



## Energy Star Floor Fryers

Models:

177FFES40L, 177FFES40N, 177FFES50L, 177FFES50N, 177FFES70L, 177FFES70N

### 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. If installing the fryer with propane (LP) gas, a commercially approved regulator **MUST** be installed on the fryer in addition to the tank regulator. Units installed without an external appliance regulator will cause damage to parts and will void the warranty.

### For Your Safety:

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

### Note:

Please read instructions thoroughly. Indoor use only.

## Table of Contents

Product Overview .....	3
Data Label .....	3
Safety Precautions .....	4
Specifications .....	5
Installation Instructions .....	6
Operation Instructions .....	12
Cooking Instructions & Tips .....	15
Cleaning .....	17
Troubleshooting .....	19



CONFORMS TO ANSI Z83.11-2016/CSA1.8-2016  
CONFORMS TO NSF/ANSI-4  
CONFORMS TO ENERGY STAR V. 3.0

## Product Overview

You will find that your new equipment, like all Avantco Equipment, has been designed and manufactured to meet the toughest standards in the industry. Each piece of Avantco Equipment is carefully engineered and designs are verified through laboratory tests and field installation. With proper care and field maintenance, you will experience years of reliable, trouble-free operation. For best results, read this manual carefully and follow all instructions.

NOTE: RETAIN THIS MANUAL FOR FUTURE REFERENCE.


This manual is for Avantco Equipment Fryers with 40-pound (177FFES40L/N), 50-pound (177FFES50L/N), and 70-pound (177FFES70L/N) capacity fry pots. Capacity is described on the serial plate that is located inside the front door on the left side.

## Data Label


Prior to proceeding with installation and operation of the fryer, carefully review the technical data plate/label affixed on the inside door panel of the fryer.

The technical data plate provides important technical information that is essential in case of a request for maintenance or repair of the equipment. Do not remove, damage, or modify the label in any way.

Record your fryer model, device, and serial numbers for future reference in the space provided below. This information can be found on the fryer data plate.



**MADE IN CHINA**



CONFORMS TO ANSI Z83.11-2016/CSA 1.8-2016  
CONFORMS TO NSF/ANSI-4  
CONFORMS TO ENERGY STAR V. 3.0

**MODEL/Modèle:** 177FFES40L  
**DESCRIPTION:** 40 lb. FLOOR FRYER - ENERGY STAR  
**INPUT/Debit:** 70,000 BTU/h  
**MANIFOLD PRESSURE/Pression:** 10" W.C.  
**GAS TYPE/Gaz:** LIQUID PROPANE  
**SERIAL/N° Série:**  
**CLEARANCE/DEGAGEMENTS**

	COMBUSTIBLE MATERIAL / MATIERE COMB.	NONCOMBUSTIBLE MATERIAL / MATIERE INCOMB.
BACK/ARRIÈRE	6"	0"
RIGHT/DROIT	6"	0"
LEFT/GAUCHE	6"	0"

NOT SUITABLE FOR INSTALLATION ON COMBUSTIBLE FLOORS | Ne convient à l'installation sur un plancher combustible  
INTENDED FOR OTHER THAN HOUSEHOLD USE | Non destiné à l'usage domestique

Conforms to NSF/ANSI STD. 4 • Conforms to ANSI STD Z83.11-2016 • Conforms to CSA STD 1.8-2016

**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.  
**WARNING!** Disconnect from electric supply before adjustment, alteration, service, or maintenance. **WARNING!** Commercial use only, not intended for household use.

Manufactured for Clark Core Services, LLC, Lancaster, PA 17602

FRYER MODEL NO: \_\_\_\_\_

SERIAL NO: \_\_\_\_\_

DATE OF PURCHASE: \_\_\_\_\_

PLACE OF PURCHASE: \_\_\_\_\_

## Safety Precautions

Before installing and operating this equipment, be sure everyone involved in its operation is fully trained and aware of precautions. Accidents and problems can be caused by failure to follow fundamental rules and precautions.

The following symbols, found throughout this manual, alert you to potentially dangerous conditions to the operator, service personnel, or equipment.



**DANGER:** This symbol warns of immediate hazards that will result in severe injury or death.



**WARNING:** This symbol refers to a potential hazard or unsafe practice that could result in injury or death.



**CAUTION:** This symbol refers to a potential hazard or unsafe practice that could result in injury, product damage, or property damage.



**NOTICE:** This symbol refers to information that needs special attention or must be fully understood, even though not dangerous.



### **WARNING!**

**Burn Hazard:** Contact with hot oil will cause severe burns. Always use caution. Oil at 200°F is more dangerous than boiling water.

In the event a gas odor is detected, shut down equipment at the combination gas valve and contact the local gas company or gas supplier for service.



### **NOTICE!**

Avantco Floor Fryers are intended for commercial use only. Not for household use. Warranty will be void if service work is performed by anyone other than a qualified technician, or if other than genuine Avantco replacement parts are installed.

Be sure this manual and important papers are given to the proper authority to retain for future reference.

