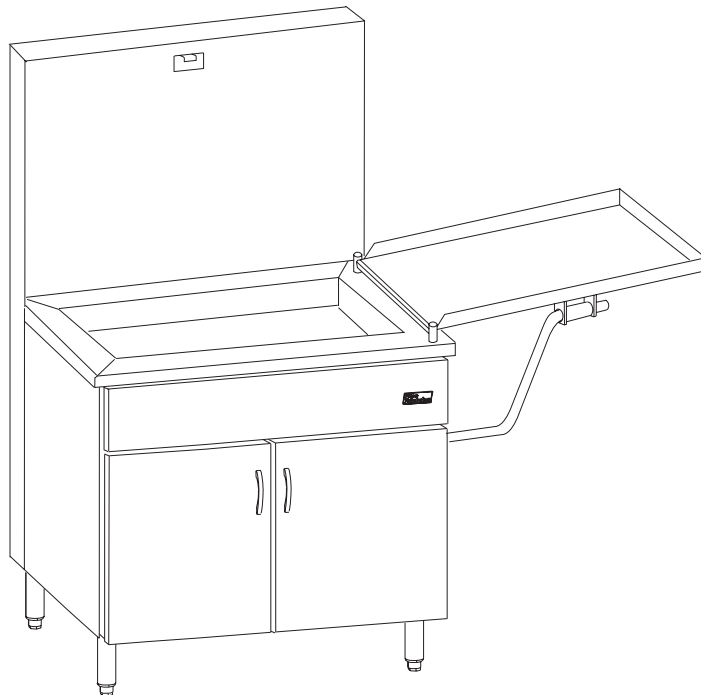


Pitco **Frialator[®]**

There's Always Something Cooking!

Installation, Operation, and Maintenance Manual
For Food, Donut, Chicken, and Fish Fryers

Covering Models
20, 24, 26, and 34



NOTICES

There are three different types of notices that you should be familiar with, a NOTICE, CAUTION, and WARNING. A NOTICE is a special note used to call attention to a particularly important point. CAUTION is used to point out a procedure or operation which may cause equipment damage. The WARNING notice is the most important of the three because it warns of an operation that may cause personal injury. Please familiarize yourself with your new cooker before operating it and heed the notices throughout this manual. The WARNINGS are listed below and on the following page for your review prior to operating the unit.

FOR YOUR SAFETY

DO NOT store or use gasoline or other flammable vapors or liquids in the vicinity of this or any other appliance.

WARNING: 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.

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.

THIS MANUAL MUST BE RETAINED FOR FUTURE REFERENCE

SAFETY

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SAFETY

WARNING

The fryer may be equipped with an oil proof, electrical supply cord with a three prong safety plug. This is to protect operators from electrical shock hazard in the event of an equipment malfunction. **DO NOT** cut or remove the grounding (third) prong from this plug.

WARNING

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

WARNING

NEVER supply the fryer with a gas that is not indicated on the data plate. Using the incorrect gas type will cause improper operation. If you need to convert the fryer to another type of fuel, contact your dealer.

WARNING

DO NOT use an open flame to check for gas leaks!

WARNING

Wait 5 minutes before attempting to relight the pilot to allow for any gas in the fryer to dissipate.

WARNING

Never melt blocks of shortening on top of the burner tubes. This will cause a fire, and void your warranty.

WARNING

Water and shortening **DO NOT** mix. Keep liquids away from hot shortening. Dropping liquid frozen food into the hot shortening will cause violent boiling.

WARNING

At operating temperature the shortening temperature will be greater than 300°F. Do not attempt to move the appliance when the oil is at operating temperature. The hot oil **WILL** cause injury to you when it comes in contact with your skin.

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WARNING

Ensure that the fryer can get enough air to keep the flame burning correctly. If the flame is starved for air it can give off a dangerous carbon monoxide gas. Carbon Monoxide is a clear odorless gas that can cause suffocation.

WARNING

If your appliance operates on line voltage, the power supply must be disconnected before servicing or cleaning the appliance.

WARNING

The fryer must be properly restrained to prevent movement or tipping. This restraint must prevent the fryer from movements that would splash hot liquids on personnel. This restraint may be by any means (alcove installation, adequate ties, or battery installation).

SAFETY

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Chapter 1: General Information and Installation

Congratulations on the purchase of your new Pitco Frialator universal fryer. This unit will give you many years of reliable service if you follow the simple operation and maintenance procedures in this manual. Contained in this manual are the general installation, operation, and maintenance procedures for the universal fryer Models 20, 24, 26 & 34.

1.1 WHICH FRYER DO I HAVE?

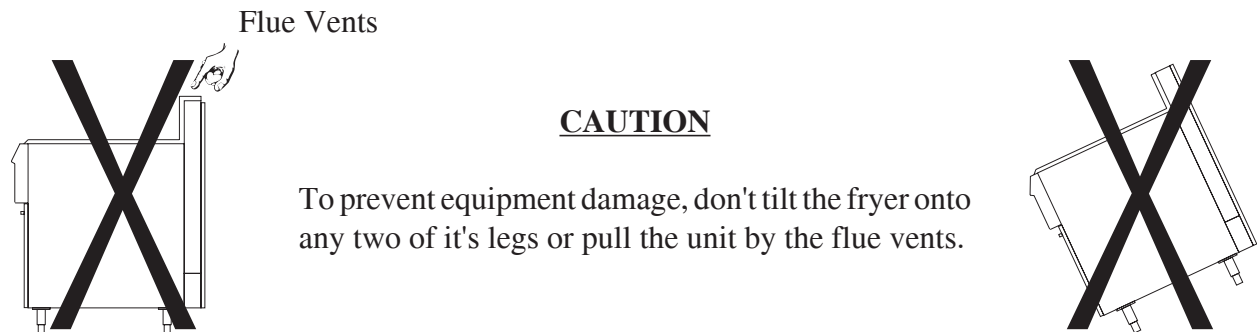
There are many models and options available for the gas fryer, each with its own model number. To find out which model you have, look inside the door at the equipment identification plate. This plate has a lot of useful information. The model number identifies which fryer and what features you have. A brief description of each model and its features in Table 1-1.

