



Model F231
Operator's Manual
513710 Rev.0

Section 1: Introduction

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OPERATION

This manual provides basic information about the machine. Instructions and suggestions are given covering its operation and care.

The illustrations and specifications are not binding in detail. We reserve the right to make changes to the machine without notice, and without incurring any obligation to modify or provide new parts for machines built prior to date of change.

DO NOT ATTEMPT to operate the machine until instructions and safety precautions in this manual are read completely and are thoroughly understood. If problems develop or questions arise in connection with installation, operation, or servicing of the machine, contact Stoelting.

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Section 1: Introduction

This manual is divided into the following five sections:

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- A. Parts of the Machine
- B. Specifications

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- A. Empty the Freezing Cylinders - Start here if cleaning a machine with mix in it
- B. Disassemble Parts - Start here if cleaning an empty machine
- C. Cleaning Disassembled Parts
- D. Cleaning the Machine
- E. Assembling the Machine
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A. Parts of the F231-I3 Machine (F231-I3-2X Shown)

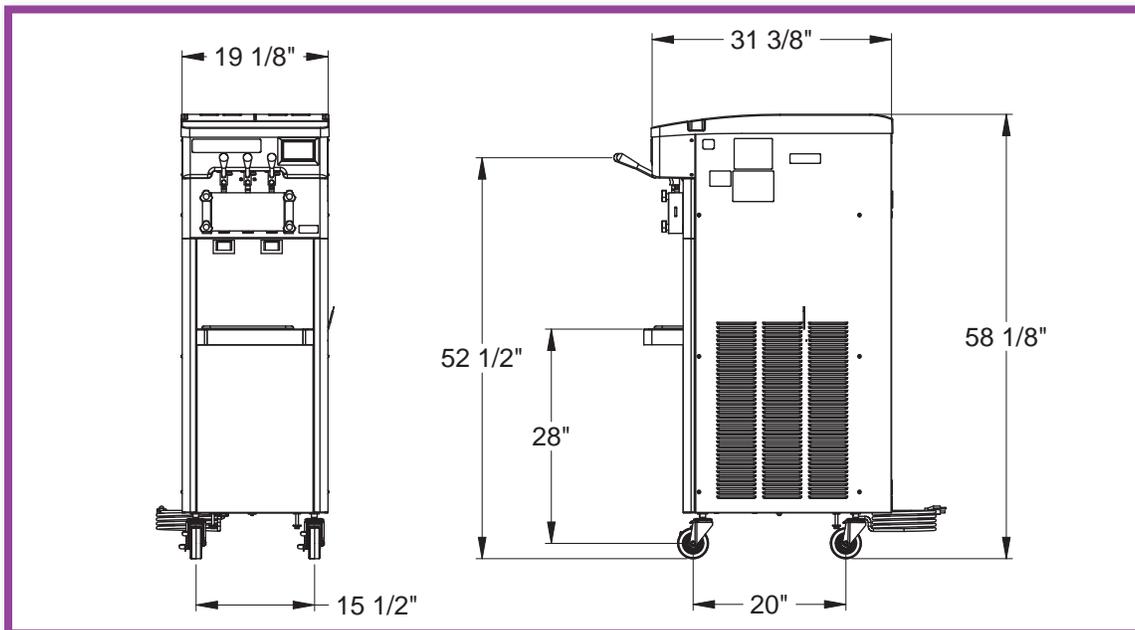


The F231 has two physical designs: the slimline and the large capacity hopper. Operating instructions for the two versions are identical.

This manual shows large capacity hopper style.

B. F231-I3 Specifications (Slimline)

Model F231-I3		
Dimensions width height depth	Machine	as shipped
	19-1/4" (48,9 cm)	32" (81,3 cm)
	58-1/4" (148,0 cm)	60" (152,4 cm)
Weight	28" (71,1 cm)	39" (99,1 cm)
	400 lbs (181,4 kg)	494 lbs (224,0 kg)
Electrical running amps connection type	1 Phase, 208-240 VAC, 60Hz 12A NEMA 6-20P power cord provided	
Compressor	12,000 Btu/hr (R-404A)	
Drive Motor	Two - 3/4 hp	
Air Flow	Air cooled units require 3" (7,6 cm) air space on both sides	
Plumbing Fittings	Water cooled units require 1/2" N.P.T. water and drain fittings. Maximum water pressure of 130 psi. Minimum water flow rate of 3 GPM. Ideal EWT of 50°-70°F	
Hopper Volume	Two - 3 gallon (11,35 liters)	
Freezing Cylinder Volume	Two - 0.85 gallon (3,22 liters)	



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C. F231-I3-2X Specifications (Large Capacity Hopper)

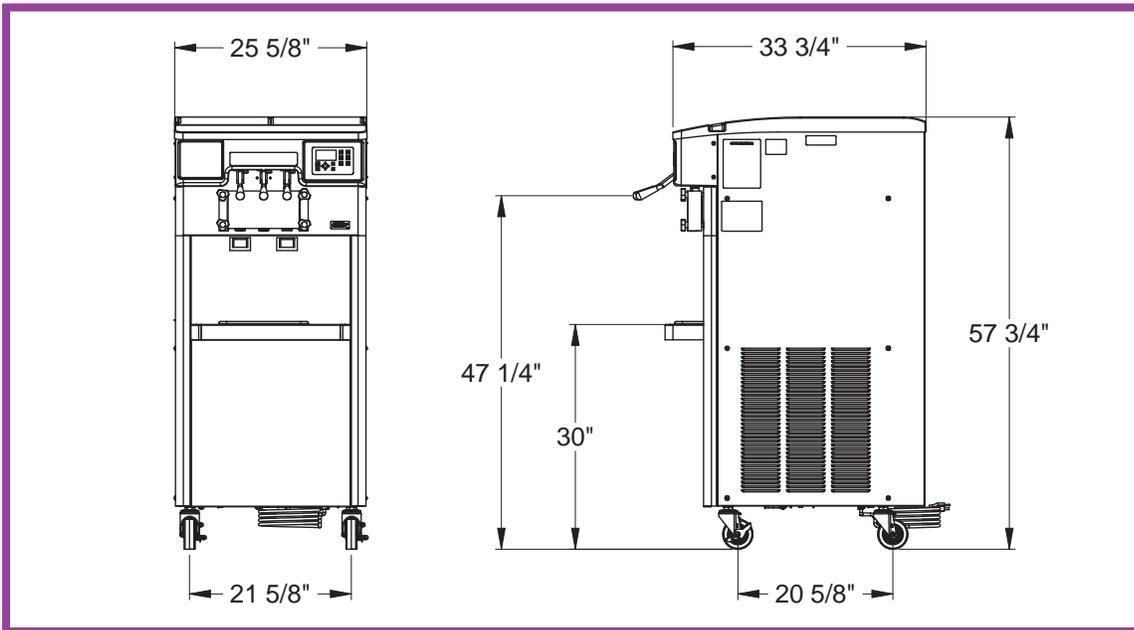
	Model F231-I3-2X		
Dimensions	Machine	as shipped	
	width	25-5/8" (65,1 cm)	40-1/4" (102,2 cm)
	height	57-3/4" (146,7 cm)	64-1/2" (163,8 cm)
depth	33-3/4" (85,7 cm)	33-1/4" (84,5 cm)	
Weight	640 lbs (290,2 kg)	730 lbs (331,1 kg)	
Electrical	1 Phase, 208-240 VAC, 60Hz	3 Phase, 208-240 VAC, 60Hz	
	running amps	12A	10A (UNKNOWN)
	connection type	NEMA 6-20P power cord provided	NEMA L15-20P power cord provided
Compressor	Freezing Cylinders - 12,000 Btu/hr (R-404A) Storage - 1,300 Btu/hr Compressor (R-134a)		
Drive Motor	Two - 3/4 hp		
Air Flow	Air cooled units require 3" (7,6 cm) air space on both sides		
Hopper Volume	Two - 5 gallon (18,9 liters)		
Freezing Cylinder Volume	Two - 0.85 gallon (3,22 liters)		

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NOTE

The machine must be emptied, disassembled, cleaned and sanitized every 3 days or per local health code requirements (whichever is sooner).

