

# Donut Robot Accessories

This appendix contains information about the following products which you might use with your Donut Robot®:

- Feed Table
- Roto Cooler
- Icing Finishing Tree and Roto Cooler
- Sugaring Tray and Roto Cooler
- Filter Flo Siphon
- Shortening Reserve Tank

## **FT-42 Feed Table**

<b>SPECIFICATIONS</b>				
<b>Dimensions</b>	<b>Shipping Weight</b>	<b>Electrical Data</b>	<b>Construction</b>	<b>Standard Equipment</b>
L = 52"/132 cm W = 19"/48 cm H = 11 3/4"/ 30 cm	73 lb/33.1 kg	115 V 1 Phase 50 or 60 Hz	Stainless steel, nickel-plated mild steel, and aluminum alloys.	Complete conveyor assembly, including drive system and controls. Does not include proofing cloths or proofing boards.

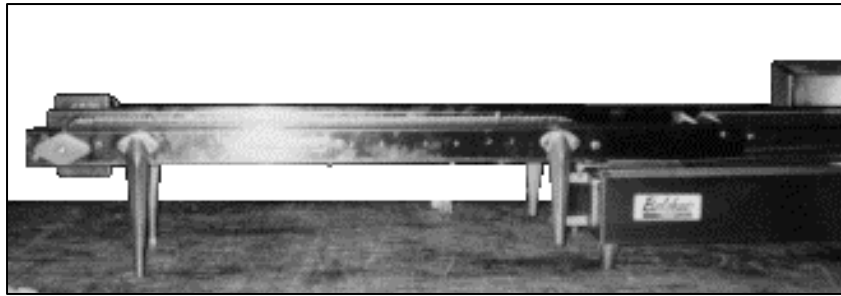


Figure 1. FT-42 Feed Table.

The FT-42 Feed Table is designed to supply proofed yeast-raised donuts to the Donut Robot. It is meant to be used on a flat, stationary table or countertop, positioned end-to-end with the Donut Robot. The operator is expected to read and follow these instructions.

### **Installation**

1. Unplug the cutter head power cord of your Donut Robot.
2. Release the plunger from the cutter head.
3. Unscrew and lift off the hopper assembly.
4. Lift off the cutter head and swing column assemblies.
5. Lift the outfeed end of the Feed Table and set the brace under the trip shelf over the edge of the kettle.

### **WARNING**

**To avoid injury, make sure that the Feed Table is turned off before proceeding.**

6. Plug the Feed Table power cord into the outlet on the end of the heater head.
7. Set the Donut Robot to cut one cut per pocket.

### **Operation**

1. Test to make sure that the automatic timing for the Feed Table is working. To do this:
  - a. Turn on the Donut Robot's conveyor drive.
  - b. Turn on the Feed Table's conveyor drive.

The Feed Table should receive a signal from the Donut Robot, move forward the distance needed to supply one pocket of donuts, and then stop until it receives the next signal.

2. Proof your donuts on the proofing cloths from the Feed Table.
3. Put a proofing board, with a proofing cloth on it, on the Feed Table.
4. Press the prime switch on the power head assembly. The hooks on the Feed Table will grab the proofing cloth off of the proofing board. Allow the cloth to advance to the front of the Feed Table.
5. Release the prime switch and turn on the main power. Remove the proofing board.

When the Feed Table is on, the Feed Table automatically advances donuts when the Donut Robot is ready to accept them. After the donuts go into the fryer, the proofing cloths are carried underneath the Feed Table and fall onto the work surface.

6. Continue putting proofing cloths on the Feed Table.

## CAUTION

To avoid damaging the machine, never use force to assemble or operate the Feed Table.

## Maintenance and Cleaning

### After Each Use

Use a soft, damp cloth for cleaning.

## WARNING

To avoid electrocuting yourself or damaging the machine, never allow any liquid to enter the power head.

