan. 1, 20061
Tube - Pick-up - 341-Short-Jan. 1, 2006 \& After 1
Tube - Pick-up - 342-Before Jan. 1, 20061
Tube - Pick-up - 342-Short-Jan. 1, 2006 \& After 1
Nut - Filter
1
Cover - Frypot - Gas \& Electric 1(per well)
Rack - Electric 1(per well)
Rack - Gas 1(per well)
Handle - Wire Rack Removal 1
Filter Pan Dolly - 341 - Before Jan. 1, 20061
Filter Pan Dolly - 341-Short - Jan. 1, 2006 \& After 1
Filter Pan Dolly - 342 - Before Jan. 1, 20061
Filter Pan Dolly - 342-Short - Jan. 1, 2006 \& After 1
Assy - Filter Rinse Hose 1


| Item No. | Part No. | Description | Qty. per Unit |
| :---: | :---: | :---: | :---: |
| 1 | 52064 | Caster-4 inch - swivel w/brake | 2 |
| $\sqrt{ } 2$ | 43768 | Switch - Power DPST 125-250V (Filter) | 1 |
| $\checkmark 2$ | 52224 | Covered Power Switch - CE | 1 |
| 3 | 17334 | Quick Disconnect - Male - 341 | 1 |
| 3 | 17333 | Quick Disconnect - Female - 342 | 1 |
| 4 | 21800 | Valve-3/4 inch Check | 1 |
| 5 | 67589 | Assy. - 5 GPM Pump \& Motor - 4/1/06 \& After | 1 |
| 5 | 69357 | Assy. - 8 GPM Pump \& Motor - Before 4/1/06 | 1 |
| 5 | 64218 | Filter Pump Assy. - 8 GPM - Before 4/1/06 | 1 |
| 5 | 17437 | Filter Pump Assy. - 5 GPM - 4/1/06 \& After | 1 |
| 6 | 67583 | Filter Pump Motor - $1 / 2 \mathrm{hp}$ | 1 |
| $\sqrt{ }$ | 17476 | Seal Kit | 1 |
| 7 | 21816 | Rod - Drain Valve (normally closed) | 1 |
| 7 | 66124 | Rod - Drain Valve - Elec. (normally open) | 1 |
| 7 | 68558 | Rod - Drain Valve - Gas (normally open) | 1 |
| 7 | 70963 | Rod - Drain Valve - Gas (normally open) - CE | 1 |
| $\sqrt{ } 8$ | 18227 | Microswitch - Drain (behind bracket) | 1 (per well) |
| 9 | 60312 | Caster-4 inch | 2 |
| $\sqrt{ } 10$ | 17432(use 69289) | Union - Handle Fitting <br> Drain Valve and Coupling Assy. | 1 |
| 11 | 55152 |  | 1 (per well) |
| $\checkmark$ recommended parts/*not shown |  | (Continued) |  |

Item No.
$\checkmark 12$
$\sqrt{ } 12$
$\sqrt{ } 12$
$\sqrt{ } 12$
13
13
14
15
15
15
15
16*
16*

Part No.
52129
60632
21332
60633
23443
24420
17431(use 69289)
32734
6762
67622
68378
14416
14417

Description
Gas Valve - 24 V - Nat.
Gas Valve - 24 V - Nat. - CE
Gas Valve - 24 V - LP
Gas Valve - 24V - LP - CE
Weld Assy. - Drain Extension - Elec.
Weld Assy. - Drain Extension - Gas
Union - Male Fitting
Flexible Hose (before 4-26-04)
341 Pump Tube (SN: BR0406001 \& after)
342 Pump Tube (SN: BR0405001)
342 Pump Tube (SN: BS0406002 \& after)
Kit - Nat. to LP Conversion
Kit - LP to Nat. Conversion

## Qty. per Unit

1 (per well)
1 (per well)
1 (per well)
1 (per well)
1 (per well)
1 (per well)
1
1
1
1
1
1 (per well)
1 (per well)
$\sqrt{ }$ recommended parts
*not shown