Table 1-1 Fryer Model Information

Model Number	Description	Features
20	These large capacity fryers are designed to provide large amounts of fried foods, fish, chicken, etc. These fryers give top quality batch after batch because they incorporate exclusive features that eliminate product damage or sogginess. Each model can be equipped with a variety of options	Frying Area: 20" X 20" Oil Capacity: 100 Lbs 48.8 Liters Gas Consumption: 60,000 BTU 15,120 KCal
24		Frying Area: 24" X 24" Oil Capacity: 150 Lbs 73.4 Liters Gas Consumption: 120,000 BTU 30,240 KCal
26		Frying Area: 18" X 26" Oil Capacity: 120 Lbs 58.7 Liters Gas Consumption: 80,000 BTU 20,160 KCal
34		Frying Area: 24" X 34" Oil Capacity: 210 Lbs 102.6 Liters Gas Consumption: 110,000 BTU 27,720 KCal

1.2 CHECKING YOUR NEW FRYER

Your new fryer has been carefully packed into a crate. Every effort has been made to ensure that your fryer will be delivered to you in perfect condition. As you unpack your new fryer, inspect each of the pieces for damage. If something is damaged, **DO NOT** sign the bill of lading. Contact the shipper immediately, because the shipper is only responsible for 15 days after delivery. Check the packing list enclosed with your fryer to ensure that you have received all of the parts to the fryer. If you are missing any parts, contact the dealer from whom the fryer was purchased. As you unpack the fryer and its accessories be careful to keep the weight of the fryer evenly distributed.



Locate your Pitco Frialator warranty and fill in the serial number of the fryer and the date received. You will find the serial number on the plate inside the door. Put your warranty sheet in a safe place for future reference. **DO NOT** return the sheet to Pitco Frialator.

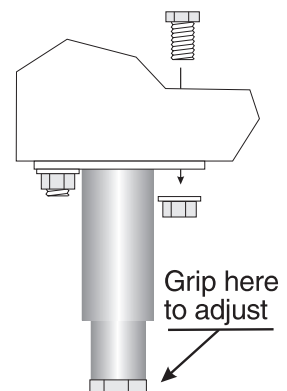
1.3 ASSEMBLY AND LEVELING

When you receive your fryer it is completely assembled with the exception of the legs, flue, splashback, and the heat shield. If the unit comes with a drainboard, it will need to be assembled.

1.3.1 Leg Installation and Adjustment

Installing the legs and leveling the fryer is done with a 7/16" wrench, socket, and a large pair of water pump pliers. The legs must be installed before connecting the unit to the gas supply. The legs provide the necessary height to meet sanitation requirements and assure adequate air supply to the burner. Attach the legs by performing the following procedure.

- a. Lay the fryer on its back being careful not to damage the flue by pulling on it. Protect the outside of the fryer with cardboard or a drop cloth when laying it down.
- b. Attach each leg with the hex head cap screws supplied with the fryer. Each leg requires four 1/4-20 x 5/8" cap screws.
- c. Mount the screws from the inside of the fryer with the nut on the outside of the cooker. The nuts have lock washers attached to them, therefore it is not necessary to use lock washers.



- d. When all four legs are mounted, stand the unit up being careful not to put too much weight on any one leg. Adjust the height and level the fryer by adjusting the leveling devices on the leg with the water pump pliers.

1.3.2 Heat Deflector Installation

If the fryer requires a heat deflector, you will find a removable label at the rear top edge of the unit. This label has instructions for positioning and installation of the heat deflector. Refer to the label and the instructions below to install the deflector.

- a. Remove the two self-drilling screws from the top, back area of the cooker.
- b. Position the heat deflector so that the angled portion of the deflector is facing toward the front of the fryer. Secure the heat deflector to the back of the unit using the sheet metal screws previously removed.

WARNING

DO NOT obstruct the flow of combustion/ventilation or air openings around the fryer. Adequate clearance around the fryer is necessary for servicing and proper burner operation. Ensure that you meet the minimum clearances specified in the installation instructions.

- c. When properly installed the angled section of the heat deflector will extend over the flue opening to redirect the heat. It **SHOULD NOT** cover the flue opening. Nothing should block the flue opening as this will cause the fryer to overheat and produce dangerous gases.

1.3.3 Splashback Installation

- a. Lift the splashback assembly and place over the opening at the back of the tank. Make sure the front of the splashback faces forward.
- b. Using the four supplied countersink screws, attach the splashback to the cabinet sides.

1.3.4 Flue Installation

Insert the flue through the hole in the top of the splashback. Make sure it rests on the flue opening at the back of the tank.

1.3.5 Drainboard Installation

While the drainboard is being held in place, slide the pivot rod through the holes in the bottom end of the drainboard. The end of the rod should locate in the hole in the backsplash. The front end is attached to the top of the tank using a bolt and washer.

1.4 INSTALLATION

WARNING

The fryer must be properly restrained to prevent movement or tipping. This restraint must prevent the fryer from movements that would splash hot liquids on personnel. This restraint may be by any means (alcove installation, adequate ties, or battery installation).

Although it is possible for you to install and set up your new fryer, it is **STRONGLY** recommended that you have it done by qualified professionals. The professionals that install your new fryer will know the local building codes and ensure that your installation is safe.

1.4.1 Installation Clearances

The fryer needs clearance around it for proper operation. Adequate clearances allow for servicing and proper burner operation. The clearances shown below are for cooker installation in combustible and non-combustible construction.

