PITCO FRIALATOR, INC.

18 WK KENTUCKY FRIED CHICKEN EQUIPPED WITH A 821 AJMK-KF2 COOKING COMPUTER

STORE MANAGER TROUBLESHOOTING MANUAL

Pitco Frialator, Inc.
P.O. Box 501
Concord, N.H. 03301
Phone 603-225-6684
Service Dept. 603-225-5688

A **BLODGETT** Company

TROUBLESHOOTING PITCO FRIALATOR

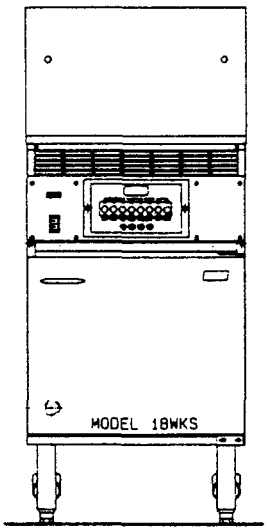
CONDITION	POSSIBLE CAUSE	REMEDY
NO PILOT LIGHT.	1. HIGH LIMIT TRIPPED.	1. Reset high limit, if unable call authorized service agent for replacement.
	2. HIGH LIMIT NOT TRIPPED.	2. Call authorized service agent.
PILOT LIGHT ON, NO HEAT.	1. PILOT KNOB IN PI LOT POSITION.	1. Turn to ON position.
	2. PILOT KNOB IS IN ON POSITION, NO HEAT.	2. ON-OFF switch in OFF position.
		3. Exit fill key not pressed after being refilled.
		4. Float switch stuck in down position or float bulb off, clean or install with new hold clip.
		5. Defective computer, call authorized service agent.
		6. Defective computer probe, call authorized service agent.

PITCO FRIALATOR, INC.

GAS FIRED DEEP FAT FRYER

SERVICEMAN'S SERVICE MANUAL

18 WK KENTUCKY FRIED CHICKEN



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SECTION 1S SERVICE PROCEDURES

Parts can be identified from diagrams on Parts List page for each model.

1.1 TO REMOVE MAIN BURNER

a. Turn Unitrol knob to "OFF" position.

b. Loosen set screw in base of burner casting.

c. Unscrew and remove two hex head screws at top of burner.

d. Unscrew and remove air collar and locknut from burner.

e. Lift burner up to clear top of burner fitting and remove from fryer.

f. Reverse procedure to remount burner.

1.2 TO CHANGE MAIN BURNER ORIFICE

a. Follow procedure in Section 1.1.

b. After burner has been removed, unscrew orifice with a 3/8" wrench.

c. Screw in new orifice - tighten gas tight.

d. Remount burner, air collar and locknut.

1.3 TO REPLACE HEAT TUBE BAFFLES

a. Remove main burners: follow procedure in Section 1.1 .a. through e.

b. Baffles are fastened to the inside of the heat tube by a small tack weld on the right hand front baffle support. Break leg away from weld with a chisel or solid steel bar.

c. Remove old baffles and insert new ones in tubes in original position.

d. Remount main burners.

1.4 TO REMOVE PILOT BURNER

a. Follow procedure in Section 1.1 and remove main burner to the right of the pilot burner.

b. Unscrew and remove tubing nut from pilot tubing connection on Unitrol.

c. Unscrew and remove thermopile from connection on Unitrol.

d. Unscrew and remove the two screws holding the pilot to the bracket on the fat container and lift the entire pilot assembly out of the fryer.

1.5 TO CHANGE PILOT BURNER ORIFICE

a. Follow procedure in 1.4.

b. Unscrew tubing nut in fitting in base of pilot burner.

c. Unscrew fitting in base of pilot burner and withdraw orifice from inside the fitting.

d. Insert new orifice and reverse procedure to re-assemble.

e. Tighten all screws and connections and test for gas leaks.

SECTION 1 S SERVICE PROCEDURES (Cont'd)

1.6 TO REPLACE THERMOPILE

a. Follow procedure in 1.4.

b. Unscrew and remove thermopile from pilot burner bracket.

c. Replace with new thermopile.

d. Reverse procedure to re-assemble.

e. Tighten all screws and connections and test for gas leaks.