Item No.
$\sqrt{ } 1$
$\sqrt{ } 1$
$\sqrt{ } 2$
$\sqrt{ } 3$
$\sqrt{ } 4$
5
6
7
8
$\sqrt{ } 9$
$\sqrt{ }$ recommended parts

Part No.
60207
60536
74127RB 71029RB 58790RB 21645
60810
21643
59565
TS22-012

## Description

Transformer - 120-24V
Qty. per Well
Transformer - 230-24V
1
Control Panel Assy. less transformers
Control Board Assy - China
I/O Board w/Power Supply Assy.
Assy -Wire-Temp Interconnect - 2 pin
Power Cable - I/O to Control - 4 pin
Wire Assembly - I/O to Control - 14 pin
Menu Card
Transformer-Autolift (when applicable)

1
1
1
1
1
1
1
1
1


Item No. Part No.

## Description

|  | 1 | 33501 | Gas Line - $3 / 4 \mathrm{in}$. w/Double Swivel - 341 |
| :---: | :---: | :---: | :---: |
|  | 1 | 33167 | Gas Line - 1 in. w/Double Swivel - 342 |
| $\checkmark$ | 2 | 64197 | Blower Motor Assy - 120V |
| $\checkmark$ | 2 | 21037 | Blower Motor Assy - 220V-50 Hz |
|  | 3 | 33353 | 120V Coiled Power Cord |
| $\checkmark$ | 4 | 63602 | Actuator-Auto-lift (when applicable-Below SN: BS0812001) |
| $\checkmark$ | 4 | 80091 | Actuator-Auto-lift (when applicable-SN: BS0812001 \& Above) |
|  | 5 | 21006 | Panel - Left Side - before 4/27/05 |
|  | 5 | 67854 | Panel - Left Side - 4/27/05 to Dec. 31, 2005 |
|  | 5 | 70225 | Panel - Left Side - Jan. 1, 2006 \& After |
|  | 6 | 21005 | Panel - Right Side - Before Jan. 1, 2006 |
|  | 6 | 70226 | Panel - Right Side -Jan. 1, 2006 \& After |
|  | 7* | 31421 | Bearing - Auto-Lift (when applicable) |
| $\checkmark$ | recommended parts/*not shown |  |  |

Qty. per Unit
1
1
1 (per well)
1 (per well)
1
2(per well)
2(per well)

Global Foadservice Solutions

$\sqrt{ }$ recommended parts/*not shown


Item No.

| $\sqrt{ }$ | 1 |
| :--- | :--- |
| $\sqrt{ }$ | 1 |
| $\sqrt{ }$ | 1 |
| $\sqrt{ }$ | 1 |
| $\sqrt{ }$ | 1 |
|  | 1 |
|  | 2 |
|  | 3 |
|  | 3 |
|  |  |
|  | 5 |
|  | 6 |
|  |  |
|  | 7 |
|  |  |
|  |  |
| $\sqrt{ }$ |  |
|  |  |

23928 Strap - Brace Vertical - Rear 1
23507 Strap - Capillary Tube 2

Part No.
64210-01
64210-02
64210-03
64210-04
64210-07
24194
21978
24176 Weldment - Spreader - 34X
Strap - Vertical - Rear

23854 Guard - Position Hi Limit
Description
Element - OFE34X - 208V

Element - OFE34X - 230V
Element - OFE34X - 240V
Element - OFE34X - 480V

Qty. per Well
2
2
2
2
2
Spreader - Front - 34X 1
Strap - Spreader - 34X 10
23929 Strap - Vertical - Rear 1
recommended parts


Item No.
$\sqrt{ } 1$
$\sqrt{ } 2$
3
3
$\sqrt{ }$ recommended parts

Part No.
60266
23735
60614
60292
21827
67817

Description
Pilot - Tee Style \& Ignitor Assy.
Orifice - Pilot - Nat.
Orifice - Pilot - LP
Sensor - Flame - Pilot
Tube - Pilot
Tube - Pilot - CE