	Combustible Construction	Non-Combustible Construction
Back	6"	0"
Sides	6"	0"
Floor - Combustible	4-3/4"	4-3/4"

In addition to the clearances required for proper fryer operation, there must be at least 28 inches of aisle space in front of the fryer.

1.4.2 Gas Connection

Your fryer will give you peak performance when the gas supply line is of sufficient size to provide the correct gas flow. The fryer must be installed to meet the local building codes or National Fuel Gas Code ANSI Z223.1 Latest Edition. In Canada, install the fryer in accordance with CAN/CGA-B149.1 or .2 and local codes. Gas line sizing requirements can be determined by your local gas company by referring to National Fuel Gas Code, Appendix C, Table C-4 (natural gas) and Table C-16 (propane). The gas line needs to be large enough to supply the necessary amount of fuel to all appliances without losing pressure to any appliance. Other factors that are used to determine the piping requirements are BTU requirements of the appliances being connected and the length of pipe between the meter and the appliances.

WARNING

NEVER supply the fryer with a gas that is not indicated on the data plate. Using the incorrect gas type will cause improper operation. If you need to convert the fryer to another type of fuel, contact your dealer.

1.4.2.1 Fuel Types - Each fryer is equipped to work with one type of fuel. The type of fuel with which the appliance is intended to operate is stamped on the data plate attached to the inside of the door.

WARNING

DO NOT use an open flame to check for gas leaks!

1.4.2.2 Fuel Supply Line Leak and Pressure Testing - The fuel supply system must be tested before the fryer is used. If the fuel line is going to be tested at a pressure greater than ($>$) 1/2 PSIG (3.45 kPa), make sure that the fryer is disconnected from the fuel line. If the fuel line is to be tested at a pressure equal to or less than (\leq) 1/2 PSIG (3.45 kPa), the fryer can be connected but the unit's gas valve must be shut. Test all gas line connections for leaks with a solution of soap and water when pressure is applied.

1.4.2.3 Gas Line Connection - Connect the fryer to the gas supply line with a connector that complies with the Standard for Connectors for Movable Gas Appliances (ANSI Z21.69 or CAN/CGA-6.16).

NOTICE

NEVER use an adaptor to make a smaller gas supply line fit the cooker connection. This may not allow proper gas flow for optimum burner operation, resulting in poor cooker performance. NEVER supply the cooker with any fuel other than the type indicated on the data plate. Using the incorrect gas type will cause improper operation.

1.4.3 Electrical Connection

The electrical service used by the fryer must comply with local codes. If there are no local codes that apply, refer to the National Electrical Code (NEC) to install the service. In Canada refer to CSA Standard C22.1 Canadian Electrical Code Part 1 & 2, and local codes. Wiring diagrams are provided inside the fryer control box. The power requirements for the fryer are shown below.

	North America	International
Input Voltage	120 VAC, 60Hz	220 (or 240) VAC, 50Hz
Current per fryer	0.5 Amps	0.5 Amps

WARNING

The fryer is equipped with an oil proof, electrical supply cord with a three prong safety plug. This is to protect operators from electrical shock hazard in the event of an equipment malfunction. DO NOT cut or remove the grounding (third) prong from this plug.

If your fryer uses line current (electric power), a supply cord will be furnished with a three prong (grounding) plug. This plug provides protection against shock hazards in the event of equipment malfunction. The plug should be plugged into a properly grounded three prong receptacle.

The fryer has one power supply which supplies power to the fryer controls. The fryer must be grounded in accordance with local code; if there is not a local code, comply with NEC ANSI/NFPA No. 70-1990. It is advised that this power supply be plugged into a wall receptacle that is controlled by the ventilation control. This will prevent the fryer from being operated without the ventilator on.

1.4.4 Ventilation and Fire Safety Systems

Your new fryer must have proper ventilation to function safely and properly. Exhaust gas temperatures can reach as high as 1200°F. Therefore, it is very important to install a fire safety system. Your ventilation system should be designed to allow for easy cleaning. Frequent cleaning of the ventilation system and the fryer will reduce the chances of fire. Table 1-2 provides a list of reference documents that provide guidance on ventilation and fire safety systems. This table is not necessarily complete. Additional information can be obtained from the American Gas Association, 8501 East Pleasant Valley Road, Cleveland, OH 44131.

Table 1-2 Ventilation and Fire Safety References

Topic	Underwriters Laboratory Document	National Fuel Gas Code Document
Grease Extractor	ANSI/UL 710-1981	ANSI/NFPA 96-1987
Ventilation Hood	ANSI/UL 705-1984	ANSI/NFPA 96-1987
Filter Unit	ANSI/UL 586-1985 ANSI/UL 900-1987	ANSI/NFPA 96-1987
Types of Fire Extinguishers and Detection Equipment		
CO ₂	ANSI/UL 154-1983	ANSI/NFPA 12-1989
Dry Chemical	ANSI/UL 299-1984	ANSI/NFPA 17-1985
Water	ANSI/UL 626-1984	ANSI/NFPA 13-1989
Foam		ANSI/NFPA 11-1988
Sprinklers	ANSI/UL 199-1982	ANSI/NFPA 13-1989 ANSI/NFPA 13-1989
Smoke Detectors	ANSI/UL 268-1981	ANSI/FPA 72B-1986
Fire Detection Thermostats	ANSI/UL 521-1987	ANSI/FPA 72B-1986

Excessive ventilation causes drafts, which will interfere with the proper operation of the pilot and the burner. Leave at least 18 inches of open space between the fryer's flue vent opening and the intake of the exhaust hood.

CAUTION

Ensure that your ventilation system does not cause a back draft (down draft) at the fryer's flue opening. Back drafts will not allow the fryer to exhaust properly and will cause overheating which may cause permanent damage. Damage caused by backdrafts will not be covered under equipment warranty. NEVER allow anything to obstruct the flow of combustibles or ventilation exiting from the fryer flue. DO NOT put anything on top of the flue area.

