Soft Serve/Shake Combination Freezer
Taylor Model C602

Place this chapter in the Shakes/Desserts section of the Equipment Manual.

Manufactured exclusively for McDonald's® by Taylor Company

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Warranty

Warranty information is contained in this Equipment Manual. Refer to the warranty information listed in the Limited Warranty on Equipment and Limited Warranty on Parts sections and to the warranty classifications listed in the Parts Identification/Function section when service is performed on your machine.

It is recommended that the operator take the necessary time to carefully read through the complete warranty information. Thoroughly understand your warranty protection before you begin operation.

For any questions pertaining to the Taylor warranty, please contact Taylor Company, Rockton, Illinois 61072.

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INTRODUCTION

The Model C602 is a combination shake and soft serve freezer. The soft serve side uses a 3.4 qt. (3.2 L) freezing cylinder with a single-spout door.

The shake side has a 7 qt. (6.6 L) freezing cylinder with a four-flavor dispensing door. The touch panel has four flavor symbols for selecting and drawing the desired shake flavor. When dispensing a shake, the cup is placed on the shake cup holder below the door spout. A shake flavor symbol is selected to automatically raise the draw valve, allowing frozen mix and syrup to enter the door where they are blended and dispensed as a finished shake.

A portion control device will sense the filling of the shake cup and automatically close the draw valve upon filling the shake cup to the correct level. The operator also has the ability to override the portion control and stop dispensing the shake by pressing any of the four shake flavor symbols. The shake draw valve can also be raised and lowered in the Wash and Off modes by selecting any of the four flavor symbols to enable cleaning, sanitizing, and priming.

Shake syrup is stored in the lower front compartment. Each syrup flavor is delivered to the dispensing door by a peristaltic pump. Syrup can be pumped directly from disposable plastic jugs or stainless steel tanks, or adapted to syrup-in-bag dispensing. The proper syrup delivery rate is achieved by calibrating each syrup flavor.

The mix is located in the mix hopper and is pumped to the freezing cylinder by an air/mix pump.

When your machine is delivered, or if it has been in the OFF position for more than 24 hours, disassemble the freezer following the Manual Brush-Cleaning procedures on page 48. Follow the Equipment Setup procedures on page 59 to reassemble your machine.

The machine must be disassembled, cleaned, sanitized, and lubricated at least once every 2 weeks. Syrup lines must be cleaned and sanitized weekly.

It is recommended that these operating procedures be followed closely to ensure correct assembly and disassembly of the freezer.

The C602 is designed for indoor use only.

Note: Only instructions originating from the factory or its authorized translation representative(s) are considered to be the original set of instructions.

SAFETY

Always follow these safety precautions when operating the freezer:

NOTICE! DO NOT operate this machine without reading this manual. Failure to follow these instructions may result in machine damage, poor dispenser performance, health hazards, or personal injury.

IMPORTANT! *This machine is to be used only by trained personnel. It is not intended for use, cleaning, or maintenance by children or people with reduced physical, sensory, or mental capabilities, or lack of experience and knowledge, unless given supervision or instruction concerning the use of the* machine *by a person responsible for their safety. Children should be supervised to ensure that they do not play with the machine.*

WARNING! Avoid injury.

- **DO NOT** operate the machine unless it is properly grounded.
- **DO NOT** operate the machine with fuses larger than specified on the machine's data label.
- All repairs should be performed by a Taylor service technician.
- The main power supplies to the machine must be disconnected prior to performing installation, repairs, or maintenance.
- **For Cord-Connected Machines:** Only Taylor service technicians or licensed electricians may install a plug or replacement cord on the machine.
- Machines that are permanently connected to fixed wiring and for which leakage currents may exceed 10 mA, particularly when disconnected or not used for long periods, or during initial installation, shall have protective devices to protect against the leakage of current, such as a GFI, installed by the authorized personnel to the local codes.
- Stationary machines which are not equipped

with a power cord and a plug or another device to disconnect the machine from the power source must have an all-pole disconnecting device with a contact gap of at least 0.125 in. (3 mm) installed in the external installation.

- Supply cords used with this machine shall be oil-resistant, sheathed flexible cable not lighter than ordinary polychloroprene or other equivalent synthetic elastomer-sheathed cord (code designation 60245 IEC 57) installed with the proper cord anchorage to relieve conductors from strain, including twisting, at the terminals and protect the insulation of the conductors from abrasion.
- If the supply cord is damaged, it must be replaced by an Taylor service technician in order to avoid a hazard.
- Secure the supply cord ground lead to the machine in a location where if the cord is pulled, the main power leads will become taut before the ground lead can break loose.

Failure to follow these instructions may result in electrocution. Contact your local authorized Taylor distributor for service.

IMPORTANT! *An equipotential grounding lug is provided with this machine. Some countries require the grounding lug to be properly attached to the rear of the frame by the authorized installer. The installation location is marked by the equipotential bonding symbol (5021 of IEC 60417-1) on both the removable panel and the machine's frame.*

WARNING! Avoid injury.

- **DO NOT** allow untrained personnel to operate this machine.
- **DO NOT** operate the machine unless all service panels and access doors are fastened with screws.
- **DO NOT** remove any internal operating parts (including, but not limited to, freezer door, beater, or scraper blades), unless all control switches are in the OFF position.

Failure to follow these instructions may result in severe personal injury, especially to fingers or hands, from hazardous moving parts.

WARNING! DO NOT attempt to draw product or disassemble the machine during the heat treatment cycle (if equipped). The product is hot and under extreme pressure. Severe burns from hot product may result if this instruction is not followed.

WARNING! This machine has many sharp edges that can cause severe injuries.

