

# Service Manual



# Pitco Frialator

## GAS FRYER with FILTER MODEL MG14S-C/MFD MANUFACTURED EXCLUSIVELY FOR McDONALD'S®



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**FOR YOUR SAFETY:**

**Do not store gasoline or other flammable vapors or liquids in the vicinity of this or any other appliance.**

**TO THE PURCHASER**

**POST IN A PROMINENT LOCATION INSTRUCTIONS TO BE FOLLOWED IN THE EVENT THAT AN OPERATOR SMELLS GAS. OBTAIN THIS INFORMATION FROM YOUR LOCAL GAS SUPPLIER.**

**WARNING:**

**IMPROPER INSTALLATION, ADJUSTMENT, ALTERATION, SERVICE OR MAINTENANCE CAN CAUSE PROPERTY DAMAGE, INJURY OR DEATH. READ THE INSTALLATION, OPERATING AND MAINTENANCE MANUALS THOROUGHLY BEFORE INSTALLING OR SERVICING THIS EQUIPMENT.**

**WARNING**

This appliance is equipped with a grounding plug. This is for your protection against shock hazard in the event of equipment malfunction. Always plug the unit into a properly grounded receptacle. DO NOT cut or remove the grounding prong.

**WARNING**

DO NOT use an open flame to check for gas leaks! Keep all open flames away from the machine at all times.

**WARNING**

Machines equipped with casters and a flexible power cord, must be connected to a gas supply with a Quick-Disconnect device. This quick disconnect must comply with ANSI Z24.41. To limit the movement of the unit without depending on the connector or quick disconnect, a restraining device must also be installed.

**WARNING**

There is an open flame inside the machine. The unit may get hot enough to set nearby materials on fire. Keep the area around the unit free from combustibles.

**WARNING**

Ensure that the machine can get enough air to keep

the flame burning correctly. If the flame is starved of air it can give off a dangerous carbon monoxide gas. Carbon Monoxide is a clear odorless gas that can cause suffocation.

**WARNING**

Carbon Monoxide gas can build up if you obstruct the flue. Blocking the flue will also cause the unit to overheat. DO NOT obstruct the flow of combustion/ventilation or air opening around the machine. Ensure that you meet the minimum clearances specified in the installation instructions. Adequate clearance around the unit is necessary for servicing and proper burner operation.

**WARNING**

If the machine should shut down unexpectedly wait 5 minutes before attempting to restart it. This will allow for any excess gas in the unit to dissipate.

**WARNING**

The power supply must be disconnected before servicing or cleaning the unit.

**WARNING**

DO NOT supply the fryer with a gas that is not identified on the data plate, located on the inside of one of the doors of the machine. If you need to convert the machine to another type of fuel, contact your dealer or Authorized Pitco Service Agency.

**WARNING**

To prevent tipping of the machine and splashing of HOT oil your Pitco Frialator fryer is equipped with a Gas Hose Quick Disconnect and restraining device. This attaches the rear of the machine to the wall. When the fryer is in its operating location, lock the casters and reattach the restraining device to the rear of the machine.

**WARNING**

Shortening, when it is at cooking temperatures, is very HOT and DANGEROUS! Use extreme caution when handling! Use the proper protective gear such as insulated gloves, aprons, face shield and sleeves when handling hot shortening. DO NOT attempt to move any machine that has hot oil in it. Allow the oil to cool to room temperature or drain the oil into a suitable container before moving the fryer.

## WARRANTY STATEMENT

Pitco Frialator, Inc. makes the following limited warranties to the original purchaser only for this equipment and replacement parts:

1. **WARRANTY PROVISIONS - FRYERS**
  - A. Pitco Frialator, Inc. warrants all parts, with the exception of the frypot, computer, burner and Heat Tube Baffle for 1 year after the date of installation of the fryer.
  - B. If any parts become defective during the first year after the installation date, Pitco Frialator will also pay for the labor, freight and travel costs involved in replacing said part.
2. **WARRANTY PROVISIONS - FRYPOTS**
  - A. If a frypot develops a leak due to a defect in material or workmanship within the first 10 years after installation, Pitco Frialator, Inc. will either weld or replace, at its discretion, the frypot.
  - B. The customer will be responsible for all freight, labor and travel charges for this repair, except within the period stated in section 1-B.
3. **WARRANTY PROVISIONS - COMPUTER**
  - A. Pitco Frialator, Inc. will warrant the Intelli-fry Computer from defects in material or workmanship for a period of two years.
  - B. If the computer is found to be defective during the first 2 years after the installation date, Pitco Frialator Inc. will also pay for the labor, freight and travel costs involved in replacing said part.
4. **WARRANTY PROVISIONS - BURNERS**
  - A. Pitco Frialator, Inc. will warrant the Burners from defects in material or workmanship for a period of 10 years.
  - B. The customer will be responsible for all freight, labor and travel charges for this repair, except within the period stated in section 1-B.

## 5. **WARRANTY PROVISIONS - HEAT TUBE BAFFLES**

- A. Pitco Frialator, Inc. will warrant the Heat Tube Baffles from defects in material or workmanship for a period of 3 years.
- B. The customer will be responsible for all freight, labor and travel charges for this repair, except within the period stated in section 1-B.

**Retain this manual for future reference**

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## INSTALLATION INSTRUCTIONS

### CAUTION:

This equipment is manufactured for the use on a particular type of gas and electrical voltage which is specified on the rating plate located on the inside of the door.

When your fryers arrive, look them over carefully noting any damage on the freight bill. If concealed damage is found after you have accepted the equipment, report it to the carrier immediately, as all claims must be filled within 15 days of the receipt of the shipment. Also, be sure to keep any packing materials as these will be necessary to make a claim.

Follow these installation instructions carefully. A proper installation is important for the operation of the fryers.

In the United States, all installations must conform to all local and state codes and well as the National Fuel Gas Code (ANSI 223.1 1992). In Canada, installations must be made in accordance to Canadian Standard CAN 1-B149.1 or .2 "Installation Codes for Gas Burning Appliances & Equipment."

Electrically operated appliances must be electrically grounded in accordance with local codes; or in the absence of local codes, with the National Electric Code ANSI/NFPA No. 70-1996; in CANADA, with CSA C22-1 Canadian Electrical Code Part 1.

**NOTE:** Should you experience a power failure, your fryers will shut off automatically. If this happens, do not attempt to restart the fryers until the power is restored.

### Ventilation:

A proper ventilation system is also an important part of the installation. For information on the construction and installation of ventilating hoods, please see "Standard for the Installation of Equipment for the Removal of Smoke and Grease Laden Vapors from Commercial Cooking Equipment", N.F.P.A. No. 96-1987. Copies can be obtained by writing to the Na-

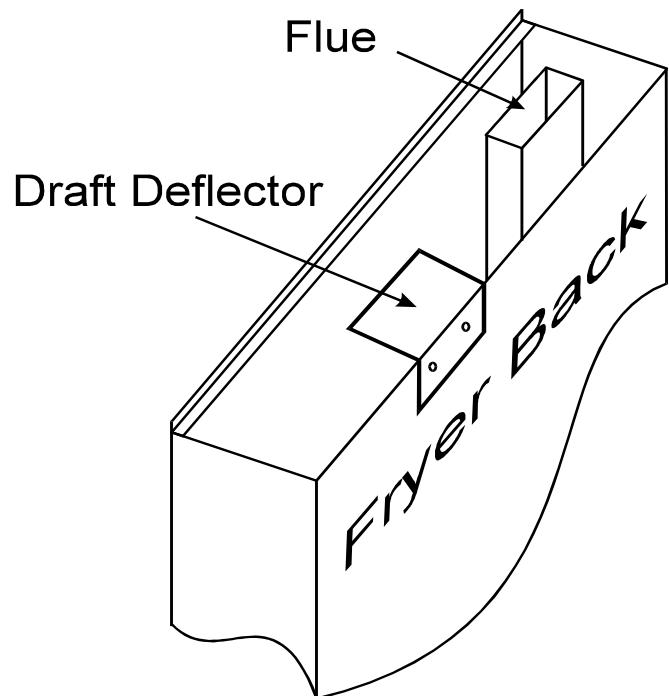
tional Fire Protection Association, Battery March Park, Quincy, MA 02269

**NOTE:** It is recommended that the ventilation system be cleaned and maintained in accordance with the procedures laid out in the appropriate Preventative Maintenance Card.

### A note on Excessive Air Velocities within Hood systems:

Extended recovery times and flame outage problems may occur if Hood Air Velocities are excessively high.

The installation of a small baffle may be necessary if problems occur.



The baffle should be installed in the position shown in the picture, using two self drilling screws.

### Quick Disconnect Gas Connection:

Units equipped with casters must be installed with connectors that comply with the standards for connectors for Movable Gas Appliances, ANSI Z21.69-1987, and Addenda Z21.69A-1989. (CAN/CGA - 6.16 and CAN/CGA - 6.9.) This connection should

include a quick disconnect device that complies with the Standard for Quick Disconnect Devices for use with Gas Fuel, ANSI Z21.41-1989. When installing a quick disconnect you must also install a means of limiting the movement of the fryer. This device will prevent the gas line or quick disconnect from being strained.

### **Fuel Supply Line Leak and Pressure Testing:**

The fuel supply system must be tested before the machine can be used. If the fuel line is going to be tested at a pressure greater than ( $>$ )  $\frac{1}{2}$  PSI (3.45 kPa), make sure that the unit is disconnected from the fuel line. If the fuel line is going to be tested at a pressure equal to or less than ( $\leq$ )  $\frac{1}{2}$  PSI (3.45 kPa), the machine can be connected to the supply but the gas valve must be shut.

### **Clearances:**

#### **WARNING:**

Area must be kept clear of all combustible materials.

Minimum clearance of 6" (15cm) must be maintained from combustible construction on each side and the rear of the equipment. This equipment may be installed on combustible floors.

Maintain a minimum of 24" (61cm) clearance in front of the fryer to provide for proper operation, maintenance and servicing.

**NOTE:** Do not block the area around the bottom or underneath the fryer. The air required to support the gas combustion is drawn from the underneath and sides of the fryer.

A wiring diagram is located in the back of this manual and inside the fryers.

The control (interlock) voltage for this equipment must be 120 VAC (US & Canada). For other countries please check the rating plate.

Regular cleaning of this equipment, as well as the hood, is an important part of proper maintenance. Refer to Maintenance Requirement Cards for proper procedure and frequency.

### **Leveling the fryers:**

Leveling the fryers will help ensure proper operation. To level the fryers loosen the two set screws on the caster stem. Rotate the collar of the caster to raise or lower the height of the unit. Tighten the set screws to lock adjustment.

### **Filling the fryer with oil:**

#### **CAUTION:**

Never operate this equipment empty. Always make sure there is the correct amount of shortening or in the case of cleaning, water in the tank before turning the unit ON.

It is very important to make sure the oil level is correct before attempting to heat shortening in your Pitco fryer.

Liquid shortening can be poured directly into the fry tank until the correct level has been reached. This is indicated by a line on the right or left hand sides of the inside of the fry tank. "C" is the level for Cold shortening and "H" is the level for Hot shortening.

For solid shortening, the shortening must be cut into small blocks about 1" (2.54 Cm) in size. These small blocks must be placed under and around the heating elements.

Clean the fry tanks using the Boil Out procedure on Maintenance Card Number 14A

**Retain this manual for future reference.**

## Chapter 1: HOW DOES IT WORK?

The McDonald's Gas fryer will have certain reactions to what is happening, knowing what these reactions are and knowing what the machine is trying to do will enable us to diagnose most of the problems likely to be encountered.