### As Needed

If you ever need to adjust the tension of the conveyor chains, follow these steps:

1. Loosen the hex head bolts that hold the roller shaft at the outfeed end of the conveyor.
2. Pull the shaft until the chains reach the correct tension. The tension is correct when you can lift the chains about 1”/2.5 cm above the surface of the Feed Table. Each chain should have the same tension.
3. Tighten the hex head bolts that hold the roller shaft.

## Troubleshooting

This section is designed as an aid in troubleshooting, not as a substitute for a qualified technician. Feel free to call Belshaw Bros. at (206)322-5474. One of our customer support representatives will be happy to help you. When you call, please specify the following:

- The model name of the machine.
- The serial number of the machine.
- The voltage, phase, and hertz (cycle) of the machine.

## CAUTION

If you perform repairs yourself or have them performed by anyone other than Belshaw Bros. or a service technician authorized by Belshaw Bros., you do so at your own risk.

Following is a troubleshooting chart to help you identify and solve some basic problems.

## WARNING

Disconnect the machine from the power source before disassembling, repairing, or wiring.

**THE CONVEYOR CHAINS DO NOT ADVANCE WHEN THE MAIN POWER IS ON OR WHEN THE PRIME SWITCH IS PRESSED, AND THE PILOT LIGHT DOES NOT COME ON.**

Possible Causes	What To Do
The power cord is not connected.	Plug in the power cord.
The circuit breaker for the gear box outlet on the Donut Robot's heater head is tripped.	Push the white reset button near the outlet.
	<b>WARNING</b>
	<b>To avoid electric shock or other injury, before doing any of the following, unplug the machine.</b>
The black or white wire in the power cord is broken or poorly connected.	Repair the cord and/or make the proper connection.
The fuse on the Feed Table is blown.	Replace the fuse.
The fuse for the Donut Robot's conveyor is blown.	Replace the fuse.

**THE CONVEYOR CHAINS DO NOT ADVANCE WHEN THE MAIN POWER IS ON, BUT THEY DO ADVANCE WHEN THE PRIME SWITCH IS PRESSED.**

Possible Causes	What To Do
	<b>WARNING</b>
	<b>To avoid electric shock or other injury, before doing any of the following, unplug the machine.</b>
The red wire in the power cord is broken or poorly connected.	Repair the cord and/or make the proper connection.
The microswitch in the power head is defective.	Replace the microswitch.
The microswitch in the Donut Robot's signal circuit is defective.	Replace the microswitch.

**THE CONVEYOR CHAINS DO NOT ADVANCE AT ALL, DO NOT ADVANCE FAR ENOUGH, OR DO NOT ADVANCE THE SAME DISTANCE DURING EACH CYCLE, BUT THE PILOT LIGHT DOES COME ON.**

Possible Cause	What To Do
	<b>WARNING</b>
	<b>To avoid electric shock or other injury, before doing the following, unplug the machine.</b>
The cam in the power head is loose.	Tighten the cam set screw.

**THE CONVEYOR CHAINS ADVANCE CONTINUOUSLY WHEN THE MAIN POWER IS ON.**

Possible Causes	What To Do
	<b>WARNING</b>
	<b>To avoid electric shock or other injury, before doing any of the following, unplug the machine.</b>
The brake is defective.	Repair or replace the brake.
The cam in the power head is loose.	Tighten the cam set screw.
The microswitch in the power head is defective.	Replace the microswitch.
The microswitch in the Donut Robot's signal circuit is defective.	Replace the microswitch.

**TWO ROWS OF DONUTS ARE ADVANCED DURING EACH CYCLE.**

Possible Causes	What To Do
	<b>WARNING</b>
	<b>To avoid electric shock or other injury, before doing either of the following, unplug the machine.</b>
The brake is defective.	Repair or replace the brake.
The cam in the power head is loose.	Tighten the cam set screw.

# Roto Cooler

SPECIFICATIONS				
Dimensions	Shipping Weight	Electrical Data	Construction	Standard Equipment
Dia.=24"/61 cm H=6-5/8"/17 cm	16 lb/7.3 kg	120 V 1 Phase 50 or 60 Hz	Basket: High-density polyethylene. Base: Spun, polished, heavy-gauge aluminum.	Basket and turntable base with power cord and motor.



