# Model 490

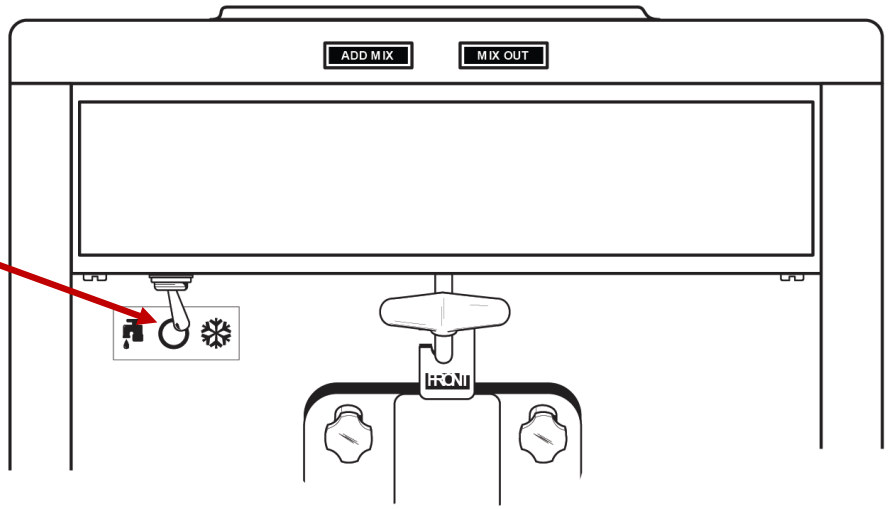
## Extra Firm Product
## Smoothie Machine

### Operator Training

# Controls

## Control Switch

The center position is OFF. The right position is AUTO, which activates the beater motor and the refrigeration system. The left position is WASH, which activates the beater motor only.




On/Auto

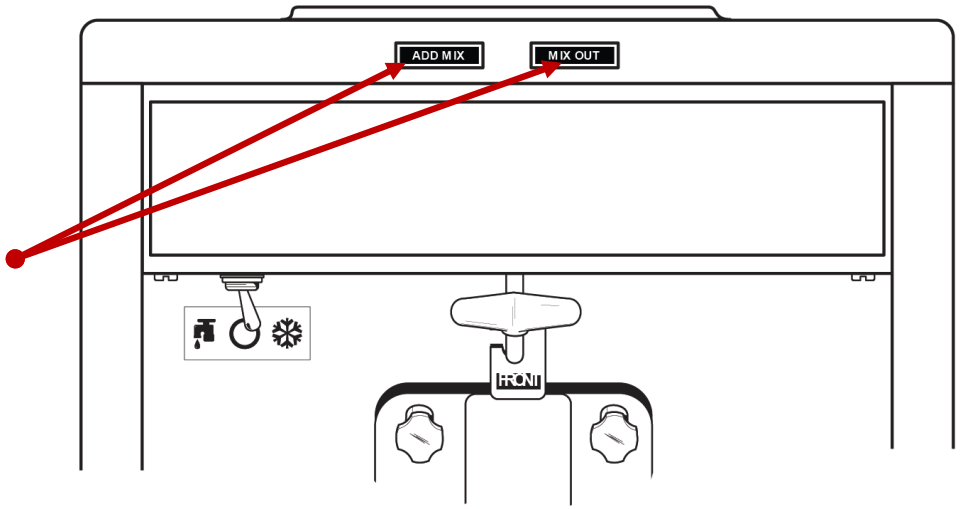
Off

Wash

# Controls

## Mix Level Indicators

The mix level indicators are located on the front of the machine. When the MIX LOW indicator is flashing, the mix hopper has a low supply of mix and should be refilled as soon as possible. When the MIX OUT indicator is flashing, there is no mix in the hopper. The compressor stops running until the mix is replenished. This eliminates possible damage to the beater, blades, drive shaft and door.




On/Auto

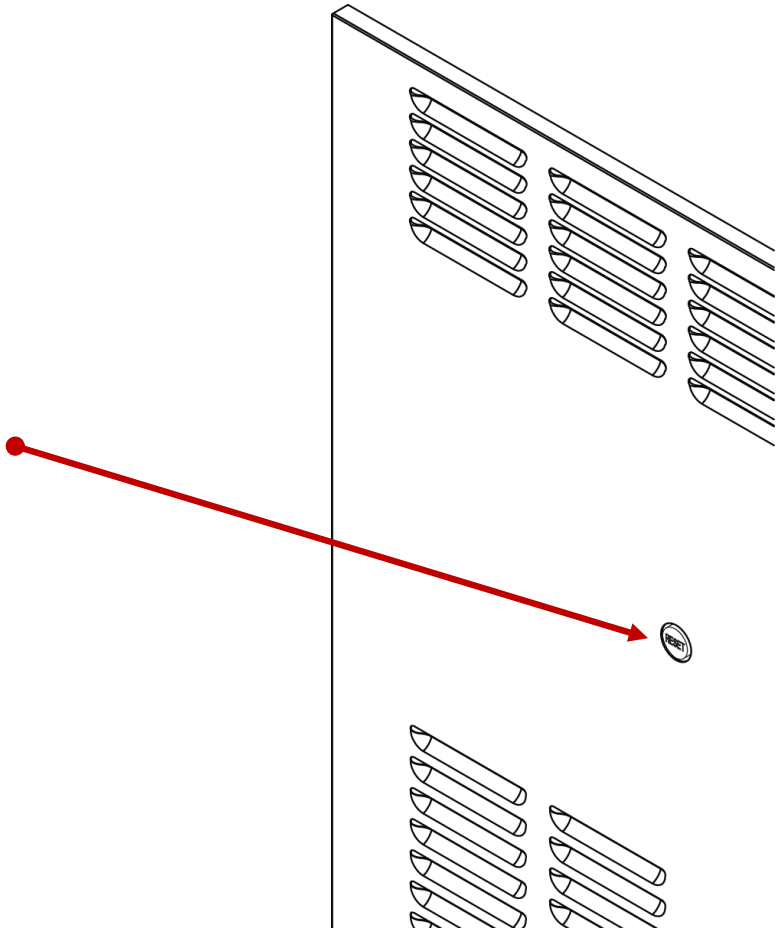
Off

Wash

# Controls

## Reset Button

The reset button is located on the left side panel. The reset button protects the beater motor from an overload condition. If an overload occurs, the reset mechanism will trip. To properly reset the freezer, place the control switch in the OFF position. Press the reset button firmly. Place the control switch in the WASH position and observe the freezer's performance. The beater motor should operate without tripping the overload. Once satisfied, place the control switch back in the AUTO position.

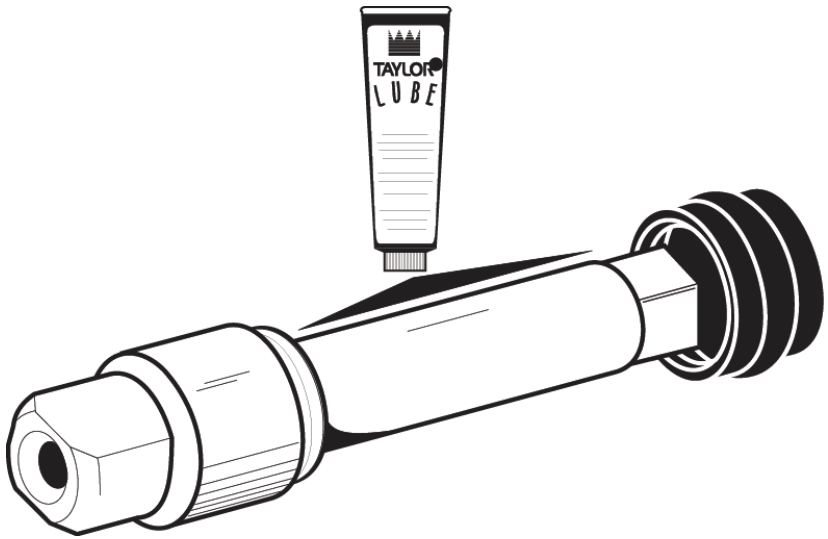


# Operating Procedures

- Assembly
- Sanitizing
- Priming
- Draining
- Rinsing
- Cleaning
- Disassembly
- Brush Cleaning

**Step 1**

Lubricate the groove and the shaft portion that comes in contact with the bearing on the beater drive shaft. Slide the seal over the shaft and groove until it snaps into place. DO NOT lubricate the hex end of the drive shaft. Fill the inside portion of the seal with 1/4” more lubricant and evenly lubricate the flat side of the seal that comes in contact with the bearing.



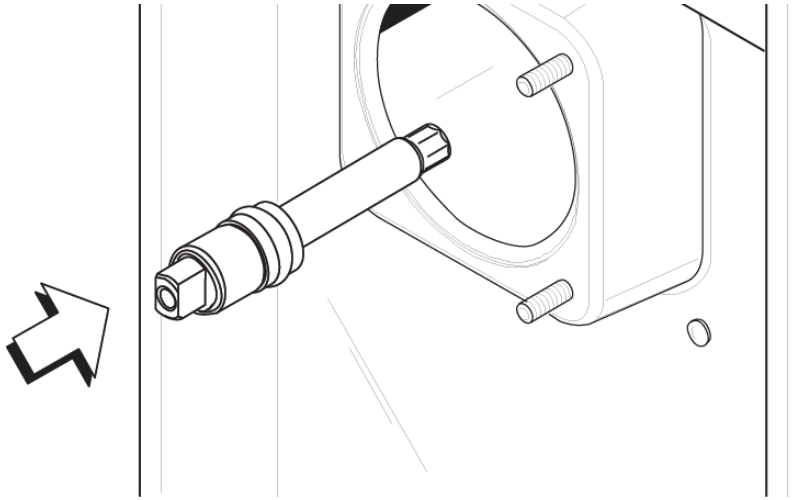

**Assembly**

# Operating Procedures

- Assembly
- Sanitizing
- Priming
- Draining
- Rinsing
- Cleaning
- Disassembly
- Brush Cleaning

**Step 2**

Insert the drive shaft through the rear shell bearing in the freezing cylinder and engage the hex end firmly into the gear box coupling.