### Heating System

Power to the machine is turned ON:

The computer is supplied with 24VAC and, if the Drain Valve Handle is closed, the Proximity Switch (S3) will supply 24 VAC to the DVI (Drain Valve Interlock) Input at the computer.

The computer is turned ON:

The first computer in the "battery" of fryers (this includes either side of a split vat) to be turned ON will energize a Relay (K15) that will turn the Hood system ON.

Computer calls for heat:

The Heat Demand Relay (K1) will energize supplying the Blower, the Pilot Solenoid on the Gas Valve and the Ignition Control Modules (E1 & E2) with power. Both Ignition Control Modules supply power to the Spark Ignitors. At the same time one of the Ignition Control Modules (E2) supplies power to the Gas Cut Off Relay (K6). The Gas Cut Off Relay (K6) energizes allowing the second Ignition Control Module (E1) to supply power to the normally open Pressure Switch (S9). When the Blower comes up to speed, which should take a couple of seconds, the Pressure Switch (S9) will close allowing 24 VAC to the Main Solenoid of the Gas Valve. This will also supply the computer with a heat feedback signal. Since there are two burners in a full vat machine each of the Ignition Control Modules (E1 & E2) alternately sends a spark signal to the Ignitor and tests for a flame sense signal from the same Ignitor. When a flame sense signal is received it will cease to send the spark signal and continue to sense flame. If, after 10 seconds, a flame sense signal has not been established the Ignition Control Module (E1 & E2) will "Lock Out" and cease to run until reenergized. On Split Vat machines the same power that supplies the computer also supplies 24 VAC to the normally open Pressure Switch (S9). When the computer en-

energizes the Heat Demand Relay (K1) the Blower will be supplied with power and come up to speed. At this time the air pressure from the blower will close the Pressure Switch (S9) and allow 24 VAC to go to the second set of contacts within the Heat Demand Relay (K1), since the Heat Demand Relay (K1) is now closed the Ignition Control Module (E1) and Hi Limit Switch (S1) will receive 24 VAC. If the Hi Limit Switch (S1) is NOT tripped it will allow 24 VAC to be supplied to the Pilot Solenoid of the Gas Valve. The Ignition Control Module (S1) supplies 24VAC to the Main Solenoid of the Gas valve. The Ignition Control Module (E1) alternately sends a spark signal to the Ignitor and tests for a flame sense signal from the same Ignitor. When a flame sense signal is received it will cease to send the spark signal and continue to sense flame. If, after 10 seconds, a flame sense signal has not been established the Ignition Control Module (E1) will "Lock Out" and cease to run until reenergizes.

### Hi - Limit System:

When the Hi Limit (S1) trips it causes the power to the Pilot Solenoid to stop and gas will cease to flow through the gas valve. This will cause a Lock Out condition and the computer will show "IGNITION" "FAILURE". The Hi Limit (S1) is an automatic reset type switch. In order to make the computer recognize that the Hi Limit (S1) has reset it must be turned OFF and back ON again.

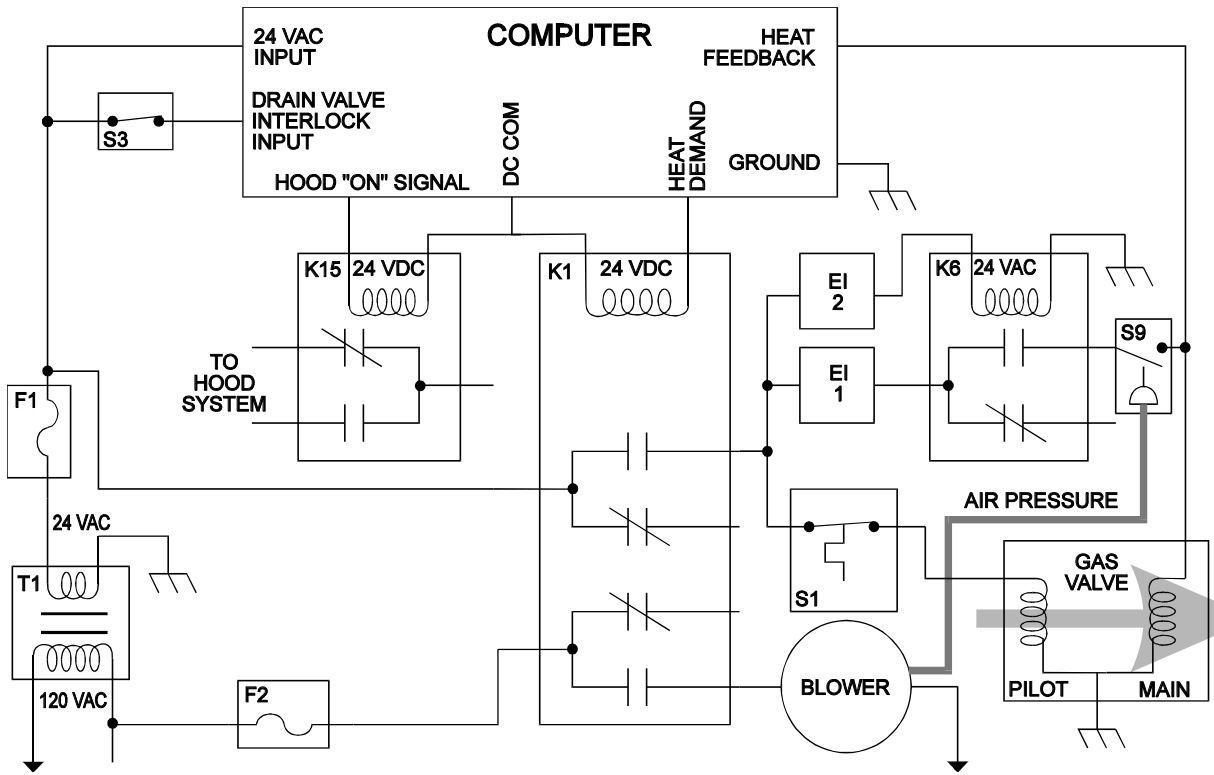
### Filter System:

Opening the RED Return Valve Handle will cause the Pump On Relay to be energized and the pump will begin to pump. Closing the Return Valve Handle will de-energize the Relay and the Pump will stop pumping.

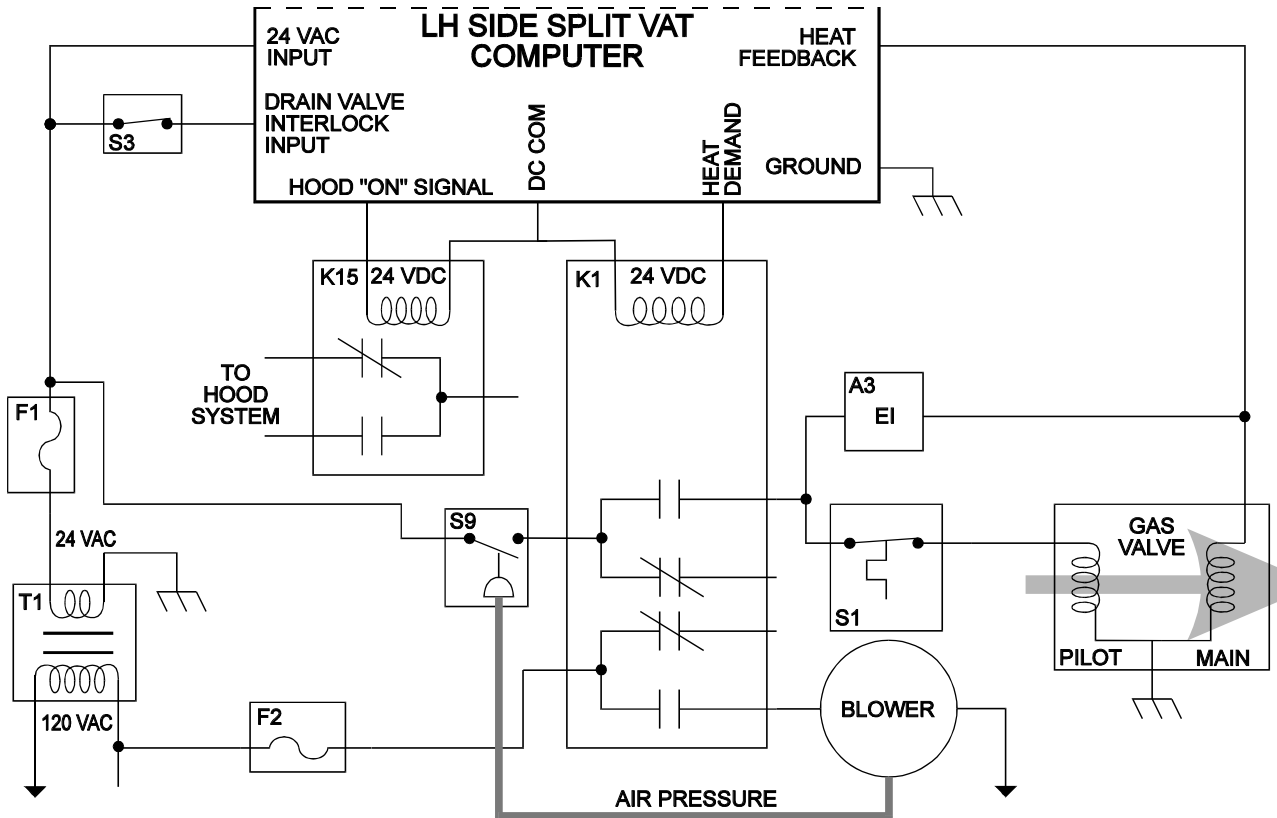
### Hood Relay System:

There is one Hood Relay (K15) per "battery" of fryers, it is wired in parallel to every computer (both sides of a split vat). When any side of any computer is turned ON this Relay (K15) will energize and will stay energized until all of the computers are turned OFF.

### Full Vat Fryers:



### Split Vat Fryers:





## Chapter 2: COMPONENT TROUBLESHOOTING:

### Probe:

The resistance of the probe will change as the temperature changes. The resistance will decrease as the temperature rises. The lower the temperature the greater the resistance change will be per degree of temperature change, as the temperature approaches the working range of the probe, the resistance change will become more linear.

If the probe is suspect, check its resistance and the oil/air temperature at which it was taken. Compare these values on the chart below.

TEMP °F	RESISTANCE Ohms	TEMP °F	RESISTANCE Ohms
60	139055	330	1192
80	84644	335	1123
100	53146	340	1058
120	34328	345	998
140	22755	350	942
160	15446	355	890
180	10716	360	841
200	7586	365	795
210	6427	370	752
220	5470	375	712
240	4013	380	675
260	2991	385	640
280	2262	390	607
300	1734	395	576
320	1347	400	547
325	1267		

If the probe returns an open circuit or 0 Ohms reading it should be replaced. If the resistance varies more than 20 Ohms from the above chart when being checked between 325-375°F (162°C - 190°C) the probe will give a false temperature reading on the computer and should be replaced. However, it will continue to operate at a slightly higher or lower temperature. Allow the oil to cool and check the probe resistance at a lower temperature. As can be seen from the chart a greater degree of offset can be al-

lowed at a lower temperature.

### Relays:

The Heat Demand and Hood relays are 24VDC relays and will energize when the correct voltage is supplied to the coil. When energizing, the relay Switching Contacts will close, thus connecting the Common and Normally Open terminals. The Hi - Limit relay is a 24VAC relay and may be checked in the same manner as the above relay.

### Hi Limits:

A Hi - Limit switch is a normally closed switch until the temperature at the probe reaches 435°F ± 15° (225°C ± 15°). In order to test this switch it will be necessary to bypass the Heat Demand Relay. Follow the Hi Limit testing procedure outlined on page 8 of the Operating Manual.

### **WARNING**

Do NOT leave the machine during this test. This test will cause the oil to heat past the normal operating temperature and can cause damage to the machine and its operator.