1.7 TO ADJUST PILOT FLAME

a. Make this adjustment with pilot burner lit.

b. Remove screw cap underneath pilot supply tubing connection to Unitrol valve.

c. Insert long handled screwdriver with 1/8" wide blade in adjusting screw slot inside this pilot supply fitting.

d. Turn adjusting screw clockwise to decrease or counterclockwise to increase pilot flame. Watch size of pilot flame while turning adjusting screw.

CAUTION DO NOT REMOVE ADJUSTING SCREW

e. Replace screw cap when desired flame size is obtained.

f. Replace pilot orifice if desired flame cannot be obtained by adjustment. See Procedure 1.5.

1.8 TO REPLACE LIMIT CONTROL

a. Turn Unitrol knob to "OFF."

b. Drain all shortening from fry kettle. Remove tube screen.

c. Unscrew and remove the two screws in the limit bulb clamp on the heat tube inside the fry kettle.

d. Take sensing bulb out of the clamp and straighten the capillary tubing.

e. Remove the two burners that are in front of the capillary connector fitting on the bottom of the fry kettle. See Procedure 1.1.

f. Unscrew small hex nut in connector fitting of control to be replaced.

g. Unscrew large connector nut and withdraw capillary and bulb from fry kettle.

h. Remove the two wires off the limit control terminals.

i. Unscrew and remove the two mounting screws in the limit control bracket and remove the limit control from the fryer.

j. Unpack the new limit control and carefully unroll the capillary tubing and straighten it out.

k. Install the new limit control by reversing the procedure. **BE CAREFUL NOT TO BEND, KINK OR TWIST THE CAPILLARY TUBING SHARPLY. THIS WILL DESTROY THE LIMIT CONTROL.**

SECTION 2S TROUBLESHOOTING CHART

TROUBLE	POSSIBLE CAUSE	REMEDY
Pilot will light but Unitrol main gas valve will not hold open automatically.	1. Pilot thermopile not hot enough to generate required millivoltage.	1. Hold Unitrol knob (in PILOT position) depressed for 1 minute or longer. Make sure all air has been purged from gas line.
	2. Loose wire connection in millivoltage circuit.	2. Check all wire connections.
	3. Thermopile producing insufficient millivoltage.	3. Check voltage at Unitrol with millivoltmeter, holding pilot flame on manually as in No. 1 above. Reading should be between 140 and 450 mv.
	4. High limit control may have cut out.	4. Check continuity across limit control terminals with meter. If limit control has cut off, check at what temperature it cut off.
	5. Pilot flame too small.	5. Check millivoltage as above; increase size of flame with Unitrol pilot adjusting screw.
	6. Pilot flame burning yellow.	6. Remove and clean pilot and thermopile; decrease size of flame with Unitrol pilot adjusting screw if over 450 mv.
	7. Draft may be pulling flame off thermopile.	7. Eliminate the draft.
	8. Gas pressure too low.	8. Pressure at burner manifold should be 4.0" w.c. for natural gas and 10.0" w.c. for propane with all appliances on same gas line in full operation. Increase building pipe size, gas meter size or number of LP tanks. Consult gas company.