Figure 2. Roto Cooler.

The Roto Cooler is designed to catch and cool donuts as they drop from the outfeed end of the Donut Robot. It is meant to be used on a flat, stationary table or countertop. The operator is expected to read and follow these instructions.

To use the Roto Cooler:

1. Place the Roto Cooler near the outfeed end of the Donut Robot so donuts will fall into it.
2. Connect the Roto Cooler power cord to the 120 V outlet on back of the Donut Robot's heater head.
3. Turn on the Roto Cooler. It will rotate and receive donuts. Remove cooled donuts from the Roto Cooler as needed.
4. When you are finished using the Roto Cooler, turn it off and unplug it.

## WARNING

**To avoid electrocuting yourself or damaging the machine, never submerge the base of the Roto Cooler.**

5. Clean the Roto Cooler using soap and water and a non-abrasive cloth or scrubber.

On the following pages are a wiring diagram and a parts list for the Roto Cooler.

### FIGURE 3. ROTO COOLER MAIN ASSEMBLY.

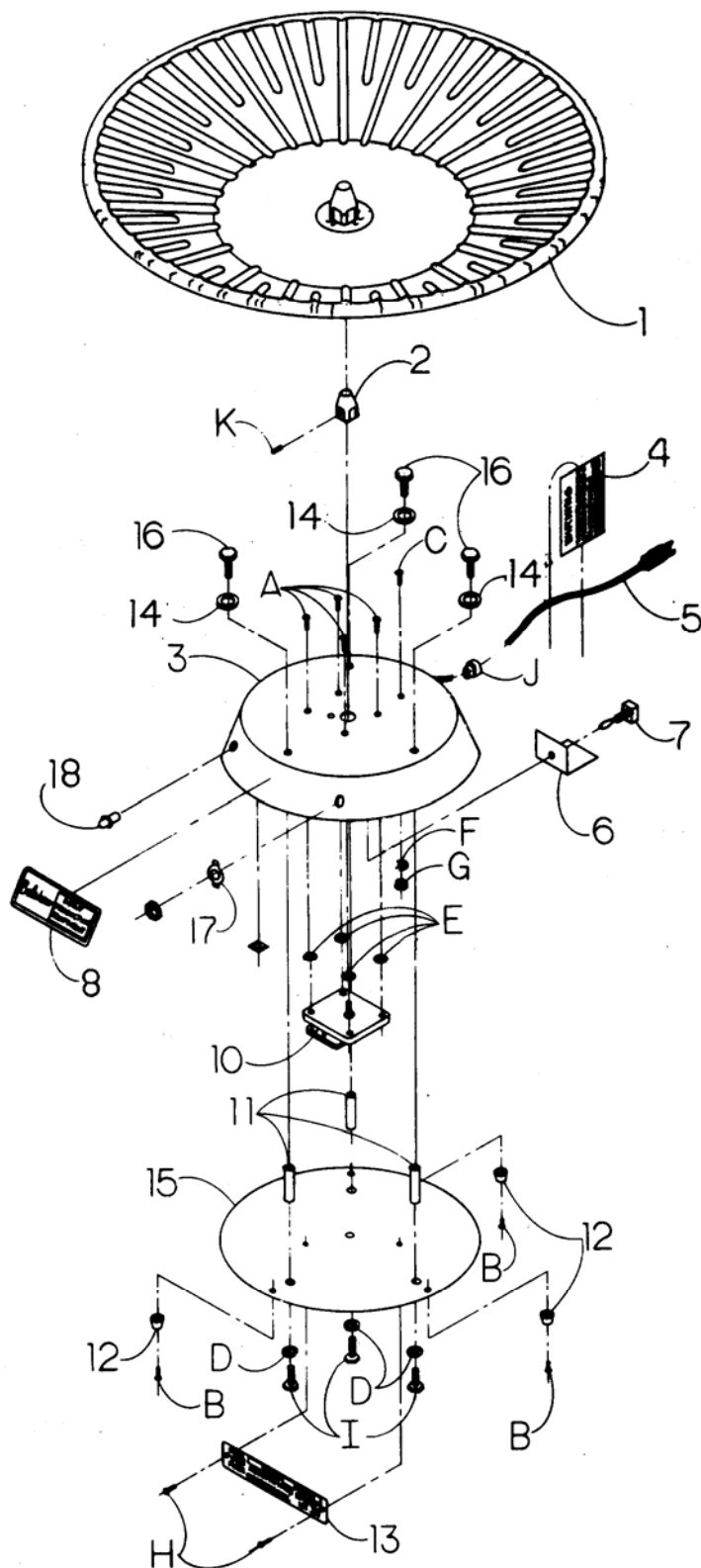
#### BILL OF MATERIAL

ITEM	DESCRIPTION
1	Tray
2	Drive Spindle
3	Housing
4	Warning Tag
5	Power Cord
6	Switch Insulation Strip
7	Toggle Switch
8	Belshaw Nameplate
10	Motor-50/60 Cycle
11	Spacer Tie-Down
12	Rubber Foot
13	Data Plate
14	Washer
15	Bottom Cover
16	Tray Bearing Pad
17	On/Off Switch Plate
18	Pilot Light-115 Volt, Yellow

#### FASTENERS

ITEM	DESCRIPTION
A	10-32 x 3/8 Round-Head Machine Screw
B	MD429BS Pop Rivet
C	10-24 x 3/8 Round-Head Machine Screw
D	1/4 SAE Flat Washer
E	#10
F	#10
G	10-24
H	MD419BS