NOTICE

NEVER connect the ventilation blower directly to the flue openings. The direct flow of air will cause poor temperature recovery, poor ignition, inefficient operation of the fryer, and could extinguish the pilot.

1.5 INITIAL ADJUSTMENTS

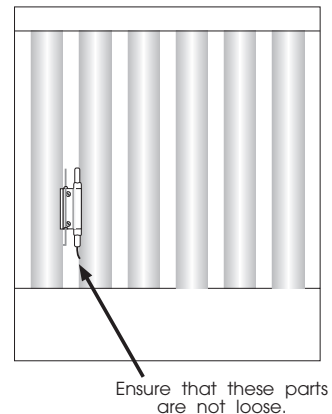
After your fryer has been installed as described in section 1.4, it needs to be adjusted to ensure that it will perform as designed. These adjustments must be performed by a **qualified person**. To perform these adjustment the following tools will be needed:

- Manometer (low pressure gauge)
- Digital Thermometer (Temperature probe)
- DC Millivolt Meter

1.5.1 Visual Checks

Before you begin filling and adjusting the fryer, perform the following visual checks:

- After the fryer is in its permanent location check the levelness. Any additional leveling that is necessary can be performed as described in section 1.3.
- Check the temperature bulb (high-limit), located in the fryer tank to ensure that the mounting screws are tight. The figure shows the probe location. Look down inside the fryer tanks to see the probes.



1.5.2 Burner Ignition Systems

CAUTION

Before going any further, fill the fryer with WATER. Water is used for the installation adjustments because the temperature will never exceed 212°F (100°C) thereby allowing plenty of adjustment time. Never let the water level go below the MIN LEVEL mark on the rear of the tank.

WARNING

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

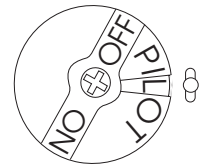
1.5.2.1 Lighting Instructions for Manual Pilot Lights - To light the pilot light refer to the following instructions.

WARNING

Wait 5 minutes before attempting to relight the pilot to allow for any gas in the fryer to dissipate.

- a. Open the gas supply valves to the fryer.
- b. Turn the thermostat control knob counterclockwise to the OFF position.

- c. Turn the gas valve knob to the PILOT position and push in on the knob. Hold the knob in for approximately one minute to purge the air out of the line. Hold a flame to the pilot light until the pilot ignites. This may take a little while the first time you light the fryer because of air in the lines. Once lit, hold the knob in for approximately 60 seconds and then release.



- d. If the pilot goes out wait 5 minutes and repeat step c. If after three tries the pilot will not remain lit, refer to the operator troubleshooting section of this manual.

- e. Turn the gas valve knob counterclockwise to the ON position.



- f. Set the thermostat control knob to the desired temperature setting.

- g. The main burner will light and be controlled by the thermostat.

1.5.2.1.1 Pilot Flame Adjustment - The pilot flame should be adjusted to produce the proper millivolt output from the pilot sensing device. Millivolt output for the thermopile should be between 300 and 500 millivolts. This procedure is only necessary on the manual pilot ignition system. Figure 1-1 shows the pilot assembly with examples of the incorrect and correct pilot size. Example A illustrates a pilot flame size that is too small to produce sufficient millivolt output. Example B is the correct size for proper millivolt output.

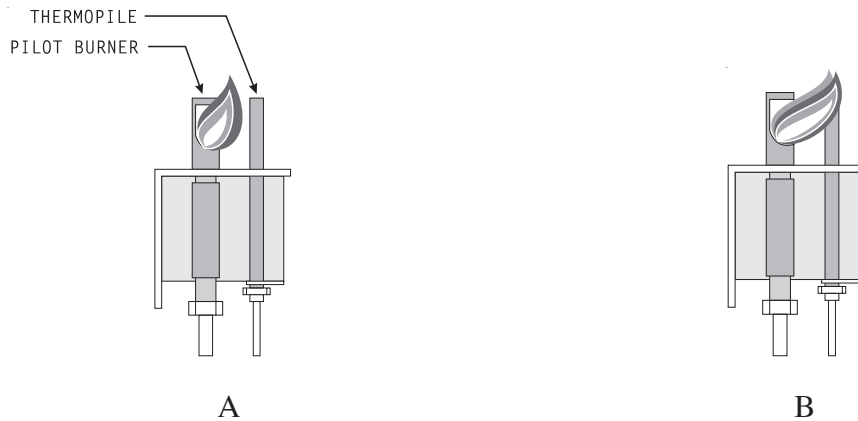


Figure 1-1 Pilot Assembly, Flame Adjustment

- a. This test requires a DC millivolt meter set to a scale of 0-1000mv. Using test leads with sharp probes will help in taking the required reading.
- b. Locate the thermopile wires coming from the thermostat/limit box going to the gas valve. The wire insulation size decreases near the gas valve connections.
- c. Using the positive (+) test probe, connect the probe to High Limit wire terminal. On UFM systems pierce High Limit wire insulation at the gas valve safety magnet connection.
- d. Connect the negative (-) test probe to pilot tubing.
- e. Remove the pilot flame adjustment cover.
- f. Turning the flame adjusting screw clockwise lowers the flame and the millivolt output. Turning the screw counterclockwise increases flame size and millivolt output.
- g. Rotate the screw in the direction to achieve a reading of 400 ± 50 mv.

NOTICE

Allow 3 to 5 minutes between flame adjustments to allow the reading to settle.

- h. Replace the pilot flame adjusting screw cover.

1.5.2.2 Electronic Ignition Pilot Systems - There is nothing to manually light on the electronic ignition systems. Pilot ignition is controlled by the electronic pilot system.

- a. Open the gas supply valves to the fryer.
- b. Turn the thermostat control knob counterclockwise to the OFF position.