## Important For Your Safety

This manual has been prepared for personnel qualified to install gas equipment, who should perform the initial field start-up and adjustments of the equipment covered by this manual.

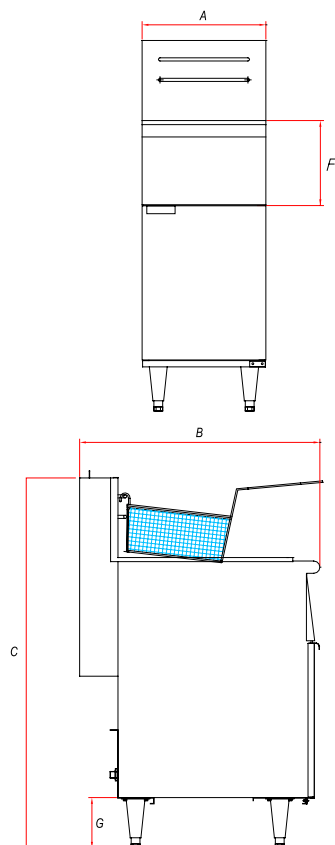
Post in a prominent location the instructions to be followed in the event the smell of gas is detected. This information can be obtained from the local gas supplier.

**IMPORTANT:** In the event a gas odor is detected, shut down unit at the main shutoff valve and contact the local gas company or gas supplier for service.

## Specifications

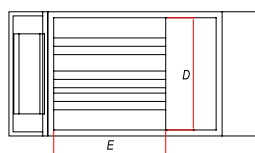
### Gas Supply and Burner Information

Supply pressure should be minimum of 5" W.C. for natural gas or 10" W.C. for propane. The fryer comes with 3/4" NPT male connector on a 1/2" pipe.



Model	Total Unit (in)			Fry Pot (in)			Gas Connection (in)	Shortening Capacity	Crated Weight (Lb.)
	Width (A)	Depth (B)	Height (C)	Width (D)	Depth (E)	Height (F)	Height (G)		
177FFES40L/N	15.5	30	46.7	14	14	15	7	35-40 lb.	160
177FFES50L/N	15.5	30	46.7	14	14	15	7	45-50 lb.	170
177FFES70L/N	21	34.4	46.7	19.5	18	15	7	65-80 lb.	190

Model	Gas Type	Number of Heat Tubes	Total BTUs/Hour	Manifold Pressure (Water Column)
177FFES40N	Natural Gas	3	70,000	4"
177FFES40L	Liquid Propane	3	70,000	10"
177FFES50N	Natural Gas	4	85,000	4"
177FFES50L	Liquid Propane	4	85,000	10"
177FFES70N	Natural Gas	5	100,000	4"
177FFES70L	Liquid Propane	5	100,000	10"



Before installing the fryer, verify that the type of gas (natural or propane) corresponds with the specifications on the fryer data plate, which is located on the inside of the door panel. Make sure the fryer is configured for the proper elevation.

### Orifice Elevation Chart

MODEL	GAS TYPE	NOZZLE			
		Under 2000'	Under 5000'	Under 8000'	Under 10000'
177FFES40N	NG: 4" WC	#44	#46	#48	#49
177FFES40L	LPG: 10" WC	#54	#55	#56	#56
177FFES50N	NG: 4" WC	#47	#49	#50	#51
177FFES50L	LPG: 10" WC	#55	#57	#59	#60
177FFES70N	NG: 4" WC	#47	#49	#50	#51
177FFES70L	LPG: 10" WC	#55	#57	#59	#60

### Nozzle Item Guide

SIZE	ITEM NUMBER
#44	1772150259
#47	1772150341
#54	1772150200
#55	1772150370

## Installation Instructions

Failure to comply with the following guide may cause damage and injury (sometimes fatal) and forfeits the warranty, relieving the Manufacturer of any liability. Before installation, use, and maintenance of the equipment, please read this manual carefully and keep it for any future consultation by the various operators. If you do not understand all the contents of this manual, please contact the Manufacturer. In case of loss or deterioration of the documentation, request the Manufacturer to send a replacement one.

## Installation Notes

Please review all following notes on the installation prior to attempting install:

- Installation must conform with local codes and with the National Fuel Gas Code, ANSI-Z223.1, Natural Gas Code, CAN/CGA-B149.1, or the Propane Installation Code, CAN/CGA-B149.2, as applicable.
- Local codes regarding installation greatly vary from one area to another. The National Fire Protection Association, Inc. states in its NFPA 96 latest edition that local codes are the “authority having jurisdiction” when it comes to installation requirements for equipment.
- In the commonwealth of Massachusetts, all gas appliances vented through a ventilation hood or exhaust system with a damper or with a means of exhaust shall comply with 248 CMR.
- Improper installation will void the manufacturer’s warranty. Do not obstruct or reduce the air flow rate of the natural ventilation on the fryer or the flue located at the rear of the fryer. Ample clearance on sides, front, and back of the unit is required, otherwise the warranty will be voided.
- These installation procedures must be followed by a certified and insured foodservice equipment technician or warranty will be void.
- This product is required to be under an exhaust hood. A vertical distance of no less than 18" shall be provided between the top of the appliance and filters or any other combustible material. Exhaust installation must conform to applicable codes. Refer to the “Flue Installation” section for more information.
- The fryer may be heavy. In order to prevent any type of damage to the equipment or personnel, always use a suitable number of qualified workers and/or equipment such as forklifts, pallets, or similar when handling the fryer.
- Do not drag or tilt the fryer. In order to move it, lift it straight up from the ground and move it horizontally while keeping the fryer level in all directions.
- Ensure the installation surface is suited to withstand the weight of the fryer, along with a fully loaded vat, any installed accessories, and fryer baskets. The surface must be flat, level, and made of fireproof/non-combustible materials.
- Do not install near combustible surfaces. The unit is required to have 0" of clearance on the sides and back from non-combustible surfaces, and at least 6" of clearance on the sides and 6" on the back from combustible surfaces or combustible objects (walls, furniture, screens, gas canisters, etc.). The fryer should have 16" of clearance from the sides and back of the fryer when placed next to any open-top flame equipment. Ensure that all four adjustable legs are installed correctly and that the unit is level before operating this fryer.

- Do not install in an environment lower than 41°F, higher than 113°F, or with humidity below 70%. The fryer is only intended to be used indoors in a proper ventilated and regulated space.
- Install the fryer in an area with sufficient air supply for gas combustion of fryer burners. Do not obstruct the flow of combustion or ventilation air and do not permit fans to blow directly onto the fryer. Avoid wall-type fans that create crosscurrents within a room and open windows next to the sides and back of the fryer. Provide adequate clearance for air openings into the combustion chamber.

## Step 1: Unpack

### IMMEDIATELY INSPECT FOR SHIPPING DAMAGE

- All containers should be examined for damage before and during unloading. The freight carrier has assumed responsibility for safe transit and delivery. If damaged equipment is received, either apparent or concealed, a claim must be made with the delivering carrier.
  - Apparent damage or loss must be noted on the freight bill at the time of delivery. The freight bill must then be signed by the carrier representative (driver). If the bill is not signed, the carrier may refuse the claim. The carrier can supply the necessary forms.
  - A request for inspection must be made to the carrier within 1 day if there is concealed damage or loss that is not apparent until after the equipment is uncrated. The carrier should arrange an inspection. Be certain to hold all contents and all packing materials.
1. Uncrate carefully. Report any hidden damage to the freight carrier IMMEDIATELY.
  2. Do not remove any tags or labels until the unit is installed and working properly.

**All Propane (LP) Gas Fryers MUST HAVE AN APPLIANCE REGULATOR INSTALLED in addition to the tank or stage regulator. IF A PROPANE FRYER IS INSTALLED WITHOUT THE CORRECT PRESSURE REGULATOR, PARTS WILL BE DAMAGED AND THE WARRANTY WILL BE VOID.**

The appliance regulator must be set to gas pressure between 11" W.C. and 12" W.C.

**Note:** There is a pressure regulator "built in" to the combination gas valve. If the incoming pressure is at 10" W.C. or lower, this "built in" regulator will act as a restriction and cause incomplete combustion and sooting. If the gas pressure is above 12" W.C., damage could occur to the "built in" pressure regulator and in that case it would have to be replaced. This would not be covered by the warranty.

After unpacking, check that the following have been included:

- Crumb Rack
- Basket Hanger
- Adjustable Legs (4)
- Drain Pipe Extension
- Twin Fry Baskets (2)
- Manual and Warranty

If you are missing any of the above materials, please contact the place of purchase.

## Step 2: Install the Legs (or Optional Casters) and Restraints

A set of legs or casters is packed with the fryer. Mounting fasteners are pre-mounted on the baseplates.

1. Raise fryer sufficiently to allow legs or casters to be screwed into the baseplate. For safety, "shore up" and support the fryer with an adequate blocking arrangement strong enough to support the load.
2. Screw the four legs or casters to the plate on the bottom of the fryer. When casters have been ordered, the casters having a locking brake should be attached under the front of the fryer.
3. Lower the fryer gently. Never drop or allow the fryer to fall.
4. Use a level to make sure that the fryer is level. Each caster, or the tubular end of each leg, can be screwed in or out to lower or raise each corner of the fryer.
5. Attach restraints as required by local codes.



**NOTICE:** Unit must be level to ensure maximum performance. Improper leveling may void warranty.



**NOTICE:** When this appliance is installed with casters, it must be installed with the casters supplied, a connector complying with either ANSI Z21.69 CSA 6.16, and a quick-disconnect device complying with ANSI Z21.41 CSA 6.9. It must also be installed with restraining means to guard against transmission of strain to the connector, as specified in the appliance manufacturer instructions.