# Operating Procedures

- Assembly
- Sanitizing
- Priming
- Draining
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- Cleaning
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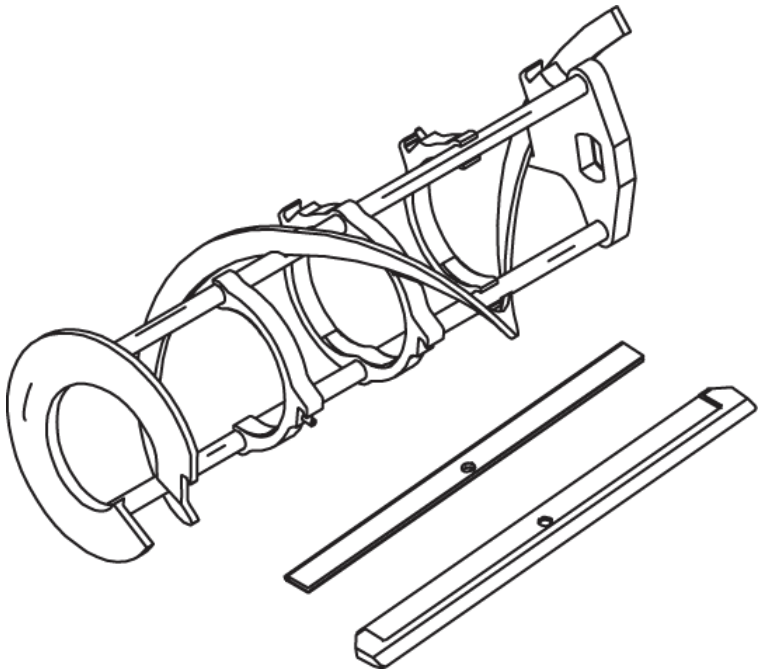
**Step 3**

Check the scraper blades for any nicks or signs of wear. If any nicks are present, replace the blades. If the blades are in good condition, install the scraper blade clips on the scraper blades. Place the rear scraper blade over the rear holding pin on the beater (knife edge to the outside).

**Note:** To prevent costly damage, the hole on the scraper blade must fit securely over the pin.



# Operating Procedures

- Assembly
- Sanitizing
- Priming
- Draining
- Rinsing
- Cleaning
- Disassembly
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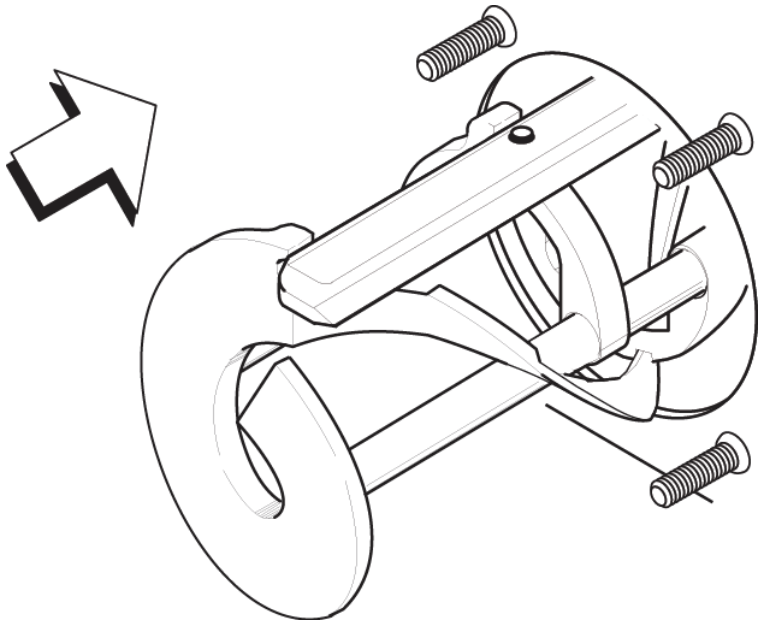
**Step 4**

Holding the rear blade on the beater, slide the assembly into the freezing cylinder halfway, tail end first. Install the front scraper blade over the front holding pin. Slide the beater assembly completely into the freezing cylinder.

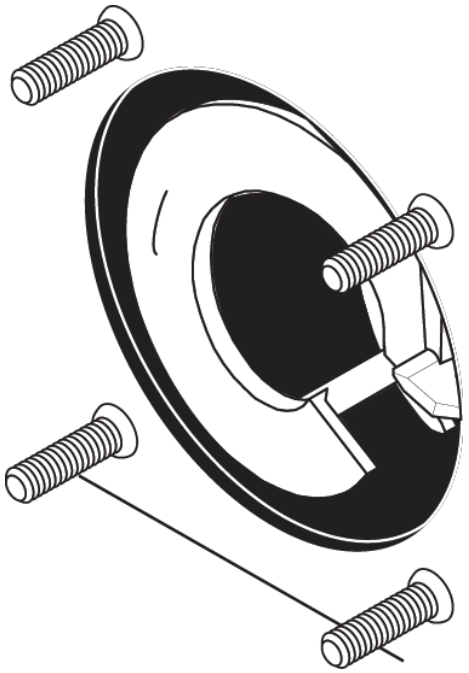


# Operating Procedures

- Assembly
- Sanitizing
- Priming
- Draining
- Rinsing
- Cleaning
- Disassembly
- Brush Cleaning

**Step 5**

Make sure the beater assembly is in position over the drive shaft. Turn the beater slightly to be certain that the beater is properly seated. When in position, the beater will not protrude beyond the front of the freezing cylinder.

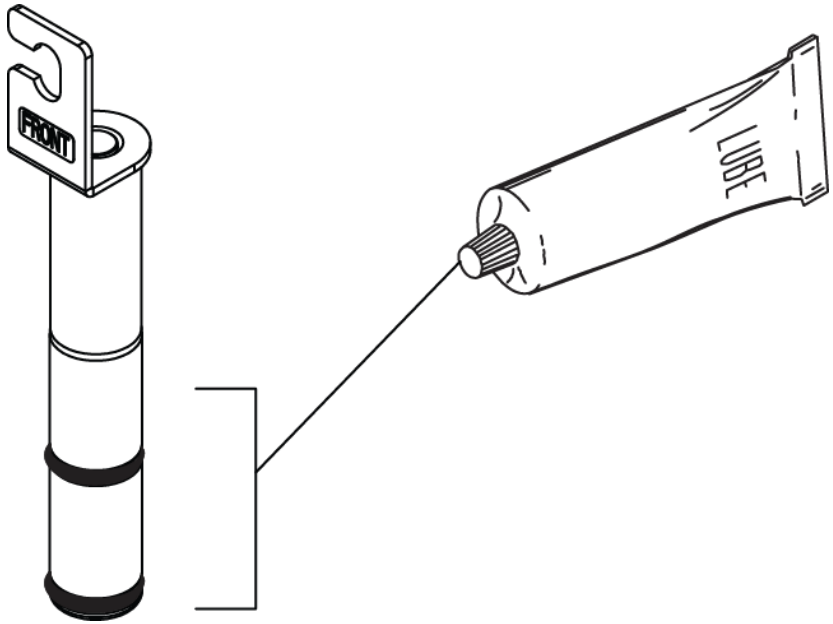


# Operating Procedures

- Assembly
- Sanitizing
- Priming
- Draining
- Rinsing
- Cleaning
- Disassembly
- Brush Cleaning

**Step 6**

Slide the two o-rings into the grooves on the draw valve and lubricate the bottom 1/2 of the valve.



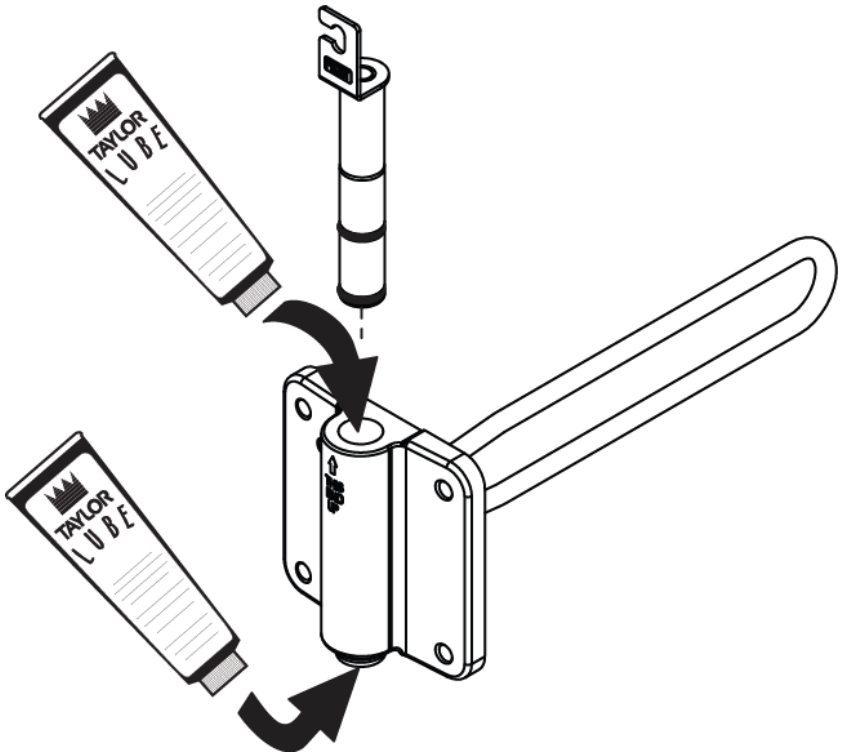

**Assembly**

# Operating Procedures

- Assembly
- Sanitizing
- Priming
- Draining
- Rinsing
- Cleaning
- Disassembly
- Brush Cleaning

**Step 7**

Lubricate the inside of the freezer door spout, top and bottom, and insert the draw valve into the freezer door from the top. It will be necessary to rotate the draw valve to the right when installing the door on the freezer.