I	1/4-20 x 1/2
J	6P-4
K	1/4-20 x 1/4

FIGURE 3. ROTO COOLER MAIN ASSEMBLY.



## Icing Finishing Tree and Roto Cooler

SPECIFICATIONS				
Dimensions	Shipping Weight	Electrical Data	Construction	Standard Equipment
Dia.=24"/61 cm H=32"/81 cm	28 lb/12.7 kg	120 V 1 Phase 50 or 60 Hz	Trays: Heavy-gauge aluminum. Basket: High-density polyethylene. Base: Spun, polished, heavy-gauge aluminum.	Power turntable and four trays, three of which have dividers.



Figure 4. Icing Finishing Tree and Roto Cooler.

The Roto Cooler is designed to catch and cool donuts as they drop from the outfeed end of the Donut Robot. It is meant to be used on a flat, stationary table or countertop.

The Icing Finishing Tree, which mounts on the Roto Cooler, is designed to hold toppings in which donuts can be dipped. The operator is expected to read and follow these instructions.

To use the Roto Cooler and the Icing Finishing Tree:

1. Attach the Icing Finishing Tree to the Roto Cooler. Fill the metal trays with toppings.
2. Install and operate the Roto Cooler as explained in the previous section.
3. Decorate the donuts with the toppings in the trays.
4. When you are finished using the Roto Cooler and the Icing Finishing Tree, turn off the Roto Cooler and unplug it.

### WARNING

**To avoid electrocuting yourself or damaging the machine, never submerge the base of the Roto Cooler.**

5. Clean the trays of the Roto Cooler and the Icing Finishing Tree using soap and water and a non-abrasive cloth or scrubber.

On the following page is a parts list for the Icing Finishing Tree.