- **DO NOT** put objects or fingers in the door spout. This may contaminate the product and cause severe personal injury from blade contact.
- **USE EXTREME CAUTION** when removing the beater assembly. The scraper blades are very sharp.
- **USE EXTREME CAUTION** when handling the cup/cone dispenser (if supplied with machine). Two people are required to handle the cup/cone dispenser. The appropriate type of protective gloves must be worn and the mounting holes must **NOT** be used to lift or hold the dispenser.

Failure to follow these instructions can result in personal injury or damage to the machine.

WARNING! Only install this machine in a location where its use and maintenance is restricted to trained personnel. Failure to comply may result in personal injury.

CAUTION! This machine must be placed on a level surface. Use caution when moving the machine. Failure to comply may cause the machine to tip over and result in personal injury.

NOTICE! Cleaning and sanitizing schedules are governed by your federal, state, or local regulatory agencies and must be followed accordingly. Please refer to the cleaning section of this manual for the proper procedure to clean this machine.

 **CAUTION!** This machine is designed to maintain product temperature under 41°F (5°C). Any product being added to this machine must be below 41°F (5°C). Failure to follow this instruction may result in health hazards and poor machine performance.

 **WARNING!** This machine must **NOT** be installed in an area where a water jet or hose can be used. **NEVER** use a water jet or hose to rinse or clean the machine. Failure to follow this instruction may result in electrocution.

This freezer is designed to operate indoors, under normal ambient temperatures of 70°F to 75°F (21°C to 24°C). The freezer has successfully performed in high ambient temperatures of 104°F (40°C) at reduced capacities.

Do not obstruct air intake and discharge openings: 3 in. (76 mm) minimum airspace all sides. Install the deflector provided to prevent recirculation of warm air. Failure to follow this instruction may cause poor freezer performance and damage to the machine.

Do not run the machine without product. Failure to follow this instruction can result in damage to the machine.

NOTICE all warning labels that have been attached to the freezer to further point out safety precautions to the operator.

Water Connections
(Water-Cooled Machines Only)

An adequate cold water supply must be provided with a hand shutoff valve. On the underside rear of the base pan, two 1/2 in. Iron Pipe Size (IPS) water connections for inlet and outlet have been provided for easy hookup. Permanently connect the machine using 1/2 in. (12.7 mm) inside diameter water lines. (Flexible lines are recommended, if local codes permit.) Depending on local water conditions, it may be advisable to install a water strainer to prevent foreign substances from clogging the automatic water valve. There will be only one water in and one water out connection. Do not install a hand shutoff valve on the water out line! Water should always flow in this order: first, through the automatic water valve; second, through the condenser; and third, through the outlet fitting to an open trap drain.

 ***IMPORTANT!*** *A backflow prevention device is required on the incoming water connection side. Please see the applicable national, state, and local codes for determining the proper configuration. Water pressure to the unit must not exceed 150 psi (1034 kPa).*

HAZARD COMMUNICATION STANDARD (HCS) - The procedure(s) in this manual include the use of chemical products. These chemical products will be highlighted with bold faced letters followed by the abbreviation (HCS) in the text portion of the procedure. See the Hazard Communication Standard (HCS) manual for the appropriate Material Safety Data Sheet(s) (MSDS).

This machine is made in America and has American sizes of hardware. All metric conversions are approximate and vary in size.

NOISE LEVEL: Airborne noise emission does not exceed 78 dB(A) when measured at a distance of 39 in. (1.0 m) from the surface of the machine and at a height of 63 in. (1.6 m) from the floor.

 ***IMPORTANT!*** *If the crossed-out wheeled-bin symbol is affixed to this machine, it signifies that this machine is compliant with the EU Directives as well as other similar end-of-life legislation in effect after August 13, 2005. Therefore, it must be collected separately after its use is completed and cannot be disposed as unsorted municipal waste.*

The user is responsible for delivering the machine to the appropriate collection facility, as specified by your local code.

For additional information regarding applicable local disposal laws, please contact the municipal waste facility and/or local authorized Taylor distributor.

PARTS IDENTIFICATION/FUNCTIONS

Exploded View

Item	Part No.	Description	Qty.	Function	Warr. Class
1	X65368	Kit A.-Cover-Hopper *Single* Black	2	Protects mix in mix hopper from debris and helps keep temperature in the mix hopper uniform.	103
	X65178	Kit A.-Cover-Hopper *Dual* Black	*	Note: If both hopper covers need to be replaced, order X65178.	
1a	045191	Label-Caution-Agitator	2	Warning label placed on each hopper cover.	000
2	X44797	Agitator Assembly	2	Stirs product in mix hopper to ensure even temperature.	103
3	043934	Pin-Retaining Hopper Cover	2	Holds hopper cover while filling hopper with mix.	103
4	X56003	Pan-Drip-Rear 8-3/4” Long (22.2 cm)	2	Used to catch any mix leakage from the mix pump.	103
5	066724	Panel-Rear-Upper	1	Provides access to internal components.	103
6	X48228	Guide A.-Drip Pan Mix Pump	2	Holds the mix pump drip pan in place.	103
7	055959	Panel-Rear-Lower	1	Provides access to internal components.	103
8	X56005	Pan-Drip-Side 12-3/4” Long (32.4 cm)	2	Used to catch any mix leakage from the rear shell bearing.	103
9	056692	Trim-Corner-Rear Right Side	1	Cosmetic trim. Seals the panels together.	103
	056693	Trim-Corner-Rear Left Side	1	Cosmetic trim. Seals the panels together.	103
10	044106	Caster-4”	2	Wheels support the machine and allow easier movement.	103
11	011694	Screw-1/4 - 20 x 3/8	10	Attaches the panels to the frame.	000
12	055950	Panel-Side Right	1	Panel provides access to internal components.	103
13	033812	Tray-Drip	1	Catches mix leakage from spout of freezer door.	103
14	033813	Shield-Splash	1	Helps prevent any mix leakage from splashing.	103
*15	042706	Lid-Syrup Jar	2	Lid for non-heated topping containers.	103
*16	036573	Jar-Syrup - Plastic Shallow	2	Holds non-heated sundae toppings.	103
*17	036574	Jar-Syrup - Stainless Shallow	2	Holds heated sundae toppings.	103
*18	033637-1	Ladle-1 oz. (30 ml.)	2	Used to dispense non-heated toppings.	103
19	035034	Pan-Drip 19-3/4” Long (50.2 cm)	1	Used to catch any mix leakage from the rear shell bearing.	103
20	056131	Plate-Dec	1	Touch sensor display panel on front of machine.	103
21	055957	Panel-Side Left	1	Panel provides access to internal components.	103
22	052779-3	Filter-Air 18.0 L x 13.5 H x 70 W	2	Filters dust and dirt from the main condenser.	000
23	046437	Caster-4” SWV 3/4-10 Stem w/Brake	2	Wheels support the machine and allow easier movement, with locks to stop movement.	103