# Operating Procedures

- Assembly
- Sanitizing
- Priming
- Draining
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- Disassembly
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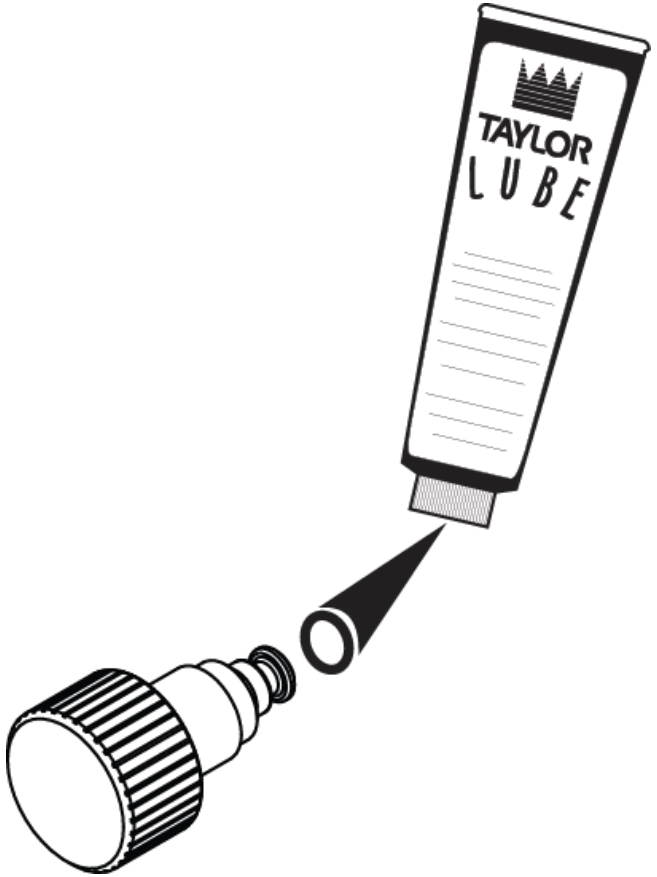
**Step 8**

Place the o-ring onto the prime plug and lubricate.



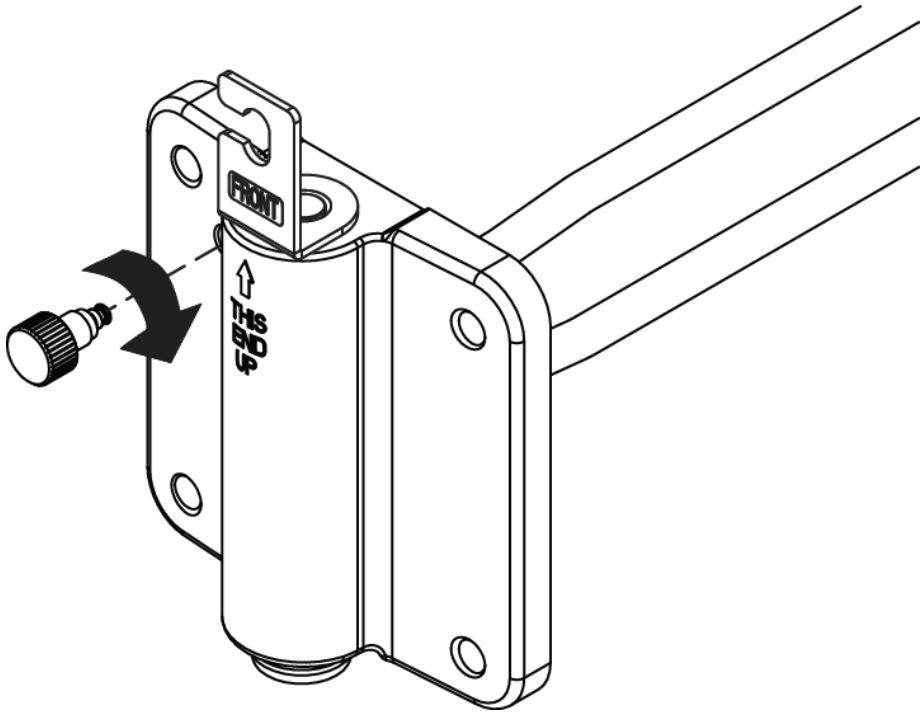

Assembly

# Operating Procedures

- Assembly
- Sanitizing
- Priming
- Draining
- Rinsing
- Cleaning
- Disassembly
- Brush Cleaning

**Step 9**

Screw the prime plug into position on the front of the door.



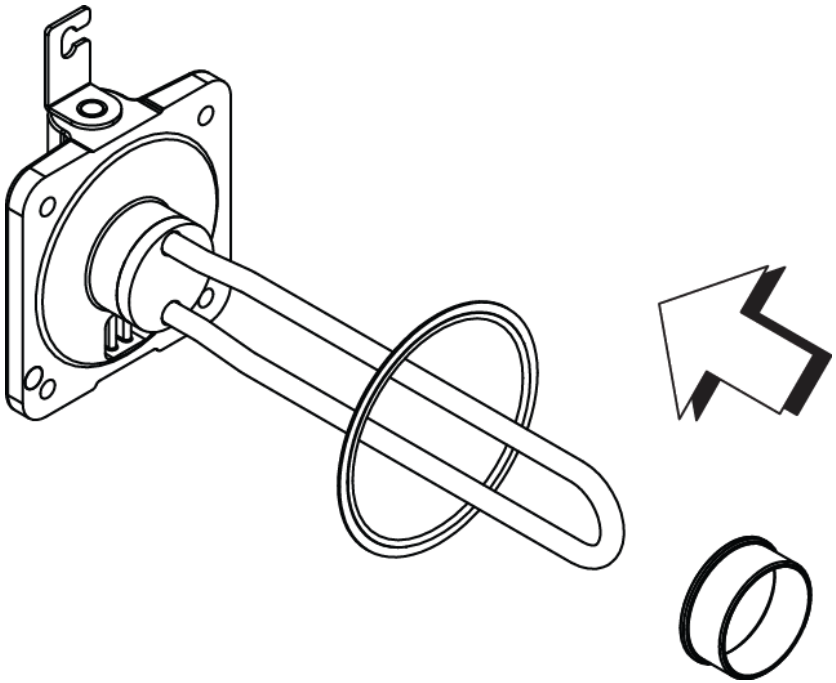

Assembly

# Operating Procedures

- Assembly
- Sanitizing
- Priming
- Draining
- Rinsing
- Cleaning
- Disassembly
- Brush Cleaning

**Step 10**

Place the freezer door gasket into the groove on the back of the freezer door. Slide the front bearing over the baffle rod so the flanged edge is against the door. DO NOT LUBRICATE THE GASKET OR BEARING.



# Operating Procedures

- Assembly
- Sanitizing
- Priming
- Draining
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- Cleaning
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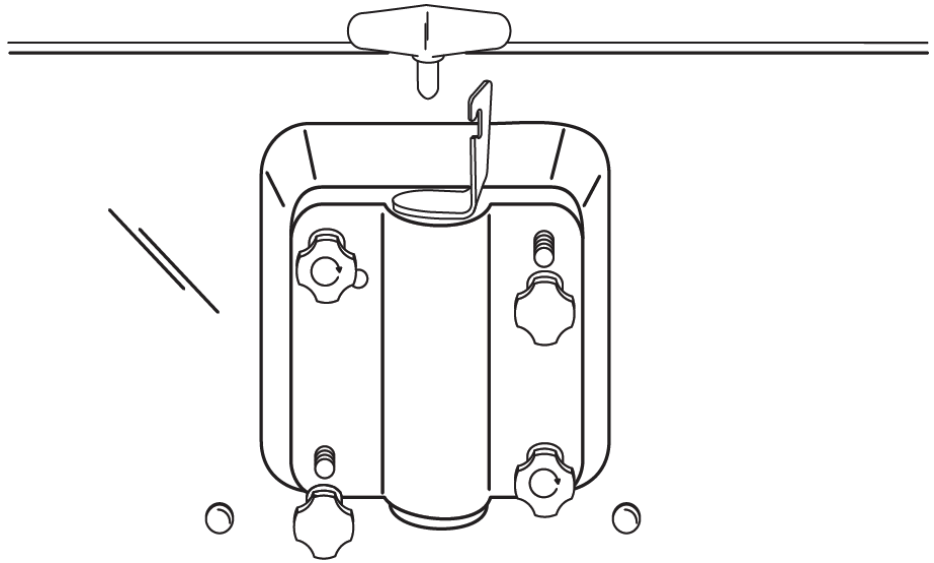
**Step 11**

Insert the baffle rod through the beater in the freezing cylinder. With the door seated on the freezer studs, install the handscrews. Tighten equally in a criss-cross pattern to insure the door is snug.



