**IMPORTANT FOR FUTURE REFERENCE**

Please complete this information and retain this manual for the life of the equipment:

Model #: _____

Serial #: _____

Date Purchased: _____

# Installation and Operation Manual

## Covering

## E35 Series Electric Fryers




c UL us LISTED

UL LISTED EPH

L20-454 Rev 0 (02/18)

**THIS MANUAL MUST BE RETAINED FOR FUTURE REFERENCE**

## WARNING! FIRE HAZARD

**The shortening/oil level should not fall below the minimum indicated level at any time. The use of old shortening/oil can be dangerous as it will have a reduced flashpoint and be more prone to surge boiling.**

## WARNING

**Installation and all connections must be made in accordance with National and Local regulations and codes in force.**

## WARNING

**A country approved all pole circuit breaker with a minimum open contact gap of 3 mm must be used for proper installation.**

## NOTICE

**Installation of this appliance should only be performed by a competent service technician. The model, serial number and electrical requirements of this appliance are on the data plate, located on the inside panel of the door.**

## WARNING

**Shortening/oil, when it is at operating temperatures, is very hot and dangerous! Use extreme caution when handling! Use proper protective gear, such as insulated gloves, aprons, face shield and sleeves when handling hot shortening/oil. DO NOT attempt to move a machine that contains hot shortening/oil. Allow the oil to cool to room temperature or drain the shortening/oil into a suitable container before moving the appliance.**

## 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, 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.**

## WARNING

**This appliance is NOT Jet Stream approved. Do not clean the appliance with a water jet.**

## NOTICE

**This appliance is intended for professional use, and as such, should be operated only by fully trained personnel.**

## NOTICE

**It is recommended that this appliance be inspected by a qualified technician on a yearly basis.**

## WARNING

**The power supply to this appliance MUST be disconnected before servicing or cleaning the unit.**

## WARNING

**This appliance MUST be installed with the legs (or casters) supplied by the manufacturer.**

# Table of Contents


**Section** **Page**

Installation
- Checking your new Pitco Appliance . . . . . 1
- Assembly and Leveling
  - Leg and Caster Adjustment . . . . . 1
  - Installation Clearances . . . . . 2
  - Electrical Connection . . . . . 2
  - Ventilation and Fire Safety Systems . . . . . 2
- Initial Preparation
  - Initial Cleaning . . . . . 3

Operation
- Filling the Tank
  - Filling the Tank with Liquid Shortening/oil . . . . . 4
  - Filling the Tank with Solid Shortening/oil . . . . . 4
- Operating Instructions
  - Appliance Start-Up . . . . . 5
  - Appliance Shut-Down . . . . . 5

Cleaning and Maintenance
- Daily Cleaning . . . . . 6
- Weekly Cleaning . . . . . 6
- Weekly Boil Out Procedure . . . . . 6
- Thermostat Calibration Check . . . . . 7
- Thermostat Calibration . . . . . 7

Troubleshooting
- Basic Troubleshooting Tables . . . . . 8

# INSTALLATION

## CHECKING YOUR NEW PITCO APPLIANCE

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

### CAUTION

**To prevent equipment damage and/or personal injury, do not tilt the appliance onto any two of its casters or legs, or pull the appliance by the splash back.**

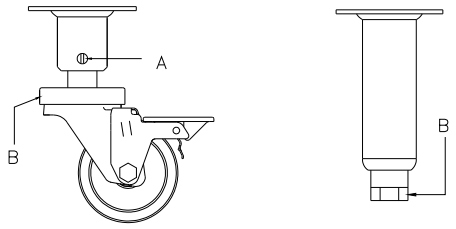
Locate your Pitco warranty and fill in the serial number of the appliance and the date received. You will find the serial number on the date plate located inside the door. Put your warranty card in a safe place for future reference. DO NOT return the card to Pitco.

## ASSEMBLY

When you receive your appliance it is completely assembled with the possible exception of the legs (or casters).