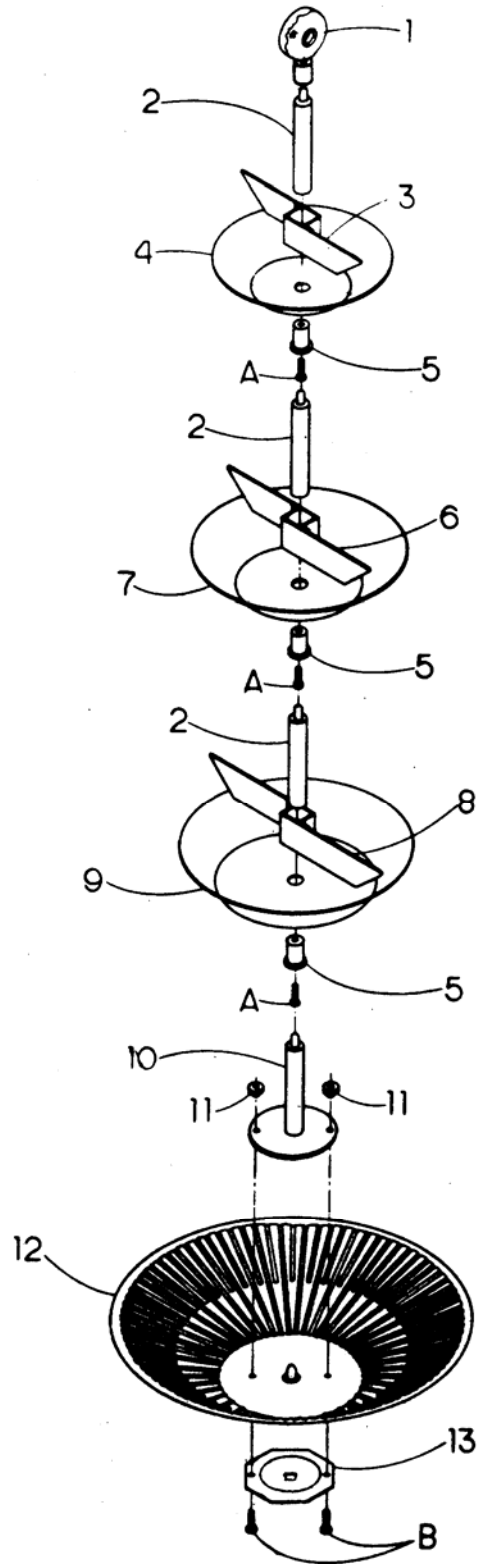
**FIGURE 5. ICING FINISHING TREE MAIN ASSEMBLY.**

**BILL OF MATERIAL**

ITEM	QTY.	DESCRIPTION
1	1	Tree Donut Assembly
2	3	Tree Spindle Assembly
3	1	Icing Tree Tray Divider Assembly–Small
4	1	Icing Tree Tray–Small
5	3	Tree Spindle Insert
6	1	Icing Tree Tray Divider Assembly–Medium
7	1	Icing Tree Tray–Medium
8	1	Icing Tree Tray Divider Assembly–Large
9	1	Icing Tree Tray–Large
10	1	Tree Base Assembly
11	2	Dial Lock Nut
12	1	Tray
13	1	Backing Plate

**FASTENERS**

ITEM	QTY.	DESCRIPTION
A	3	3/8-16 x 1 Fillister-Head Machine Screw, Plated
B	2	1/4-20 x 1 Hex-Head Machine Screw



SPECIFICATIONS				
Dimensions	Shipping Weight	Electrical Data	Construction	Standard Equipment
Dia.=17-1/4"/ 44 cm H=6-5/8"/17 cm	16 lb/7.3 kg	120 V 1 Phase 50 or 60 Hz	Spun, polished, heavy-gauge aluminum.	Power turntable with sugar tray.



Figure 6. Sugaring Tray.

The Roto Cooler base makes the Sugaring Tray rotate. It is meant to be used on a flat, stationary table or countertop.

The Sugaring Tray, which mounts on the Roto Cooler base, is designed to catch donuts as they drop from the outfeed end of the Donut Robot, and to hold toppings in which donuts can be dipped. The operator is expected to read and follow these instructions.

To use the Sugaring Tray and Roto Cooler base:

1. Put sugar, powdered sugar, or cinnamon-sugar in the tray.
2. Place the Sugaring Tray and Roto Cooler base near the outfeed end of the Donut Robot so donuts will fall into the tray.
3. Connect the Roto Cooler power cord to the 120 V outlet on back of the Donut Robot's heater head.
4. Turn on the Roto Cooler base. The Sugaring Tray will rotate and receive donuts.
5. Coat the donuts with the topping in the tray.
6. When you are finished using the Sugaring Tray, turn off and unplug the Roto Cooler base.