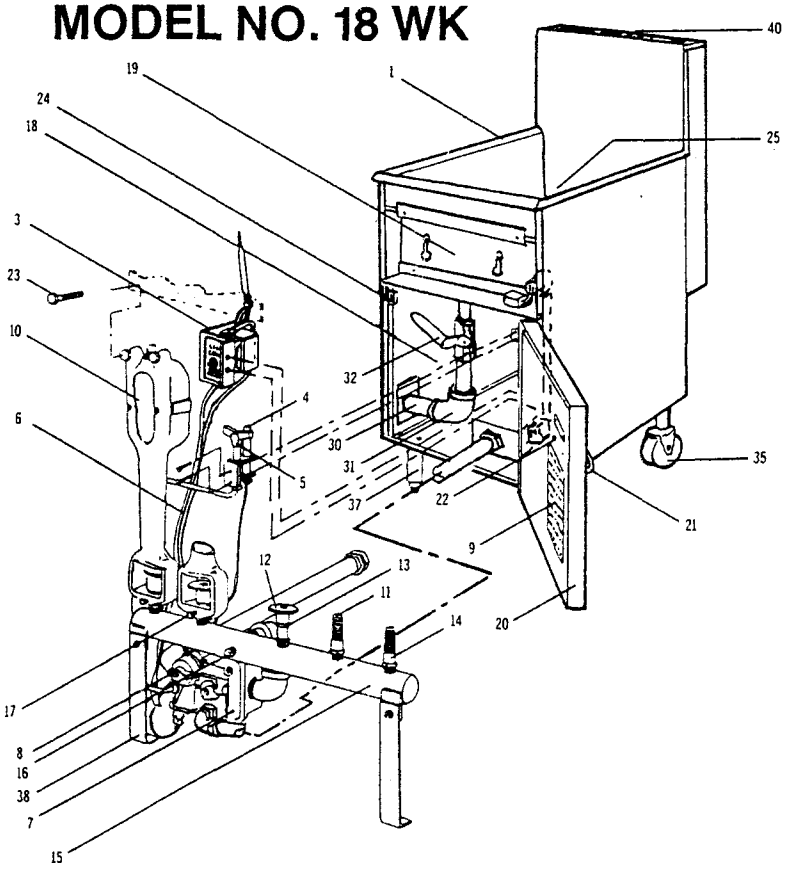
SECTION 2S TROUBLESHOOTING CHART (Cont'd)

TROUBLE	POSSIBLE CAUSE	REMEDY
Pilot will light but Unitrol main gas valve will not hold open automatically.	9. Defective thermopile. 10. Defective Unitrol magnet.	9. Replace thermopile. 10. Replace magnet.
Pilot flame lit but burners will not light.	1. Unitrol valve handle not turned to ON. 2. Float switch bulb off or stuck down. 3. Supply cord may not be plugged in or switch may not be turned on. 4. Defective probe. 5. Defective computer. 6. Defective Unitrol.	1. Turn handle counter clockwise as far as it will go. 2. Install float switch bulb and new clip. a. Pull bulb up and clean shaft. 3. Check electric supply circuit. 4. Replace probe. 5. Replace. 6. Replace Unitrol.
Pilot flame and main burners cutoff while cooking.	1. See list of Causes and Remedies for "Pilot will light but Unitrol main gas valve will not hold open automatically."	
Fryer temperature recovery too slow.	1. Excessive up-draft on fryer flue. 2. Low gas pressure. 3. Incorrect burner orifices. 4. Carbon build-up on heat tubes. 5. Baffles in heat tubes may be burned out.	1. Reduce exhaust blower speed or locate it at a greater distance from fryer. 2. Minimum operating pressures: Natural Gas - 4.0" w.c.; Propane Gas -10.0" w.c. 3. Call factory to learn proper sizes. 4. Clean fry kettle and tubes. 5. Replace baffles.
Pilot flame is yellow.	1. Pilot flame too large. 2, Carbon build-up on thermopile.	1. Adjust Unitrol pilot adjustment screw. 2. Remove and clean.

SECTION 2S TROUBLESHOOTING CHART (Cont'd)