A.3

Start the clean cycle. Press the Left then the Clean button. Press the Right then the Clean button.

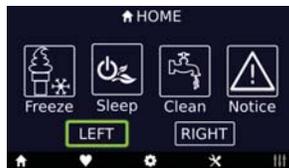
After about 5 minutes, open the spigots to drain the mix.

Stop the clean cycle by toggling the Clean buttons. Press the Left then the Clean button. Press the Right then the Clean button.

A. Empty the Freezing Cylinders

A.1

Turn both freezing cylinders off by toggling the Freeze button.



Press Left then the Freeze button. Press Right then the Freeze button.

A.4

Fill each hopper with 1 gallon of cool tap water and start the clean cycle.

Scrub the hoppers with a clean brush.



NOTE

The machine is off when the Freeze, Sleep, and Clean buttons have the plain white border (not highlighted in green).

NOTE

Optional: Fill the bucket with Stera Sheen solution to make cleaning parts easier after disassembly.

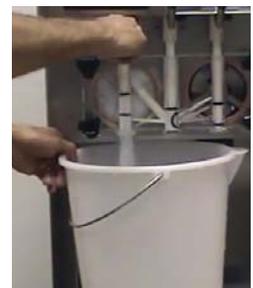
A.2

Remove the hopper covers and remove the mix inlet regulators from the hoppers.



A.5

Open the spigots to drain. Refill the hoppers with water as necessary until the water drains clear.



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A.6

Stop the clean cycle by toggling the Clean buttons.



B. Disassemble Parts

Before using the machine for the first time, complete machine disassembly, cleaning and sanitizing procedures need to be followed. Routine cleaning intervals and procedures must comply with the local and state health regulations. Inspection for worn or broken parts should be made at every disassembly of the machine. All worn or broken parts should be replaced to ensure safety to both the operator and the customer and to maintain good machine performance and a quality product. Check the wear line on the auger flights on a regular basis and replace as needed.



Auger Flight Wear

1. Front Door Disassembly

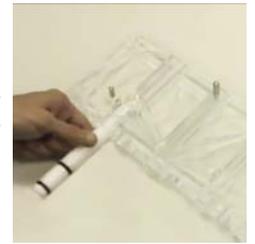
B.1

Remove the spigot extensions or rosette caps if installed.

Unscrew the knobs on the front door and remove the door.

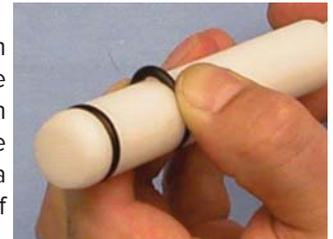
B.2

Remove the front door o-rings and remove the spigots from the front door.



B.3

Remove all o-rings from parts by first wiping off the lubrication using a clean towel. Then squeeze the o-ring upward to form a loop. Roll the o-ring out of the groove.



2. Removing Auger

B.4

Remove front auger supports and bushings and remove the augers from the freezing cylinders. As the augers are being pulled out, remove the plastic flights with springs.

B.5

Wipe any remaining lubricant off the hex end of the auger and remove the rear seal and o-ring. Wipe any remaining lubricant off the o-ring and auger.



B.6

Unscrew springs from the auger flights.



C. Cleaning Disassembled Parts

Disassembled parts require complete cleaning, sanitizing and air drying before assembling. Local and state health codes will dictate the procedure required. Some state health codes require a four sink process (pre-wash, wash, rinse, sanitize, air dry), while others require a three sink process (without the pre-wash step). The following procedures are a general guideline only. Consult your local and state health codes for the procedures required in your location.

C.1

Place all parts in 90° to 110°F (32°C to 43°C) mild detergent water and wash thoroughly. **Use the brushes that shipped with the machine** to clean all holes in the front door, flights, mix pickup assembly, etc.

NOTE

Be sure to use the brushes that shipped with the machine to properly clean the parts.

C.2

Rinse all parts with clean 90° to 110°F (32°C to 43°C) water. Then place all parts in a sanitizing solution for at least 1 minute, then remove and let air dry completely before assembling in machine.

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D. Cleaning the Machine

D.1

Using a detergent solution and the large barrel brush provided, clean the freezing cylinders by dipping the brush in the solution and brushing the inside of the freezing cylinders.



Make sure to thoroughly clean the rear seal surfaces on the inside of the freezing cylinders.

D.2

Wrap the brush in a clean cloth and thoroughly dry the freezing cylinder.

D.3

Remove the drain trays from the front of the machine. Remove the drip tray from the front panel. Clean and replace the trays.



D.4

The exterior of the machine should be kept clean at all times to preserve the luster of the stainless steel. A high grade of stainless steel has been used on the machine to ease cleanup. To remove spilled or dried mix, wash the exterior with 90° to 110°F (32°C to 43°C) mild detergent water and wipe dry.

Do not use highly abrasive materials, as they will mar the finish. A mild alkaline cleaner is recommended. Use a soft cloth or sponge to apply the cleaner. For best results, wipe with the grain of the steel.

E. Assembling Machine

NOTE

Total Blend lubricant or equivalent must be used when lubrication of machine parts is specified.

The USDA and FDA require that lubricants used on food processing equipment must be certified for this use. Use lubricants only in accordance with the manufacturer's instructions.

NOTE

Stoelting recommends allowing the parts to air dry before assembling.

E.1

Install the rear seal o-rings onto the augers. Lubricate the outside of the o-rings with a generous amount of sanitary lubricant.



E.2

Lubricate the inside metal surface of the rear seal and install it onto the auger shaft.

DO NOT lubricate the outside of the rear seal.



E.3

Lubricate the hex end of the auger with Total Blend lubricant.



E.4

Screw the springs onto the studs in the plastic flights. The springs must be screwed into the flights completely to provide proper compression.



E.5

Install the two plastic flights onto the rear of the auger and insert it part way into the freezing cylinder.

E.6

Install the remaining plastic flights, push the auger into the freezing cylinder and rotate slowly until the auger engages the drive shaft.



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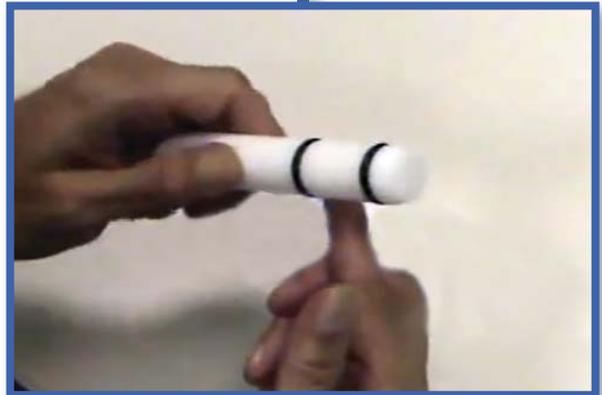
E.7

Apply a thin layer of Total Blend lubricant to the inside and outside of the auger support bushing.



E.11

Install the o-rings onto the spigot bodies and apply a thin layer of Total Blend lubricant to the o-rings. Install the spigot bodies through the bottom of the front door.



E.8

Install the bushing onto the auger support and install the auger support into the front of the auger. Rotate the auger support so that one leg of the support points straight up.

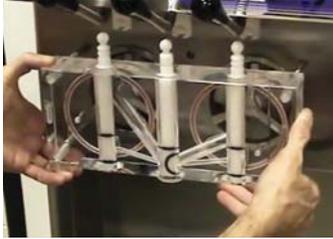
E.12

Fit the front door o-rings into the groove on the rear of the front door.



E.13

Place the front door assembly on the mounting studs and push the front door against the machine carefully.



NOTE

Make sure the pins on the front door do not touch the legs of the auger supports.

E.14

Secure the front door to the machine by placing the knobs on the studs and tighten until finger tight. Tighten in a crisscross pattern. Do not overtighten. Proper o-ring seal can be observed through the transparent front door.

F. Sanitizing

Sanitizing must be done after the machine is clean and just before the machine is filled with mix. Sanitizing the night before does not ensure sanitization the next day. However, you should always clean the machine and parts after using it.