If the switch does not trip between the prescribed limits it is defective and should be replaced. Once tripped, the switch will not reset until the oil has cooled to approximately 400°F (204°C). If the switch does not reset it is defective.

### Drain Valve & Return Valve Switches:

This switch is a magnetically operated Reed switch. When the Drain Valve handle is moved to the open position, the Actuator will move away from the switch causing the Reed switch to open. When the Drain Valve is closed the Reed switch will close. This switch can also be checked with an Ohm meter. The normal gap between the Actuator and the Sensor switch on the Drain Valve handle is 1/8" - 1/4" (3 - 6 mm).

### **Transformer:**

Transformers are multiple input voltage, 24 volt output voltage and can be checked by reading the input and output voltages.

### **Blower:**

Check the voltage between the wires going to the Blower. If 120 VAC is found and the Blower is NOT turning it is defective.

### **Pressure Switch:**

As the blower speed rises the amount of vacuum on the suction side of the pressure switch rises past approximately 1.3" WC (0.325 kPa) the Pressure Switch will close. When the vacuum falls below approximately 0.8" WC (0.2 kPa) the Pressure Switch will open. With the Blower running, check the IN and OUT voltage of the Switch. If 24VAC can be found on one side but NOT the other the Pressure Switch is defective.

### **Gas Valve:**

The Knob should be in the ON position. Check for 24VAC between the terminals marked MV and MV/PV and between PV and MV/PV. If voltage IS found between both of these connections and the Gas Valve does not open the Gas Valve is defective. If voltage is NOT present at both of the coils on the Gas Valve, troubleshoot and repair the machine until voltage IS present at both coils, retest the Gas Valve as previously described.

### Chapter 3: TROUBLESHOOTING GUIDE

#### Fryers:

It is assumed that, before starting any troubleshooting, the power is turned on and the gas lines are connected correctly.

PROBLEM	PROBABLE CAUSE	CORRECTIVE ACTION
Computer does not come on nothing shows in either display	A. Main circuit breaker is turned off B. Fryer fuse is blown C. Transformer	A. Locate the correct circuit breaker and turn OFF and back ON again. B. Check and Replace as needed C. Check Transformer
Computer heat light comes on but burners do not	A. If the oil is hot the Hi Limit may be tripped	A. Allow the oil to cool, the Hi Limit will reset itself. Turn the computer OFF and back ON again to reset the computer.
Computer display shows "OFF" and cannot be turned "ON"	A. Computer	A. Switch circuit breaker OFF and ON again to try to reset computer, if this does not remedy the problem, replace computer.
Heat Light ON, Computer shows "IGNITION" "FAILURE"	A. Heat Demand Relay B. F2 Fuse may be blown C. Blower D. Pressure Switch E. Gas Valve F. Ignition Module (One or both) G. Gas Valve Relay (Full Vat Only) H. Tripped or defective Hi Limit	A. Check Heat Demand Relay. B. Check and replace as needed. C. Check and replace as needed. D. Check and replace as needed. E. Check and replace as needed. F. Check and replace as needed. G. Check and replace as needed. H. Allow the oil to cool, the Hi Limit will reset itself. Turn the computer OFF and back ON again to reset the computer. Check and replace is needed.
No Spark heard, blower IS running	A. Heat Demand Relay B. Ignition Control Module C. Spark Ignitor	A. Check and replace where needed. B. Check and replace where needed. C. Check and replace where needed.
Spark sound can be heard, Blower NOT running	A. F2 fuse blown B. Blower C. Heat Demand Relay	A. Check and replace where needed. B. Check and replace where needed. C. Check and replace where needed.
Spark sound can be heard, Blower IS running but main burners do not run	A. Ignition Control Module B. Gas Valve Relay (Full Vat Only) C. Bad Pressure Switch D. Tripped or defective Hi limit E. Gas Valve	A. Check and replace where needed. B. Check and replace where needed. C. Check and replace where needed. D. Check and replace where needed. E. Check and replace where needed.
Burner comes ON for short time, does not come back on	A. Flame Sensor B. Ignition Control Module C. Gas Valve	A. Check and replace where needed. B. Check and replace where needed. C. Check and replace where needed.
Computer controls left side of split vat only	A. Wiring harnesses attached in wrong order	A. Remove power to machine, power up again. Unplug both sides of computer, plug in right side first then the left side.

**Filters:**

PROBLEM	PROBABLE CAUSE	CORRECTIVE ACTION
Red Return Valve is open but no pump sound can be heard	<ul style="list-style-type: none"> <li>A. Red Return Valve NOT fully open</li> <li>B. Filter Circuit Breaker may be tripped</li> <li>C. Filter Motor Thermal Overload may be tripped</li> <li>D. Sensor switch may be loose or bad</li> </ul>	<ul style="list-style-type: none"> <li>A. Pull slightly on the Red handle to check that it is fully open.</li> <li>B. Locate the circuit breaker and reset.</li> <li>C. Push Red reset button located on end of filter motor.</li> <li>D. Check that the switch is tight in its mounting. If switch is bad replace it.</li> </ul>
Drain valve is closed and the computer has been reset but still shows "DRAINING" or "TURN OFF"	<ul style="list-style-type: none"> <li>A. Green Drain Valve is NOT fully Closed</li> <li>B. Sensor switch may be loose or bad</li> </ul>	<ul style="list-style-type: none"> <li>A. Apply a little more pressure to the Green Handle to check that it is fully closed.</li> <li>B. Check that the switch is tight in its mounting. If switch is bad replace it.</li> </ul>
Drain Valve is OPEN, the oil is draining slowly or not at all.	<ul style="list-style-type: none"> <li>A. Green Drain Valve is NOT fully open</li> <li>B. Drain is plugged with debris</li> </ul>	<ul style="list-style-type: none"> <li>A. Apply a little more pressure to the Green Handle to check that it is fully closed.</li> <li>B. Use the Clean Out Rod from inside the Fry Vat to clear the Drain Valve. If this NOT clear the blockage, CLOSE the Green Drain Valve and follow these instructions for clearing the main drain line.</li> </ul> <p style="text-align: center;">CAUTION:</p> <p>Some HOT oil may still come out when the cap is removed. Remove the two screw from the end cap (Do NOT lose these.) Use the Clean Out Rod to clear the main drain tube. Install the end cap along with its gasket and two screws. Do not overtighten these screws.</p>

## Chapter 4: COMPONENT CHANGEOUT:

It is assumed that for all (except where noted) of these component changeout instructions the fryer has been shut down and disconnected from the power and gas supplies, cooled and drained of oil.

### Probes:

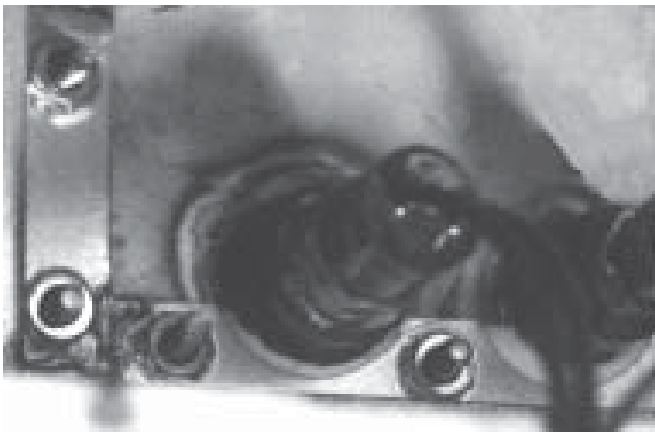
1. Unplug the wiring connector.
2. Unscrew the small nut on the probe seal.
3. Slide the probe from the seal.



Install in the reverse order using the new ferrule supplied with the new probe.

### Hi Limits:

1. Unplug the wiring connector.
2. Unscrew the Hi Limit from the front of the fry vat.



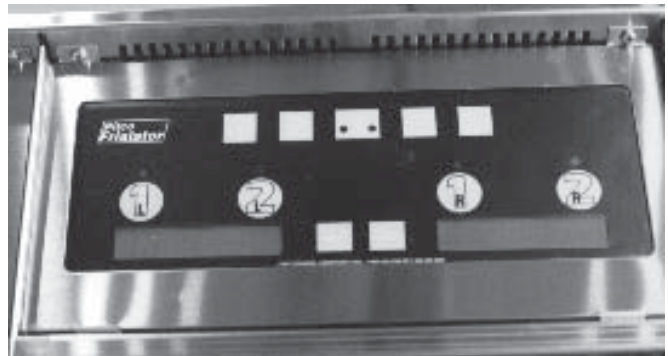
Install in the reverse order.

### Computers:

#### **CAUTION:**

Take care not to drop any of the components from the front panel as this will damage them.

1. Remove the two screws from the upper mount of the front panel.



2. Unplug the wiring connection at the rear of the computer.

**NOTE:** On split vat machines you will find 2 wiring connections to unplug.



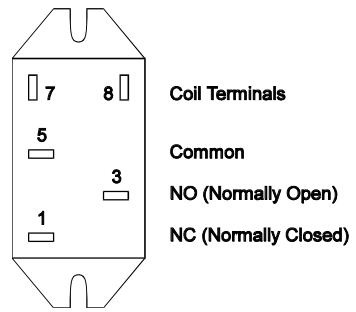
Install in the reverse order.

**NOTE:** When installing computers in Split Vat machines, the right side harness must be plugged in before the left side harness or the computer will NOT operate in Split Vat mode. If the computer is in Full Vat mode on a Split Vat machine, remove electrical power from the machine. When the power is returned to the fryer the computer will reset itself to Split Vat operation.

**Components mounted in the front panel:**

To access all of the components mounted in the front panel follow the instructions below:

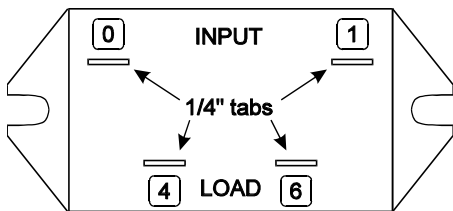
1. Remove the computer as described in the above instructions.  
The components within the front panel area can now be accessed.



**Hood & Filter Relays:**



These relays are always wired in the following manner -



**Control Relays:**



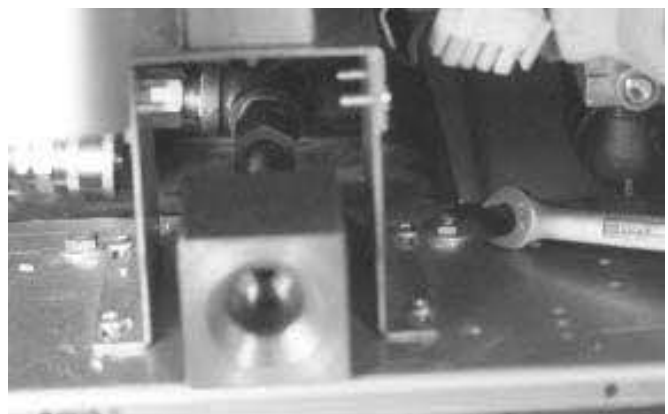
Control relays are always wired in the following manner -

**Filter Pumps:**

1. From the front of the machine, pull the ring back on each of the 2 quick disconnects and release the couplings.



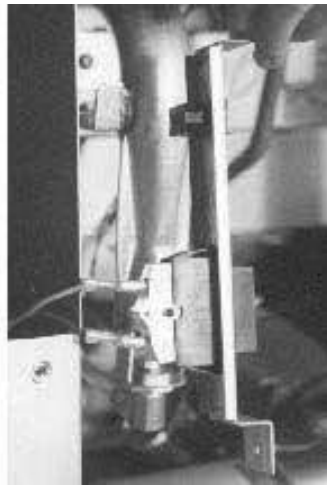
2. Remove the 2 screws, and the front of the Pump/Motor assembly will drop. The assembly can be removed from the machine by lifting the rear slightly and pushing back. The front of the mount can be lowered until the assembly can be removed from the machine.