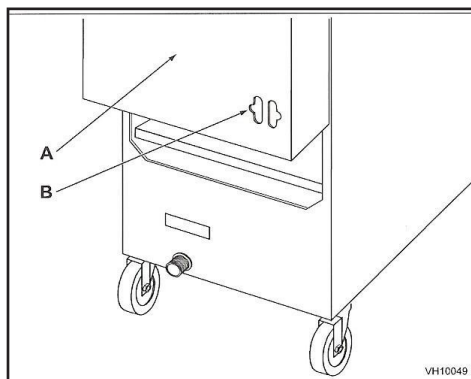
**WARNING:** All fryers must be restrained to prevent tipping in order to avoid the splashing of hot liquid. The means of restraint may be the manner of installation.



**WARNING:** If disconnection of the restraint is necessary to move the appliance for cleaning, etc., reconnect it when the appliance is moved to its original installed position.

## Restraints When Using Casters:

When installing a quick disconnect, you must also install a means for limiting the movement of the fryer. This restraining device will prevent the gas line or quick disconnect from being strained. The restraining device should be attached to the cutout on the back panel. See illustration for location. If disconnection of the restraining device is necessary for service or cleaning, reconnect the restraining device after the fryer is placed back into its original position.



- (A) Rear of Fryer  
(B) Strain Relief Chain Connection  
(Chain Sold Separately)

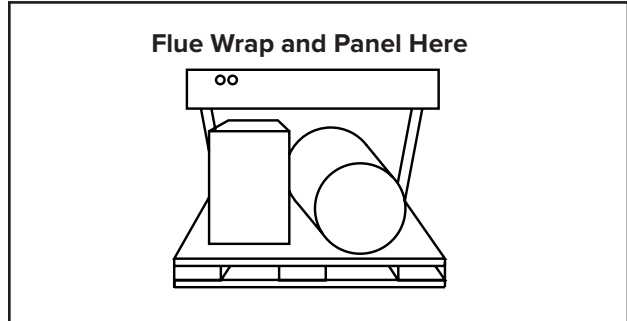
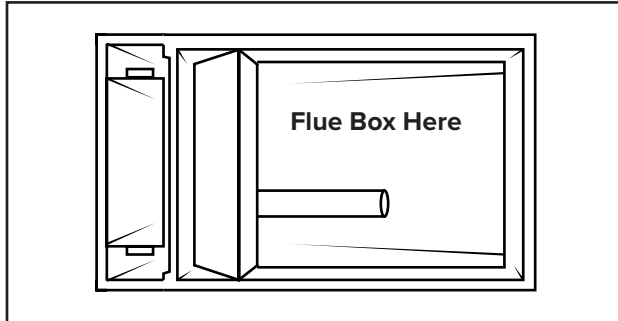
- The fryer must be installed with a strain relief connector complying with all applicable codes.
- The fryer must be installed with restraining means to guard against transmission of strain to the connector.
- If the restraint is ever to be disconnected, first turn off the gas supply.



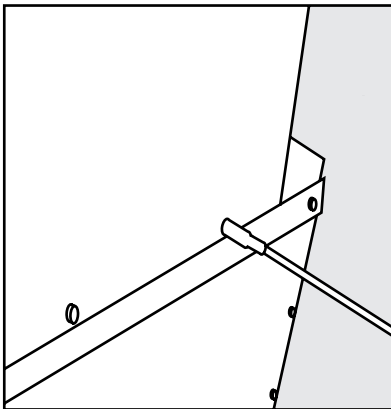
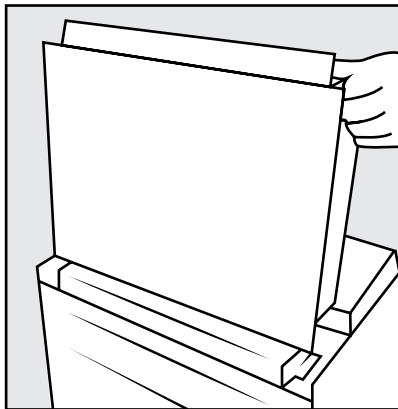
## Step 3: Flue Installation

**NOTE:** The flue must be assembled and installed onto the fryer prior to installation and use of the fryer.

1. Unpack the flue box, flue wrap, and back panel.

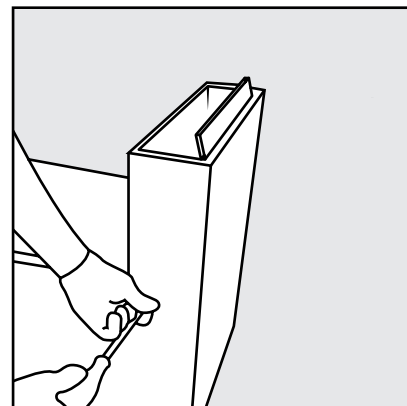
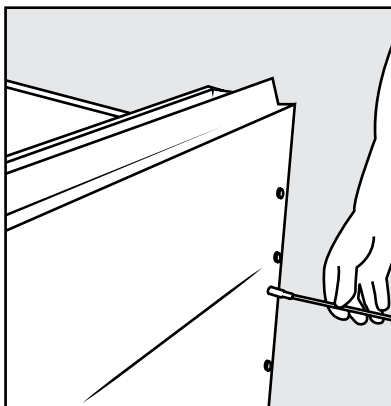
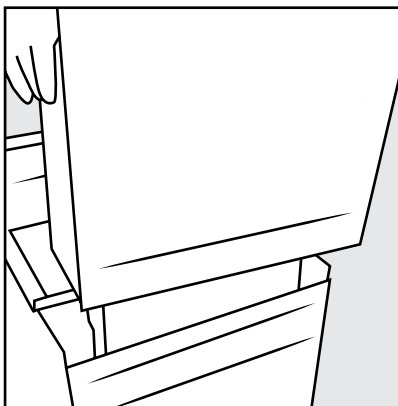