NOTE

The United States Department of Agriculture and the Food and Drug Administration require that all cleaning and sanitizing solutions used with food processing equipment be certified for this use

When sanitizing the machine, refer to local sanitary regulations for applicable codes and recommended sanitizing products and procedures. The frequency of sanitizing must comply with local health regulations. Mix sanitizer in quantities of no less than 2 gallons of 90°F to 110°F (32°C to 43°C) water. Allow sanitizer to contact the surfaces to be sanitized for 5 minutes. Any sanitizer must be used only in accordance with the manufacturer's instructions and to provide a 100 parts per million strength solution.

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F.1

Prepare 2 gallons of sanitizing solution for each freezing cylinder. Following the sanitizer manufacturer's instructions for preparing the solution.



Install the mix inlet regulators into the hopper with the air tube towards the front of the machine.

NOTE

Do not twist the mix inlet regulators when installing.

F.2

Pour the sanitizing solution into the hoppers and start the clean cycle. Press the Left then the Clean button. Press the Right then the Clean button.



F.3

Check for leaks:

1. Check for leaks at the front door seal.
2. Check the drain trays located under the front door for leaks coming from the rear of the rear auger seal.

F.4

Use a sanitized soft bristle brush dipped in sanitizing solution to clean the hopper sides, the mix inlet regulator, and the underside of the hopper cover.



F.5

After five minutes, open the spigots to drain the sanitizing solution.



F.6

Stop the clean cycle. Press the Left then the Clean button. Press the Right then the Clean button.

Make sure the freezing cylinder has completely drained.

NOTE

The machine is off when the Freeze, Sleep, and Clean buttons have the plain white border (not highlighted in green).

The machine is now sanitized and ready for adding mix.

G. Freeze Down

G.1

Fill the hopper with at least 2.5 gallons of mix.



G.2

Place a container under the spigot and open the spigot to allow the mix to flush out about 8 ounces (0.23 liters) of sanitizing solution and liquid mix.

G.3

Allow the freezing cylinder to fill then start the freezing cycle. Press the Left then the Freeze button. Press the Right then the Freeze button

G.8

When the product is ready, the display will read "Ready" above the Freeze button.

Open the spigot to dispense product.



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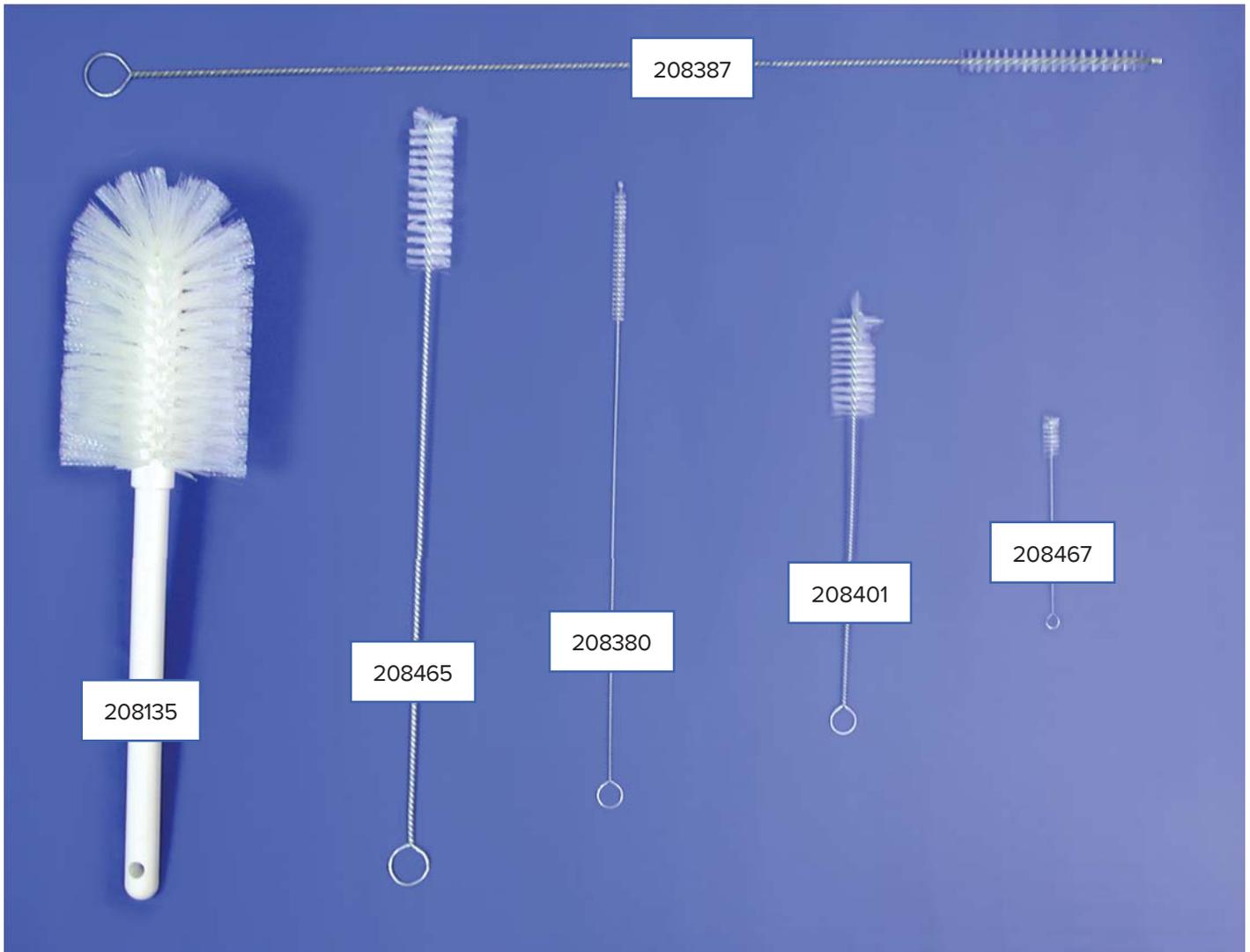
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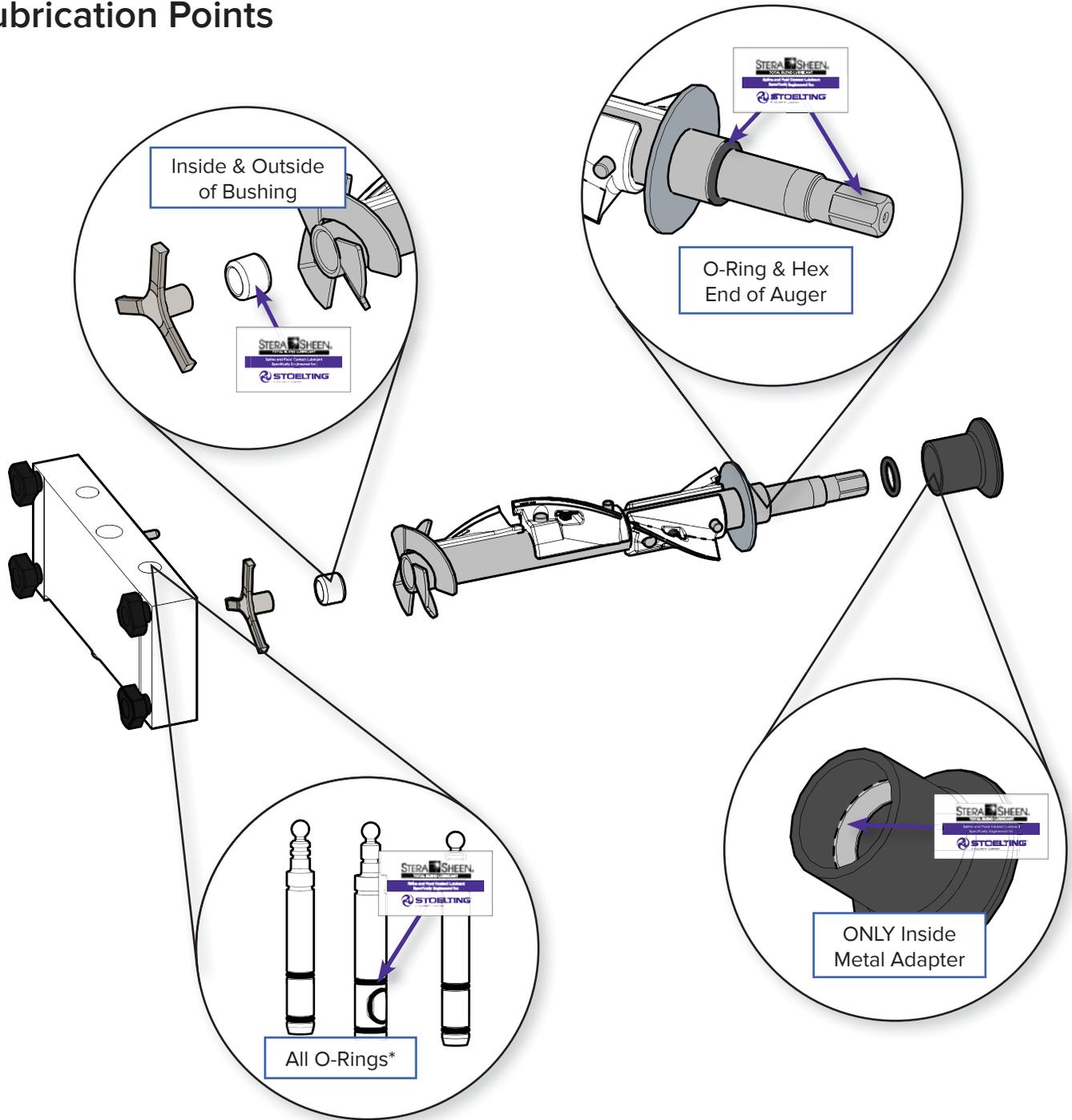
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H. Brushes for Cleaning