*Items supplied by Taylor on machines manufactured prior to serial number M1080000.

C602 Exploded View

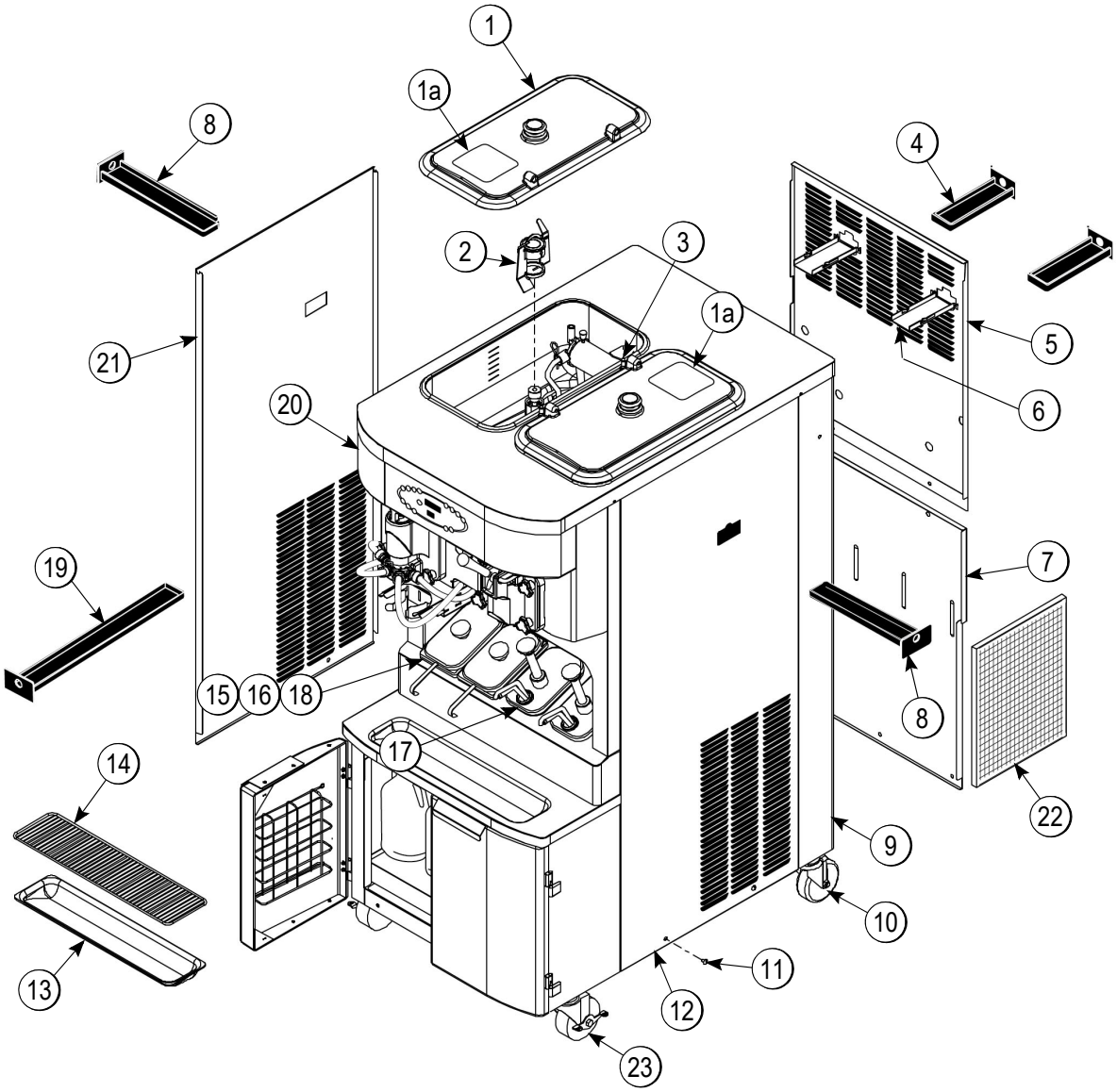


Figure-1

Front View

Item	Part No.	Description	Qty.	Function	Warr. Class
1	055987	Stud-Nose Cone	8	Freezer door sits on these studs. Handscrews hold door in place.	103
2	056674	Fitting-Panel Mount QD	4	Quick disconnect fitting for door syrup line.	103
3	068394	Clip-Spring Cup Holder	2	Holds the cup in place during dispensing.	103
4	X59304	Line A.-Syrup Door	4	Delivers syrup to the freezer door. Has a small slot for thin syrup.	103
	X56652	Line A.-Syrup Door	4	Delivers syrup to the freezer door. Has a large slot for thick syrup and particulates.	103
5	064942	Shield-Pyroelectric Sensor	1	Plastic cover that protects the pyroelectric sensor.	000
†6	016121	Magnet-Catch Assy.	2	Holds the cabinet door closed.	103
7	X53353-BLU X53353-BRN X53353-RED X53353-WHT	Fitting A.-Syrup Jug	1 per tank	Transfers syrup from the syrup jug or tank to the peristaltic pump.	103
**7	X58450	Line A.-Syrup	4	Transfers syrup from the syrup bag to the peristaltic pump.	103
7a	053040-BLU 053040-BRN 053040-RED 053040-WHT	Cap-Ultimate Syrup	1 ea.	Attachment covers for containers.	000
7b	053052-36	Hose-Beverage	4	Delivers syrup to peristaltic pump.	000
7c	X53175	Tube A.-Syrup Pick Up	4	Transfers syrup from container to pump.	000
★ 7d	053036	Ferrule-.625 ID	4	Clamps syrup hose on fitting.	000
8	X58607-SER	Door A.-Cabinet	2	Insulates syrup cabinet.	103
9	059144	Basket-Door-Wire	2	Rack for storage.	103
10	051574	Screw-Adjustment	1	Adjusts the sensing eye to determine correct level of shake.	103
11	056008	Holder-Cup Shake	1	Holds cup during dispensing.	103
*12	X53800-BRN	Pump A.-Syrup- Heated (Chocolate)	1	Dispenses heated sundae topping.	103
*13	X53800-TAN	Pump A.-Syrup- Heated (Caramel)	1	Dispenses heated sundae topping.	103
14	036435	Gasket-Drip Lip	2	Helps prevent liquid from dripping down front of machine.	000
★	015971	Pin-Roll - 3/32 x 9/16	1	Secures spinner shaft in coupling assembly.	000

★ Not Shown

* Items supplied by Taylor on machines manufactured prior to serial number M1080000.

** Bag Syrup System (Not Shown)

† Prior to serial number K4091994, use 058630 Latch-Door-Magnetic.