2. Slide the flue box over the flue and secure it with the two self-tapping screws using a 5/16" socket.



3. Slide the flue wrap over the flue.

4. Secure it with four self-tapping screws, two on the back, and one on each side, using a 5/16" socket.



## Step 4: Check Clearances and Ventilation

### Clearances

Allow space for servicing and operation for technician. Installation must conform to all applicable codes.

#### From Combustable Surfaces:

- Minimum clearance of 6" (15 cm) from the sides of the fryer.
- Minimum clearance of 6" (15 cm) from the back of the fryer.
- The fryer may be installed on combustible floors.

#### From Non-Combustable Surfaces:

- Minimum clearance of 0" (0 cm) from sides of the fryer.
- Minimum clearance of 0" (0 cm) from back of the fryer.

#### Between Fryer and Open-Top Flame Units:

- Minimum clearance of 16" (40.64 cm) from the sides of the fryer.
- Minimum clearance of 16" (40.64 cm) from the back of the fryer.

## Ventilation Flue Exhaust

Failure to comply with the following guide may cause damage and injury (sometimes fatal) and forfeits the warranty and relieves the Manufacturer of any liability. Before installation, use, and maintenance of the equipment, please read this booklet carefully and keep it for any future consultation by the various operators. If you do not understand all the contents of this manual, please contact the Manufacturer. In case of loss or deterioration of the documentation, request the Manufacturer to send a replacement one.

The ventilation and flue exhaust must be installed in accordance with the following instructions:

- Comply with all applicable codes and with Vapor Removal from Cooking Equipment, ANSI-NFPA. Standard #96 (latest edition), available from the National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.
- Locate the fryer under a hood with adequate connection to an exhaust duct. The hood must extend 6" (15 cm) beyond fryer on both sides.
- Clearance above the fryer should be adequate for combustion byproducts to be removed efficiently.
- An 18" (46 cm) minimum clearance should be maintained between the flue vent and the filters of the hood venting system.
- Never make flue connections directly to the fryer.
- Ensure that your ventilation system does not cause a down draft at the fryer's flue opening. Down draft will not allow the fryer to exhaust properly and will cause overheating which may cause permanent damage. Damage caused by down draft will not be covered under equipment warranty. Never allow anything to obstruct the flue or ventilation exiting from the fryer flue. Do not put anything on top of flue area.
- Install the fryer in an area with sufficient air supply for gas combustion of fryer burners. Do not obstruct the flow of combustion or ventilation air, do not permit fans to blow directly onto the fryer, and avoid wall-type fans that create crosscurrents within a room and open windows next to the sides and back of the fryer. Provide adequate clearance for air openings into the combustion chamber.

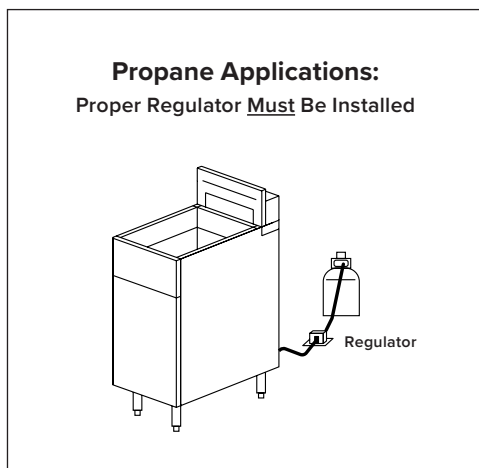
## Step 5: Gas Connection

- The gas inlet is located on the lower rear of the fryer. Codes require that a gas shutoff valve be installed in the gas line ahead of the fryer.
- The gas supply line must be at least the equivalent of ½" (12.7 mm) iron pipe for single units, 1 ¼" (31.75 mm) for batteries, and ¾" (19 mm) if using the optional quick-disconnect flex hose.
- Make sure the pipes are clean and free of obstructions, dirt, and piping compound. A battery requires one or two connections of appropriate size for the gas requirement.
- The gas pressure for all models should be set at 4" W.C. or 0.8 kPa for natural gas and 10" W.C. or 2.75 kPa for propane gas. If incoming pressure exceeds ½ PSI or 3.45 kPa, an additional pressure regulator (not supplied) must be installed.