Part Number	Where Used
208135	Freezing cylinder
208380	Mix inlet regulator
208387	Front door, mix inlet regulator
208401	Front door, mix inlet regulator
208465	Front door, spigot holes
208467	Front door, side ports

I. Lubrication Points



Section 3: Maintenance

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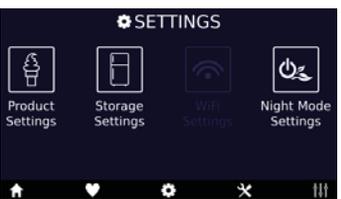
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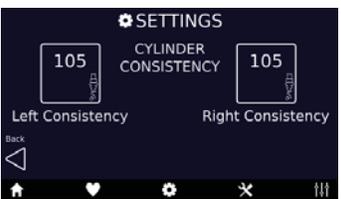
C. Consistency Adjustment

Product consistency can be adjusted under the Product Settings screen. 

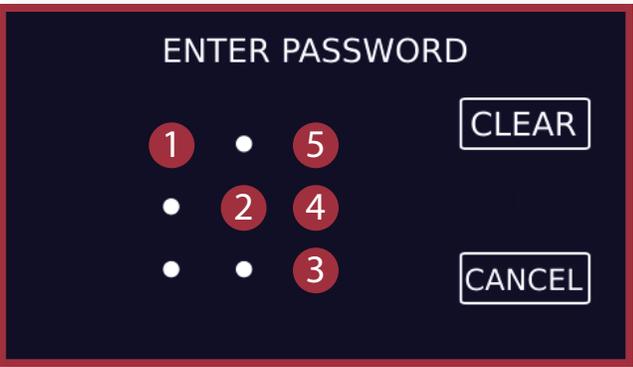
C.1 Press the gear icon and then press the Product Settings button.



C.2 Select the Left Consistency or Right Consistency button to change the value.

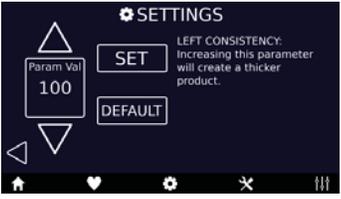


C.3 Enter the passcode as shown below starting with the button in the upper left corner.



NOTE
As soon as the password is correctly entered, the consistency setting screen is displayed.

C.4 Press the up and down arrows to adjust the consistency. Press the Set button to save the change. The Default button reverts to the last saved value.



NOTE
Make adjustments in increments of 2 for best results. Allow 3-4 draws or 30 minutes for the changes to take effect.

C.5 Press the Home button when done making changes to return to the home screen. 

Section 3: Maintenance Daily Procedures

D. Daily Procedures - Night

D.1

Remove the drip tray from the front panel. Clean the tray and reinstall it.



D.2

Remove the spigot extensions and rosette caps if installed. Clean and sanitize them and let them air dry.

D.3

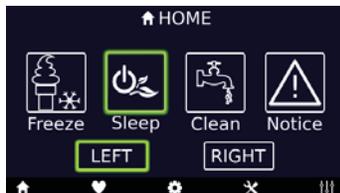
Clean the underside of the clear front door and the exposed portion of the spigots with mild detergent water and then with sanitizing solution.

D.4

Wipe the exterior clean with a mild detergent water to remove spilled or dried mix and wipe dry.

D.5

Press the Sleep button for each freezing cylinder if the night mode schedule is not set.



E. Daily Procedures - Morning

E.1

Clean the underside of the clear front door and the exposed portion of the spigots with brushes and a mild detergent water and then with sanitizing solution.

E.2

Install the spigot extensions and rosette caps.

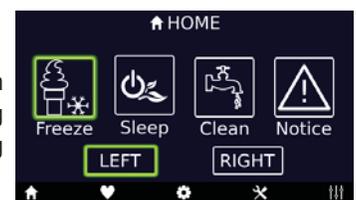
E.3

Check the mix level in the hoppers and remove any foam sitting on top of the liquid mix.

Add new mix as necessary.