Qty. per Well

## Electric Components



Item No.
$\sqrt{ } 1$
Part No.
60241
23823
14973
18227
32497
32498

| $\sqrt{ }$ | 3 | 14973 |
| :--- | :--- | :--- |
| $\sqrt{ }$ | 4 | 18227 |
| $\sqrt{ }$ | $5^{*}$ | 32497 |
| $\sqrt{ }$ | $6^{*}$ | 32498 |

Description
High Limit - $425^{\circ}$ F
Qty. per Well
Assy-Heater Terminal Block
Temperature Probe Assembly
Microswitch
$\sqrt{ }$ recommended parts/*not shown


Item No.

Part No.
16336
FP02-050

FP02-051 Nipple - ½ x 17 LG BI
FP02-052 Nipple - ½ x 4 LG BI
16335
FP01-089
FP01-097
FP01-100
FP02-040
FP02-032
FP02-023
21801
FP01-200

FP01-090 Elbow - 112 NPT x 90 Female - BI

FP01-098 Elbow - $3 / 4$ NPT x 90 Female - BI
Description
Elbow - Male
Nipple - $1 / 2 \times 24$ LG BI

Male Connector - 37 Flare
Bushing - Reducing $-3 / 4 \mathrm{M}$ to $1 / 2 \mathrm{~F}$ BL
Tee - 3/4 NPT - Female Pipe - BI
Elbow - Street - 3/4 NPT BI
Nipple - 3/4 x 24 LG BI
Nipple - 3/4 x 17 LG BI
Pipe - 3/4 NPT x 19-1/4 LG BI
Tube Assy - Valve Inlet - 34X
Fitting - Gas Inlet BSPT

Qty. per Unit


Item No.
1
1
2
338912
24809
70102
36030

Qty. per Well

Description1

Hook - Basket Hanger - $1 / 2$-Size (before 06/01/05) 1
Hook - Basket Hanger - ½-Size (06/01/05 \& after) 1
Bracket - 1/3-Size Basket
1
Bracket - 1/2-Size Basket (before 06/01/05)1

## OFG/OFE ELECTRO MECHANICAL PARTS LIST

## PART NUMBER <br> $\sqrt{ } 60816$ <br> $\sqrt{ } 60817$ <br> $\sqrt{ } 60818$ <br> $\sqrt{ } 60765$ <br> $\sqrt{ } 14851$ <br> 60814 <br> $\sqrt{ } 35916$ <br> $\sqrt{ } 60536$ <br> $\sqrt{ } 60792$ <br> $\sqrt{ } 51795$ <br> $\sqrt{ } 65098$ <br> $\sqrt{ } 65567$ <br> 36224

## DESCRIPTION

Adjustable Relay Base
Adjustable Time Delay Relay
24VAC Coil Relay
24V Dual Face Timer
Thermostat Kit
E/M Bulb Mounting Clip (Gas)
Transformer 120 V to 24 V (Gas)
Transformer 24V/230V (Electric)
Indicator Light - 24 V
24v Mechanical Contactor (Elec. Only)
Assy. - Heat Contactor - 24V - CE
Assy. - Timer Buzzer Coil-24V
Decal - E/M Controls - 34X


OVER-THE-TOP PUMBING W/O D.C. PARTS (March 1, 2006 \& After)

| Item No. | Part No. | Description | Qty. |
| :---: | :---: | :---: | :---: |
| 1 | 73370 | HANGER-ACTUATOR CONDUIT | 1 |
| 2 | SC06-013 | U BOLT 1/4-20 FOR 3/4 DIA | 3 |
| 3 | 71185 | BRACKET-TUBE | 1 |
| 4 | SC03-001 | SCREW \#10 X 1/2 PH PHD TEK 2 C | 4 |
| 5 | 71139 | ASSY-TUBE RETURN LINE | 1 |
| 6 | 16807 | FITTING CONNECTOR MALE | 2 |
| 7 | FP01-090 | ELBOW-1/2NPT X 90 FEMALE BI | 2 |
| 8 | FP02-018 | NIPPLE-1/2 NPT X 2.00L BI | 1 |
| 9 | 71063 | ASSY-PUMP RETURN TUBE | 1 |
| 10 | 71142 | BRACKET-TUBE REAR SUPPORT | 1 |