### WARNING:

- Prior to lighting, check all joints in the gas supply line for leaks. Use soap and water solution. Do not use an open flame.
- After piping has been checked for leaks, fully purge gas pipes to remove air.



**NOTICE:** Do not restrict the flow of gas. Use only commercially approved gas appliance connectors OR flexible hoses! Non-commercial connectors or flexible hoses will void your warranty.

## Testing the Gas Supply Piping System:

- When test pressures exceed ½ PSI (3.45 kPa), the fryer and its individual shutoff valve must be disconnected from the gas supply piping system.
- When test pressures are ½ PSI (3.45 kPa) or less, the fryer must be isolated from the gas supply piping system by closing its individual shutoff valve.

## Operation Instructions

Failure to comply with the following operation instructions may cause damage and injury (sometimes fatal), and forfeits the warranty and relieves the Manufacturer of any liability. Before operation of the equipment, please read this booklet carefully and keep it for any future consultation by the various operators. If you do not understand all the contents of this manual, please contact the Manufacturer. In case of loss or deterioration of the documentation, request the Manufacturer to send a replacement one.

### High Temperature Shutoff:

If the shortening becomes overheated, a high-temperature shutoff device will turn off the gas valve and extinguish the pilot.

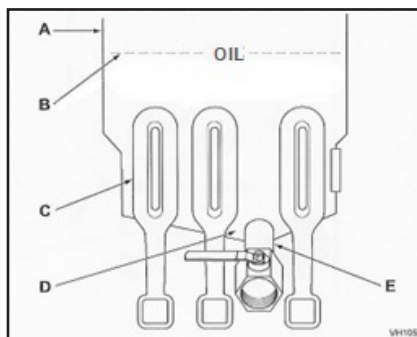
If the fryer shuts down due to overheating, do not relight or attempt to relight the pilot until the shortening is below 300°F.

### Filling the Oil Vat with Shortening

**NOTE:** Solid shortening should NOT be used with Avantco ES series fryers. Melting solid shortening will damage the tank and void your warranty. NEVER turn on the fryer when there is no oil in the fryer, or if the oil level is below the MIN line. To extend the life of your shortening, refer to the “Extending Shortening Life” section.

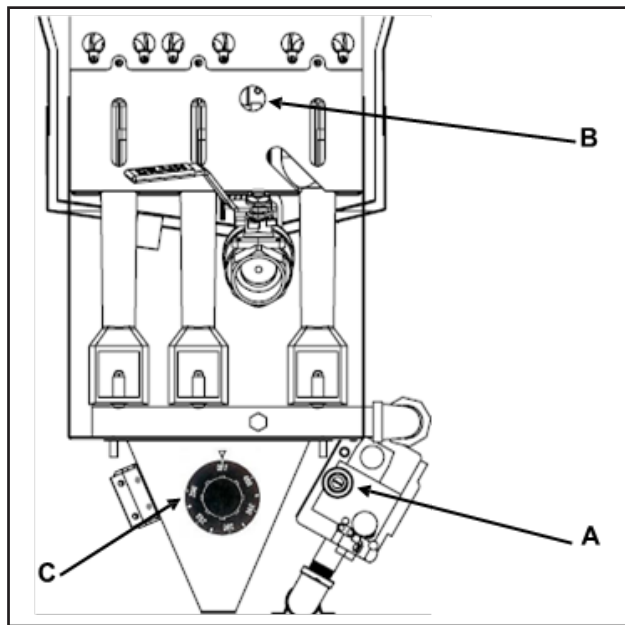
#### Instructions:

1. Close the drain valve (E) completely by ensuring the handle is perpendicular to the valve itself.
2. When the fryer is new, fill the fry pot with water and clean thoroughly (refer to “Weekly Cleaning” section) in order to remove protective coatings and any foreign matter.
3. Fill the fryer tank (A) with liquid shortening to the MIN line.
  - a. The recommended amounts are listed in the “Specifications” section and are listed on the serial plate (located on the inside of the front door).
  - b. Shortening will expand when heated. Do not fill the fryer tank past the MAX oil line (B).
4. Remove the fryer baskets and basket support frame when filling the fry pot.
5. Add fresh shortening as needed to maintain oil level.
6. Replace the basket support frame over the fry pot heat tubes.