- c. Turn the gas valve knob to the ON position.
- d. Turn the fryer ON/OFF/TEST switch to the ON position. If the fryer is equipped with the optional melt cycle, place the switch in the MELT ON position.
- e. Turn the thermostat to the desired temperature setting.
- f. The main burner will light and be controlled by the thermostat.
- g. The POWER ON light will come on and remain on as long as the power switch is in the ON position. The HEATING light will be lit when the main burners are on.

1.5.2.2.1 Electronic Ignition Pilot Flame Adjustment - Figure 1-3 illustrates the pilot adjusting screw location

- a. This test requires that a DC milliammeter be connected between the flame sensor terminal and the flame sensor lead. Observe correct polarity, if the meter needle goes below 0 milliamps reverse the leads. The current reading must be 0.15 milliamps or greater.
- b. Adjust the current reading to the required level by adjusting the pilot flame. Remove the pilot flame adjustment cover to expose the adjusting screw.
- c. Turning the flame adjusting screw clockwise lowers the flame and current. Turning the screw counterclockwise increases flame size and current.
- d. Rotate the screw in the direction to achieve a reading of 0.15 mA or greater.

NOTICE

Allow 3 to 5 minutes between flame adjustments to allow the reading to settle.

- e. Once the pilot flame is set, replace the pilot flame adjusting screw cover and remove the ammeter.

1.5.3 Main Burner System

For the burners to work the gas supply valve must be open and the main power switch must be on. The main burner receives gas from the main gas supply through the thermostatically controlled valve. When the thermostat is turned up the gas control valve opens. If you have a pilot light system, the pilot will ignite the burners. The electronic ignition system will create a spark to ignite the gas. After the burner system is operating, perform the burner adjustments in the following procedure. Figure 1-2 illustrates the different conditions possible for the main burner.

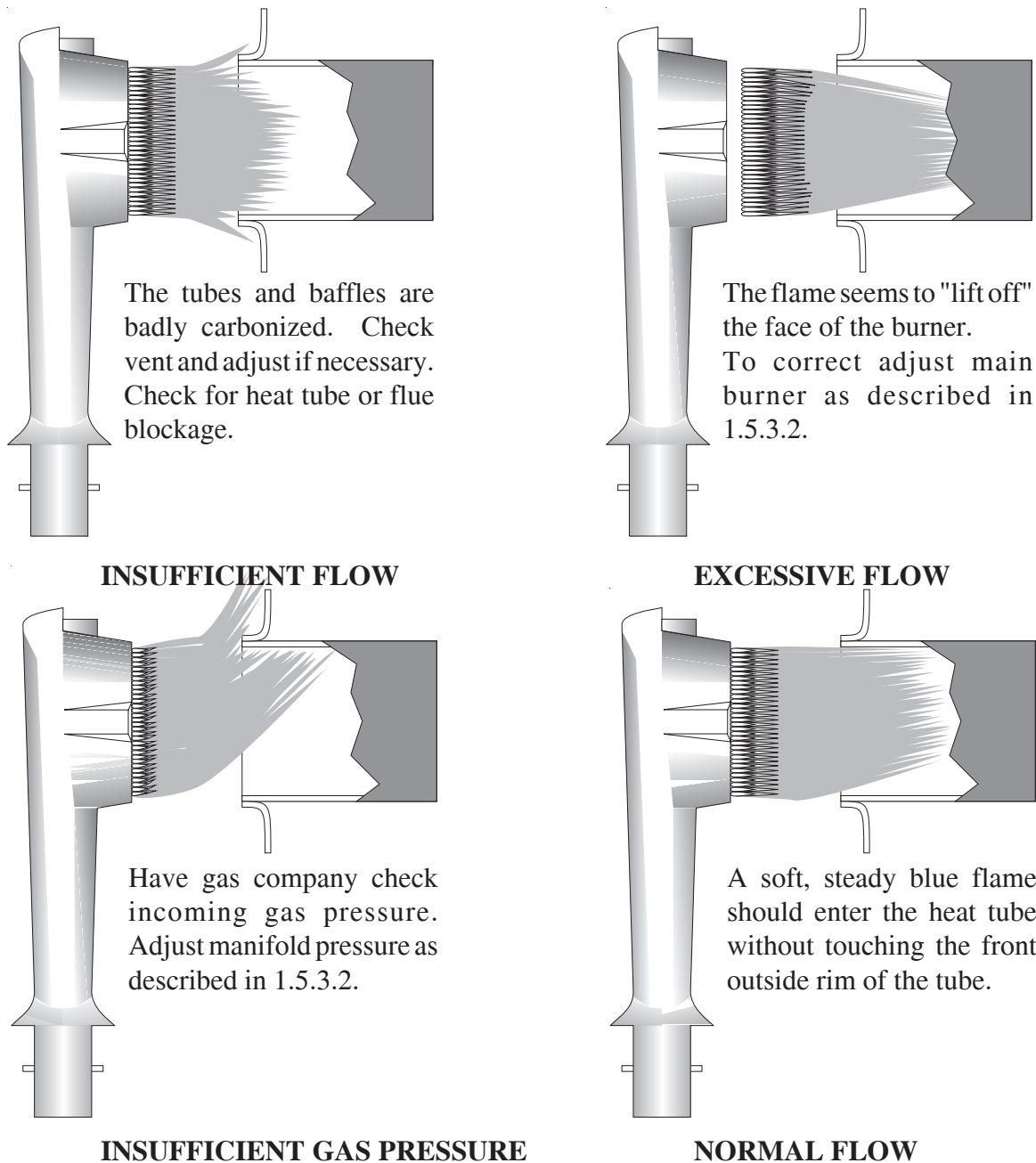


Figure 1-2 Main Burner Conditions

1.5.3.1 Gas Line Requirements - A properly installed gas supply system will deliver 7.0 ± 2.0 " w.c. natural gas (12.0 ± 2.0 " w.c. LP) to all appliances connected to the line, operating at full demand.