OVER-THE-TOP FAUCET ASSY. (March 1, 2006 \& After)

| Item No. | Part No. | Description | Qty. |
| :---: | :---: | :---: | :---: |
| 1 | 71899 | ASSY. - 341 FAUCET | 1 |
|  | 17333 | FEMALE DISCONNECT | 1 |
| 1 | 71665 | ASSY. - 342 FAUCET | 1 |
| 2 | 17334 | MALE DISCONNECT | 1 |
| 2 | 71830 | HANDLE - DIVERTER VALVE (Direct-Connect units) | 1 |

## 341 DIRECT-CONNECT PARTS LIST (Before March 1, 2006)

Part No.

16282
21611
21612
21753
21800
23430
67850
FP01-140
FP01-142
FP02-039
FP02-059
SC03-001

Description
NIPPLE 3/4 X CLOSE
DISCONNECT-MALE
DISCONNECT-FEMALE
HOSE-SHORTENING DISCARD
VALVE-3/4 CHECK
VALVE-3/4 INLET-E34X
BRACKET-34X D/C REAR SUPPORT
PLUG-3/4 PIPE-BI
CROSS-3/4 NPT BI
NIPPLE-3/4 X 6 LG-BI
NIPPLE-3/4 X 27 LG-BI
SCREW \#10 X 1/2 PH PHD TEK 2 C 2
1

342 DIRECT-CONNECT PARTS LIST (Before March 1, 2006)

Part No.
16282
21611
21612
21753
21800
67850
FP02-059
SC03-001
FP01-140
FP02-033
FP02-039

Description
NIPPLE 3/4 X CLOSE 1 DISCONNECT-MALE 1
DISCONNECT-FEMALE 1
HOSE-SHORTENING DISCARD 1
VALVE-3/4 CHECK 1
BRACKET-34X D/C REAR SUPPORT 1
NIPPLE-3/4 X 27 LG-BI 1
SCREW \#10 X 1/2 PH PHD TEK 2 C 2
PLUG-3/4 PIPE-BI 1
NIPPLE-3/4 NPT X 4 IN LONG BI 1
NIPPLE-3/4 X 6 LG-BI 1

## 341 W/DIRECT-CONNECT PARTS LIST (March 1, 2006 \& After)



| Item No. | Part No. | Description | Qty. |
| :---: | :--- | :--- | :---: |
| 1 | 71139 | ASSY-TUBE RETURN LINE | 1 |
| 2 | 73370 | HANGER-ACTUATOR CONDUIT | 1 |
| 3 | SC06-013 | U BOLT 1/4-20 FOR 3/4 DIA | 3 |
| 4 | 71070 | ROD - EXTENSION FILTER VALVE | 1 |
| 5 | SC03-001 | SCREW \#10 X 1/2 PH PHD TEK 2 C | 4 |
| 6 | 71185 | BRACKET-TUBE | 1 |
| 7 | 17255 | COTTER PIN | 1 |
| 8 | 17407 | CONNECTOR - $1 / 2$ MALE ELBOW | 2 |
| 9 | 21613 | VALVE - DIVERTER | 1 |
| 10 | 16807 | FITTING CONNECTOR MALE | 1 |
| 11 | 71063 | ASSY - PUMP RETURN TUBE | 1 |
| 12 | 71142 | BRACKET-TUBE REAR SUPPORT | 1 |
| 13 | 67492 | STOP - D/C EXTENSION ROD | 1 |