### WARNING

**To avoid electrocuting yourself or damaging the machine, never submerge the base of the Roto Cooler.**

7. Clean the Sugaring Tray using soap and water and a non-abrasive cloth or scrubber.

# Filter Flo Siphon

SPECIFICATIONS			
Dimensions	Shipping Weight	Construction	Standard Equipment
H=16"/41 cm Dia.=6-1/4"/16 cm	3 lb/1.4 kg	Siphon tube and valve: nickel-plated steel. Handle: wood. Filter ring: powder-coated. Filters: flannel. Mounting brackets: aluminum alloy.	Siphon assembly including valve, filter, filter ring, and clamp.

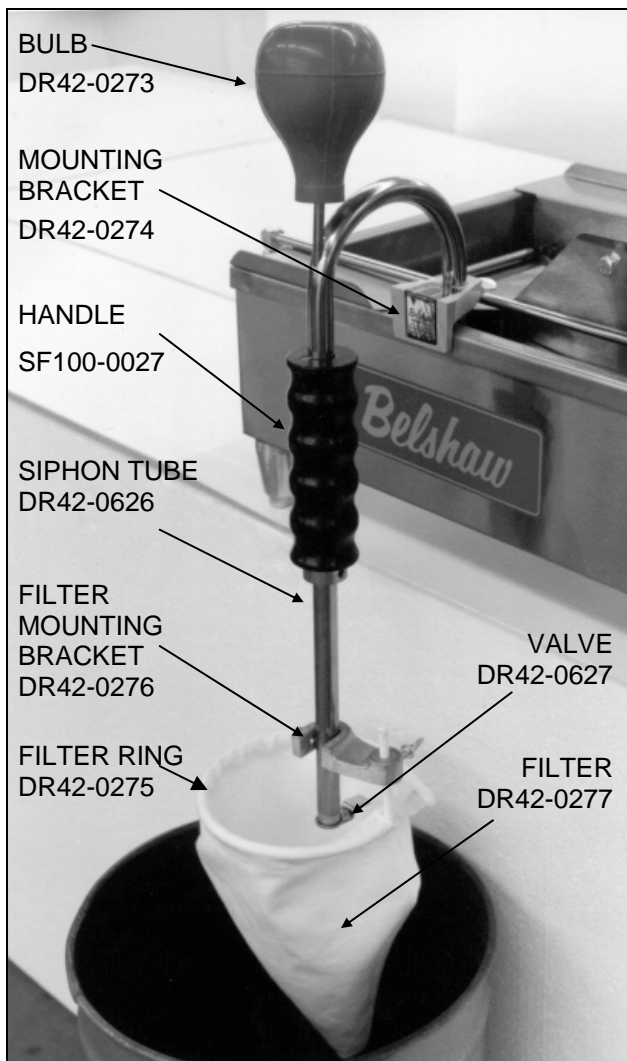


Figure 7. Filter Flo Siphon.

The Filter Flo Siphon is designed to drain and filter shortening from the kettle of the Donut Robot. The operator is expected to read and follow these instructions.

## Installation

1. Let the shortening cool to 100°F/38°C.

### **WARNING**

**Hot shortening can cause serious burns. Never touch hot shortening. Never wear shorts while using the Filter Flo Siphon.**

2. Place the mounting bracket, with the siphon tube in it, on the lip of the kettle. You may place it on the infeed end of the kettle, or on the front side of the kettle. If you place it on the front side, you must disconnect the swing connecting rod from the throw arm and move it out of the way.
3. Position the opening of the siphon tube near the bottom of the kettle.
4. Tighten the thumb screw in the mounting bracket.

5. Attach the filter assembly to the lower part of the siphon tube, as shown in Figure A-7. To do this:
  - a. Slide the opening in the filter mounting bracket around the siphon tube.
  - b. Adjust the filter mounting bracket vertically to ensure that the filter does not touch the valve assembly.
  - c. Tighten the screw that holds the filter mounting bracket to the siphon tube.
  - d. Tighten the screw that holds the filter retaining ring to the filter mounting bracket.