1.5.3.2 Burner Adjustment - The burners must be adjusted to deliver optimum flame. Adjust the burner flame using the following procedure.

- a. Ensure that the main gas valve is shut off, remove the manifold pressure tap plug and connect an accurate pressure gauge (range of 0-16" w.c. in 0.1" increments) or manometer.

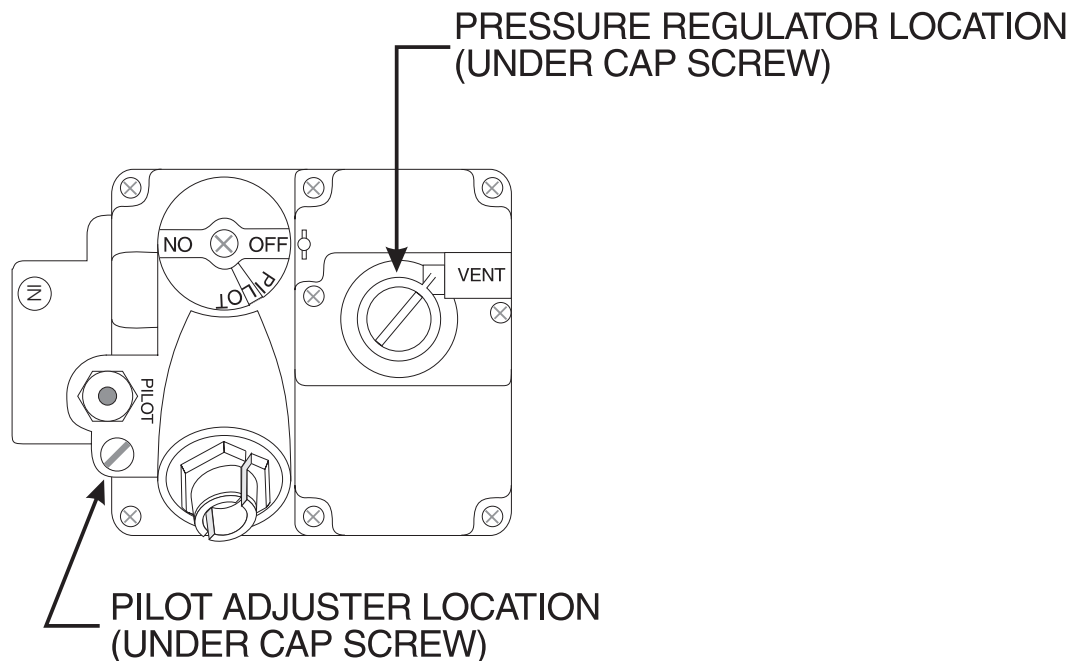


Figure 1-3 Typical Gas Valve Showing Location of Pressure Regulator and Pilot Adjusters

- b. Turn on all appliances connected to the gas supply line and light their main burners. The pressure reading of the installed pressure gauge should not drop from the required installation pressure. Any loss of pressure indicates inadequate supply line installation which will cause poor performance of all appliances during peak usage.
- c. The installed pressure gauge reading should be the same, ± 0.1 ", as that marked on the data plate inside the door. If the pressure is correct go to step e, if not, adjust the pressure.
- d. To adjust the pressure, remove the regulator adjustment screw cover (see Figure 1-3). Use a flat tip screwdriver to adjust the screw until the proper pressure is reached. Turning the screw clockwise will increase the pressure, counterclockwise will decrease the pressure.
- e. When the pressure is correct, install the regulator adjustment screw cover.
- f. To remove the pressure gauge, turn off fryer and shut the main gas valve. Remove the gauge and install the pressure tap plug.

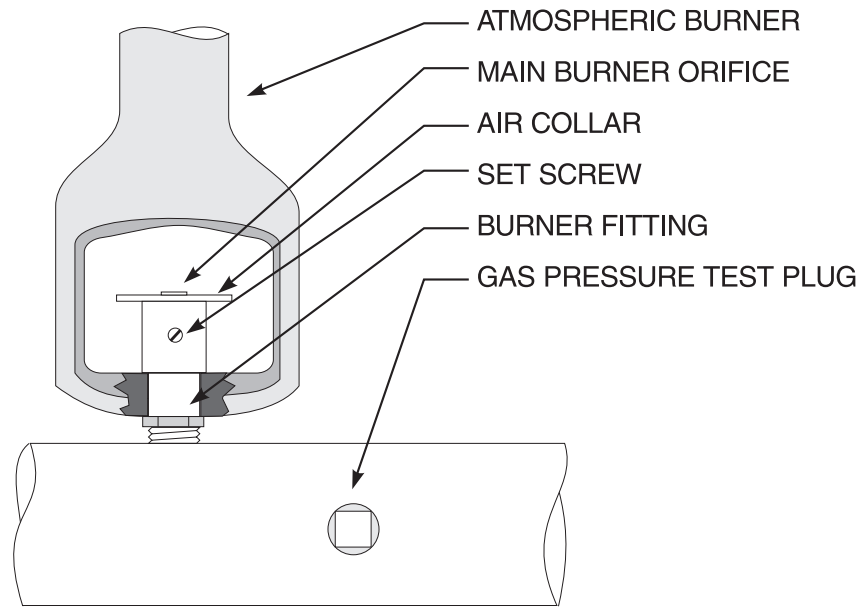


Figure 1-4 Air Collar

- g. Now that the pressure is set for proper operation, set the main burner flame. Unlock the air collars by loosening the set screw for the collars. Open the main gas valve, (light the pilot if fryer has manual pilot), and turn thermostat to light the main burners.
- h. Adjust the shape and size by raising or lowering the air collars to achieve a soft blue flame with well defined inner cones.
- i. When the flames have been properly adjusted, lock the collars in place with the set screw.