Front View

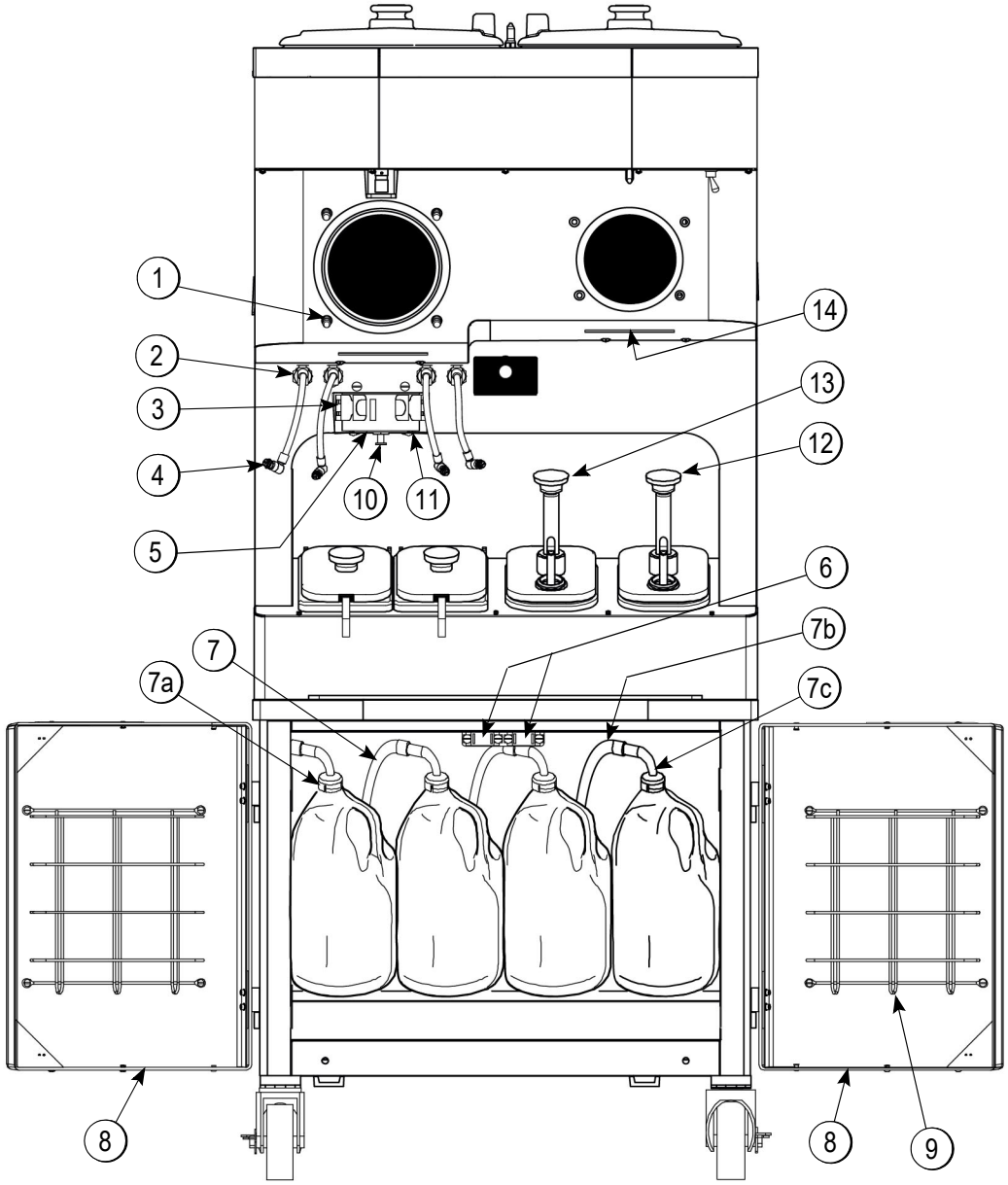


Figure-2

Syrup Cabinet View

Item	Part No.	Description	Qty.	Function	Warr. Class
1	056016	Shelf-Syrup	1	Provides access to syrup pumps.	103
2	059144	Basket-Door-Wire	2	Rack for storage.	103
3	065933	Handle-Door Short	2	Handle for syrup cabinet door.	103
4	058613	Block-Hinge	4	Attaches door to syrup cabinet.	103
4a	058322	Screw 8-32 X 1/2 Socket Hd		Secures block hinge.	
*5	016121	Magnet-Catch Assy.	2	Holds the cabinet door closed.	103
6	052916	Pump-Peristaltic	4	Pumps syrup to freezer door.	103
7	058614	Block-Hinge	4	Attaches door to syrup cabinet.	103
8	024298	Screw-10-32 x 3/8	6	Four screws secure handle to syrup cabinet door; two screws secure syrup pump bracket to cabinet.	000