Install in the reverse order.

### **Circuit Breaker:**

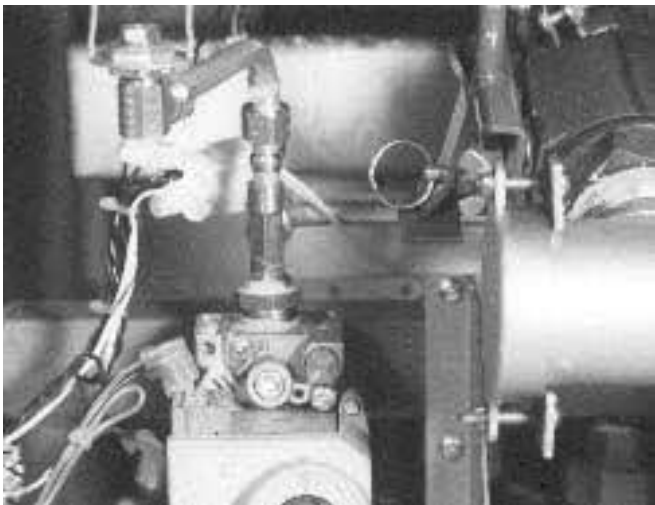
1. Remove the 2 mounting screws on either side of the door magnet catch. Remove the door magnet catch.
2. Remove the 2 mounting screws from the top and bottom of the cover.
3. Depress the 4 catches that hold the circuit breaker in the cover.



Install of the reverse order.

### **Gas Valves:**

1. Unscrew the fittings to the gas outlet tubes at the top of the gas valve.



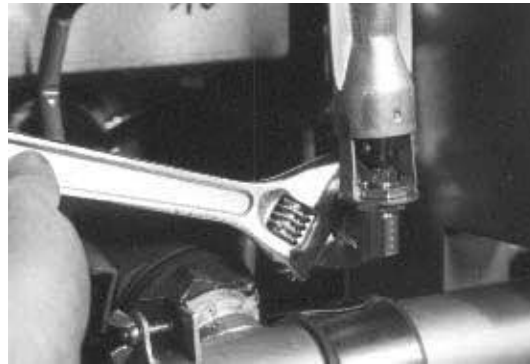
2. Unscrew the pipe union, located behind the gas valve.
3. Unplug the 3 wires that plug into the gas valve.

Install in the reverse order.

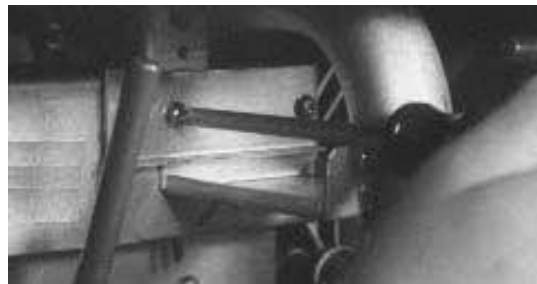
### **Burners and Spark Ignitors:**

**NOTE:** If the ignitor is to be removed without the burner start the procedure at step 2.

1. Unscrew the fitting for the gas supply tubing on the bottom of the burner.



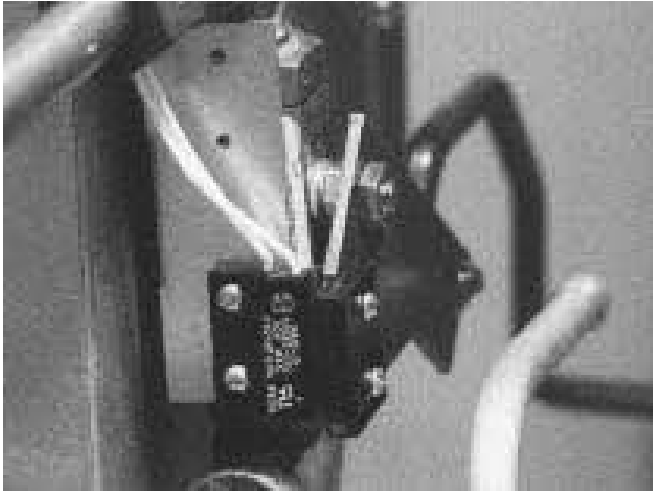
2. Unplug the wire to the spark ignitor.
3. Remove the 2 screws that hold the spark ignitor and burner in place.



The burner and spark ignitor may be removed together. Install in the reverse order.

### **Proximity Switches:**

1. The actuator can be removed by removing the 2 mounting screws.



2. The sensor may be removed by disconnecting the wiring harness and by removing the 2 mounting screws.

Install in the reverse order.

### **Blowers:**

1. Unplug the wiring connector.
2. Remove the 3 screws from the mounting flange.



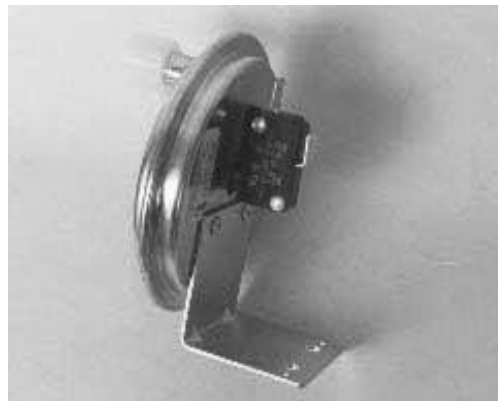
3. Using a flat screwdriver, break the seal at the motor flange.
4. The motor can now be lowered out of the machine.

**NOTE:** The new blower will be shipped with the blower housing attached. Remove the motor from the blower housing in the above manner. Clean the sealant from the new motor and the old housing (still attached to the machine). Apply a small amount of high temperature silicone sealant to the motor mounting flange.

Install the motor in the reverse order of removal.

### **Pressure Switches:**

1. Unscrew the plastic fitting from the air connection on the pressure switch.
2. Unplug the 2 wires from the switch.



3. Remove the 2 screws from the mounting bracket.

Install in the reverse order.



## Fry Vats:

### Full Vats-

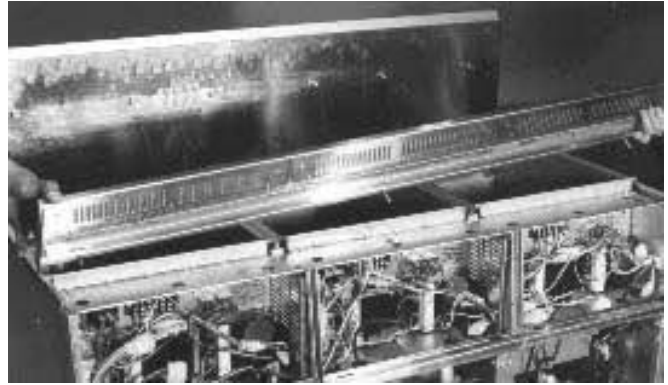
1. Remove ALL of the computer/controllers from the machine.
2. Remove the burners and ignitors from the vat to be removed.
3. Disconnect the drain valve switch wires.
4. Disconnect the return valve switch wires.
5. Disconnect the blower wires.
6. Remove the drain line from the left and right ends of the drain valve tee.
7. Remove the 3 screws from the front of each unit.



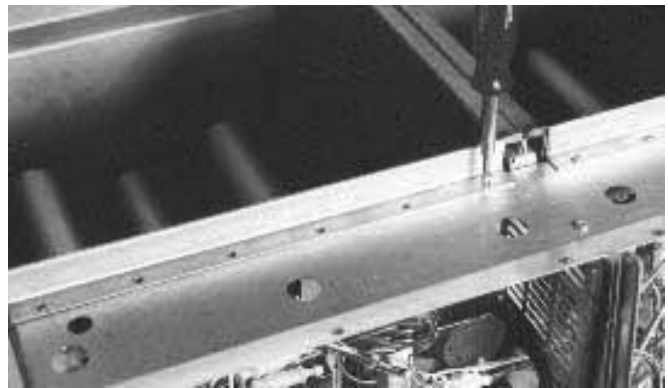
8. Remove all of the nuts and washers holding the splash deck in place.



9. Remove the front deck from the machine.



10. Remove all of the screws holding the front of the vat.



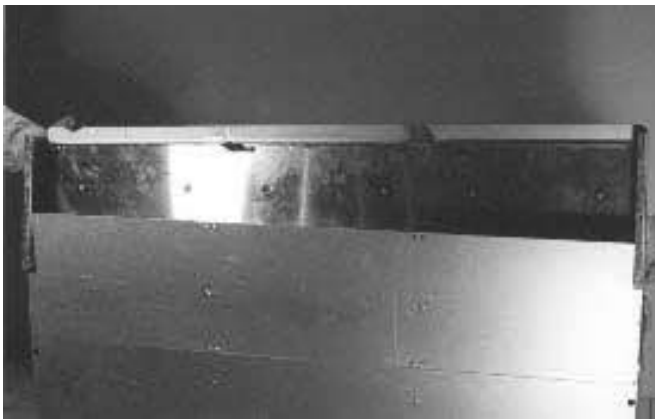
11. Remove the brackets located inside the splash back.



12. Remove the upper rear cover.



13. Remove the complete splash back assembly.



14. Remove the lower rear back cover.
15. Unscrew the compression fitting at the rear of the vat.
16. Remove the air tube from the air box (the blower is mounted to this box).
17. Grasp the vat by the middle tube and remove it from the rear of the cabinet.



### Split vats-

Split vats should be removed and installed as pairs in the same manner as Full Vats. There are 3 sets of clamps that hold the two Split Vats together:

1. On the rear of the vat.
2. On the bottom of the vat accessed by first removing the blower.
3. On the bottom of the vat at the front.

**NOTE:** To disconnect the filter return piping (as in step # 15) unscrew the union connecting the return piping to the vats.

Install in the reverse order.