TROUBLE	POSSIBLE CAUSE	REMEDY
Burner flames will not enter heat tubes.	1. Downdraft on fryer flue opening, or vent not turned on.	1. Protect flue opening from downdrafts, breezes or air flows from blowers. a. Turn Vent on.
	2. Orifices may be too large.	2. Call factory to learn proper sizes.
	3. Gas pressure too high.	3. On natural gas adjust Unitrol pressure regulator to 4.0" w.c. operating pressure. On propane gas have gas supplier adjust tank pressure to provide 10.0" w.c. operating pressure at the fryer.
.	4. Burners out of alignment.	4. Loosen burner mounting screws and line up burners.
Main burners will not shut off automatically.	1. Clogged vent cap on Uni-trol.	1. Remove and clean cap.
	2. Defective Unitrol.	2. Replace Unitrol.
Main burner flames are yellow.	1. Improper air collar adjustment.	1. Adjust air collars.
	2. Main burners dirty.	2. Remove burners and clean.
	3. Improper gas pressure.	3. On natural gas adjust Unitrol pressure regulator to 4.0" w.c. operating pressure. On propane gas have gas supplier adjust tank pressure to provide 10.0" w.c. operating pressure at the fryer.
	4. Orifices are too large.	4. Call factory to learn proper sizes.
Howling or screeching noise when burners are on.	1. Gas pressure too high.	1. Adjust pressure regulator.
	2. Dirt or burr on burner orifice.	2. Clean orifice or replace.