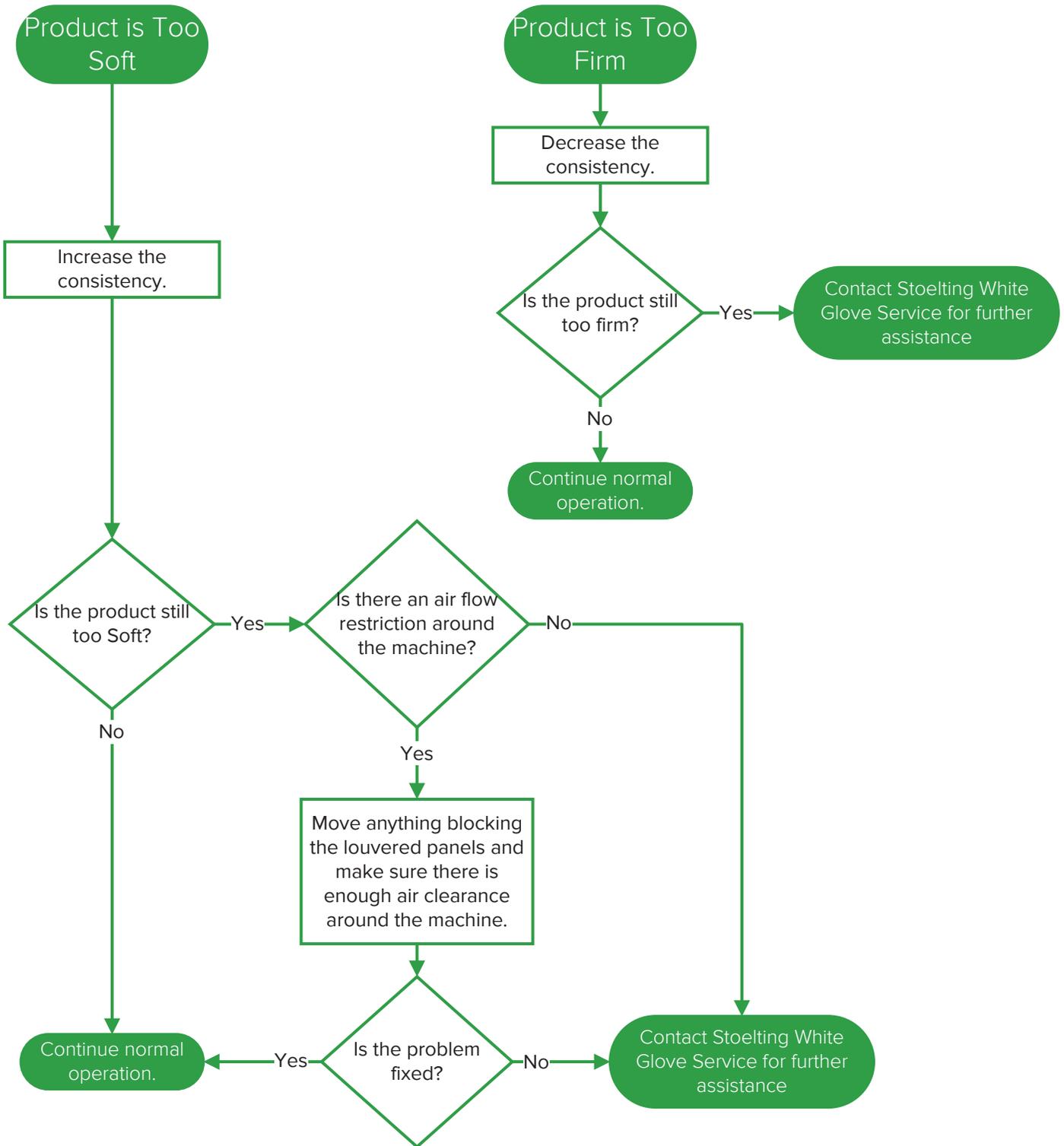
E.4

Press the Freeze button for each freezing cylinder to start freezing the product.



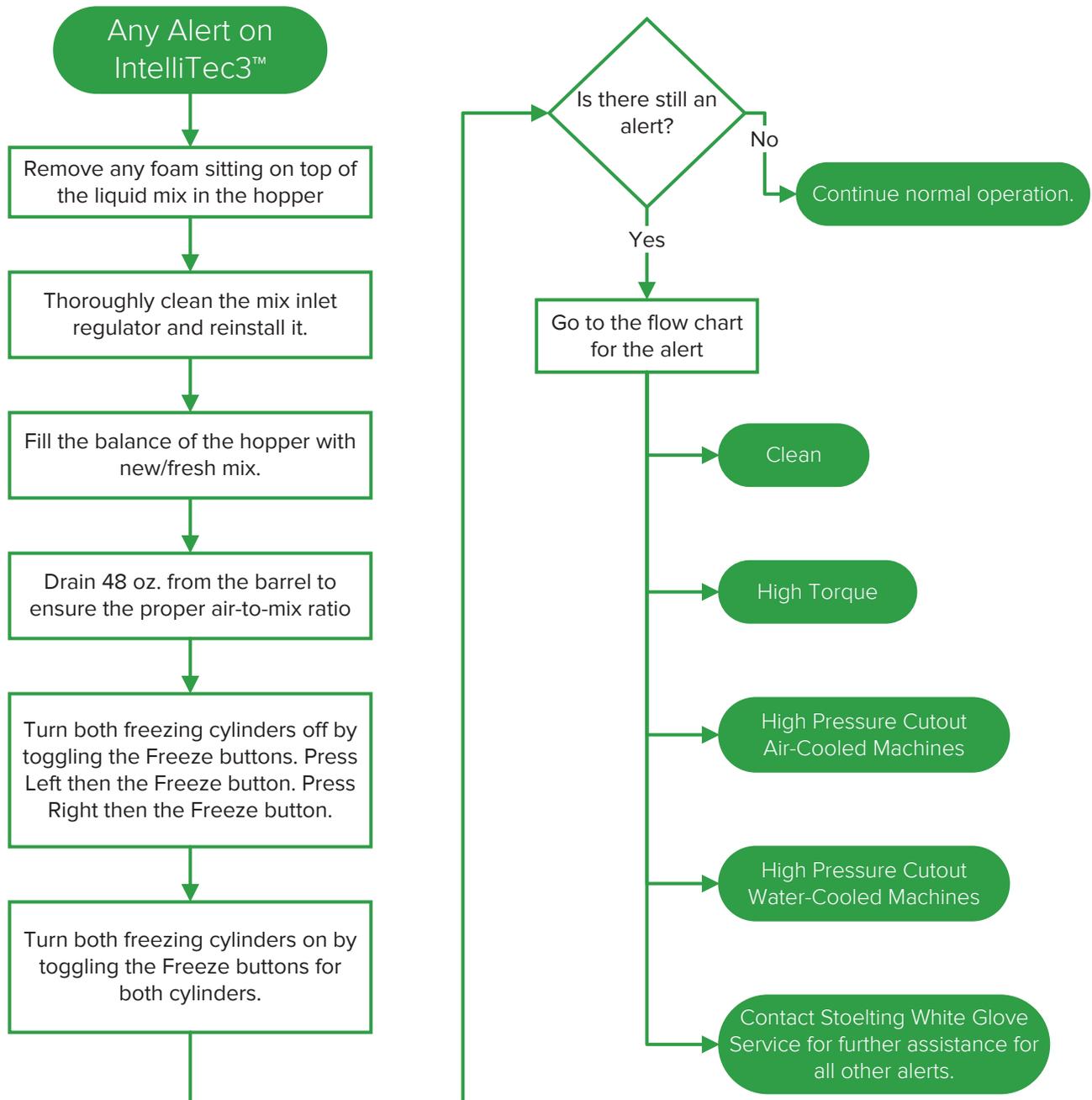
Section 4: Troubleshooting

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Section 4: Troubleshooting

If an alert appears on the machine, complete the steps on the following pages before calling Stoelting White Glove Service. Oftentimes the issues can be resolved using new/fresh product in a clean and sanitized machine.