*Prior to serial number K4091994, use 058630 Latch-Door-Magnetic.

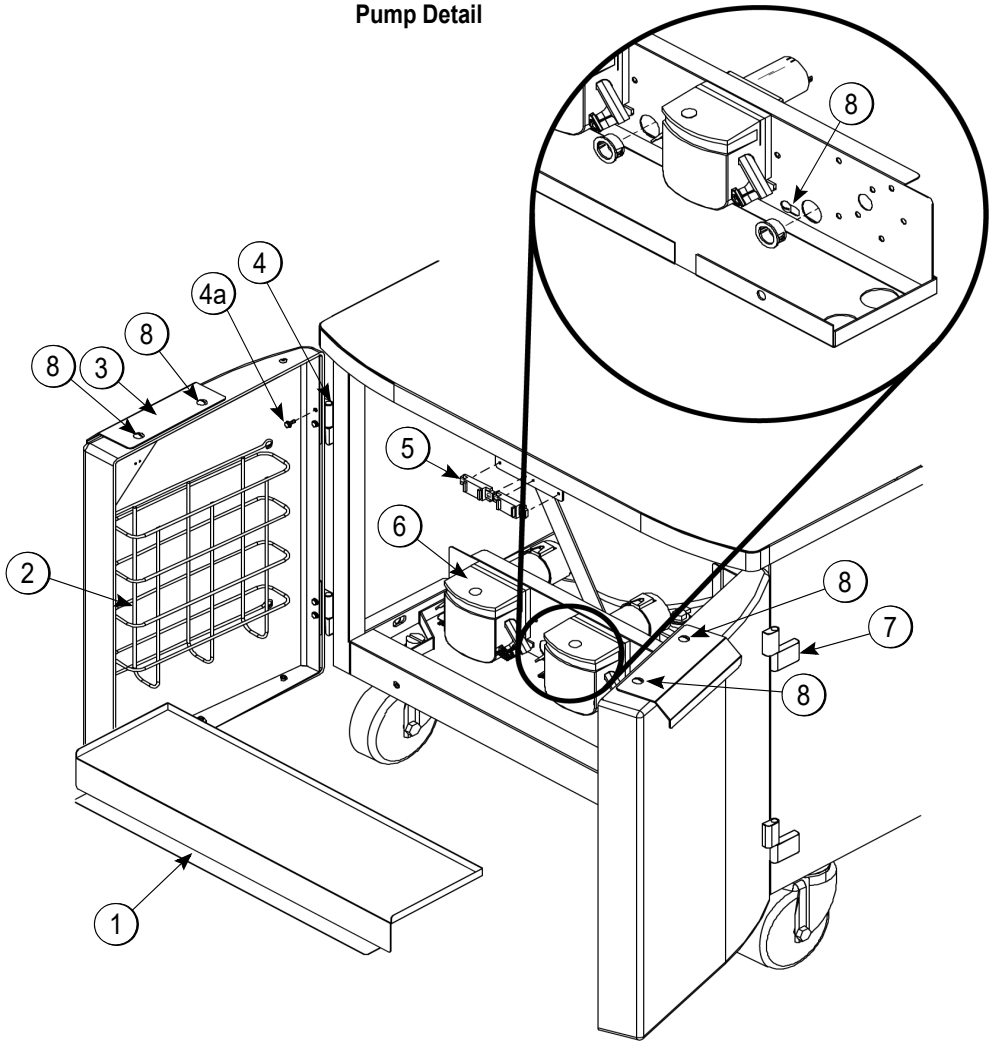


Figure-3

Mix Pump & Tubes

Item	Part No.	Description	Qty.	Function	Warr. Class
1	052916	Pump-Peristaltic	4	Contains rollers to propel syrup.	103
2	X54978	Kit A.-Peristaltic Pump Tube	4	Compressed by pump rollers to propel syrup.	000
3	053036	Ferrule-.625 ID	2 ea.	Clamps syrup hose on fitting.	000
4	054526	Fitting-Peristaltic Pump	2 ea.	Connects line to pump tube.	103
5	024278	O-ring 1/2 OD x .070	2 ea.	Provides seal between fitting and pump tube.	000
*6	X62426-8	Line A.-Syrup	4	Provides syrup flow from pump.	103