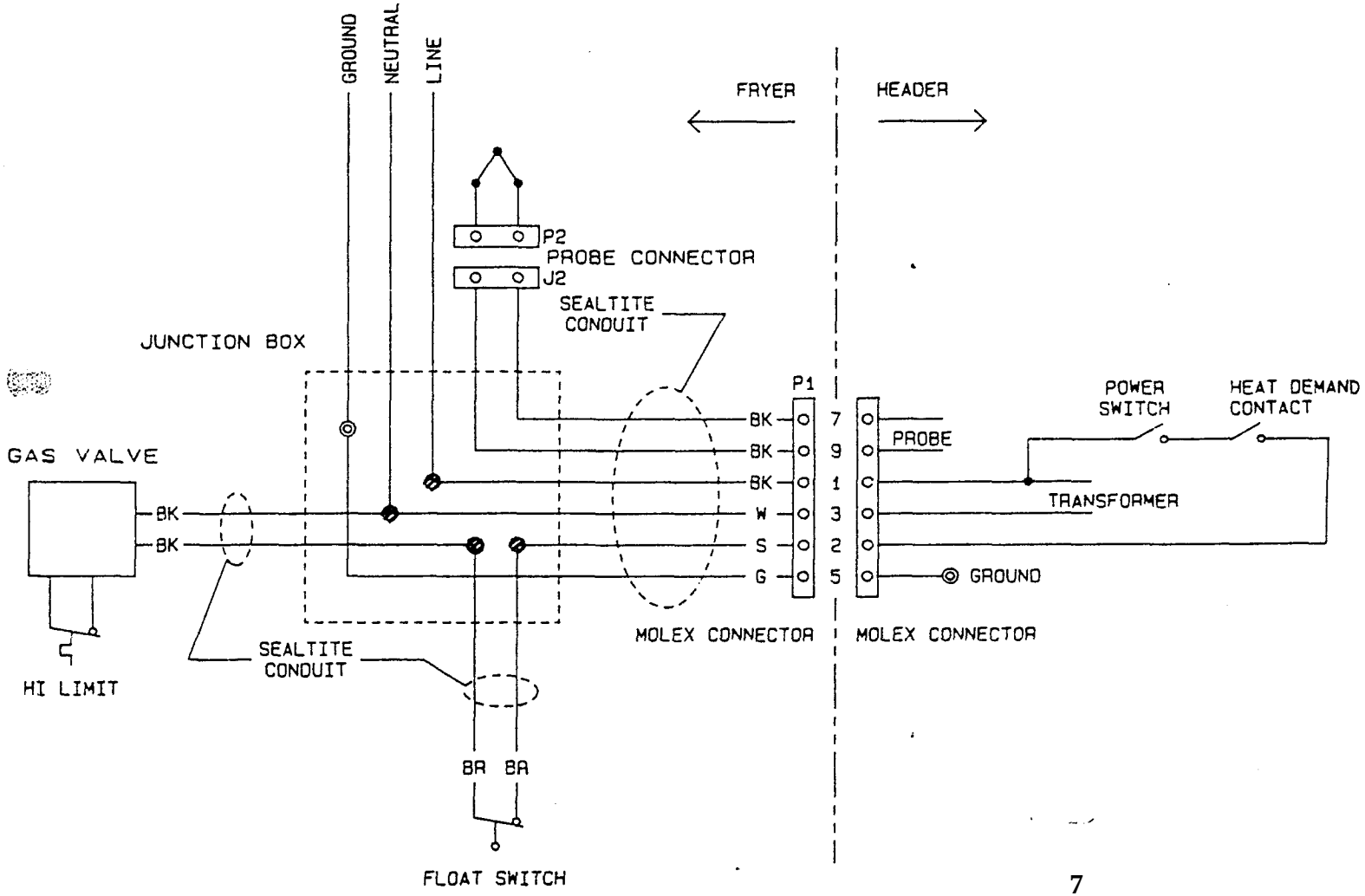
MODEL NO. 18 WK

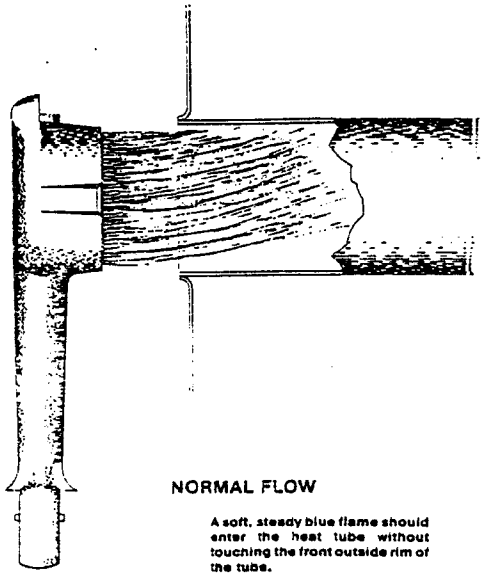


Part No.	Item No.	Item Description	Part No.	Item No.	Item Description
B7100860	1	Stainless Steel Fat Container	P7036726	16	Pressure Test Plug 1/4"
P6094991	2	Name Plate	P8013485	17	Main Burner Lock Bolt (5/16 x 1/2 Sq.Head Plated)
P5047210	3	High limit Control			
P5047541	4	Thermopile R/Shaw #51023	P6071768	18	Drain Valve 1 1/4"
			A3701107	19	Heat Shield
B7285301	5	Pilot Burner Natural W/Heat Shield	B7220030	20	Door Assembly RH Std w/Handle
B7285302	5	Pilot Burner Propane W/Heat Shield	P6071516	21	Door Handle
			P6071496	22	Snap Buttons
P6071805	6	Unitrol Limit Wire	P8012010	23	Burner Mounting Bolts (5/16" x 3/4" Brass)
P5045650	7	Unitrol Natural 120V R/Shaw #337-901-212A	P6071300	24	Magnetic Door Catch
			P5047217	25	Float Switch
P5045652	7	Unitrol Propane 120V R/Shaw #337-902-272A	A1400202	26	Probe and Limit Bulb Clamp
			A3301002	27	Clean Out Rod
			B7252501	28	Heat Tube Baffles
P6071267	8	Unitrol Knob	P6072186	29	Tube Screen
	9	Mfg. Data Plate	P7037467	30	Drain Extension 1 1/4 x 14"
P6071005	10	Main Burners	P7037754	31	1 1/4 St. Elbow
B7420040	11	Main Burner Orifices Natural	B7202201	32	Drain Valve Hndl
			B7200805	33	Front Panel Std
B7420053	11	Main Burner Orifices Propane	A1301101	34	Thermostat Mtg. Bracket
			B7233007	35	Caster w/o Lock 8"
P6071091	12	Air Collar Plated	B7473011	37	Adjustable Legs 8"
P6071360	13	Air Collar Nut	A1303505	38	Manifold Bracket
P6071997	14	Burner Fittings	P6071303	39	Unitrol Magnet
B7550107	15	Burner Manifold	A3700107	40	Heat Deflector

MODEL NO. AND SERIAL NUMBER OF FRYER MUST BE GIVEN ON ALL PARTS ORDERS.