1.5.4 INITIAL CLEANING

When the fryer is shipped, many of its parts are covered with a thin coat of oil for protection. Before the fryer is ready for cooking it must be cleaned. This will remove the oil coating and any foreign matter that may have accumulated during storage and shipment. Perform the cleaning as described below.

- a. Fill the fryer with water. Turn the fryer on and set the thermostat to 200°F.
- b. Allow the fryer to heat for 15 minutes. Add Pitco cleaner, stirring with the fryer cleaning brush to ensure cleaner has dissolved thoroughly.

NOTICE

Do not leave the fryer unattended during cleaning. Never let the water level go below the "Min Level" mark on the back of the tank.

- c. Using the fryer cleaning brush, scrub the inside of the fryer to remove protective coating.
- d. When cleaning is complete, turn off the fryer by turning the gas valve knob to the PILOT position. Drain the water into a container suitable for hot water and dispose of it.
- e. When the tank has cooled, rinse it thoroughly with cool water. Continue to rinse the tank until the cleaner has been rinsed, thoroughly from the tank.
- f. Using a clean dry cloth, wipe out all of the water. Be very thorough removing the water, because any residual water will cause hot oil to splatter out of the fryer.

CAUTION

Mild steel tanks must be wiped down/coated with oil to keep the tank from rusting.

- g. Now that the tank is clean, you are ready to fill and operate the fryer. Refer to 2.1 for instructions on adding shortening to the fryer.

1.5.5 Thermostat Calibration Check (Standard)

NOTICE

Thermostat calibration requires that the temperature of the fryer be raised above boiling. Therefore, you will need to drain the water from the fryer and fill it with oil. Before removing the water, perform the initial cleaning of the fryer. Cleaning the fryer now will prevent you from having to drain the oil and refill with water later.

Filling the fryer with oil is described in 2.1. To perform the calibration check detailed below you will need a digital thermometer.

- a. Place the tip of the thermometer in the shortening approximately 1" above the temperature sensors.
- b. Set the thermostat at 325°F and wait for the temperature reading on the thermometer to rise. As the temperature rises toward 325°F watch the thermometer closely.
- c. If the shortening temperature reaches 350°F and the burners DO NOT turn off, turn the thermostat down. Keep lowering the thermostat setting until the burners go out.

CAUTION

If the burners do not turn off at the lowest thermostat setting, the thermostat could be defective. Contact your ASAP representative.

- d. Let the fryer cycle 4 to 6 times before checking the temperature. Compare the thermometer temperature against the thermostat setting. If the values are more than 5°F apart, calibrate the thermostat using the appropriate calibration procedure in this manual.

1.5.6 Thermostat Calibration

There are two types of thermostats that can be calibrated, a Robertshaw electric and a gas operated manual mechanical. Both thermostats are calibrated by following the procedures below.

- a. Place the tip of the thermometer in the shortening approximately 1" above the temperature sensors.
- b. Set the Thermostat to 325°F and wait for the temperature reading on the thermometer to rise.
- c. Let the fryer cycle 4 to 6 times to ensure that the temperature has stabilized. Compare the thermometer temperature against the thermostat setting.
- d. Remove the thermometer dial by pulling the knob straight out. DO NOT rotate the dial.
- e. Hold the outside of the shaft so it does not move. Use the tip of a small, flat tip screw driver to scrape away the sealing compound from the adjustment screw.
- f. Turn the adjustment screw clockwise to lower the temperature setting and counterclockwise to raise the temperature. One quarter turn changes the temperature approximately 25°F.
- g. Turn the adjustment until the burners turn on at 325°F. Replace the knob and allow the fryer to cycle 4 to 6 times. Check the temperature of the thermometer against the thermostat dial, if it is greater than 5°F difference repeat the calibration procedure.
- h. When the calibration is correct, remove the thermometer and replace the tube screen.

1.5.7 Thermostat Calibration (Solid State)

The solid state thermostat knob has the temperature settings imprinted in the panel behind the dia.

- a. Place the tip of the thermometer in the shortening approximately 1" above the temperature sensors.
- b. Set the Thermostat to 325°F and wait for the temperature reading on the thermometer to rise.

- c. Let the fryer cycle 4 to 6 times to ensure that the temperature has stabilized. Compare the thermometer temperature against the thermostat setting. If the values are more than 5°F apart, go to step d. If the values are within 5°F, the thermostat is operating correctly.
- d. Loosen the set screw that holds the thermostat knob to its shaft.
- e. Rotate the thermostat dial, without moving the shaft, to the temperature indicated on the thermometer. Tighten the set screw on the thermostat dial to lock the dial in place.
- f. Adjust the thermostat to a new setting and allow the fryer to cycle 4 to 6 times at the new setting. Check the thermometer temperature against the dial setting. If the temperature is $\pm 5^\circ\text{F}$ of the thermostat dial setting, remove the thermometer and replace the tube screen. If the temperature is greater than $\pm 5^\circ\text{F}$ away from the dial setting, perform the above procedure again.

Chapter 2: Operating Instructions

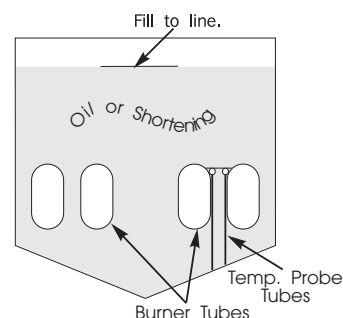
This chapter describes how to operate your fryer to obtain the best performance. Included in this chapter are filling, operating, and cleaning instructions for gas fryers.

2.1 FILLING THE FRYER

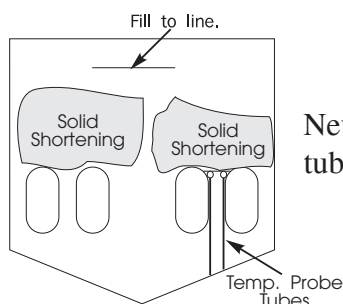
Both liquid and solid shortening can be used in the fryer, but liquid is preferred. If solid shortening is used, it is recommended that you melt the shortening before adding it to the fryer. You can melt solid shortening in the fryer, but you must carefully not to scorch the shortening.