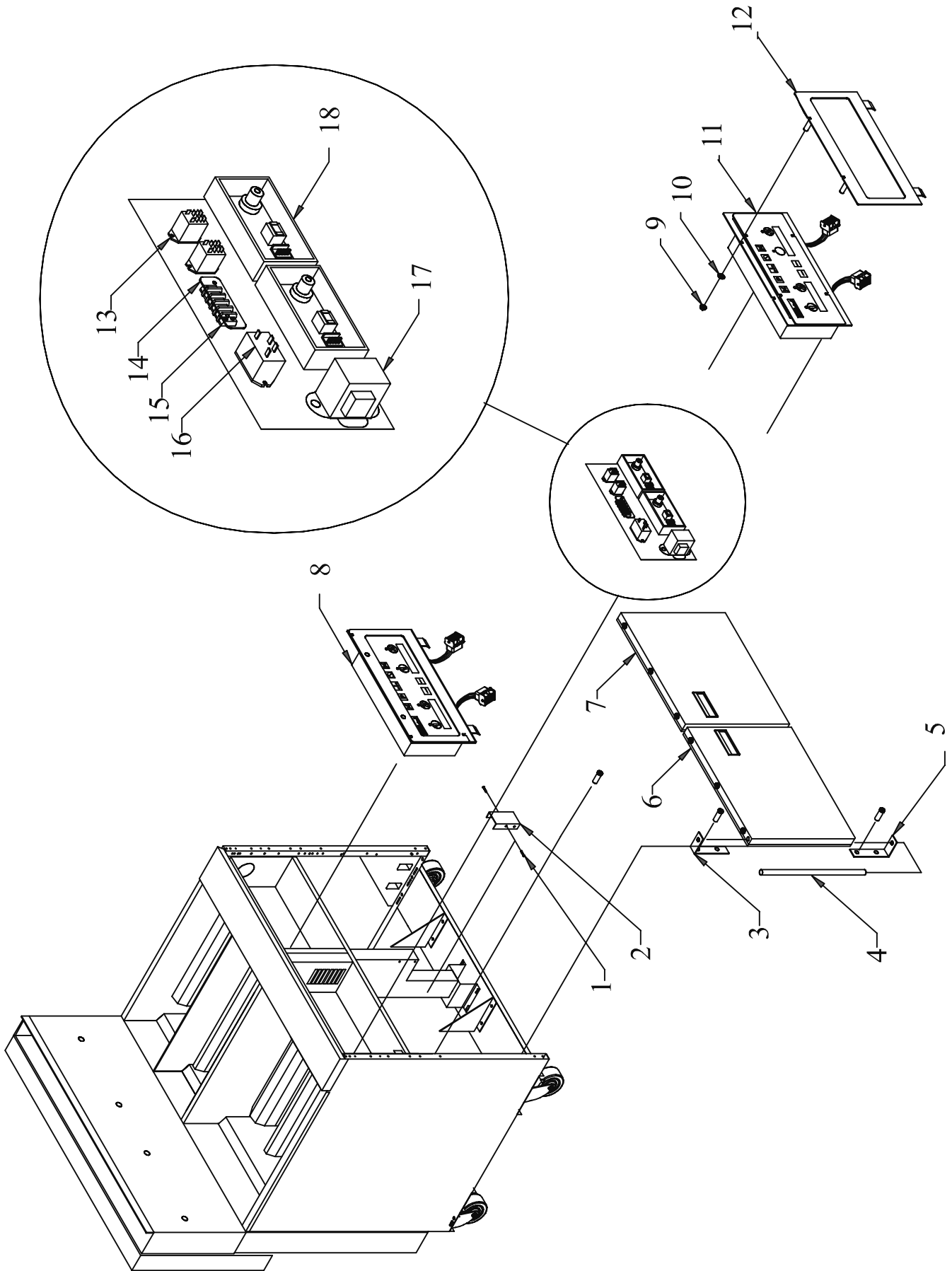


# **PARTS SECTION**

# MG14 FRYER FRONT PARTS LISTS

I.D. #	PART #	PART DESCRIPTION
1 .....	PP10752 .....	10-32 X 1/2" SCREW
2 .....	A1830901 .....	MAGNET STRIKER PLATE
	A1835001 .....	MAGNET STRIKER PLATE COVER
3 .....	A3802901 .....	TOP RIGHT & LEFT DOOR HINGE
4 .....	B3801301-C .....	DOOR HINGE PIN
5 .....	A3802903 .....	BOTTOM RIGHT & LEFT DOOR HINGE
6 .....	B2302301-C .....	LEFT DOOR ASSEMBLY
7 .....	B2302302-C .....	RIGHT DOOR ASSEMBLY
8 .....	B3626801-C .....	FRONT PANEL BEZLE ASSEMBLY
9 .....	P0092300 .....	10-24 HEX NUT
10 .....	P0080601 .....	#10 FLAT WASHER
11 .....	PP11372 .....	3600 McDONALDS COMPUTER FULL & SPLIT VAT
12 .....	B362601-C .....	CONTROLLER MOUNTING BEZLE
13 .....	PP11068 .....	HEAT DEMAND RELAY
	P5046688 .....	MAIN GAS VALVE RELAY
14 .....	A5059102 .....	TERMINAL STRIP COVER
15 .....	P5045282 .....	WIRE TERMINAL STRIP
16 .....	PP11058 .....	FILTER PUMP RELAY
17 .....	PP10429 .....	TRANSFORMER CE
	PP10210 .....	TRANSFORMER DOMESTIC
18 .....	PP11225 .....	SPARK IGNITION MODULE DOMESTIC
	PP11145 .....	SPARK IGNITION MODULE CE

# MG14 FRYER FRONT

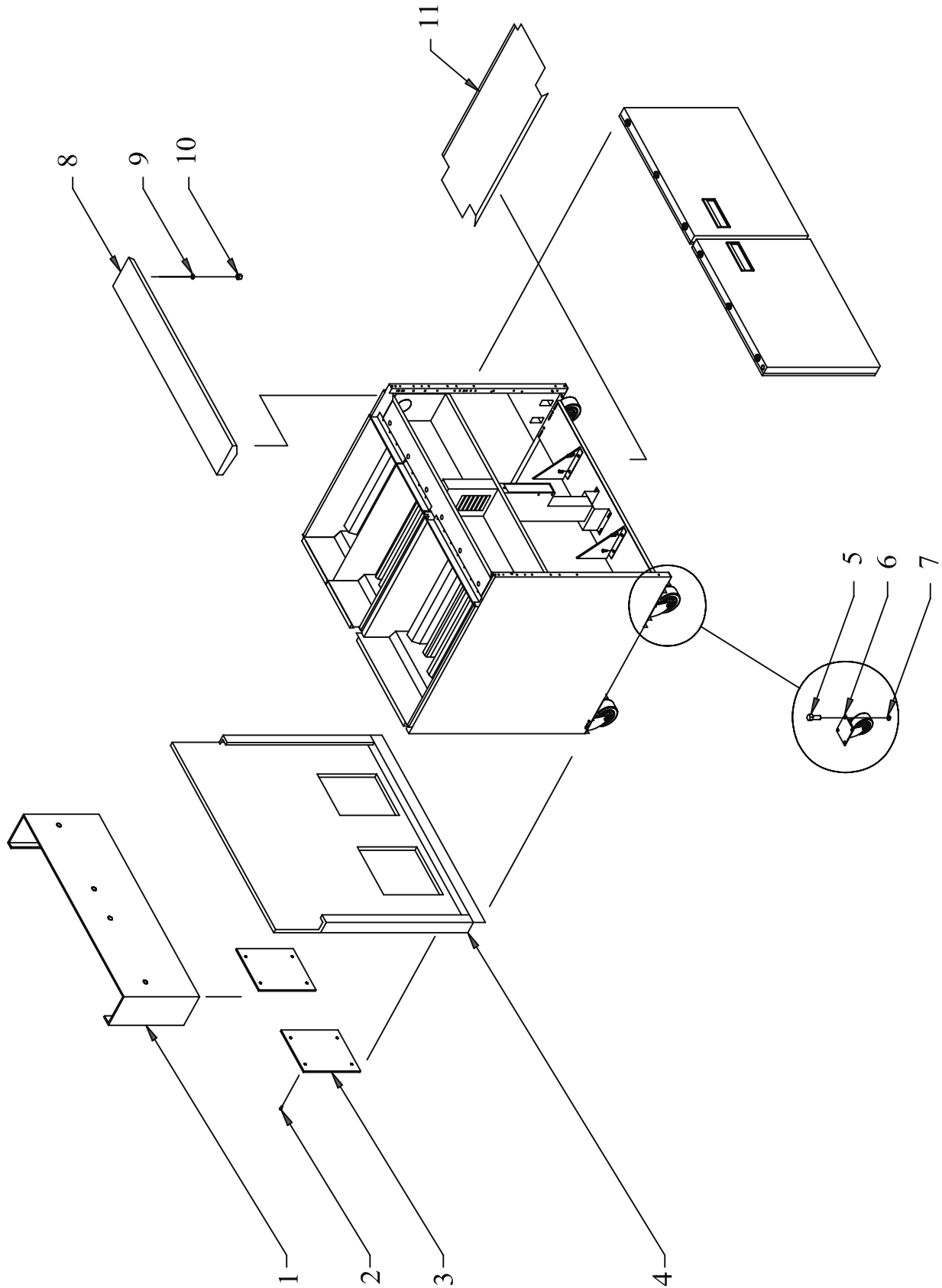


MGGAS005 REV 1 2-01

# MG14 FRYER CABINET PARTS LISTS

I.D. #	PART #	PART DESCRIPTION
1	B4101601-C B4101001-C B4101101-C B4101201-C B4101701-C	SINGLE FRYER BACK SPLASH DUAL FRYER BACK SPLASH TRIPLE FRYER BACK SPLASH QUAD FRYER BACK SPLASH QUINT FRYER BACK SPLASH
2	PP10752	10-32 X 1/2" SCREW
3	A1623901 A1623902	REAR CABINET ACCESS PLATE (STEEL) REAR CABINET ACCESS PLATE (SS)
4 (1 <sup>st</sup> #galvanized, 2 <sup>nd</sup> # stainless)	A1623501+A1623502 A1623601+A1623502 A1623701+A1623702 A1623801+A1623802 USE DUAL TWICE USE DUAL & TRIPLE	SINGLE FRYER CABINET BACK DUAL FRYER CABINET BACK TRIPLE FRYER CABINET BACK TRIPLE FRYER CABINET BACK TOP QUAD FRYER CABINET BACK QUINT FRYER CABINET BACK
5	P0020600	1/4" X 5/8" BOLT
6	PP10815	9" LOCKING CASTER
6	PP10814	9" NON-LOCKING CASTER
7	P0093300	1/4" X 20 NUT
8	B3622401-C B3627001-C B3627201-C B3627401-C B3628201-C	SINGLE FRONT PANEL TOP DECK DUAL FRONT PANEL TOP DECK TRIPLE FRONT PANEL TOP DECK QUAD FRONT PANEL TOP DECK QUINT FRONT PANEL TOP DECK
9	P0080650	1/4" FLAT WASHER
10	P0093300	1/4" X 20 NUT
11	A1838101 A1834501 (Non-filter) A1839301 (Non filter) A1839303 (Filter) A1839401 A1839501	SINGLE CABINET BOTTOM PLATE CABINET BOTTOM PLATE LEFT HAND DUAL CABINET BOTTOM PLATE TRIPLE CABINET BOTTOM TRIPLE CABINET BOTTOM RIGHT H. PUMP BOTTOM COVER