If serial number or part name is not known, enclose pencil sketch with order.

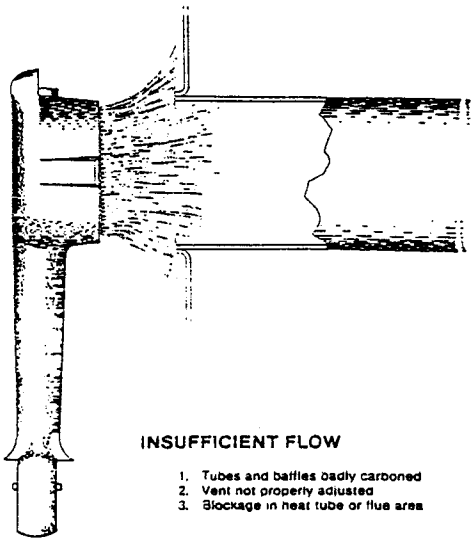

GROUND
NEUTRAL
LINE
FRYER
HEADER
P2
PROBE CONNECTOR
J2
SEALTITE CONDUIT
JUNCTION BOX
P1
POWER SWITCH
HEAT DEMAND CONTACT
GAS VALVE
BK
BK
BK
W
S
G
7
9
1
3
2
5
PROBE
TRANSFORMER
GROUND
MOLEX CONNECTOR
MOLEX CONNECTOR
SEALTITE CONDUIT
HI LIMIT
BR
BR
FLOAT SWITCH



NORMAL FLOW

A soft, steady blue flame should enter the heat tube without touching the front outside rim of the tube.

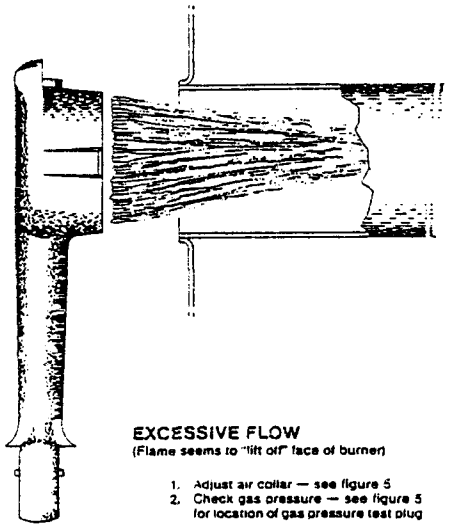
Figure 1



INSUFFICIENT FLOW

1. Tubes and baffles badly carboned
2. Vent not properly adjusted
3. Blockage in heat tube or flue area

Figure 2

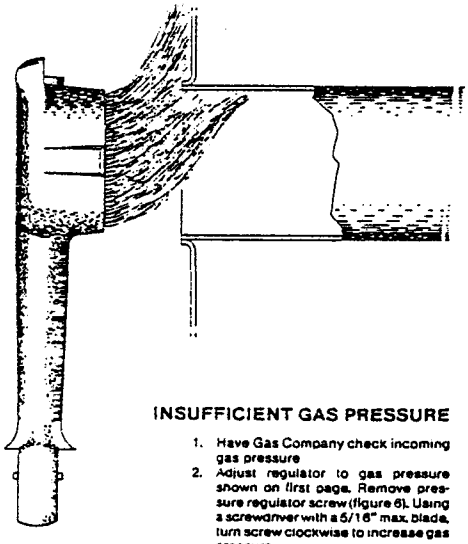


EXCESSIVE FLOW

(Flame seems to "lift off" face of burner)

1. Adjust air collar — see figure 5
2. Check gas pressure — see figure 5 for location of gas pressure test plug

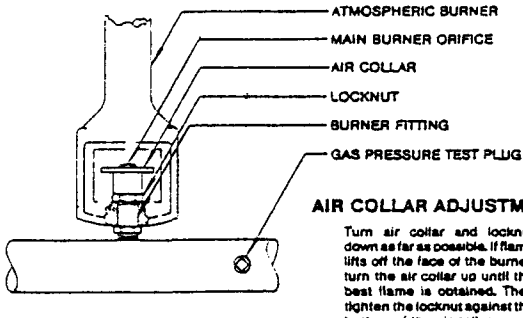
Figure 3



INSUFFICIENT GAS PRESSURE

1. Have Gas Company check incoming gas pressure
2. Adjust regulator to gas pressure shown on first page. Remove pressure regulator screw (figure 6). Using a screwdriver with a 5/16" max. blade, turn screw clockwise to increase gas pressure.