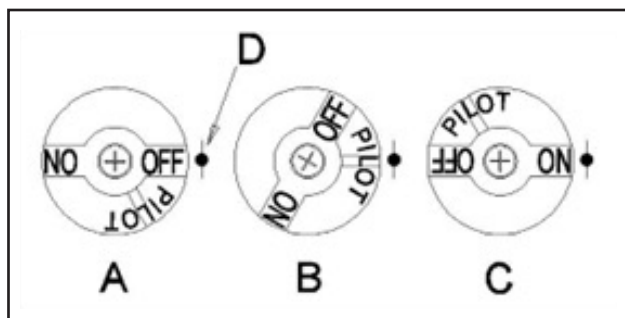
- (A) Fryer Tank
- (B) Maximum Oil Fill Level Line
- (C) Heat Pipes
- (D) Cold Zone
- (E) Drain Pipe

## Lighting the Pilot



- (A) Gas Valve
- (B) Pilot Access Hole
- (C) Thermostat Knob

1. Open the door.
2. Turn the thermostat (C) OFF. The thermostat is located behind the door.
3. Push the gas control valve knob and turn to OFF (see figure below, view A). Wait 5 minutes for unburned gas to vent.
4. Push and turn gas control valve knob to the "L" in PILOT (see figure below, view B).
5. While still holding the knob in, light the pilot with a lit flame (recommended match or stick lighter at least 3" long). Pass the ignition source through the pilot access hole. Continue to depress the knob until pilot remains lit. If the pilot does not remain lit when the knob is released, repeat step 3 through 5.
6. Depress and turn gas control knob to ON (see figure below, view C).
7. If gas supply is interrupted, repeat steps 2 through 6.



- (A) Gas Valve Knob, View A
- (B) Gas Valve Knob, View B
- (C) Gas Valve Knob, View C
- (D) Indicator Point, All Views

## First Use

Before first use, remove all packing material and protective plastic from the surfaces of the unit. Fryers should be cleaned before operation (see "Cleaning" section). Make sure to clean the fryer vat, fryer baskets, and any additional accessories before installing. It is normal for an unpleasant smell to be noticeable the first time the fryer is used. This is caused by burning off residue from the manufacturing process. Fill the fryer with shortening based on the instructions, set the fryer to 400°F, and turn on. Let the fryer run until the smell dissipates, about 30 minutes.

Now, perform a test cooking cycle to ensure the fryer is functioning as intended.

Allow the unit to cool down, then turn the fryer on and set a cooking cycle with the temperature at 350°F.

## Normal Operation

### Turning on the Fryer:

1. Set the temperature knob to the desired temperature.
2. After the set temperature has been reached, the thermostat shuts off the gas flow to burners.
3. The pilot will remain lit.
4. The burners will cycle on and off, maintaining the set temperature.
5. Fry food as desired.

### Turning off the Fryer:

1. Turn the thermostat OFF.
2. Remove all food product and fryer baskets from the oil vat.
3. To keep the pilot lit, turn the gas valve to "L" in Pilot.
4. To shut off all gas to the system, including the pilot, turn the gas valve knob to OFF.

### Relighting:

**WARNING!** In the event of a main burner ignition failure, a five-minute purge period must be observed prior to re-establishing the ignition source.

1. Shut off all gas.
2. Wait five minutes.
3. Follow the "Lighting the Pilot" procedure.

### Extended Shutdown:

1. Turn the thermostat knob to OFF.
2. Push in the pilot knob and turn to OFF.
3. Remove all food product and fryer baskets from the oil vat.
4. Thoroughly drain the fryer. Refer to the "Draining the Fryer" section.
5. Clean the fryer according to the "Cleaning" section.
6. Turn off the main gas shutoff valve.

### Draining the Fryer:

**NOTE:** A cold fryer will not drain properly. Always filter shortening between 250°F and 350°F. The shortening in the cold zone area will remain hard if the heat is only on for a few minutes. If necessary, use the clean-out rod to carefully stir the hard shortening to an area above the cold zone where it will melt.

Use the tank brush to help clear sides and tubes of debris.

1. Turn the thermostat to OFF.
2. To keep the pilot lit, turn the gas valve to PILOT.
3. Direct the drain spout into the container that you want to drain the shortening into.
4. Open the drain valve. The oil will drain into the container. When the container is full or the fryer tank is empty, close the drain valve. Repeat this step until the fryer is empty.
5. If desired, perform the weekly clean-out as described under the "Cleaning" section.
6. Once tank is completely empty, add new shortening and set thermostat to desired temperature.

## Cooking Instructions & Tips

### Basic Frying Instructions:

1. Follow instructions outlined in the "Filling the Oil Vat with Shortening," "Lighting the Pilot," and "Normal Operation" sections.
2. Set the desired temperature and allow shortening to heat up to that temperature.
3. Fry items that are the same size and type to ensure equal doneness.
4. Drain or wipe dry raw or wet foods to minimize splatter when lowering into hot oil.
5. Add fresh shortening as needed to maintain the level of the oil between the MIN and MAX lines.

**Frying Best Practices:**

- Set the desired temperature and allow shortening to heat up to that temperature.
- Fry items that are the same size to ensure equal doneness.
- Drain or wipe dry raw or wet foods to minimize splatter when lowering into hot shortening.
- Add fresh shortening as needed.
- Do not overfill baskets. Carefully lower basket into oil.
  - Recommended food product per basket for 177FFES40L/N & 177FFES50L/N models is 1.5 lb.
  - Recommended food product per basket for 177FFES70L/N model is 2.5 lb.
- When cooking french fries or onion rings, shake the basket several times.
- When frying doughnuts and fritters, turn product only once during frying.
- Batter-covered foods should be dropped carefully, one by one, into shortening or basket. If you use the basket, first dip the basket into the shortening to reduce batter-build up on basket surfaces.
- When frying is completed, remove basket or product. Hang basket on rear hanger.
- Smoking oil means that the temperature is too high, or that the oil has broken down.
- Gum in fry pot denotes a need for thorough cleaning.
- Use different oil for oily foods (mackerel, nutmeg, etc.) than for foods with water-soluble flavors (potatoes, onions, etc.).
- Taste oil for quality. Poor oil quality can affect taste.