*Not Shown

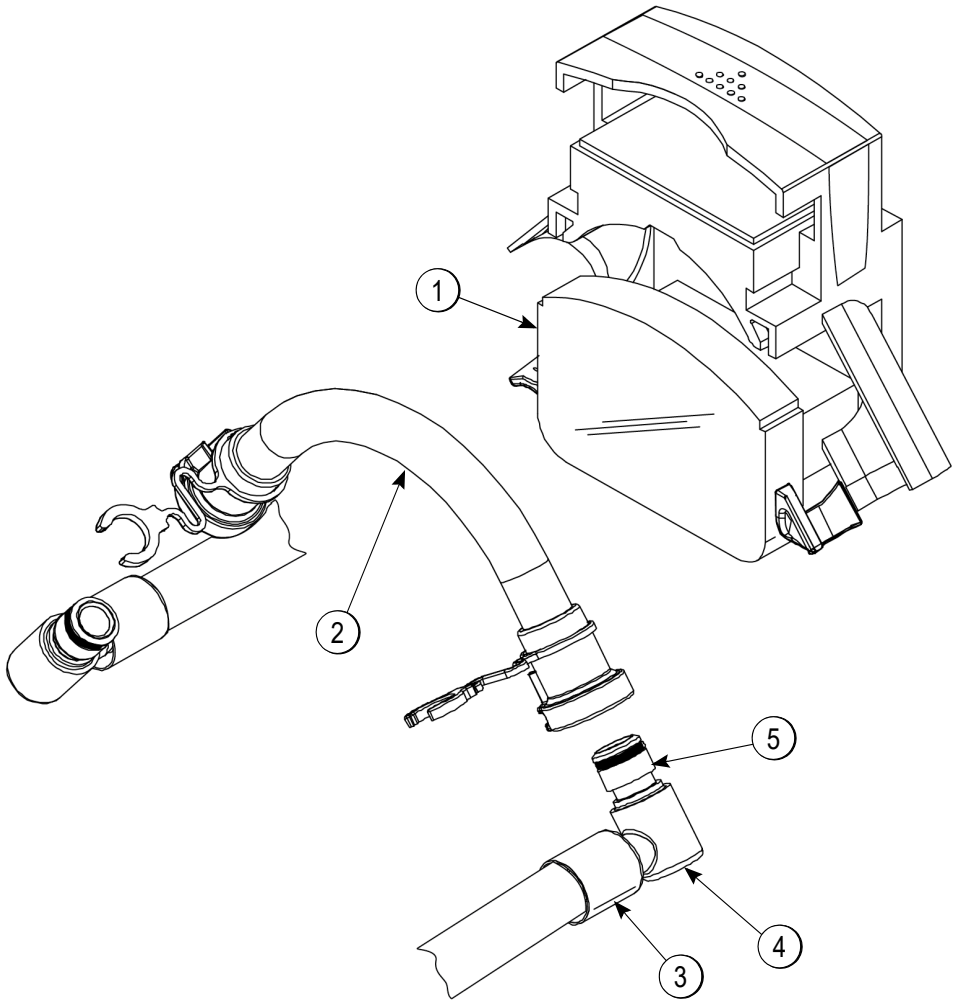


Figure-4

X57028-XX Pump A. - Mix Simplified - Shake

Item	Part No.	Description	Qty.	Function	Warr. Class
1 - 7	**X57028-XX**	**Pump A.-Mix Simplified Shake**	1	Delivers air and mix to the freezing cylinder.	103
1	057944	Cylinder-Pump- Hopper-Shake	1	Chamber to house the piston.	103
2	X55450	Pin-Retaining	1	Secures adaptor and valve cap in cylinder.	103
3	053526	Piston-Pump-Simplified	1	Moves back and forth to intake and discharge air and mix.	103
4	020051	O-ring 2-1/8” OD- Red	2	Provides sealed cavity inside cylinder.	000
5	056873-XX	Cap-Valve	1	Provides a metered passage for air and mix. The suffix number indicates the air orifice size.	103
6	086097	Gasket-Simplified Pump	1	Controls the flow of air and mix through the pump (do not lubricate).	000
7	054944	Adaptor-Mix Inlet Shake-Blue	1	Provides passageway for air/mix intake and discharge.	103
*8	016132	O-ring-11/16 OD-Red	2	Provides a seal at each end of the mix feed tube.	000
9	044731	Pin-Cotter-Hairpin	1	Secures mix inlet tube to pump adaptor.	103
10	X41947	Shaft A.-Drive Mix Pump	1	Rotates counterclockwise to move piston back and forth.	103
10a	039235	Crank-Drive	1	Delivers motion to piston.	103
10b	041948	Shaft-Drive	1	Delivers motion from pump motor to crank.	103
10c	008904	O-ring 1-3/4	1	Provides seal between crank and pump sleeve.	000
10d	048632	O-ring-Drive Shaft	2	Provides seal to prevent mix from leaking into rear drip pans.	000
11	044641	Clip-Mix Pump Retainer	1	Secures air/mix pump to drive hub in mix reservoir.	103
12	X55973	Tube A.-Feed- Hopper Shake	1	Mix and air is pumped through this tube from the pump to the freezing cylinder.	103
13	056524	Ring-Check .120 OD	1	Releases excess pressure from freezing cylinder back to mix reservoir.	000
14	X44761	Sleeve A.-Mix Pump	1	Guide for pump driveshaft; creates a seal to prevent mix from leaking into back of machine.	103

*016132 O-ring is ordered in packages of 50 - part no. 016132-SER.