### Leg/Caster Installation and Leveling

This appliance must be installed with legs or casters; it can not be curb mounted. Curb mounting may seriously inhibit this appliance's ability to operate properly.




### WARNING

**This appliance must be installed with the legs or casters provided by the manufacturer.**

### WARNING

**Do not install legs or casters, or perform leveling procedure when unit is in operation or fry tank is full. Serious injury could result.**

Required tools: 7/16 " wrench and socket and a large pair of pliers (water pump or plumber's pliers work best). The legs/casters must be installed before connecting the appliance to the electrical supply. The legs provide the necessary height to meet sanitation requirements and assure adequate air supply for component cooling. Use the following procedure.

a. Lay the appliance on its back, being careful not to damage the splashback area by pulling on it. Protect the outside of the appliance with cardboard or a drop cloth when laying it down.

b. Attach each leg/caster with the hex head screws and nuts supplied. Each leg/caster requires four ¼-20 x 5/8" hex head screws and nuts. Insure that all screws are tight.

c. Mount the screws from the inside of the appliance with the nut on the outside (bottom) of the appliance. The nuts have lock washers attached to them, therefore it is not necessary to use lock washers

d. When all four legs/casters are securely mounted, stand the unit up, being careful not to put too much weight on any one leg. Adjust the height and level the appliance by adjusting the leveling devices (B) with pliers. On casters, loosen 2 screws (A) before leveling, then retighten.

# INSTALLATION

If you have completed the above steps that are applicable to the appliance you purchased, the appliance is now ready to be installed. Although it may be possible for you to install and set up your new appliance, it is STRONGLY recommended that you have this done by qualified professionals. A qualified professional will ensure that the installation is safe and meets local building and fire codes.

## Installation Clearances

The clearances shown below are for combustible and non-combustible installations and will allow for safe and proper operation of your appliance.

| | Combustible Construction | Non-Combustible Construction |
|---|---|---|
| Back | 0 | 0 |
| Sides | 0 | 0 |
| Floor | 4 ¾ (12 cm) | 4 ¾ (12 cm) |

In addition to the above clearances there must also be at least 28 inches of aisle space in front of the unit for the removal/installation of the filter pan.

## Electrical Connection

Your Pitco appliance is manufactured to operate on a particular electrical supply. DO NOT attempt to connect the appliance to an electrical supply other than that indicated on the data plate. Electrical connection should be performed by qualified personnel.

The electrical connection used by this appliance must comply with local codes. If there are no local codes that apply, refer to the National Electrical Code (NEC), ANSI/NFPA 70 for installation in the US. In Canada, refer to CSA Standard C22.1 and local codes. In all other cases, refer to local and national codes and regulations.

The appliance must be grounded in accordance with local code; if there is no local code, comply with NEC ANSI/NFPA No. 70 latest edition (for US and Canadian installations). In all other cases, refer to local and national codes and regulations. To comply with European requirements, European models are equipped with an equalization-bonding clamp. An equalization bonding lead must be connected to this clamp to provide sufficient protection against potential difference. This clamp, located on the rear of the appliance is marked with the following universal symbol. 

## Ventilation and Fire Safety Systems

Your new appliance must have proper ventilation to function safely and properly. It is very important to install a fire safety system. Your ventilation system should be designed to allow for easy cleaning. Frequent cleaning and proper maintenance of the ventilation system and the appliance will reduce the chances of fire. The following tables contain a list of reference documents that will provide guidance on ventilation and fire safety systems. It is not necessarily complete. For US and Canada, additional information can be obtained from CSA International, 8501 East Pleasant Valley Road, Cleveland, OH, 44131 or visit their website at www.csa-international.org.