Section 4: Troubleshooting

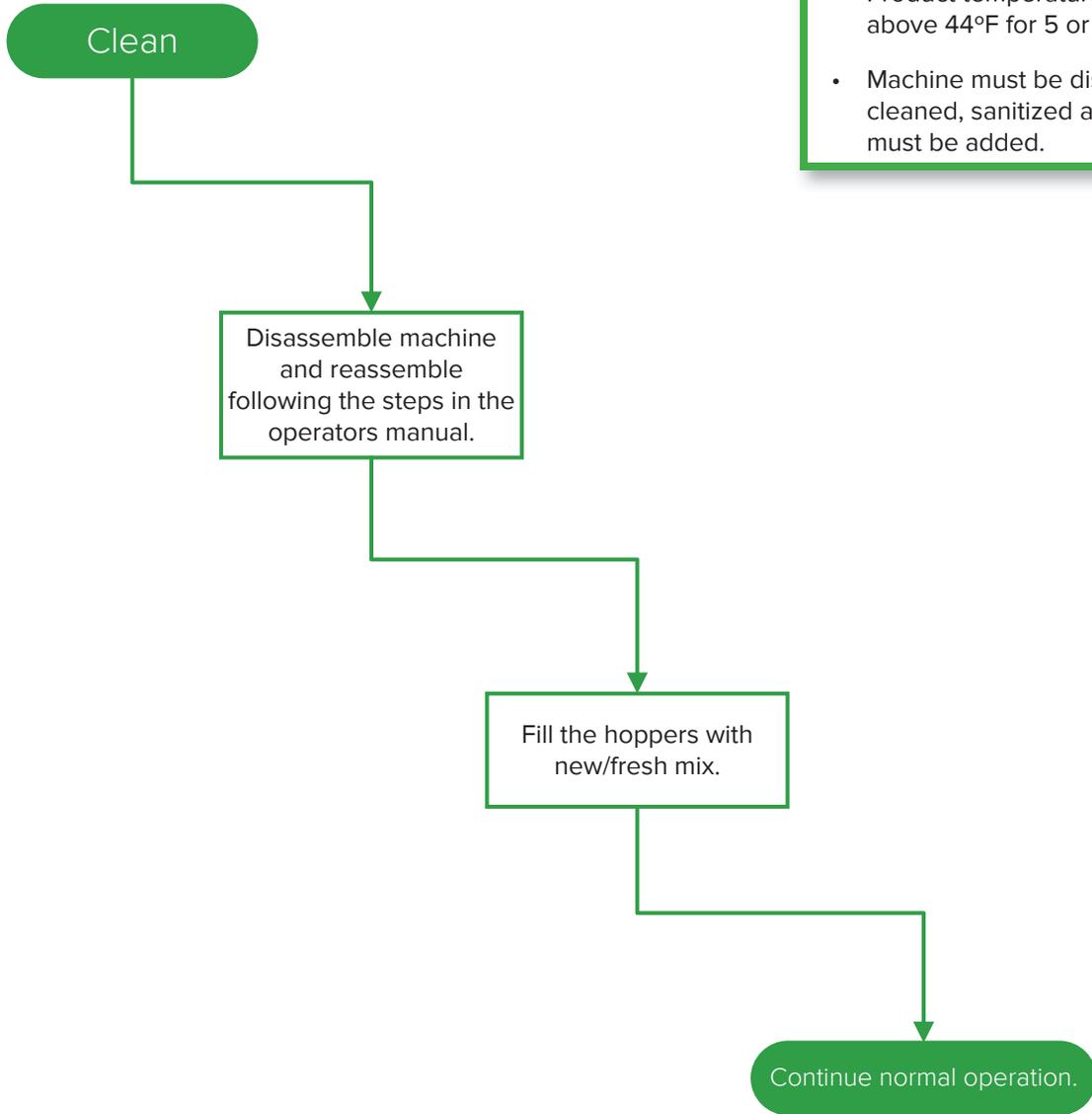
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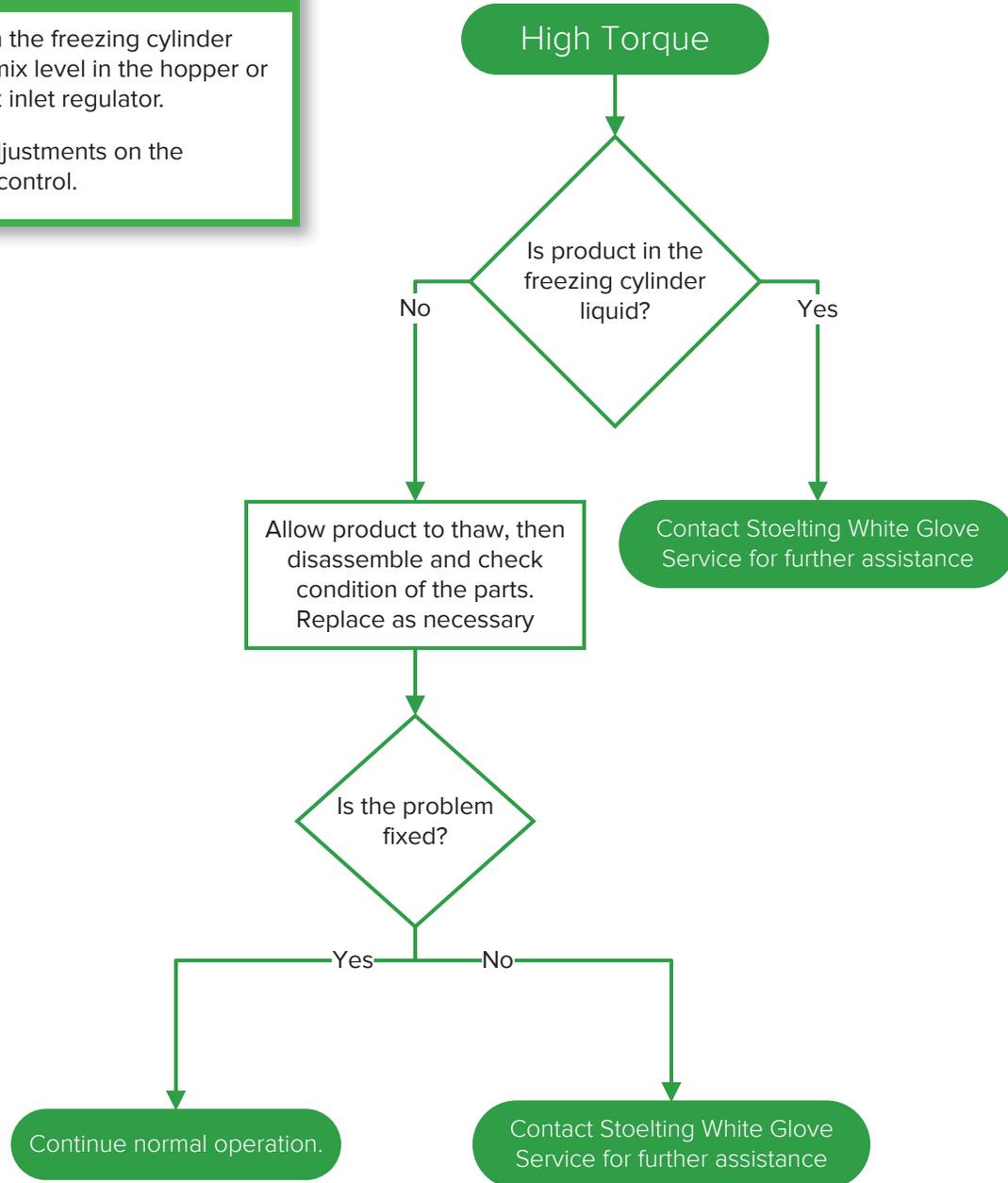
Clean Alert Common Causes

- Product temperature has increased above 44°F for 5 or more minutes.
- Machine must be disassembled, cleaned, sanitized and fresh mix must be added.

Section 4: Troubleshooting

High Torque Common Causes

- Excess air in the freezing cylinder due to low mix level in the hopper or clogged mix inlet regulator.
- Improper adjustments on the IntelliTec3™ control.