X57028-XX Pump A. - Mix Simplified - Shake

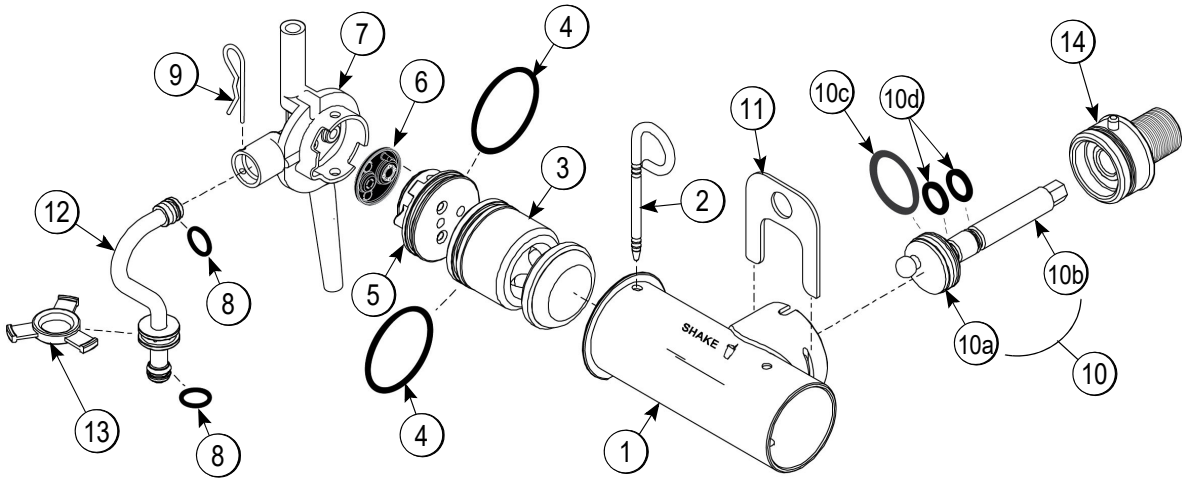


Figure-5

X57029-XX Pump A. - Mix Simplified - Soft Serve

Item	Part No.	Description	Qty.	Function	Warr. Class
1 - 7	**X57029-XX**	**Pump A.-Mix Simplified Soft Serve**	1	Delivers air and mix to freezing cylinder.	103
1	057943	Cylinder-Pump- Hopper-Soft Serve	1	Chamber to house the piston.	103
2	X55450	Pin-Retaining	1	Secures adaptor and valve cap in cylinder.	103
3	053526	Piston	1	Moves back and forth to intake and discharge air and mix.	103
4	020051	O-ring 2-1/8” OD - Red	2	Provides sealed cavity inside cylinder.	000
5	056874-XX	Cap-Valve	1	Provides a metered passage for air and mix. The suffix number indicates the air orifice size.	103
6	086097	Gasket-Simplified Pump Valve	1	Controls the flow of air and mix through the pump (do not lubricate).	000
7	054825	Adaptor-Mix Inlet Soft Serve-Red	1	Provides passageway for air and mix intake and discharge.	103
8	016132	O-ring - 11/16 OD - Red	2	Provides a seal at each end of the mix feed.	000
9	044731	Pin-Cotter	1	Secures mix inlet tube to pump adaptor.	103
10	X41947	Shaft A.-Drive-Mix Pump - Hopper	1	Rotates counterclockwise to move piston back and forth.	103
10a	039235	Crank-Drive	1	Delivers motion to piston.	103
10b	041948	Shaft-Drive	1	Delivers motion from pump motor to crank.	103
10c	048632	O-ring-1/2 ID x .139W (Drive Shaft)	2	Provides seal to prevent mix from leaking into rear drip pans.	000
10d	008904	O-ring 1-3/4 OD x .139W	1	Provides seal between crank and pump sleeve.	000
11	044641	Clip-Retainer-Mix Pump	1	Secures air/mix pump to drive hub in mix reservoir.	103
12	X55974	Tube A.-Feed Hopper - Soft Serve	1	Mix and air is pumped through this tube to the freezing cylinder.	103
13	056524	Ring-Check-Feed Tube	1	Releases excess pressure from freezing cylinder back to mix reservoir.	000
14	X44761	Sleeve A.-Mix Pump	1	Guide for pump driveshaft; creates a seal to prevent mix from leaking into back of machine.	103