Figure 4



AIR COLLAR ADJUSTMENT

Turn air collar and locknut down as far as possible. If flame lifts off the face of the burner, turn the air collar up until the best flame is obtained. Then tighten the locknut against the bottom of the air collar.

Figure 5

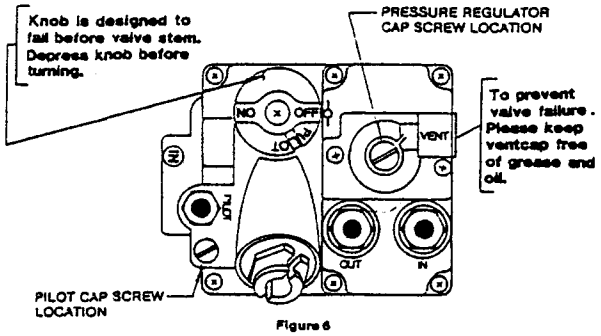
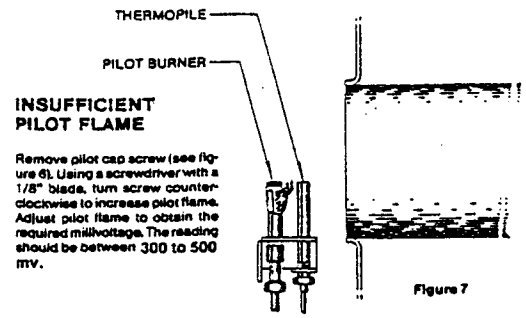


Figure 6

UNITROL COMBINATION GAS VALVE



INSUFFICIENT PILOT FLAME

Remove pilot cap screw (see figure 6). Using a screwdriver with a 1/8" blade, turn screw counterclockwise to increase pilot flame. Adjust pilot flame to obtain the required millivoltage. The reading should be between 300 to 500 mv.

Figure 7

NORMAL PILOT FLAME

As stated in figure 7, the normal pilot flame will generate a millivoltage of 300 to 500 mv.

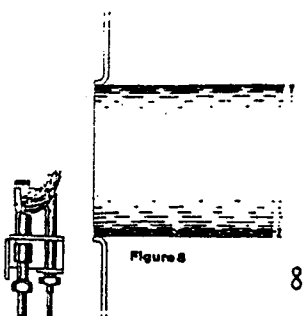


Figure 8

Fat Vat

Waste Shortening Container

Section	Subsection
Kitchen Equip.	Fryers/Cookers
ISSUE DATE –	January 1, 1986

The Fat Vat waste shortening container is specifically designed to handle the task of securing waste shortening from fryers and transporting it to outside grease dumpsters or barrels.

This unique lightweight container was engineered with safety and convenience in mind to supersede conventional methods used for transporting waste shortening.

Specifications:

Height: 35"
Depth: 8"
Width: 12"
Weight: 16 lbs.
Color: Silver/Gray

Beneficial Characteristics

- Helps eliminate the mess
- Secures hot waste shortening
- Convenient to transport
- Easy to dump—lightweight
- Holds 7 1/2 gallons of waste shortening
- One year limited warrantee

Operational Instructions:

- Open lid, lay container down under fryer, release valve
- Drain waste shortening into Fat Vat
- Close lid and transport by pulling or pushing
- Hook lid lip on dumpster and, holding both bottom and top handles, empty shortening into grease container
- Clean Fat Vat with hot water and amonia, air dry

ORDER FROM

KFC NATIONAL PURCHASING COOPERATIVE, INC.
P.O. Box 32033
Louisville, KY 40232
Call: 502-459-2700 or 800-626-5687