Section 4: Troubleshooting

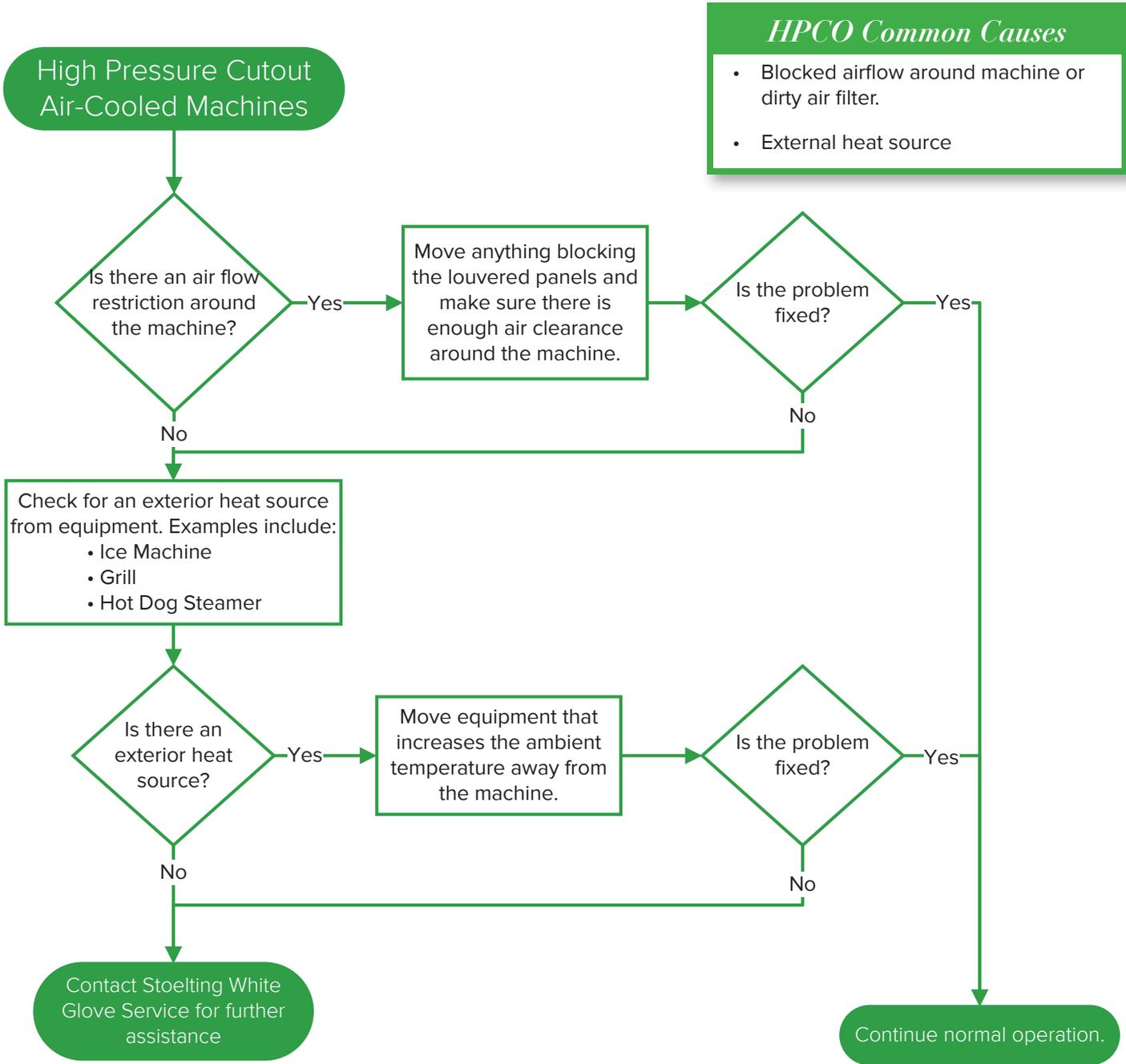
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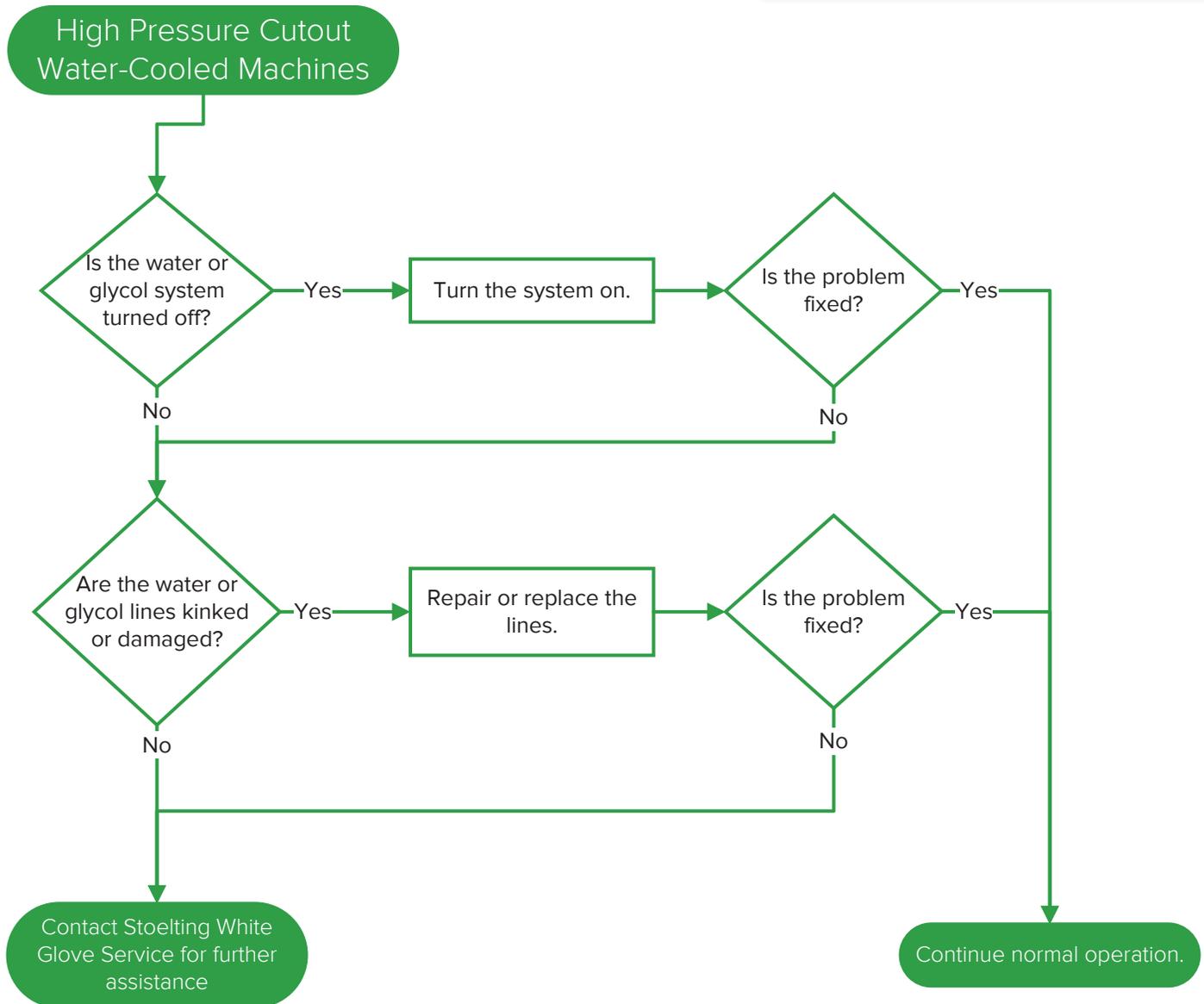
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Section 4: Troubleshooting

HPCO Common Cause

- Lack of water/glycol flow.



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Section 5: Replacement Parts