## 341 AUTO-LIFT W/DIRECT-CONNECT PARTS LIST (March 1, 2006 \& After)

| Part No. | Description | Qty. |
| :---: | :---: | :---: |
| 16807 | FITTING CONNECTOR MALE | 3 |
| 17255 | PIN-COTTER | 1 |
| 19811 | 1/2" 90 STRT ELL,S.S. | 1 |
| 21613 | VALVE-DIVERTER | 1 |
| 21800 | VALVE-3/4 CHECK | 1 |
| 67492 | STOP-D/C EXTENSION ROD | 1 |
| 71063 | ASSY-PUMP RETURN TUBE | 1 |
| 71142 | BRACKET-TUBE REAR SUPPORT | 1 |
| 71185 | BRACKET-TUBE | 1 |
| 71652 | ASSY-TUBE RETURN LINE A/LIFT | 1 |
| 71653 | ASSY-DIV TUBE RS A/LIFT | 1 |
| 71830 | HANDLE-DIVERTER VALVE | 1 |
| 71921 | ROD-EXTENSION A/LIFT FLTR V | 1 |
| FP01-018 | 1/2 STR PIPE COUPLING CONDUIT | 1 |
| FP01-029 | REDUCER 1/2NPT M-3/8NPT F SS*S | 1 |
| FP01-089 | BUSHNG-REDUCNG 3/4M TO 1/2F BL | 1 |
| FP01-090 | ELBOW-1/2NPT X 90 FEMALE BI | 1 |
| FP02-018 | NIPPLE-1/2 NPT X 2.00L BI | 2 |
| SC01-209 | \#10-32 X3/8 PH THD SS | 2 |
| SC03-001 | SCREW \#10 X 1/2 PH PHD TEK 2 C | 4 |
| SC06-013 | U BOLT 1/4-20 FOR 3/4 DIA | 2 |
| 17333 | RINSE HOSE DISCONNECT FEMALE | 1 |
| 17334 | RINSE HOSE DISCONNECT MALE | 1 |
| FP02-001 | NIPPLE 3/8 CLOSE | 1 |
| 60610 | RETURN LINE - UPPER | 1 |
| 71462 | WELD ASSY-TUBE COUPLING PLATE | 1 |

## 341 AUTO-LIFT W/O DIRECT-CONNECT PARTS LIST (March 1, 2006 \& After)

| Part No. | Description <br> 71185 | QRACKET-TUBE |
| :--- | :--- | :---: |
| 71652 | ASSY-TUBE RETURN LINE A/LIFT | 1 |
| 71653 | ASSY-DIV TUBE RS A/LIFT | 1 |
| FP01-018 | 1/2 STR PIPE COUPLING CONDUIT | 1 |
| FP01-029 | REDUCER 1/2NPT M-3/8NPT F SS | 1 |
| FP01-090 | ELBOW-1/2NPT X 90 FEMALE BI | 1 |
| FP02-018 | NIPPLE-1/2 NPT X 2.00L BI | 3 |
| SC03-001 | SCREW \#10 X 1/2 PH PHD TEK 2 C | 1 |
| SC06-013 | U BOLT 1/4-20 FOR 3/4 DIA | 4 |
| 17333 | RINSE HOSE DISCONNECT FEMALE | 2 |
| 17334 | RINSE HOSE DISCONNECT MALE | 1 |
| FP02-001 | NIPPLE 3/8 CLOSE | 1 |
| 60610 | RETURN LINE - UPPER | 1 |
| 71462 | WELD ASSY-TUBE COUPLING PLATE | 1 |
|  |  | 1 |