# Operating Procedures

- Assembly
- Sanitizing
- Priming
- Draining
- Rinsing
- Cleaning
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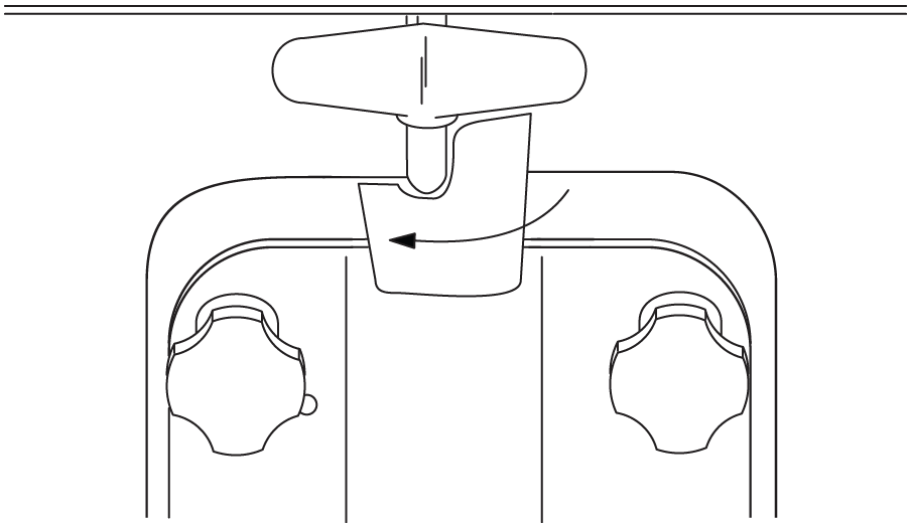
**Step 12**

Rotate the draw valve bracket to the left and center it into position by raising the draw arm and placing it into the slotted groove of the draw valve bracket.

**Note:** The draw valve bracket must be positioned with the notch to the left.

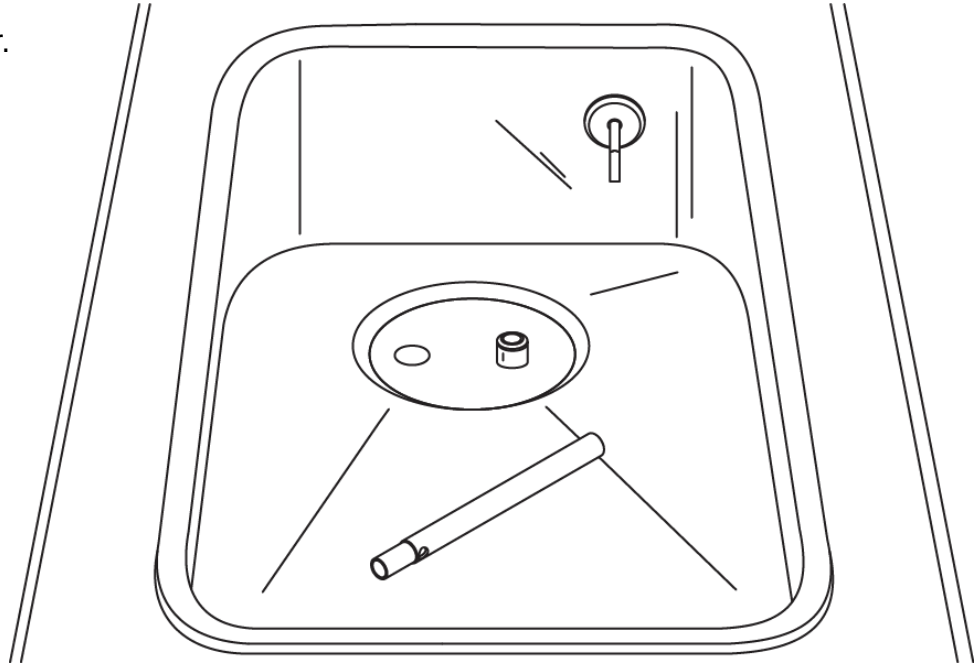


# Operating Procedures

- Assembly
- Sanitizing
- Priming
- Draining
- Rinsing
- Cleaning
- Disassembly
- Brush Cleaning

**Step 13**

Lay the air tube in the bottom of the mix hopper.



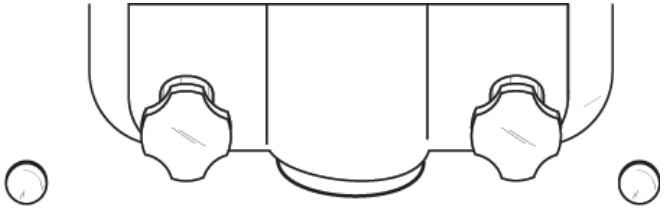
Assembly

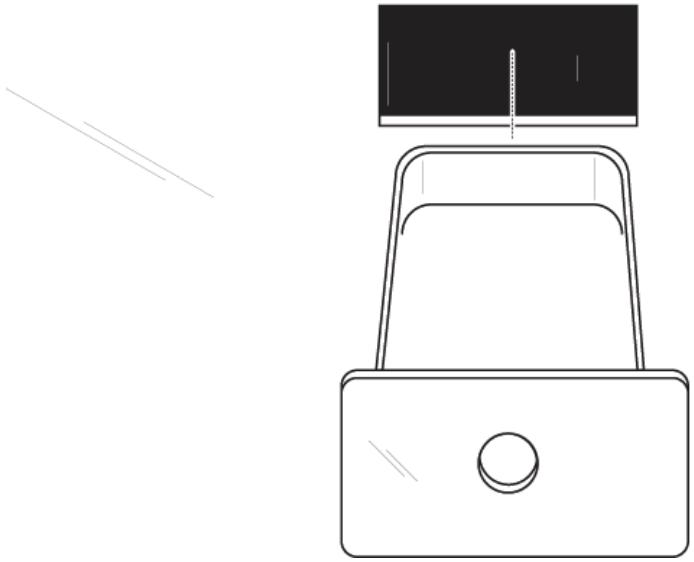
# Operating Procedures

- Assembly
- Sanitizing
- Priming
- Draining
- Rinsing
- Cleaning
- Disassembly
- Brush Cleaning

**Step 14**

Slide the center drip pan into the hole in the front panel.





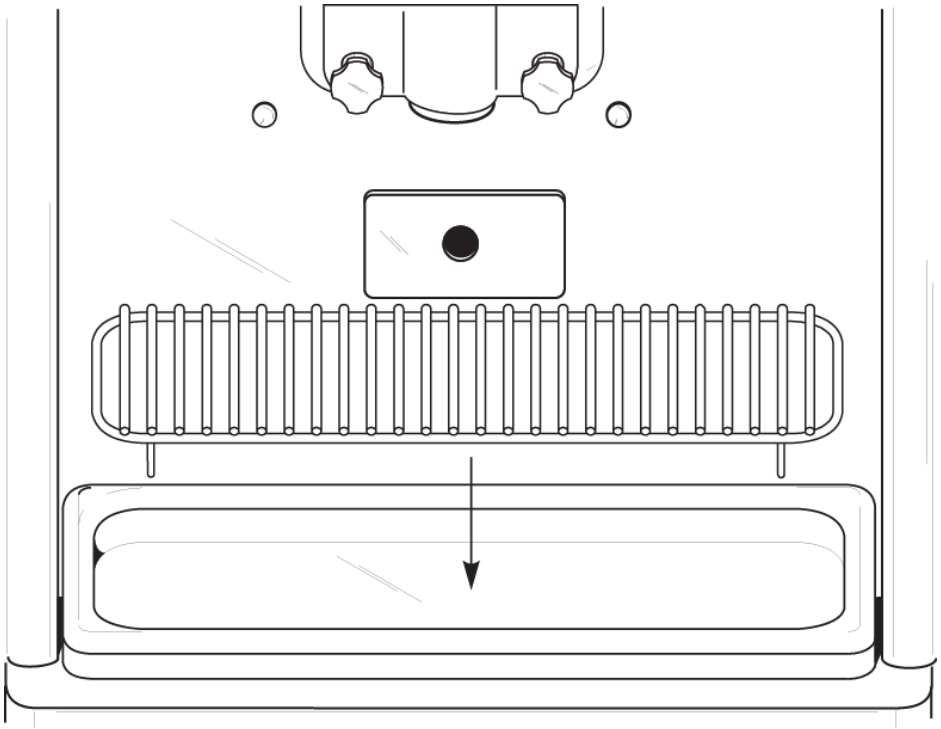
Assembly

# Operating Procedures

- Assembly
- Sanitizing
- Priming
- Draining
- Rinsing
- Cleaning
- Disassembly
- Brush Cleaning

**Step 15**

Install the front drip tray and splash shield under the door spout.