# MG14 FRYER CABINET



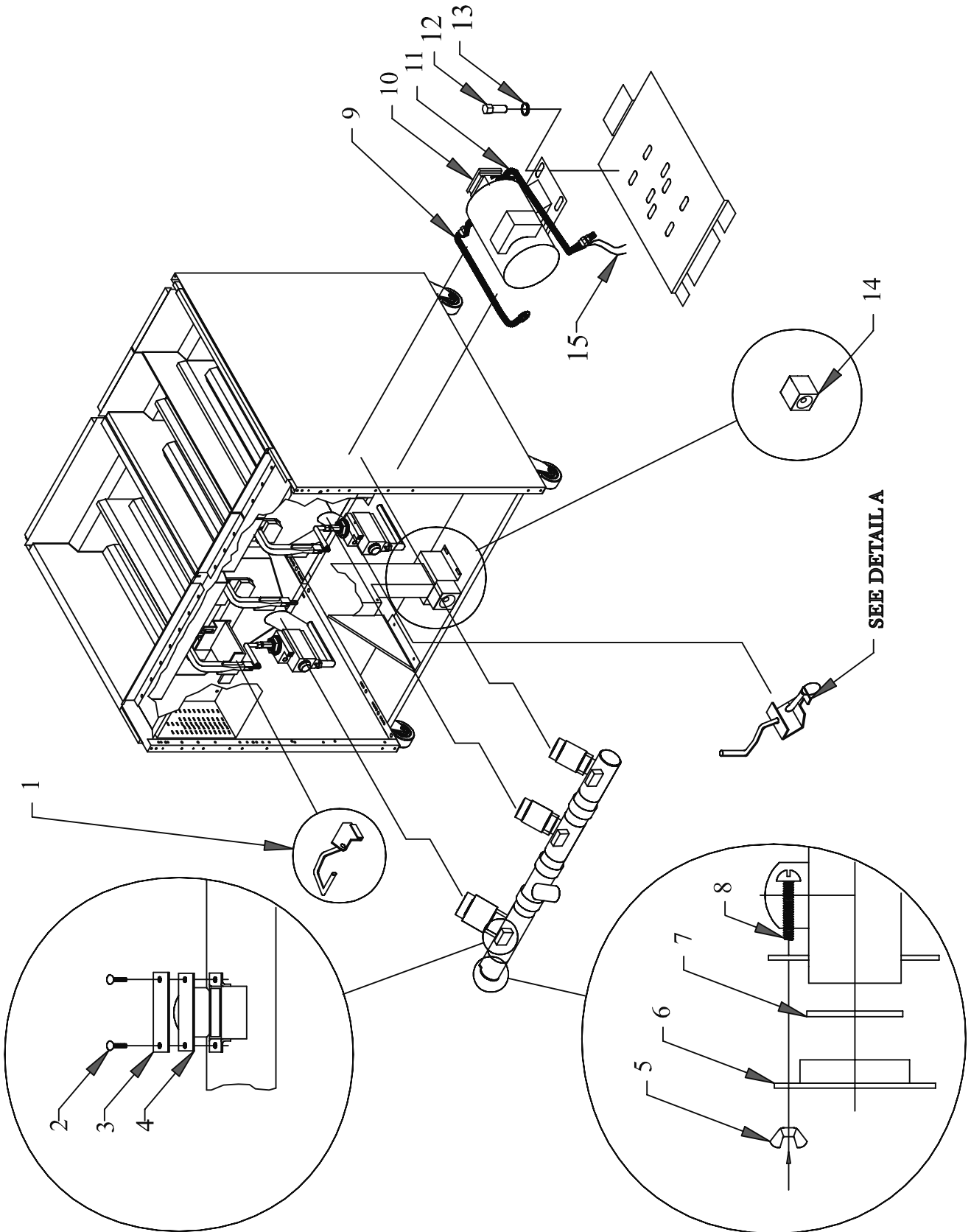
MGGAS001 REV 1 2-01



# MG14 FRYER FILTER PARTS LISTS

I.D. #	PART #	PART DESCRIPTION
1	B4003203-C B4003204-C	OIL RETURN HANDLE FULL & RH SPLIT OIL RETURN HANDLE LH SPLIT
2	P0079500	10-24 X 1/2" SCREW
3	A7004401	DRAIN LINE CLEAN OUT COVER
4	PP11182	CLEAN OUT COVER GASKET
5	PP10568	10-24 WING NUT
6	B6643101-C	FILTER DRAIN LINE END CAP
7	PP11181	DRAIN LINE END CAP GASKET
8	PP10696	10-24 X 1/2" SCREW
9	PP11241	FLEX TUBING WITH FITTINGS 18"
10	B6638601-C (Including tubing & heat tape) (Including tubing & heat tape) (Pump & motor only)  (Pump & motor only)	PUMP & MOTOR ASSEMBLY 115VAC PUMP & MOTOR ASSEMBLY 240VAC PUMP & MOTOR ASSEMBLY 220VAC PUMP & MOTOR ASSEMBLY 115-230VAC MOTOR ONLY 115-230VAC PUMP AND MOTOR ASSEMBLY PUMP ONLY
11	PP11242	FLEX TUBING WITH FITTINGS 20"
12	P0020600	1/4-20 X 5/8 BOLT
13	P0080650	1/4 FLAT WASHER
14	B6652601-C	FILTER RETURN RECEPTICLE ASSY.
15	PP10039 PP10080 PP10194 PP10598	HEAT TAPE 165 WATT 110VAC 79" HEAT TAPE 165 WATT 240VAC 79" HEAT TAPE 96 WATT 110VAC 48" HEAT TAPE 96 WATT 240VAC 48"

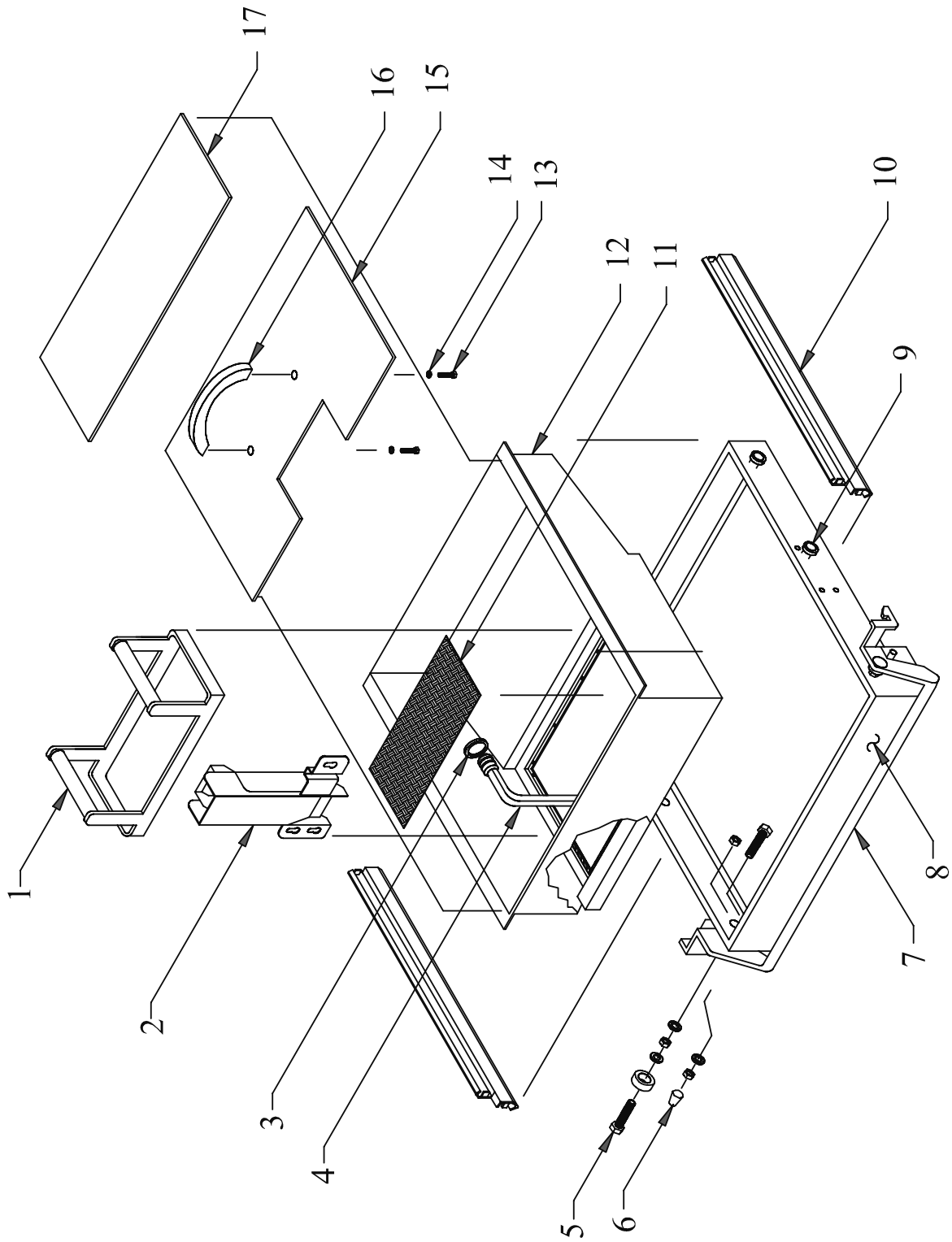
# MG14 FRYER FILTER



# MG14 FRYER FILTER DRAWER PARTS LISTS

I.D. #	PART #	PART DESCRIPTION
1	B6640901-C	PAPER RETAINING RACK
2	B6647701-C	OIL DRAIN CATCH TOWER
3	PP10409	FILTER COUPLING "O" RING
4	B6661601	FILTER PICK-UP ASSEMBLY
5	P0020900	1/4-20 HEX HEAD SCREW
	P6071020	1/4" NYLON BUSHING
	P0080650	1/4" FLAT WASHER
	P0093300	1/4-20 NUT
6	PP10177	VINYL PROTECTIVE COVER
	P0093300	1/4-20 NUT
	P0080650	1/4" FLAT WASHER
	P0020900	1/4-20 HEX HEAD SCREW
7	B6640701-C	FILTER DRAWER HANDLE
8	B6640601-C	FILTER DRAWER WELDMENT
9	PP11152	ROLLER WHEEL KIT
10	B6656801-C	FILTER DRAWER EXTENSION RAIL (RH)
	B6656802-C	FILTER DRAWER EXTENSION RAIL (LH)
11	A7008302	PAPER SUPPORT RACK
12	B6661501-C	FILTER PAN
13	P0007300	8-32 X 1/4" SCREW
14	PP10900	FLAT WASHER
15	B6641001-C	FRONT FILTER PAN COVER W/HANDLE
	A7001102	FRONT FILTER PAN COVER NO HANDLE
16	P6071516	FILTER PAN COVER HANDLE
17	A7013502	REAR FILTER PAN COVER
18	B6640801	FILTER DRAWER CARRIAGE ASSY (INCLUDES PARTS 5-9)
19	B6645701	FILTER PAN ASSY (INCLUDES PARTS 1-17)