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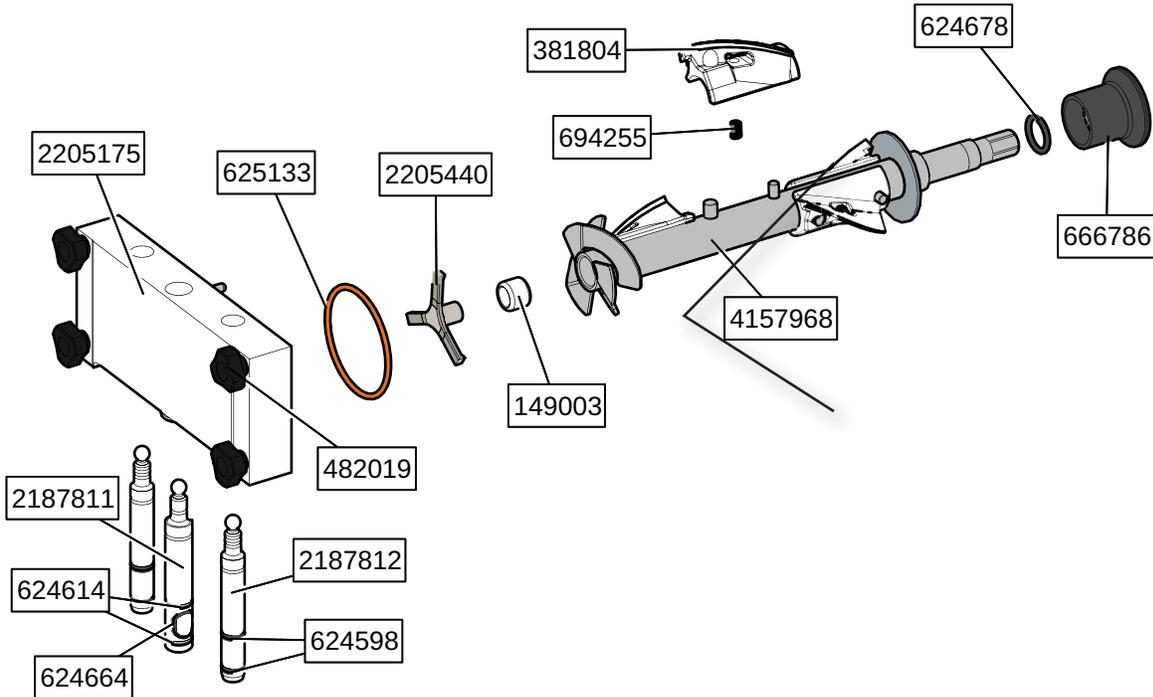
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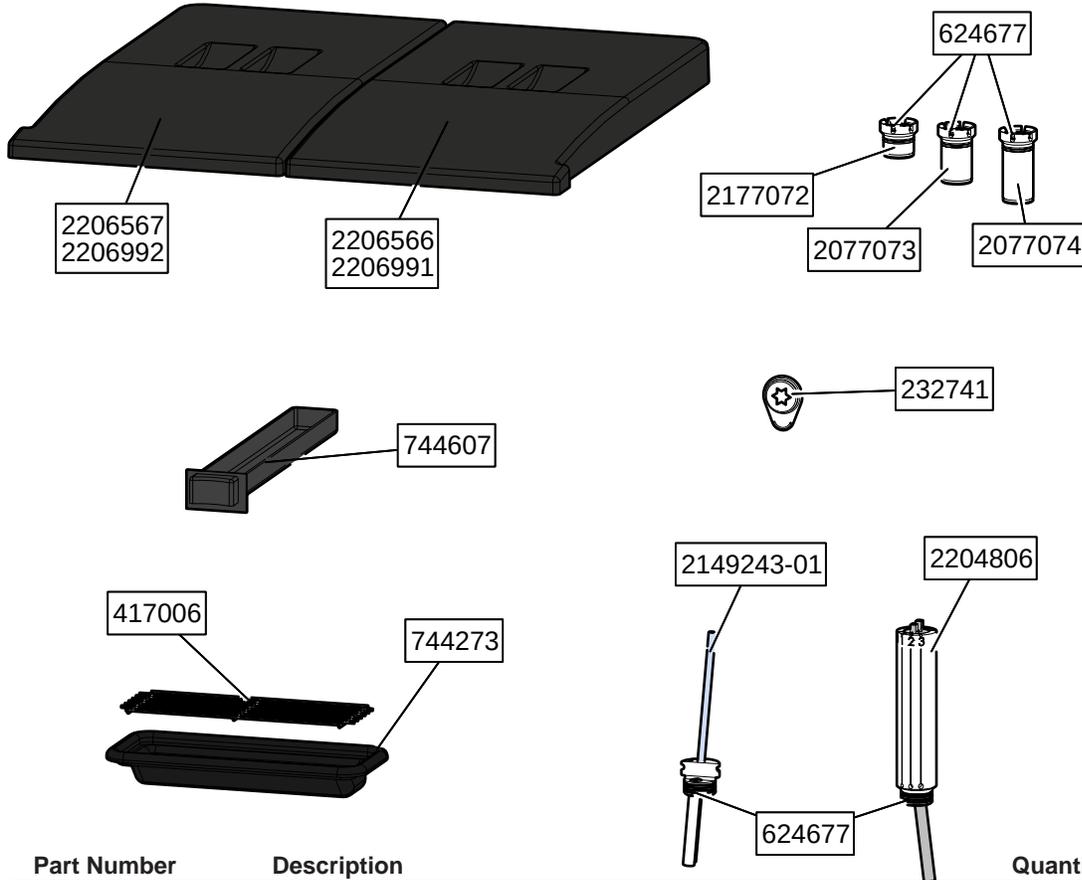
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A.1 Auger Shaft & Front Door Parts



Part Number	Description	Quantity
232024	Cap - Manifold	4
232025	Cap - Bag Adapter	4
264235	Clamp - Metal (1/4" ID Tubing)	-
264241	Clamp - Metal (1/2" ID Tubing)	-
624616-5	O-Ring - Check Valve Block - Lower - Black (5 Pack)	2
624644-5	O-Ring - Check Valve Block - Upper - Black (5 Pack)	2
694247	Spring - Check Valve	2
756079	Tubing - 3/8" ID - Clear	2
756088	Tubing - 1/2" ID - Clear	2
756204	Tubing - 1/4" ID - Pump (50' Box Only) (Per Inch)	-
756204-24	Tubing - 1/4" ID - Pump (Pre-Cut 24" Piece)	2
756236	Tubing - 1/4" I.D. - Coiled - Blue	6
762256	Check Valve	2
2206611	Check Valve Block	2
2208137	Mix Bag Adapter (Stainless Steel)	6
2208169	Manifold - Mix Collection (Manifold Only)	2
2208043	Sensor - Mix	2

A.2 Hopper Parts



Part Number	Description	Quantity
232741	Cap - Rosette (6-Point Teardrop) (Translucent)	3
417006	Grid - Drip Tray (Vinyl Coated Metal)	1
624677-5	O-Ring - Mix Inlet & Spigot Extension - Black (5 Pack)	4
744273	Tray - Drip	1
744607	Tray - Drain	1
2149243-01	Mix Inlet Assembly - 3/16" Hole - Extended Length (2LA)	2
2177072	Extension - Spigot - 1.5"	-
2177073	Extension - Spigot - 2.5"	-
2177074	Extension - Spigot - 3.2"	-
2204806	Mix Inlet Assembly - Adjustable	2
2203352	Mix Inlet Regulator - Adjustable	-
2203353	Insert - Mix Inlet Regulator - Adjustable	-
2206566	Cover - Hopper Right Side (w/Compartments)	1 (F231)
2206567	Cover - Hopper Left Side (w/Compartments)	1 (F231)
2206991	Cover - Hopper Right Side (w/Compartments)	1 (F231-2X)
2206992	Cover - Hopper Left Side (w/Compartments)	1 (F231-2X)



**DOMESTIC WARRANTY
(Including Mexico)
SOFT SERVE / SHAKE EQUIPMENT**

1. **Scope:**
PW Stoelting, L.L.C. ("Stoelting") warrants to the first user (the "Buyer") that the freezing cylinders, hoppers, compressors, drive motors, speed reducers, and augers of Stoelting soft serve / shake equipment will be free from defects in materials and workmanship under normal use and proper maintenance appearing within five (5) years, and that all other components of such equipment manufactured by Stoelting will be free from defects in material and workmanship under normal use and proper maintenance appearing within twelve (12) months after the date that such equipment is originally installed.

2. **Disclaimer of Other Warranties:**

THIS WARRANTY IS EXCLUSIVE; AND STOELTING HEREBY DISCLAIMS ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE.

3. **Remedies:**
Stoelting's sole obligations, and Buyer's sole remedies, for any breach of this warranty shall be the repair or (at Stoelting's option) replacement of the affected component at Stoelting's plant in Kiel, Wisconsin, or (again, at Stoelting's option) refund of the purchase price of the affected equipment, and, during the first twelve (12) months of the warranty period, deinstallation/reinstallation of the affected component from/into the equipment. Those obligations/remedies are subject to the conditions that Buyer (a) signs and returns to Stoelting, upon installation, the Start-Up and Training Checklist for the affected equipment, (b) gives Stoelting prompt written notice of any claimed breach of warranty within the applicable warranty period, and (c) delivers the affected equipment to Stoelting or its designated service location, in its original packaging/crating, also within that period. Buyer shall bear the cost and risk of shipping to and from Stoelting's plant or designated service location.

4. **Exclusions and Limitations:**
This warranty does not extend to parts, sometimes called "wear parts", which are generally expected to deteriorate and to require replacement as equipment is used, including as examples but not intended to be limited to o-rings, auger flights, auger seals, auger support bushings, and drive belts. All such parts are sold

AS IS.

Further, Stoelting shall not be responsible to provide any remedy under this warranty with respect to any component that fails by reason of negligence, abnormal use, misuse or abuse, faulty repair made by others, use with parts or equipment not manufactured or supplied by Stoelting, any modification or alteration of any parts or equipment, or damage in transit.

The use of this equipment as a rental asset will negate all warranties associated with the equipment.

THE REMEDIES SET FORTH IN THIS WARRANTY SHALL BE THE SOLE LIABILITY STOELTING AND THE EXCLUSIVE REMEDY OF BUYER WITH RESPECT TO EQUIPMENT SUPPLIED BY STOELTING; AND IN NO EVENT SHALL STOELTING BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING AS EXAMPLES BUT NOT INTENDED TO BE LIMITED TO DOWNTIME, OVERHEAD, MATERIALS, AND PERFORMANCE PENALTIES, WHETHER FOR BREACH OF WARRANTY OR OTHER CONTRACT BREACH, NEGLIGENCE OR OTHER TORT, OR ON ANY STRICT LIABILITY THEORY.

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