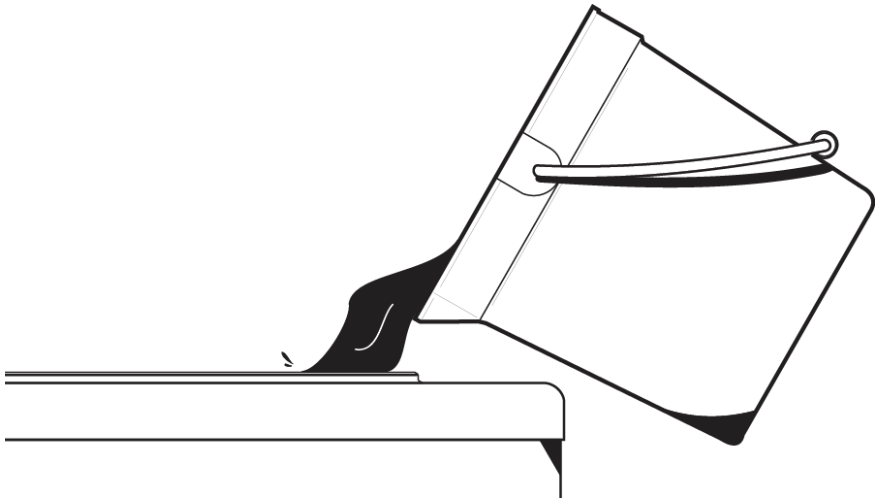
Assembly

# Operating Procedures

- Assembly
- Sanitizing
- Priming
- Draining
- Rinsing
- Cleaning
- Disassembly
- Brush Cleaning

**Step 1**
Prepare an approved 100 PPM sanitizing solution (examples: 2-1/2 gal. [9.5 liters] of Kay-5R or 2 gal. [7.6 liters] of Stera SheenR). USE WARM WATER AND FOLLOW THE MANUFACTURER'S SPECIFICATIONS.

**Step 2**
Pour the sanitizing solution into the hopper and allow it to flow into the freezing cylinder.



Sanitizing

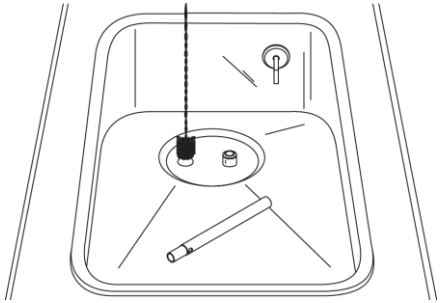
# Operating Procedures

- Assembly
- Sanitizing
- Priming
- Draining
- Rinsing
- Cleaning
- Disassembly
- Brush Cleaning

**Step 3**
Open the prime plug on the door.

**Step 4**
While the solution is flowing into the freezing cylinder, brush clean the hopper.

In cleaning the mix hopper, take particular care in brushing the mix level sensing probes, the mix inlet hole and the air tube.



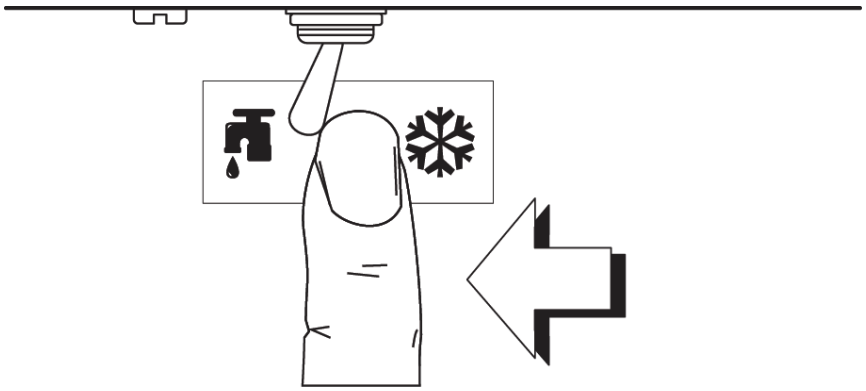
Sanitizing

# Operating Procedures

- Assembly
- Sanitizing
- Priming
- Draining
- Rinsing
- Cleaning
- Disassembly
- Brush Cleaning

**Step 5**
When sanitizing solution starts leaking from the prime port, close the prime plug.

**Step 6**
Place the control switch in the “WASH” position. This will cause the sanitizing solution in the freezing cylinder to agitate. Allow the solution to agitate for five minutes.



Sanitizing

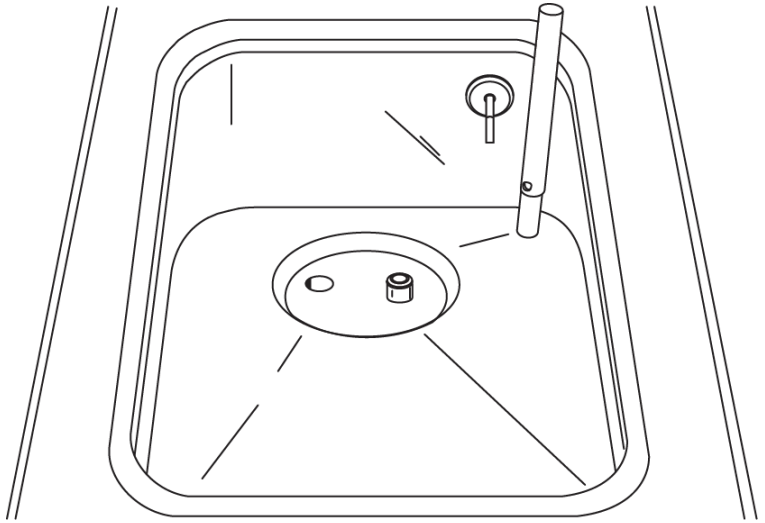
# Operating Procedures

- Assembly
- Sanitizing
- Priming
- Draining
- Rinsing
- Cleaning
- Disassembly
- Brush Cleaning

**Step 7**
Place an empty pail beneath the door spout and raise the draw arm. Draw off all the sanitizing solution. When the sanitizer stops flowing from the door spout, lower the draw arm and place the control switch in the “OFF” position.

**Note:** You have just sanitized the freezer. Therefore, be sure your hands are sanitized before performing the following steps.

**Step 8**
Stand the air tube in the corner of the mix hopper.



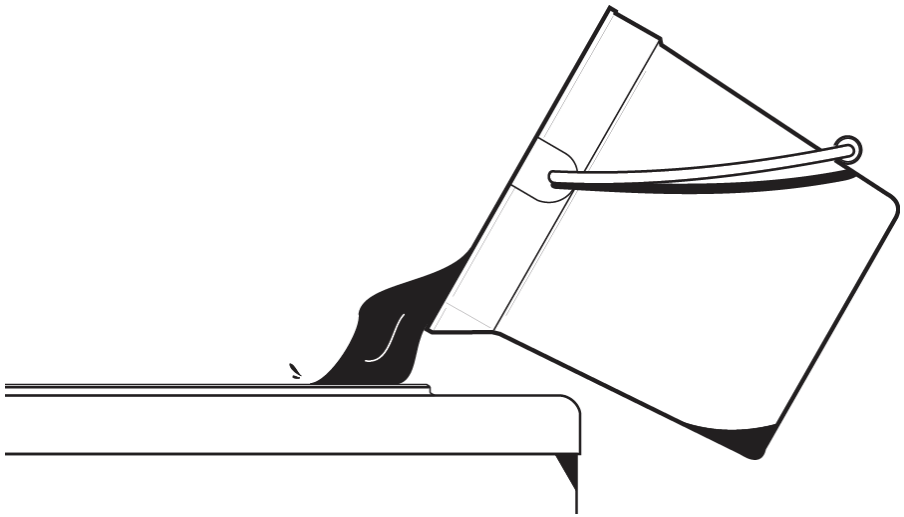
Sanitizing

# Operating Procedures

- Assembly
- Sanitizing
- Priming
- Draining
- Rinsing
- Cleaning
- Disassembly
- Brush Cleaning

**Step 1**

With a mix pail beneath the door spout, raise the draw arm. Pour two gallons (7.6 liters) of FRESH mix into the hopper and allow it to flow down into the freezing cylinder. This will force out any remaining sanitizing solution. When full strength mix is flowing from the door spout, lower the draw arm.



Priming

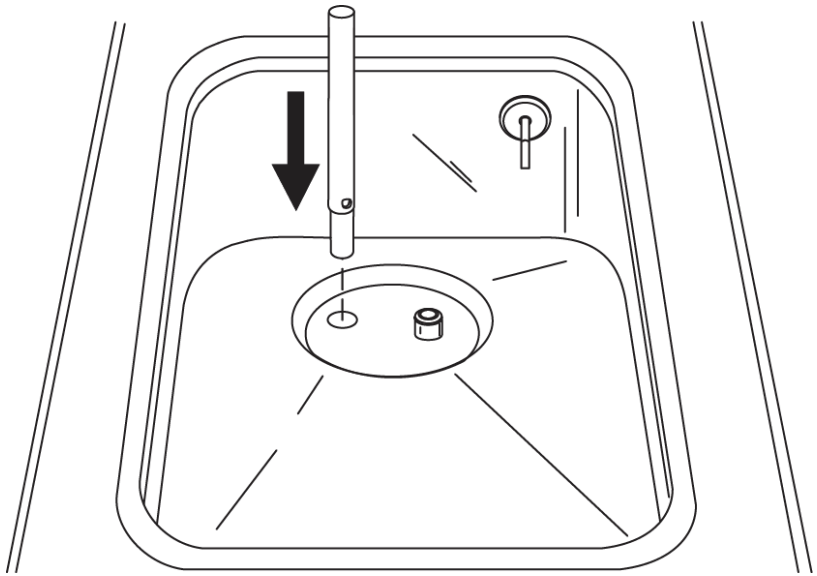
# Operating Procedures

- Assembly
- Sanitizing
- Priming
- Draining
- Rinsing
- Cleaning
- Disassembly
- Brush Cleaning

**Step 2**
Open the prime plug by turning it counterclockwise until the air in the freezing cylinder is allowed to escape.