### **WARNING**

**Make sure that both screws in the filter assembly are tight. If they are not, the filter assembly might slide off of the siphon tube during operation, causing shortening to splatter.**

6. Place a five-gallon metal container under the filter.

### **WARNING**

**Do not use a plastic container. Hot shortening could melt the container, possibly burning you and getting shortening on the floor. Shortening on the floor could cause you to slip or fall, resulting in injury or even death.**

## **Operation**

1. Compress the bulb quickly and release it quickly. Do this only once. Shortening should flow into the container.

### **CAUTION**

**Do not compress the bulb more than once. Doing so could allow hot shortening to get into the bulb, damaging your equipment.**

2. Watch the container as the shortening flows into it. If the shortening rises to within 2” (5 cm) of the top of the container, do the following:
  - a. With one hand, hold the siphon by the handle. With the other hand, loosen the thumb screw that holds the siphon assembly to the mounting bracket on the lip of the kettle.
  - b. Slowly lift the siphon assembly so its opening is above the shortening. Do not remove it from the mounting bracket.
  - c. Tighten the thumb screw.
  - d. When the shortening stops flowing and the valve closes, move the container out from under the filter.
  - e. Place another five-gallon metal container under the filter.
  - f. With one hand, hold the siphon by the handle. With the other hand, loosen the thumb screw that holds the siphon assembly to the mounting bracket on the lip of the kettle.
  - g. Slowly lower the siphon assembly so its opening is near the bottom of the kettle.
  - h. Tighten the thumb screw.
  - i. Restart the siphon, as explained in step 1.
  - j. Continue watching the container and repeat the above procedure as needed.

## WARNING

**If you allow shortening to overflow the container, the shortening could burn you, and it will get on the floor, possibly causing slips, falls, injury, or even death. If shortening does get on the floor, thoroughly clean and dry the floor right away.**

3. When the shortening stops flowing, tilt up the side of the kettle opposite the siphon. Place a wedge under the side of the kettle to hold it up. The remaining shortening will now flow toward the siphon.
4. Set aside the container of shortening.
5. Remove the filter assembly.
6. Place a different container under the valve assembly and start the siphon again. Drain the remaining shortening and discard it; it will be full of sediment.

## Cleaning

1. Remove the siphon from the Donut Robot.
2. Squeeze the bulb several times to expel shortening from the siphon.
3. Wipe the siphon clean and hang it with the bulb side up so any remaining shortening will drain. Place a pan under the siphon to collect the shortening.
4. Rinse the filter bag and hang it to dry. You may launder it as needed.

## WARNING

**After washing, be sure the Filter Flo Siphon is completely dry before using it again. Moisture will cause hot shortening to spatter, which may cause serious injury.**

## Shortening Reserve Tank

SPECIFICATIONS				
Dimensions	Shipping Weight	Capacity	Construction	Standard Equipment
L=11"/28 cm W=5-1/2"/14 cm D=4"/10 cm	4 lb/2 kg	4 lb/2 kg shortening	Nickel-plated steel tank and non-corrosive self-closing valve.	Shortening reserve tank and valve assembly.

The Shortening Reserve Tank is designed to supply melted shortening to the kettle of the Donut Robot. The operator is expected to read and follow these instructions.

To use the Shortening Reserve Tank:

1. Position the Shortening Reserve Tank on the conveyor side panels. Make sure that you do not position it above the donut turner.

### **WARNING**

**Be careful if you put hot shortening into the tank. Hot shortening can cause serious burns.**

2. Place shortening in the tank.
3. Turn on the Donut Robot. The heat of the fryer will melt the shortening in the tank.
4. To supply shortening to the fryer, open the valve by pushing down on the valve assembly.
5. When you are done making donuts, drain the remaining shortening into the fryer.
6. When the shortening and equipment have cooled completely, remove the Shortening Reserve Tank and wash it.