### Hoods and Ventilation Systems

| TOPIC | UL Document | National Fuel Gas Code Document |
|---|---|---|
| Exhaust Hoods | ANSI/UL 70 | ANSI/NFPA 96 |
| Power Ventilators | ANSI/UL 705 | ANSI/NFPA 96 |
| Filter Units | ANSI/UL 900 | ANSI/NFPA 96 |

**Types of Fire Extinguishers and Detection Equipment**

| Topic | UL Document | National Fuel Gas Code Document |
|---|---|---|
| $CO_2$ Type Extinguishers | ANSI/UL 154 | ANSI/NFPA 12 |
| Dry Chemical Type Extinguishers | ANSI/UL 299 | ANSI/NFPA 17 |
| Water Type Extinguishers | ANSI/UL 626 | ANSI/NFPA 13 |
| Foam Type Extinguishers | ANSI/UL 8 | ANSI/NFPA 11 |
| Sprinklers | ANSI/UL 199 | ANSI/NFPA 13 |
| Smoke Detectors | ANSI/UL 268 | ANSI/NFPA 72 |
| Fire Detection Thermostats | ANSI/UL 521 | ANSI/NFPA 72 |

It is essential that the appliance be operated only when adequate ventilation is provided. Your ventilation hood should be properly maintained. A qualified installation professional should ensure that the hood is operating properly in conjunction with the appliance. Inadequate ventilation may not properly evacuate all appliance emissions.

## Initial Cleaning

When your appliance is shipped, many of its parts are covered with a thin coat of oil for protection. Before the appliance 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. Refer to the following procedure to clean the appliance.

a. Fill the tank with water. Turn the appliance on and set the thermostat to 200°F (93 °C)(refer to the APPLIANCE START UP section of this manual for instructions)

b. Allow the appliance to heat for 15 minutes. Add Pitco cleaner to the water, stirring with the cleaning brush to ensure that the cleaner dissolves thoroughly.

**CAUTION**

**DO NOT leave the appliance unattended during cleaning. Never let the water level go below the "Oil Level" mark stamped on the tank.**

c. Using the cleaning brush, scrub the inside of the tank to remove the protective coating.

d. When cleaning is complete turn the appliance off and drain the water into a container suitable for hot water and dispose of it.

**WARNING**

**Wear protective gloves and clothing when cleaning and draining the appliance and when disposing of water. The water is extremely hot and can cause severe injuries.**

e. When the tank has cooled, rinse thoroughly with cool water. Continue to rinse the tank until the cleaner has been completely and thoroughly rinsed from the tank.

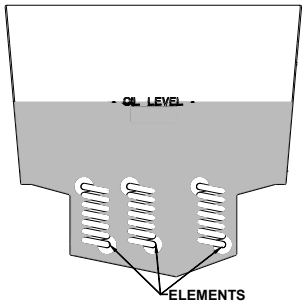
f. Using a clean dry cloth, wipe out all of the water. Be very thorough when removing the water, as any residual water will cause hot shortening/oil to splatter out of the appliance.

## FILLING THE TANK

Both liquid and solid shortening/oil can be used in this appliance, but liquid is preferred. If solid shortening/oil is used it is recommended that you melt the shortening/oil before adding it to the appliance. You can melt solid shortening/oil in the appliance, but you must be very careful not to scorch the shortening/oil.

### Filling the tank with liquid shortening/oil

To fill the tank with liquid shortening/oil refer to the following procedure.




a. Ensure that the drain valve is completely closed and that there is no residual moisture in the tank.

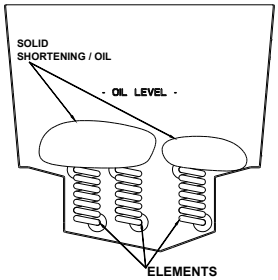
b. Fill the tank with shortening/oil. You may fill the tank to the "OIL LEVEL" mark or slightly below the nominal level mark: the shortening/oil will expand slightly when it heats up, raising the level slightly.

### Filling the tank with solid shortening/oil

To fill the tank with solid shortening/oil, refer to the following procedure.