**Step 3**
When product starts flowing from the bleed port, close the prime plug by turning it clockwise until it is snug against the freezer door.

**Step 4**
Install the air tube in the mix inlet hole.



Priming

# Operating Procedures

- Assembly
- Sanitizing
- Priming
- Draining
- Rinsing
- Cleaning
- Disassembly
- Brush Cleaning

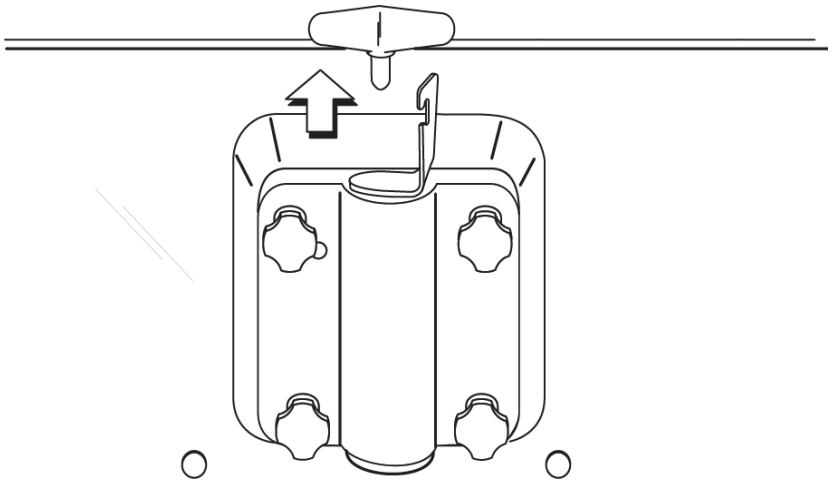
**Step 5**
Fill the hopper with mix.

**Step 6**
Place the control switch in the "AUTO" position. Rotate the draw valve away from the draw arm. Lift the draw arm to start the compressor.

Rotate the draw valve back to its normal position on the draw arm. When the unit cycles off, the product will be at serving temperature.

**Step 7**
Place the mix hopper cover in position.

**Note:** When drawing product, gently raise the draw arm to the fully opened position.



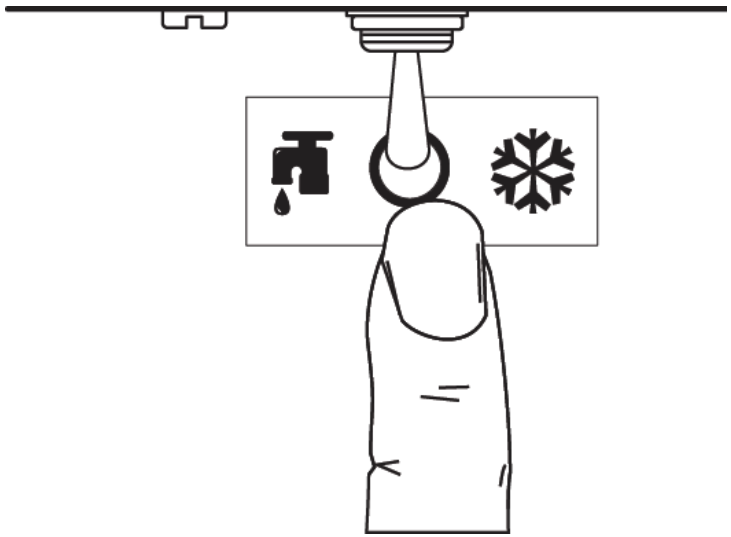
Priming

# Operating Procedures

- Assembly
- Sanitizing
- Priming
- Draining
- Rinsing
- Cleaning
- Disassembly
- Brush Cleaning

**Step 1**
Place the control switch in the "OFF" position.

**Step 2**
Remove the hopper cover and air tube. Take these items to the sink for cleaning.



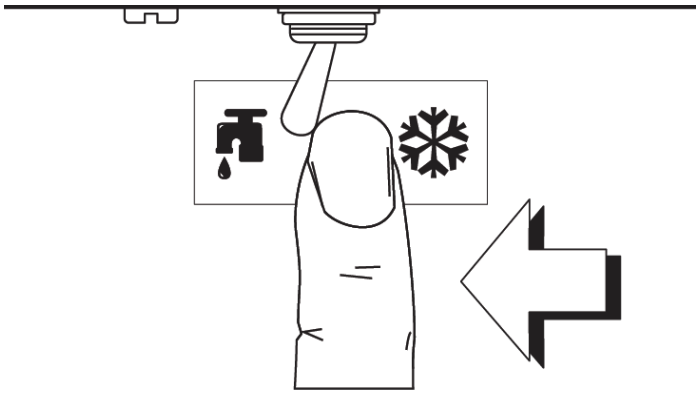
Draining

# Operating Procedures

- Assembly
- Sanitizing
- Priming
- Draining
- Rinsing
- Cleaning
- Disassembly
- Brush Cleaning

**Step 3**
**If local health codes permit the use of rerun**, place a sanitized, NSF approved stainless steel rerun container beneath the door spout. Place the control switch in the "WASH" position and raise the draw arm. When all the product stops flowing from the door spout, lower the draw arm and place the control switch in the "OFF" position. Place the sanitized lid on the rerun container and place it in the walk-in cooler. See Operator's Manual for instructions regarding the proper use of rerun.

**Note:** If local health codes DO NOT permit the use of rerun, the product must be discarded. Follow the instructions in the previous step, except drain the product into a mix pail and properly discard the mix.



Draining

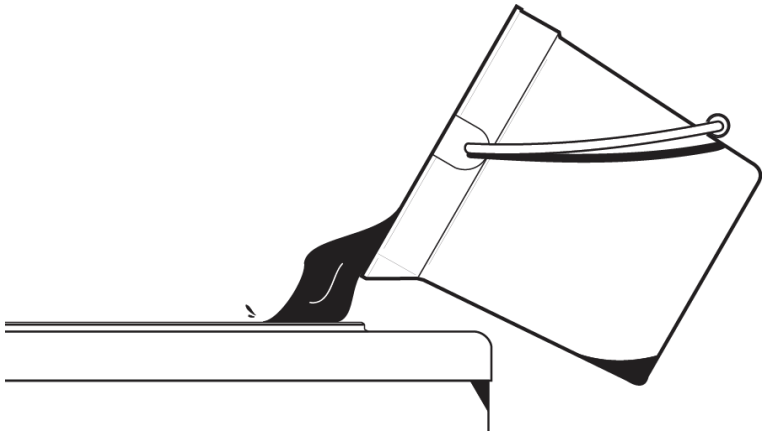
# Operating Procedures

- Assembly
- Sanitizing
- Priming
- Draining
- Rinsing
- Cleaning
- Disassembly
- Brush Cleaning

**Step 1**
Pour two gallons (7.6 liters) of cool, clean water into the mix hopper. With the brushes provided, scrub the mix hopper, mix inlet hole, and mix level sensing probes.

**Step 2**
With a mix pail beneath the door spout, place the control switch in the “WASH” position and raise the draw arm. Drain all the rinse water from the freezing cylinder. When the rinse water stops flowing from the door spout, lower the draw arm and place the control switch in the “OFF” position.

Repeat this procedure until the rinse water being drawn from the freezing cylinder is clear.



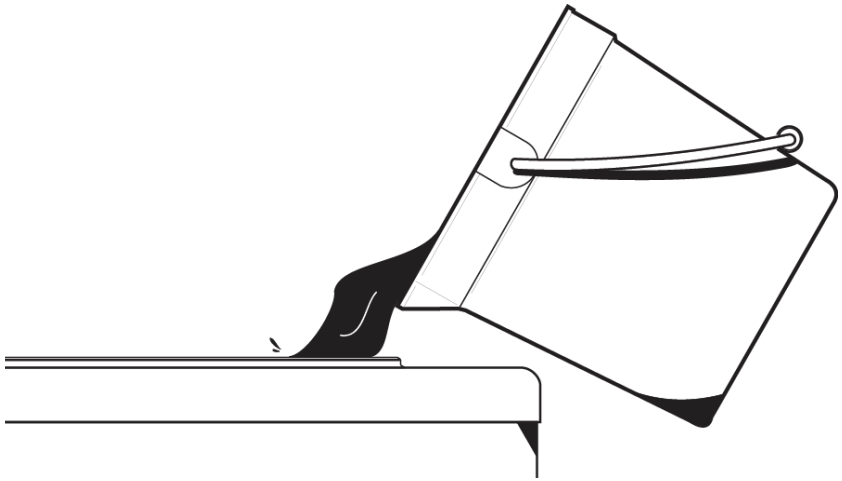
**Rinsing**

# Operating Procedures

- Assembly
- Sanitizing
- Priming
- Draining
- Rinsing
- Cleaning
- Disassembly
- Brush Cleaning

**Step 1**
Prepare an approved 100 PPM cleaning solution (examples: 2-1/2 gal. [9.5 liters] of Kay-5R or 2 gal. [7.6 liters] of Stera-SheenR). USE WARM WATER AND FOLLOW THE MANUFACTURER'S SPECIFICATIONS.