# MG14 FRYER FILTER DRAWER

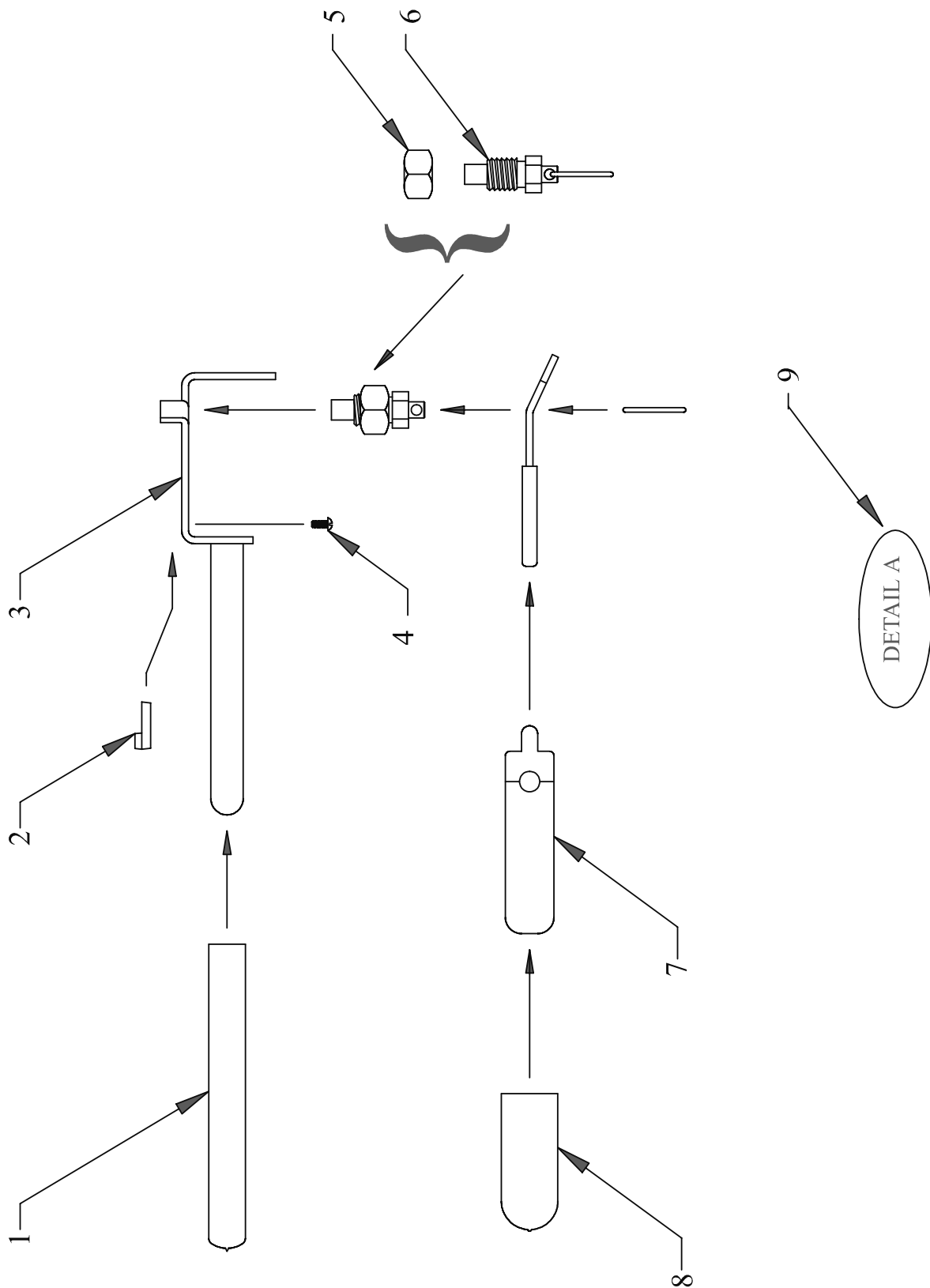


MGGAS004 REV 1 2-01

# MG14 FRYER DRAIN VALVE HANDLE PARTS ASSEMBLY

I.D. #	PART #	PART DESCRIPTION
1 .....	PP11302 .....	VINYL DRAIN VALVE HANDLE COVER
2 .....	PP10263 .....	DRAIN PROXIMITY SWITCH ACTUATOR
3 .....	B4002902-C .....	DRAIN VALVE HANDLE FULL, RH SPLIT
	B4002901-C .....	DRAIN VALVE HANDLE LH SPLIT VAT
4 .....	PP10266 .....	4-40 X 1/4" SCREW
5 .....	PP10647 .....	1/2-13 NUT
6 .....	PP11059 .....	PLUNGER ASSEMBLY
7 .....	A4015801 .....	DRAIN HANDLE RELEASE LEVER
8 .....	PP11303 .....	RELEASE LEVER VINYL COVER
9 .....	B4003001-C .....	FULL VAT HANDLE ASSEMBLY
(Complete drain valve handle assy)	B4003003-C .....	LH SPLIT VAT HANDLE ASSEMBLY
	B4003005-C .....	RH SPLIT VAT HANDLE ASSEMBLY

# MG14 FRYER DRAIN VALVE HANDLE PARTS DRAWING



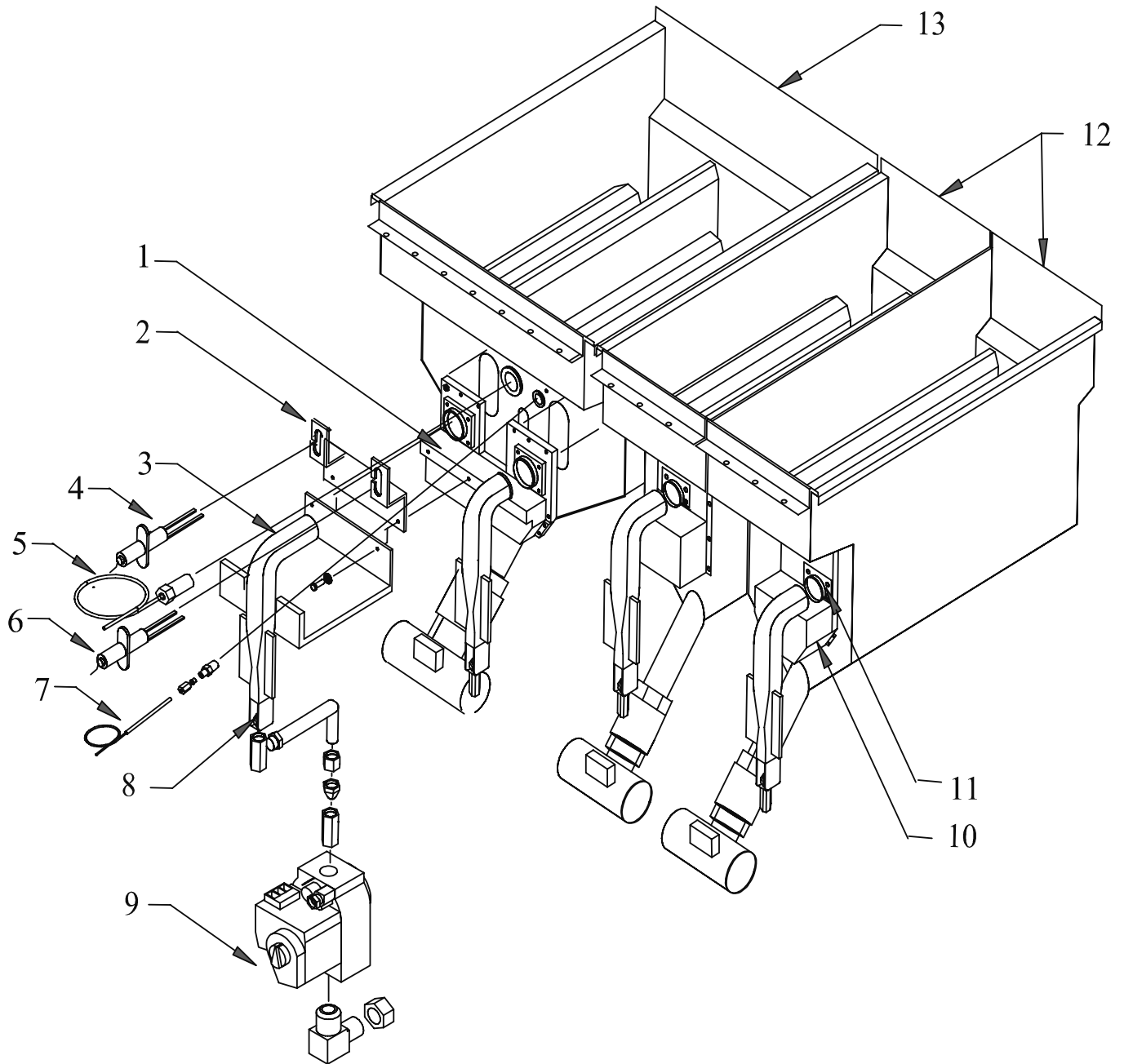
MGGAS003-1 REV 1 2-01

# MG14 GAS & BURNER SYSTEM

## PARTS LISTS

I.D. #	PART #	PART DESCRIPTION
1 .....	B3317701-C .....	FULL VAT BURNER BOX ASSY.
	B3321101-C .....	FULL VAT BURNER BOX INSUL. KIT
2 .....	A8027301 .....	(CE) IGNITOR MOUNTING BRACKET
	A8022301 .....	LEFT (DOMESTIC) IGNITOR MNTNG BRKT
	A8022303 .....	RIGHT (DOMESTIC) IGNITOR MNTNG
BRKT		
3 .....	B8022301-C .....	BURNER (DOMESTIC)
	B8027001-C .....	BURNER (CE GERMANY)(CE LP)
4 .....	PP11131 .....	IGNITOR (DOMESTIC)
	PP11193 .....	IGNITOR (CE)
5 .....	PP11064 .....	HI LIMIT SWITCH
6 .....	PP11193 .....	FLAME SENSOR (CE)
7 .....	B3316801-C .....	TEMPERATURE PROBE ASSY.
8 .....	CALL SERVICE AGENT FOR #..	BURNER ORIFICE
9 .....	PP11140 .....	GAS VALVE (NAT) DOMESTIC
	PP11142 .....	GAS VALVE (NAT) CE
	PP11141 .....	GAS VALVE (PROP) DOMESTIC
	PP10958 .....	GAS VALVE (PROP) CE
10 .....	B3314801-C .....	SPLIT VAT BURNER BOX ASSY. LH
	B3314802-C .....	SPLIT VAT BURNER BOX ASSY. RH
	B3321201-C .....	SPLIT VAT BURNER BOX INSUL. KIT
11 .....	B8021602-C .....	COMBUSTION TUBE (FULL & SPLIT VAT)
12 .....	B3316601-C .....	SPLIT VAT
13 .....	B3316501-C .....	FULL VAT