**Extending Shortening Life:**

Shortening life can be extended by the following guidelines:

- Do not salt foods over the fryer.
- Use quality shortening.
- Filter shortening daily (at a minimum).
- Replace shortening if it becomes poorly flavored.
- Keep equipment and surrounding area clean.
- Set thermostat correctly.
- Remove excess moisture and particles from food products before placing on fryer.



## Cleaning

Avantco Equipment is constructed with the best quality materials and is designed to provide durable service when properly maintained. To expect the best performance, your equipment must be maintained in good condition and cleaned daily. Naturally, the frequency and extent of cleaning depends on the amount and degree of usage.

### Daily Cleaning

1. Turn thermostat knob to "OFF" position.
2. Place hot oil safe container under the drain and drain the fry pot completely.
3. Remove the basket support frame (if applicable) and flush out any sediment remaining in the fry pot with a little hot oil.
4. Wipe off the basket support frame and the inside of the fry pot with a clean cloth.
5. Close drain valve and strain the oil back into the fry pot through several thicknesses of cheesecloth, or filter it back using a filter machine.
6. Replace the basket support frame (if applicable).
7. Add oil or shortening to MIN oil level mark on rear of fry pot.
8. To resume cooking, turn the combination gas valve knob to "ON" position.



**CAUTION: SOME AREAS OF THE FRYPOT MAY BE HOT!**

### Weekly Cleaning

1. Follow steps 1 through 4 of the Daily Cleaning procedure (see previous section).
2. Close drain valve and fill fry pot with a solution of warm water and boil-out compound (999FCBOILOUT).
3. Relight the fryer and bring the solution to a gentle boil for at least five minutes.
4. Turn off main burners and let the solution stand until the gum deposits are softened and the carbon spots and burned grease spots can be rubbed off.
5. Scrub the fry pot walls and heat tubes, then drain out fry pot and rinse it with clean water.
6. Refill the fry pot with clean water and boil again.
7. Turn off gas and drain and rinse until clean.
8. Wipe dry with a clean cloth.

### Monthly Cleaning

1. Perform the Weekly Cleaning procedure (see previous section).
2. Clean around burner and orifices if lint has accumulated.
3. Visually check that burner carry-over ports are unobstructed.

## Cleaning Stainless Steel Surfaces



**WARNING:** NEVER RUB WITH A CIRCULAR MOTION.

NEVER USE A WIRE BRUSH, STEEL SCOURING PADS (EXCEPT STAINLESS), SCRAPER, FILE, OR OTHER STEEL TOOLS.

DO NOT USE ORDINARY STEEL WOOL, as any particles left on the surface will rust and further spoil the appearance of the finish.

### Normal Dirt:

- Use ordinary soap and water (with or without detergent) applied with a sponge or cloth.
- Dry thoroughly with a clean cloth.
- Never use vinegar or any corrosive cleaner.



### Grease and Food:

- Apply cleanser to a damp cloth (recommended cleanser: 147FORMULAD) or sponge and rub cleanser on the metal in the direction of the polishing lines on the metal.
- Rubbing cleanser, as gently as possible, in the direction of the polished lines will not mark the finish of the stainless steel.

Use scouring pads or stainless steel scouring pads for deposits still on the unit.

Surfaces that are marred collect dirt more rapidly and become more difficult to clean. Marring also increases the possibility of corrosive attack. Refinishing may then be required.

**Darkened Areas:** Called “heat tint,” this sometimes appears on stainless steel surfaces where the area has been subjected to excessive heat. These are not harmful.

### Use the above techniques for removal.

For heat tint that is not removed using the above techniques, use scouring pads or a stainless steel scouring pad in combination with a powered cleanser. Rub in direction of the polish lines.

## Troubleshooting

Problem	Reason	Solution
No heat.	Thermostat dial not turned on.	Turn on thermostat.
	Pilot is not lit.	Light pilot.
	Gas supply is not turned on.	Turn on gas supply.
	Wire connections are loose.	Contact warranty servicer.
	Wire connections need cleaning.	Contact warranty servicer.
	Thermopile is defective.	Contact warranty servicer.
Insufficient or too much heat.	Thermostat dial not set to desired temperature.	Set thermostat to desired temperature.
	High limit tripped.	Contact warranty servicer.
	Temperature probe defective.	Contact warranty servicer.
Tank will not drain.	Shortening is too cold.	Warm shortening up to at least 300°F.
	Drain pipe is clogged with debris.	Clean drain pipe with fryer brush.