## 342 AUTO-LIFT W/DIRECT-CONNECT PARTS LIST (March 1, 2006 \& After)

| Part No. | Description | Qty. |
| :--- | :--- | :---: |
| 16807 | FITTING CONNECTOR MALE | 4 |
| 17255 | PIN-COTTER | 2 |
| 17407 | CONNECTOR 1/2 MALE ELBOW | 3 |
| 19811 | 1/2" 90 STRT ELL,S.S. | 1 |
| 21613 | VALVE-DIVERTER | 2 |
| 21800 | VALVE-3/4 CHECK | 1 |
| 67492 | STOP-D/C EXTENSION ROD | 2 |
| 71063 | ASSY-PUMP RETURN TUBE | 1 |
| 71142 | BRACKET-TUBE REAR SUPPORT | 1 |
| 71185 | BRACKET-TUBE | 1 |
| 71652 | ASSY-TUBE RETURN LINE A/LIFT | 1 |
| 71653 | ASSY- DIV TUBE RS A/LIFT | 1 |
| 71670 | TUBE-LINE OIL RETURN | 1 |
| 71740 | ASSY-DIV TUBE LS A/LIFT | 1 |
| 71777 | LABEL-OIL RETURN 34X | 1 |
| 71790 | ROD-EXTENSION DIVERTER | 1 |
| 71830 | HANDLE-DIVERTER VALVE | 1 |
| 71921 | ROD-EXTENSION A/LIFT FLTR V | 1 |
| FP01-018 | 1/2 STR PIPE COUPLING CONDUIT | 2 |
| FP01-089 | BUSHNG-REDUCNG 3/4M TO 1/2F BL | 1 |
| FP01-090 | ELBOW-1/2NPT X 90 FEMALE BI | 1 |
| FP02-018 | NIPPLE-1/2 NPT X 2.00L BI | 2 |
| SC01-209 | \#10-32 X3/8 PH THD SS | 2 |
| SC03-001 | SCREW \#10 X 1/2 PH PHD TEK 2 C | 4 |
| SC06-013 | U BOLT 1/4-20 FOR 3/4 DIA | 2 |
| 17333 | RINSE HOSE DISCONNECT FEMALE | 1 |
| 17334 | RINSE HOSE DISCONNECT MALE | 1 |
| FP02-001 | NIPPLE 3/8 CLOSE | 2 |
| 60610 | RETURN LINE - UPPER | 1 |
| 71462 | WELD ASSY-TUBE COUPLING PLATE | 2 |
| 73188 | ASSY-DIV TUBE A/LIFT - GAS | 2 |
|  |  |  |

## 342 AUTO-LIFT W/O DIRECT-CONNECT PARTS LIST (March 1, 2006 \& After)

| Part No. | Description | Qty. |
| :---: | :---: | :---: |
| 16807 | FITTING CONNECTOR MALE | 4 |
| 17255 | PIN-COTTER | 1 |
| 17407 | CONNECTOR 1/2 MALE ELBOW | 1 |
| 21613 | VALVE-DIVERTER | 1 |
| 71063 | ASSY-PUMP RETURN TUBE | 1 |
| 71142 | BRACKET-TUBE REAR SUPPORT | 1 |
| 71185 | BRACKET-TUBE | 1 |
| 71652 | ASSY-TUBE RETURN LINE A/LIFT | 1 |
| 71670 | TUBE-LINE OIL RETURN | 1 |
| 71740 | ASSY-DIV TUBE LS A/LIFT | 1 |
| 71777 | LABEL-OIL RETURN 34X | 1 |
| 71790 | ROD-EXTENSION DIVERTER | 1 |
| FP01-018 | 1/2 STR PIPE COUPLING CONDUIT | 2 |
| FP01-090 | ELBOW-1/2NPT X 90 FEMALE BI | 1 |
| FP02-018 | NIPPLE-1/2 NPT X 2.00L BI | 2 |
| SC03-001 | SCREW \#10 X 1/2 PH PHD TEK 2 C | 4 |
| SC06-013 | U BOLT 1/4-20 FOR 3/4 DIA | 2 |
| 17333 | RINSE HOSE DISCONNECT FEMALE | 1 |
| 17334 | RINSE HOSE DISCONNECT MALE | 1 |
| FP02-001 | NIPPLE 3/8 CLOSE | 2 |
| 60610 | RETURN LINE - UPPER | 1 |
| 71462 | WELD ASSY-TUBE COUPLING PLATE | 2 |
| 73188 | ASSY-DIV TUBE A/LIFT - GAS | 2 |