# MG14 GAS & BURNER SYSTEM



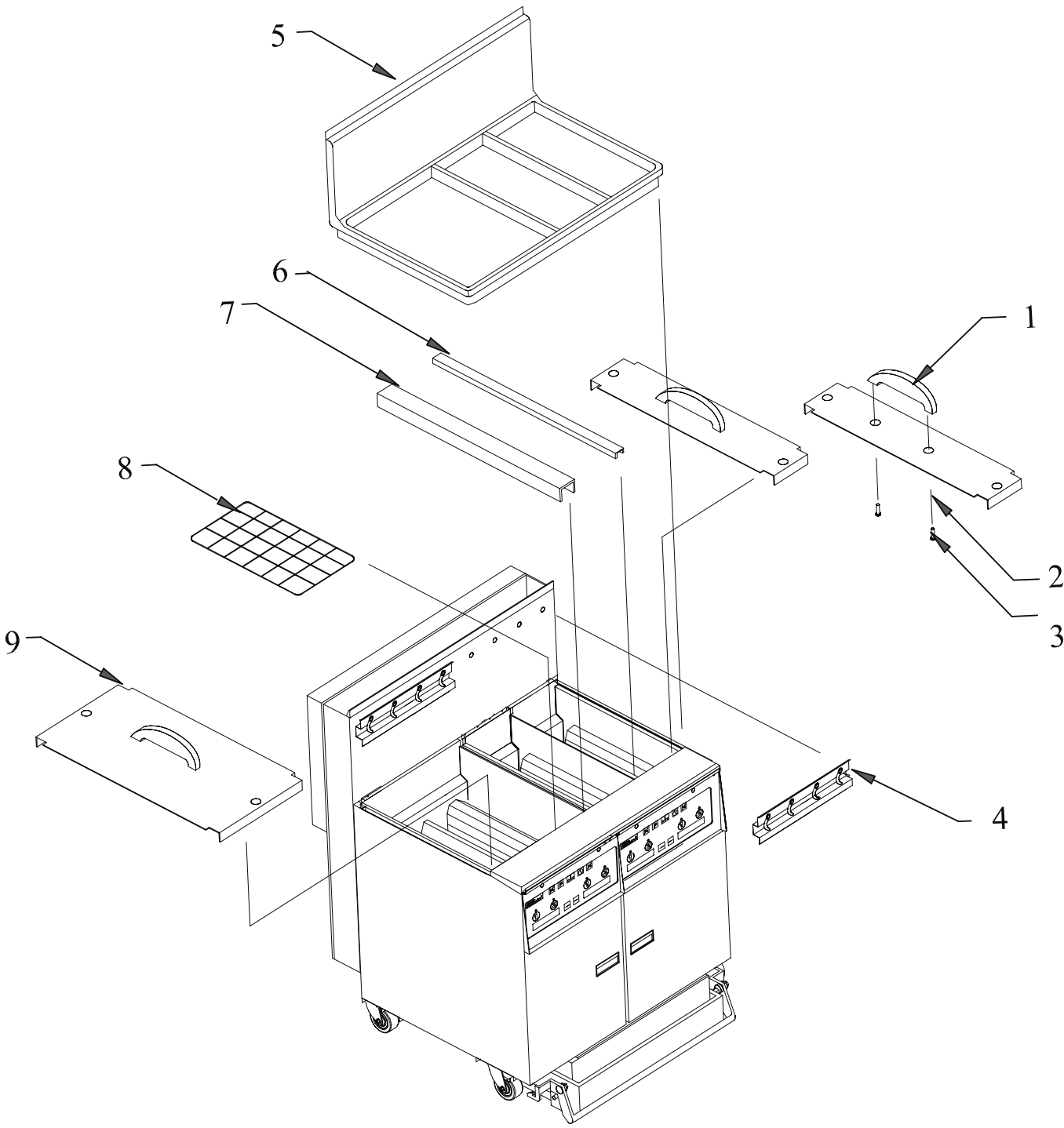
MGGAS002 REV 1 2-01



# MG14 FRYER ACCESSORIES PARTS LISTS

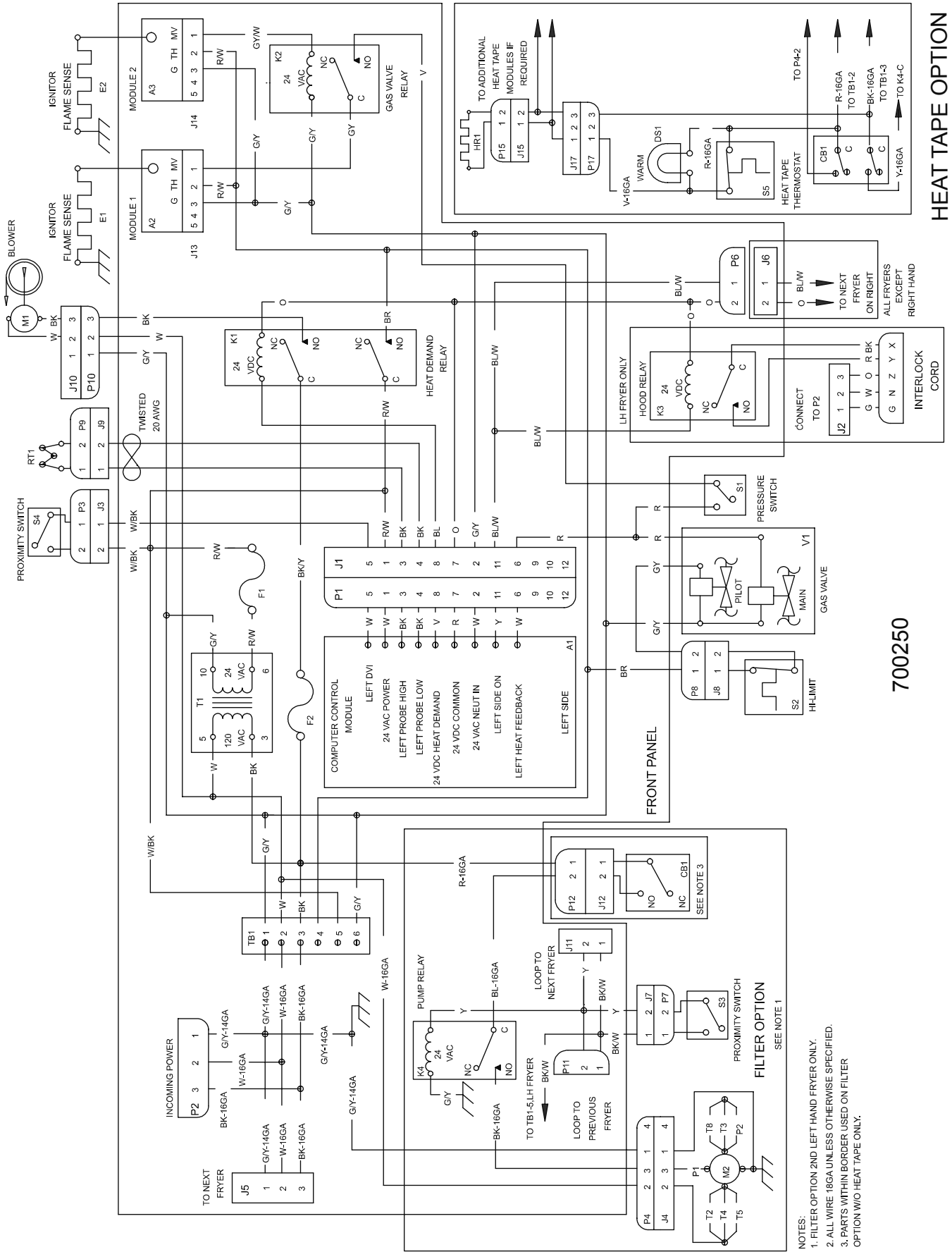
I.D. #	PART #	PART DESCRIPTION
1 .....	PP11332 .....	FRYER COVER HANDLE
2 .....	P0082400 .....	WASHER
3 .....	PP10693 .....	SCREW
4 .....	A1103302 .....	BASKET HANGER (W/CAPPING PIECE)
	A1103202 .....	BASKET HANGER (W/O CAPPING PIECE)
5 .....	B5002701-C .....	DUAL CAPPING PIECE
	B5002702-C .....	TRIPLE CAPPING PIECE
	B5002703-C .....	QUAD CAPPING PIECE
	B5002704-C .....	QUINT CAPPING PIECE
6 .....	A1907004 .....	CHANNEL STRIP INTERIOR OF A SPLIT
7 .....	A1907504 .....	CHANNEL STRIP (SPLIT TO SPLIT TANK)
	A1906804 .....	CHANNEL STRIP (SPLIT TO FULL, FULL TO FULL TANK)
8 .....	P6073148 .....	TUBE RACK (FULL VAT)
	B4510401-C .....	TUBE RACK (SPLIT VAT)
9 .....	B2100904-C .....	COVER ASSEMBLY (FULL VAT)
	B2100903-C .....	COVER ASSEMBLY (SPLIT VAT)

# MG14 FRYER ACCESSORIES PARTS LISTS



MGGAS006 REV 1 2-01

PARTS LIST 700250		
NOMENCLATURE	PART NO.	DESCRIPTION
A1	PP11374	COMPUTER, 3620-14 MLB
A2,A3	PP11225	MODULE, IGNITION DSI 24VAC MG14
CB1	PP10460	SWITCH, CIRCUIT BREAKER SPST 8A 250V
	PP11074	SWITCH, CIRCUIT BREAKER RKR DPST 250V
DS1	PP10331	LAMP, 125V GRN RECT
E1,E2	PP11131	IGNITOR, SPARK
F1	P5045717	FUSE, 2A SLOW BLOW
F2	P5045720	FUSE, 4A SLOW BLOW
HR1	PP10194	HEATER, TAPE 96W 110V 1/2 X 48
J1	PP10209	CONNECTOR, JACK-12 SKT AMP
J4	PP10203	CONNECTOR, JACK-4 SKT AMP
J2,J5,J10,J17	PP10089	CONNECTOR, JACK-3 SKT AMP
J3,J6,J7 J8,J9,J11 J12,J15	P5045839	CONNECTOR, JACK-2 SKT AMP
J13,J14	PP11126	CONNECTOR, JACK-5 SKT INLINE MOLEX
K1	PP11068	RELAY, 24VDC DPDT
K2	P5046688	RELAY, 24VAC SPDT
K3	PP11033	RELAY, 24VDC SPST 30A
K4	PP11058	RELAY, 24VAC SPST 30A
M1	PP11067	BLOWER, 115VAC 60HZ 3200 RPM
M2	PP10101	PUMP, 115V 60HZ/230V 50HZ
P1	PP10208	CONNECTOR, PLUG-12 PIN AMP
P4	PP10202	CONNECTOR, PLUG-4 PIN AMP
P2,P10,P17	PP10090	CONNECTOR, PLUG-3 PIN AMP
P3,P6,P7 P8,P9,P11 P12,P15	P5045829	CONNECTOR, PLUG-2 PIN AMP
RT1	PP11065	PROBE, THERMISTOR
S1	PP11066	SWITCH, PRESSURE
S2	PP11064	SWITCH, HI-LIMIT
S3,S4	PP10262	SWITCH, PROXIMITY SENSOR
S5	PP10739	SWITCH, THERMOSTAT HEAT TAPE
T1	PP10210	TRANSFORMER, 40VA-120/208/240V TO24V
TB1	P5045281	TERMINAL BLOCK, 6 POSITION
V1	PP11140	VALVE, GAS 24VAC NAT
	PP11199	VALVE, GAS 24VAC LP



700250

HEAT TAPE OPTION

- NOTES:
1. FILTER OPTION 2ND LEFT HAND FRYER ONLY
  2. ALL WIRE 18GA UNLESS OTHERWISE SPECIFIED.
  3. PARTS WITHIN BORDER USED ON FILTER OPTION W/O HEAT TAPE ONLY.

PARTS LIST 700251		
NOMENCLATURE	PART NO.	DESCRIPTION
A1	PP11374	COMPUTER, 3620-14 MLB
A2,A3	PP11225	MODULE, IGNITION DSI 24VAC MG14
CB1	PP10460	SWITCH, CIRCUIT BREAKER
	PP11074	SWITCH, CIRCUIT BREAKER RKR DPST 250V
DS1	PP10331	LAMP, 125V GRN RECT
E1,E2	PP11131	IGNITOR, SPARK
F1	P5045717	FUSE, 2A SLOW BLOW
F2	P5045720	FUSE, 4A SLOW BLOW
HR1	PP10194	HEATER, TAPE 96W 110V 1/2 X 48
J1,J2	PP10209	CONNECTOR, JACK-12 SKT AMP
J3	PP10203	CONNECTOR, JACK-4 SKT AMP
J4,J5,J16,J21	PP10089	CONNECTOR, JACK-3 SKT AMP
J5,J6,J7,J8,J9 J10,J11,J12 J13,J15,J17 J20	P5045839	CONNECTOR, JACK-2 SKT AMP
J18,J19	PP11126	CONNECTOR, JACK-5 SKT INLINE MOLEX
K1,K2	PP11068	RELAY, 24VDC DPDT
K3	PP11033	RELAY, 24VDC SPST 30A
K4	PP11058	RELAY, 24VAC SPST 30A
M1	PP11067	BLOWER, 115V, 60HZ, 3200 RPM
M2	PP10101	PUMP, 115V 60HZ/230V 50HZ
P1,P2	PP10208	CONNECTOR, PLUG-12 PIN AMP
P3	PP10202	CONNECTOR, PLUG-4 PIN AMP
P2,P16,P21	PP10090	CONNECTOR, PLUG-3 PIN AMP
P5,P6,P7,P8 P9,P10,P11 P12,P13,P15 P17,P20	P5045829	CONNECTOR, PLUG-2 PIN AMP
RT1,RT2	PP11065	PROBE, THERMISTOR
S1	PP11066	SWITCH, PRESSURE
S2,S3	PP11064	SWITCH, HI-LIMIT
S4,S5,S6,S7	PP10262	SWITCH, PROXIMITY SENSOR
S8	PP10739	SWITCH, THERMOSTAT HEAT TAPE
T1	PP10210	TRANSFORMER, 40VA-120/208/240 TO 24
TB1	P5045281	TERMINAL BLOCK, 6 POSITION
V1,V2	PP11140	VALVE, GAS 24VAC NAT
	PP11199	VALVE, GAS 24VAC LP



In the event of problems with or questions about your order, please contact the Pitco Frialator factory, from 8:00 a.m. - 5:00 P.M., Eastern Standard Time, Monday through Friday, toll-free at:

(800)258-3708 US and Canada only or  
(603)225-6684 World Wide

In the event of problems with or questions about your equipment, please contact the Pitco Frialator Authorized Service and Parts representative (ASAP) covering your area, through the National Service Network at:

(800)298-1862 US only, 24 hours