2.1.1 Filling the Fryer With Liquid Shortening

- a. Make sure the drain valve is completely closed.
- b. Fill the fryer with oil to the "Oil Level" line marked on the back of the tank.



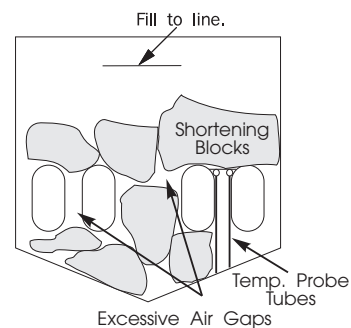
2.1.2 Filling the Fryer With Solid Shortening



WARNING

Never melt blocks of solid shortening on top of the burner tubes. This will cause a fire, and will void your warranty.

- a. Make sure the drain valve is completely closed.
- b. Remove the screen covering the tubes.
- c. Cut the shortening into cubes no larger than 1". ALWAYS pack the shortening below, between, and on top of the burner tubes. DO NOT leave any large air gaps. Use care when packing the solid shortening in the tank. DO NOT bend or break the temperature sensor probes. If these are damaged the fryer will not function properly.
- d. Once the fryer is packed with shortening, the shortening must be melted. Melt the shortening by cycling the main burners on for 4 seconds and leaving the burners off for 30 seconds.



2.2 OPERATING INSTRUCTIONS

To ensure the food always comes out the very best, follow the preparation instructions for the food you are cooking. Using the best shortening makes the best fried foods. The best shortening will last longer than lower grade shortening and save you money. When not in use the shortening should be cooled and covered to prevent contamination.

CAUTION

This fryer has been installed using restraining devices to prevent accidental tipping or movement. Do not attempt to move the fryer when it has hot liquid in it. Splashing hot liquids can cause severe burns.

WARNING

Water and shortening DO NOT mix. Keep liquids away from hot shortening. Dropping liquid frozen food into the hot shortening will cause violent boiling.

2.2.1 Fryer Start-Up

DO NOT START FRYER WITHOUT FILLING WITH OIL!

- a. Light the pilot light as described in section 1.5.2.
- b. Turn the temperature control knob (thermostat) to the desired temperature setting. This knob is located behind the front doors or on the front control panel.
- c. The main burners will light and raise the temperature of the fryer.

2.2.2 Fryer Shut-Down

There are two shutdown modes of fryer operation, STANDBY and COMPLETE. The standby mode removes the ability for the fryer's main burners to cycle. Complete shutdown turns off the gas supply to the fryer. Shut down the fryer by:

STANDBY Turn the thermostat to OFF. Turn the gas valve clockwise to the PILOT position. The cooker is now in Standby and can remain this way for only brief periods of time. NEVER leave the cooker in standby overnight.



COMPLETE To completely shut down the cooker, depress and turn the gas valve counterclockwise to the OFF. The fryer is now completely shut down and can be cleaned and filtered.



2.2.3 Power Failure

NOTICE

No attempts should be made to operate the fryer during power outages.

If your fryer is supplied with AC power and, it is removed from the unit for any reason during operation, the fryer will shut down. Wait five minutes after power is restored before restarting the fryer. This will give any gas fumes in the burner time to dissipate. To restart the fryer, follow the Fryer Start-Up procedures as you normally would.

2.3 DAILY CLEANING

Your fryer should be cleaned every day to maintain peak performance and appearance. Perform the procedures below every day.

- a. Wipe up any shortening that spills onto the exterior of the fryer. This should be done with a clean soft cloth while the oil is still warm.
- b. Use warm water with a mild detergent to clean surfaces. Be careful not to get water in the shortening and to remove any detergent from the fry tank.
- c. Use a non-abrasive scouring powder or pad to clean stains if necessary.
- d. Perform the weekly boil out cleaning of your fryer described in section 3.1.

Chapter 3: Owner Maintenance and Adjustments

This chapter provides you with the information and procedures necessary to perform basic fryer maintenance and adjustments. If after performing maintenance on your fryer it does not perform properly, contact your authorized service center.

WARNING

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

WARNING

At operating temperature, the shortening in the fryer may be hotter than 375°F (190°C). This hot, melted shortening can cause severe burns. Do not let the hot shortening touch your skin or clothing. Always wear insulated oil-proof gloves when working on hot fryers

3.1 WEEKLY FRYER CLEANING (BOIL OUT)

The fryer should be thoroughly cleaned once a week. This cleaning should include a complete draining of the fryer and a boil out.

- a. You will need a container large enough to hold 1 1/2 times the oil in one tank. This container must also be able to withstand operating temperature oil.

CAUTION

Completely shut down the fryer when the oil is being replaced by water. This will prevent the main burners from coming on during the oil draining and water filling procedure.

- b. Drain the oil from the fryer and discard or save for reuse. Remove the tube cover screens. Close the drain valve and fill the tank with warm water and non-caustic detergent. For best results use Pitco Fryer Cleaner part number P6071397 (sample packet included with your new fryer).
- c. Restart your fryer as described in 2.3 and set the thermostat to 200°F and bring the water to a slow boil. DO NOT allow water to boil because excessive foaming will occur.
- d. Allow the fryer to soak for 20 minutes to soften shortening deposits. Use fryer brush to remove any residue from tank, tubes, and side walls. Perform the daily cleaning procedure described in section 2.7.

- e. Wipe the tank dry with soft clean cloth. Close the drain valve and remove the large container.
- f. Replace the tube screens and refer to section 2.1 to refill the fryer.

3.2 FRYER TROUBLESHOOTING

Refer to this section to correct common problems that may be encountered in equipment operation.