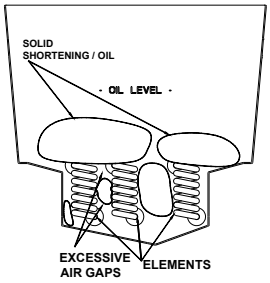
**WARNING**

**NEVER melt blocks of solid shortening/oil on top of the elements. This will cause a fire and could result in personal injury.**




a. Ensure that drain valve is completely closed and that there is no residual moisture in tank. Remove the screen covering the elements.

b. Cut the solid shortening/oil into cubes no larger than one inch. ALWAYS pack the shortening/oil below, between, and on top of the elements. **DO NOT** leave any large air gaps. Use care when packing the solid shortening/oil into the tank. **DO NOT** bend or break the temperature or high limit sensor probes. If these are damaged the appliance will not function properly.




c. Once the appliance tank is firmly packed with shortening/oil, the shortening/oil must be melted. Melt the shortening/oil by cycling the elements on for 4 seconds and off for 30 seconds repeatedly, using the thermostat knob. If your appliance has a Melt Cycle option, use this to melt the shortening/oil automatically.

## OPERATING INSTRUCTIONS

To ensure the quality of the food you cook in this appliance, follow the preparation instructions from the food manufacturer. Using the best shortening/oil makes the best fried foods. The best shortening/oil will last longer than lower grade shortening/oil and save you money. When not in use, the shortening/oil should be cooled and covered to prevent contamination. A maximum load of 1.5 (0.7 kg) per basket is recommended. Exceeding this recommendation may affect food quality and could cause surge boiling.

# OPERATION 

**WARNING**

**This appliance has been installed using restraining devices to prevent accidental tipping or movement. DO NOT attempt to move the appliance when it is in use or has hot liquid in it. Splashing hot liquids can cause severe burns.**

**WARNING**

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

## Appliance Start-Up

**WARNING**

**DO NOT start the appliance without filling the tank with shortening/oil first!**

For models with electric thermostat option refer to the following instructions.

a. Place the ON/OFF (I/O) rocker switch on the front panel to the ON ( I ) position. A light on the switch will illuminate.

b. Turn the temperature control knob (thermostat) to the desired temperature setting. The thermostat will automatically raise the oil temperature to the desired setting.

c. You may begin cooking product once the appliance has reached setpoint. To cook product, fill basket with the product to be cooked and place basket in fry tank. The thermostat will automatically begin to compensate for the temperature drop. You will need to time your cook session.

## Appliance Shut-down

For models with electric thermostat option refer to the following instructions.

a. Turn the temperature control knob (thermostat) to the OFF ( O )position.

b. Place the ON/OFF (I/O) rocker switch to the OFF ( O ) position. The light on the switch will extinguish.

## DAILY CLEANING

Your appliance should be cleaned every day to maintain peak performance, proper sanitation and appearance. Perform the following procedures daily.

a. Wipe up any shortening/oil that spills onto the exterior of the appliance. This should be done with a clean soft cloth while the shortening/oil is still warm.

b. Use warm water with a mild detergent to clean surfaces. Be careful not to get water into the shortening/oil and be sure to completely remove any detergent from the fry tank.

c. Use a non-abrasive scouring powder or pad to clean stains if necessary.

## WEEKLY CLEANING

The appliance should be thoroughly cleaned AT LEAST once a week. This should include a thorough wipe down of the entire appliance with a rag and mild detergent.

**WARNING**
**The power supply must be disconnected before cleaning and servicing this appliance!**

### Boil Out Procedure

The appliance should be boiled out AT LEAST once a week to remove food debris and shortening/oil build up. You will need a container large enough to hold 1 ½ times the shortening/oil in the tank. Refer to the following procedure for weekly boil out.

**WARNING**
**Completely shut the appliance down when the shortening/oil is being drained and replaced with water. This will prevent the elements from energizing while the tank is empty.**

**WARNING**
**At operating temperatures, the shortening/oil in the appliance is VERY HOT and can cause severe burns. Do not let the hot shortening/oil touch your skin or clothing. ALWAYS wear insulated, shortening/oil proof gloves, protective clothing and eyewear when working on a hot appliance.**

For models with electric thermostat option refer to the following instructions.

a. Drain the shortening/oil from the appliance and discard or save for reuse. Remove the element screen. Close the drain valve and fill the tank with warm water and non-caustic detergent. For best results, use Pitco Cleaner. A sample packet is included with your new appliance.