**Step 2**
Pour the cleaning solution into the hopper and allow it to flow into the freezing cylinder.



## Cleaning

# Operating Procedures

- Assembly
- Sanitizing
- Priming
- Draining
- Rinsing
- Cleaning
- Disassembly
- Brush Cleaning

**Step 3**
Open the prime plug on the door.

**Step 4**
While the solution is flowing into the freezing cylinder, brush clean the mix hopper, mix inlet hole, and mix level sensing probes.

## Cleaning

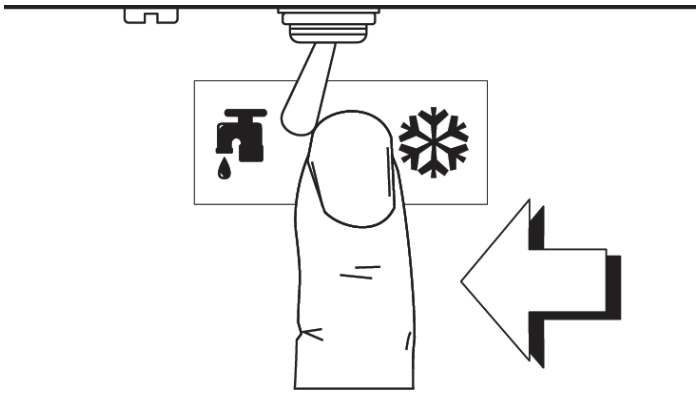
# Operating Procedures

- Assembly
- Sanitizing
- Priming
- Draining
- Rinsing
- Cleaning
- Disassembly
- Brush Cleaning

**Step 5**
When the solution starts leaking from the prime port, close the prime plug.

**Step 6**
Place the control switch in the "WASH" position. This will cause the cleaning solution in the freezing cylinder to agitate.

**Step 7**
Place an empty mix pail beneath the door spout and raise the draw arm. Draw off all the cleaning solution. When the solution stops flowing from the door spout, lower the draw arm and place the control switch in the "OFF" position.



Cleaning

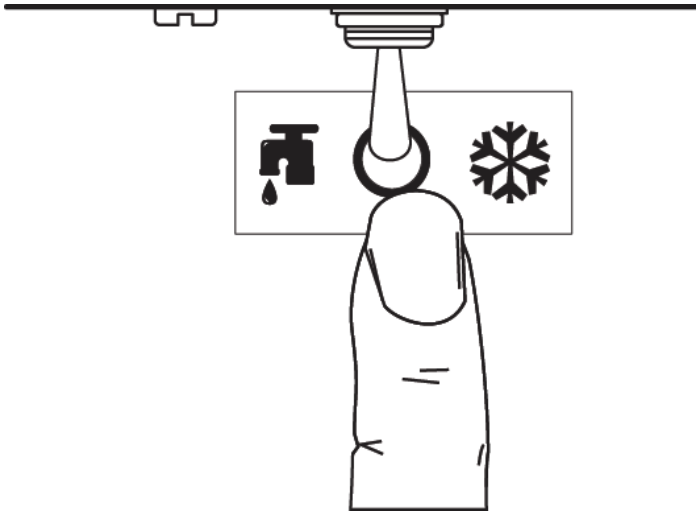
# Operating Procedures

- Assembly
- Sanitizing
- Priming
- Draining
- Rinsing
- Cleaning
- Disassembly
- Brush Cleaning

**Note:** Failure to remove, brush clean, and air dry these items will result in damage to the related components.

**Step 1**
BE SURE THE CONTROL SWITCH IS PLACED IN THE “OFF” POSITION.

**Step 2**
Remove the handscrews, freezer door, gasket, front bearing, beater, scraper blades, and drive shaft from the freezing cylinder. Take these items to the sink for cleaning.



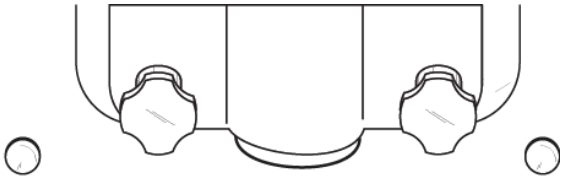
## Disassembly

# Operating Procedures

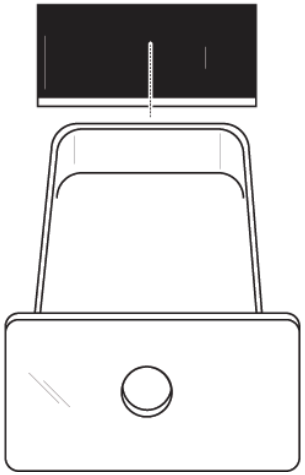
- Assembly
- Sanitizing
- Priming
- Draining
- Rinsing
- Cleaning
- Disassembly
- Brush Cleaning

**Step 3**
Remove the drip pan from the machine.

**Note:** If the drip pan is filled with an excessive amount of mix, this indicates that the drive shaft seal and o-ring should be replaced or was improperly lubricated.



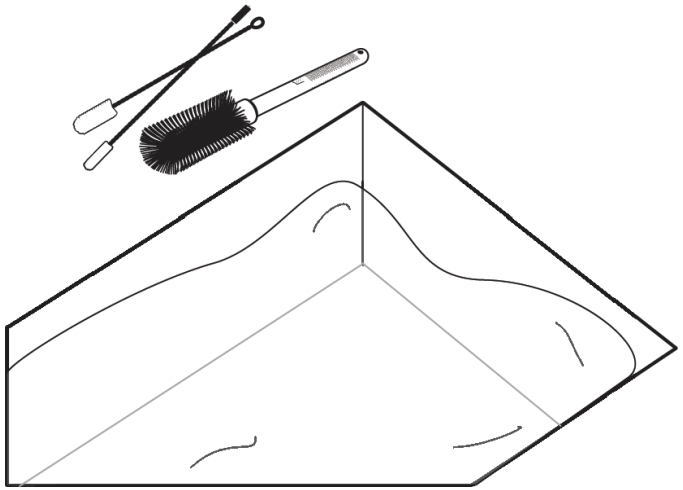
**Step 4**
Remove the front drip tray and splash shield.



# Operating Procedures

- Assembly
- Sanitizing
- Priming
- Draining
- Rinsing
- Cleaning
- Disassembly
- Brush Cleaning

**Step 1**
Prepare a sink with an approved 100 PPM cleaning solution (examples: Kay-5R or Stera-SheenR). USE WARM WATER AND FOLLOW THE MANUFACTURER'S SPECIFICATIONS. If an approved cleaner other than Kay 5R or Stera- SheenR is used, dilute according to label instructions. IMPORTANT: Follow label directions. Too STRONG of a solution can cause parts damage, while too MILD of a solution will not provide adequate cleaning. Make sure all brushes provided with the freezer are available for brush cleaning.



**Step 2**
Remove the seal from the drive shaft.

**Step 3**
Remove the scraper blade clips from the scraper blades.

## Brush Cleaning

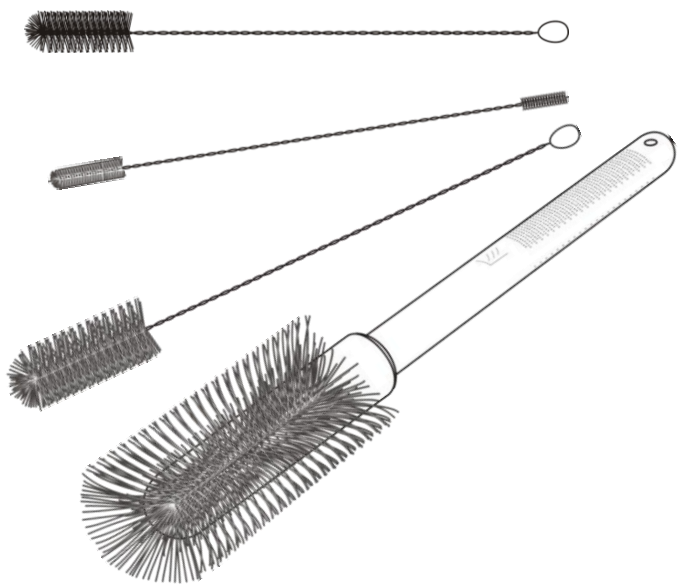
# Operating Procedures

- Assembly
- Sanitizing
- Priming
- Draining
- Rinsing
- Cleaning
- Disassembly
- Brush Cleaning

**Step 4**
Remove the draw valve and prime plug from the freezer door. Remove the two o rings from the draw valve and the o-ring from the prime plug.

**Note:** To remove o-rings, use a single service towel to grasp the o-ring. Apply pressure in an upward direction until the o-ring pops out of its groove. With the other hand, push the top of the o-ring forward and it will roll out of the groove and can be easily removed. If there is more than one o-ring to be removed, always remove the rear o-ring first. This will allow the o-ring to slide over the forward o rings without falling into the open grooves.

**Step 5**
Thoroughly brush clean all disassembled parts in the cleaning solution, making sure all lubricant and mix film is removed. Take particular care to brush clean the draw valve core in the freezer door. Place all the cleaned parts on a clean, dry surface to air dry overnight.



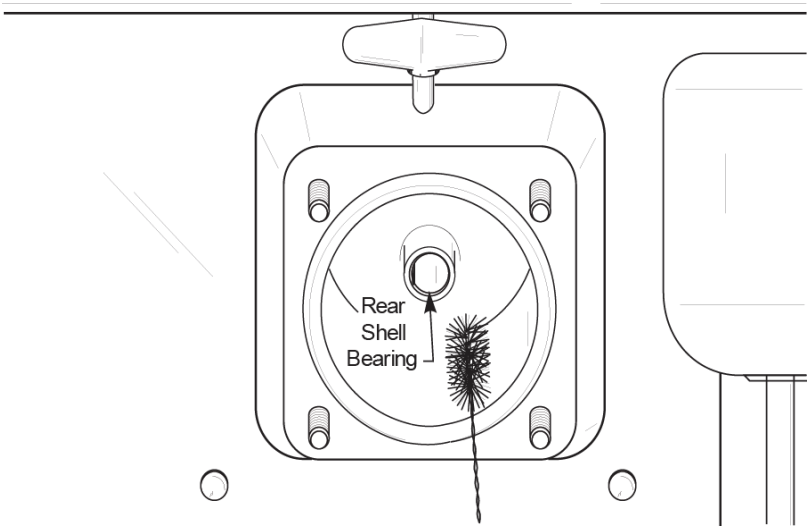
Brush Cleaning

# Operating Procedures

- Assembly
- Sanitizing
- Priming
- Draining
- Rinsing
- Cleaning
- Disassembly
- Brush Cleaning

**Step 6**
Return to the freezer with a small amount of cleaning solution. With the black bristle brush, brush clean the rear shell bearing at the back of the freezing cylinder.

**Step 7**
Using single service towels, wipe clean all exterior surfaces of the freezer.




## Brush Cleaning

# Troubleshooting

***No product being dispensed (draw valve open and machine in "AUTO" mode).***

**Cause:** Inadequate mix in the mix hopper.
***Remedy:*** *Fill mix hopper with mix.*

**Cause:** Beater motor out on reset.
***Remedy:*** *Allow the motor to cool and then press the reset button.*

**Cause:** Circuit breaker off or blown fuse.
***Remedy:*** *Turn breaker on or replace fuse.*

**Cause:** Freeze-up in the mix inlet hole.
***Remedy:*** *Call service technician to adjust mix hopper temperature.*

**Cause:** Beater rotating counter-clockwise from operator end.
***Remedy:*** *Contact service technician to correct rotation to clockwise from operator end.*

# Troubleshooting

### *Product too soft.*

**Cause:** Out-of-date mix.
***Remedy:*** *Use only fresh mix.*

**Cause:** Worn scraper blades.
***Remedy:*** *Replace regularly.*

**Cause:** Dirty condenser.
***Remedy:*** *Clean monthly.*

**Cause:** Not enough air space around unit.
***Remedy:*** *Allow for adequate air flow across the condenser.*

**Cause:** The TQC control is set incorrectly.
***Remedy:*** *Contact a service technician.*

### *Product too stiff.*

**Cause:** Inadequate mix in hopper.
***Remedy:*** *Fill hopper with mix.*

**Cause:** TQC control is set incorrectly.
***Remedy:*** *Contact service technician.*

# Troubleshooting

### *Mix in mix hopper too warm.*

**Cause:** Mix hopper cover is not in position.
***Remedy:*** *Place cover in position.*

**Cause:** Warm mix placed in hopper.
***Remedy:*** *Mix should be below 40°F (4.4°C) when placed in hopper.*

**Cause:** EPR valve is out of adjustment.
***Remedy:*** *Call service technician.*

### *Mix in mix hopper too cold.*

**Cause:** EPR valve is out of adjustment.
***Remedy:*** *Call service technician.*

# Troubleshooting

### *Drive shaft stuck in the drive coupling.*

**Cause:** Rounded corners of drive shaft, coupling, or both.
***Remedy:*** *Call service technician to correct cause and replace necessary components. Do not lubricate hex end of drive shaft.*

**Cause:** Misalignment of rear bearing plate.
***Remedy:*** *Contact service technician.*

### *Freezing cylinder walls scored.*

**Cause:** Missing or worn front bearing on freezer door.
***Remedy:*** *Install or replace front bearing.*

**Cause:** Beater assembly bent.
***Remedy:*** *Call service technician to repair or replace beater and to correct cause of insufficient mix in freezing cylinder.*

# Troubleshooting

### *Excessive mix leakage into drive shaft drip pan.*

**Cause:** Drive shaft seal installed inside out.
***Remedy:*** *Install seal properly.*

**Cause:** Missing or worn drive shaft seal on drive shaft.
***Remedy:*** *Install or replace regularly.*

**Cause:** Worn rear shell bearing.
***Remedy:*** *Call service technician to replace rear shell bearing.*

### *Excessive mix leakage from door spout.*

**Cause:** Wrong type lubricant being used (Example: petroleum base lubricant).
***Remedy:*** *Use proper lubricant (Example: Taylor Lube).*

**Cause:** Inadequate lubrication of draw valve o-rings.
***Remedy:*** *Lubricate properly.*

**Cause:** Missing or worn draw valve o-rings.
***Remedy:*** *Install or replace regularly.*

# Troubleshooting

### *No freezer operation after placing the unit in "AUTO."*

**Cause:** Unit unplugged.
***Remedy:*** *Plug into wall receptacle.*

**Cause:** Beater motor out on reset.
***Remedy:*** *Allow the motor to cool and then press the reset button.*

**Cause:** The draw arm is not activated.
***Remedy:*** *After placing the freezer in the AUTO mode, the draw arm must be raised to activate the AUTO cycle.*

**Cause:** Circuit breaker off or blown fuse.
***Remedy:*** *Turn breaker on or replace fuse.*

### *Product not feeding into freezing cylinder.*

**Cause:** Inadequate level of mix in the mix hopper.
***Remedy:*** *Mix inlet hole frozen.*

**Cause:** Fill the mix hopper with mix.
***Remedy:*** *Mix hopper temperature needs adjustment. Call service technician.*

# 490

## Quiz

**Instructions:**
This quiz is intended to reemphasize some of the information provided on this CD, but should not be used as a formal evaluation. Click on the box with the best answer. Wrong answers are indicated in red. The quiz will advance to the next question when the correct answer is selected.

**Start | Exit Quiz**

# #1 Proper closing procedures include:

A. Drain product from the freezing cylinder

B. Wipe clean all exterior surfaces of the freezer.

C. Pour cleaning solution into the hopper and allow it to flow into the freezing cylinder.

D. All of the above

# #1 Proper closing procedures include:

A. Drain product from the freezing cylinder

B. Wipe clean all exterior surfaces of the freezer.

C. Pour cleaning solution into the hopper and allow it to flow into the freezing cylinder.

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## #1 Proper closing procedures include:

A. Drain product from the freezing cylinder

B. Wipe clean all exterior surfaces of the freezer.

C. Pour cleaning solution into the hopper and allow it to flow into the freezing cylinder.

D. All of the above ✓

## #2 Draw valve o-rings should be replaced:

A. Every 3 months

B. Every 6 months

C. Annually

D. None of the above

## #2 Draw valve o-rings should be replaced:

A. Every 3 months

B. Every 6 months

C. Annually

D. None of the above

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## #2 Draw valve o-rings should be replaced:

A. Every 3 months ✓

B. Every 6 months

C. Annually

D. None of the above

## #3 If the drip pan is filled with an excessive amount of mix, this indicates:

A. Too much mix was added to the hopper

B. The drive shaft seal and o-ring should be replaced or installed properly

C. Not enough mix was added to the hopper

D. None of the above

## #3 If the drip pan is filled with an excessive amount of mix, this indicates:

A. Too much mix was added to the hopper

B. The drive shaft seal and o-ring should be replaced or installed properly

C. Not enough mix was added to the hopper

D. None of the above

## #3 If the drip pan is filled with an excessive amount of mix, this indicates:

A. Too much mix was added to the hopper

B. The drive shaft seal and o-ring should be replaced or installed properly

C. Not enough mix was added to the hopper

D. None of the above

## #3 If the drip pan is filled with an excessive amount of mix, this indicates:

A. Too much mix was added to the hopper

B. The drive shaft seal and o-ring should be replaced or installed properly

C. Not enough mix was added to the hopper

D. None of the above

## #3 If the drip pan is filled with an excessive amount of mix, this indicates:

A. Too much mix was added to the hopper

B. The drive shaft seal and o-ring should be replaced or installed properly ✓

C. Not enough mix was added to the hopper

D. None of the above

## #4 If any nicks or signs of wear are present on the scraper blades, what action should be taken?

A. Install the beater assembly with the worn blades

B. Replace one blade

C. Replace both blades

D. None of the above

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A. Install the beater assembly with the worn blades

B. Replace one blade

C. Replace both blades ✓

D. None of the above

## #5 If mix is not added to a hopper with a low supply of mix, a freeze-up may occur, causing eventual damage to the:

A. Beater

B. Freezer door

C. Blades

D. All of the above

#5 If mix is not added to a hopper with a low supply of mix, a freeze-up may occur, causing eventual damage to the:

A Beater

B Freezer door

C Blades

D All of the above

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B Freezer door

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A Beater

B Freezer door

C Blades

D All of the above

## #5 If mix is not added to a hopper with a low supply of mix, a freeze-up may occur, causing eventual damage to the:

A. Beater

B. Freezer door

C. Blades

D. All of the above ✓

# Congratulations!

You now have a great understanding of your Taylor Freezer. With this knowledge, you'll be able to keep it running at its optimum level.

**Go Back to Training | Quit**