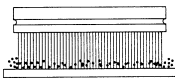
b. Restart the appliance as described in this manual and set the thermostat to 200°F (93 °C). Bring the water to a slow boil. DO NOT allow the water to boil excessively as this will cause excessive foaming and boil over.

c. Allow the appliance to soak for 20 minutes to soften shortening/oil deposits. Use the cleaning brush to scrub and remove any residue from the tank, elements and tank walls.

d. When finished drain the water and wipe the tank dry with a soft clean cloth.

e. Ensure that the drain valve is closed and replace the element screen.

f. You may now refill the tank with shortening/oil per the filling instructions in this manual.



## Thermostat Calibration Check

**NOTICE**
**Thermostat calibration requires that the temperature of the appliance be raised above boiling. If you have water in the tank you will need to drain it, dry it and fill it with shortening/oil. Follow the filling instructions in this manual.**

To check the calibration of your appliance, refer to the following procedure.

a. Remove the element screen from the tank.

b. Place the tip of a digital thermometer probe into the shortening/oil approximately one inch above the temperature sensor.

c. Perform the appliance startup as described in this manual, set the thermostat to 325°F (163 °C) and allow the shortening/oil to come up to temperature. Watch the thermometer closely as the temperature rises.

d. If the shortening/oil temperature reaches 350°F (177 °C) and the elements do not turn off, turn the thermostat down. Keep lowering the thermostat setting until the elements turn off.

**CAUTION**
**If the elements do not shut off at the LOWEST thermostat setting, the thermostat may be defective. Contact your local service company.**

e. Let the appliance 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 (3 °C) apart, calibrate the thermostat using procedure in this manual.

## Thermostat Calibration

For Electric Thermostats refer to the following procedure.

a. Remove the element screen from the tank and place the tip of a digital thermometer into the shortening approximately one inch above the temperature sensor.

b. Perform the appliance startup as described in this manual, set the thermostat to 325°F (163°C) and allow the shortening/oil to come up to temperature; let the appliance cycle 4-6 times to insure that the oil temperature has stabilized. Compare the thermostat setting of 325°F (163°) to the digital thermometer reading.

c. Remove the thermostat dial by pulling the knob straight out. DO NOT rotate the dial.

d. Holding the outside of the shaft so that it does not move, scrape away the sealing compound in the center of the shaft with a small flat blade screwdriver.

e. Turn the adjustment screw clockwise to lower the thermostat's temperature setting or counter-clockwise to raise it.

**NOTE**
**One-quarter turn of the adjustment screw changes the temperature setting approximately 24°F (13°C).**

f. Turn the adjustment screw until the elements energize at 325°F (163°).

g. Replace the knob and allow the appliance to cycle 4 to 6 times. Check the temperature of the digital thermometer against the thermostat dial setting; if there is greater than a 5°F (3°C) difference, repeat the calibration procedure.

## TROUBLESHOOTING

Should there be a problem with your appliance, use the following tables to isolate possible faults before calling your Authorized Service Agent.

| Check these items before calling your Authorized Service Company. | |
|---|---|
| ITEM TO CHECK | HOW TO CHECK |
| Power to appliance | Check main power breaker to appliance. |
| Hi-Limit reset | Press Hi-Limit reset button. |
| Power switch on | Power switch should be in the ON ( I ) position. |

| COOK SYSTEM TROUBLESHOOTING | |
|---|---|
| SYMPTOM | POSSIBLE CAUSES |
| Appliance will not run, front panel lights are not on. | Check main power breaker to appliance, blown control fuse, faulty transformer. |
| Appliance will not run, front panel lights are on. | Tripped hi-limit, faulty temperature probe, faulty temperature control. |
| Appliance will not maintain temperature properly | Faulty temperature probe, faulty hi-limit switch |