X57029-XX Pump A. - Mix Simplified - Soft Serve

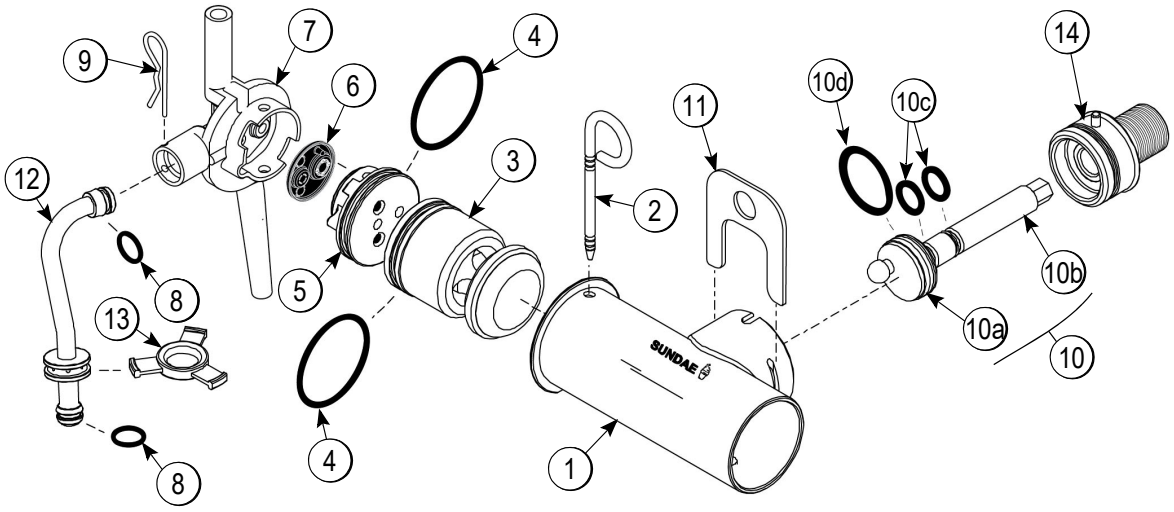


Figure-6

Mix Hopper - Top View

Item	Part No.	Description	Qty.	Function	Warr. Class
1	X44761	Sleeve A.-Mix Pump	2	Hub used to hold the air/mix pump in a locked position.	103
2	X41348	Probe A.-Mix Out	2	Electrical device to indicate level of mix in the hopper. Activates the Mix Out light on front of freezer.	103
3	X51664	Housing A. Agitator (Shake)	1	Provides magnetic force to rotate agitator assembly.	103
3a 4a	066937	Magnet A.-Agitator-Inner	2	Rotates the agitator paddles by magnetic force (included with the agitator assembly).	103
4	X51661	Housing A.-Agitator - (Soft Serve)	1	Provides magnetic force to rotate agitator assembly.	103
5	X42077	Probe A.-Mix Low	2	Electrical device to indicate level of mix in the hopper. Activates the Mix Low light on front of freezer.	103
6	080826	Cap-Magnet	2	Secures the agitator paddles in place (included with the agitator assembly).	103

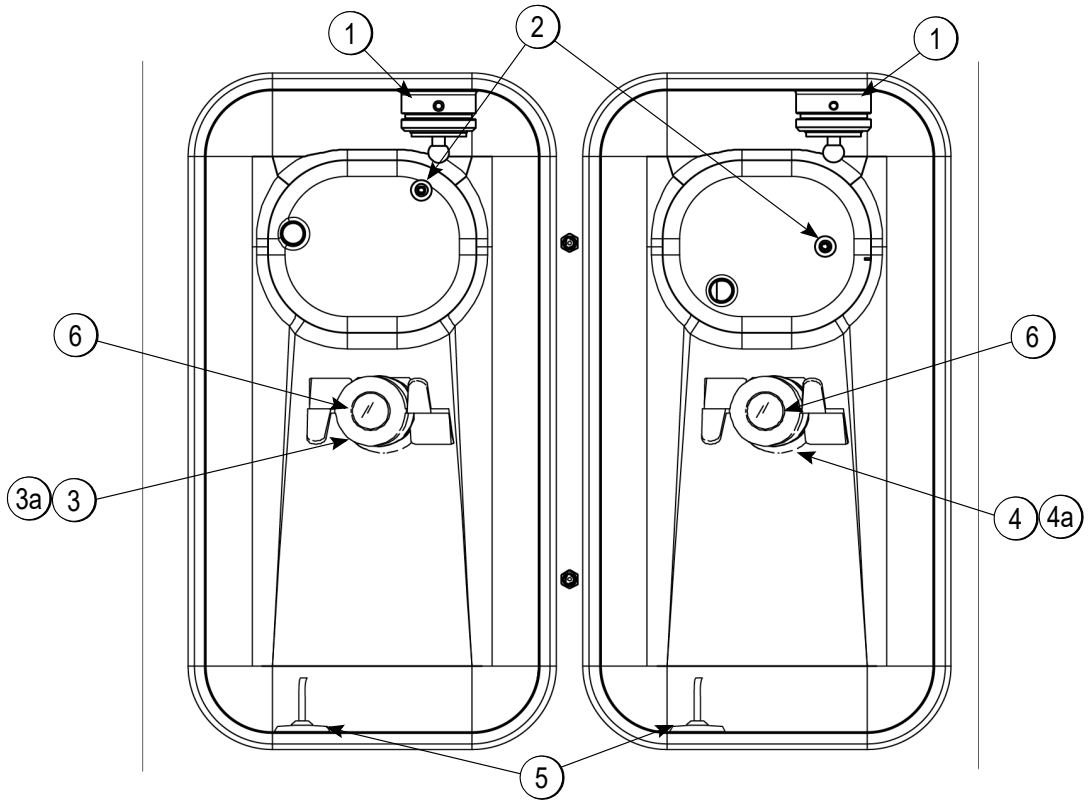


Figure-7

X56652 Syrup Line Assembly - Triple Thick Shake Syrup

Item	Part No.	Description	Qty.	Function	Warr. Class
1	053036	Ferrule-.625 ID	2	Clamps syrup hose on fitting.	000
2	056675	Insert-QD-CPC-3/8 Barb Plastic	1	Connects syrup lines to front panel.	103
*3	500205	O-ring	1	Provides seal for quick disconnect fitting.	000
4	053052-9	Hose-Beverage 3/8 ID x 5/8 OD	1	Delivers syrup to freezer door (9”).	000
5	056651	Fitting-Syrup Elbow	1	Connects valve to syrup line.	103
6	500598	Valve-Check Duckbill	1	One-way valve to direct syrup flow.	000
7	056650	Fitting-Syrup Nose (Large Slot)	1	Removable fitting allowing access to duckbill valve.	103
8	053890	O-ring-11 mm Green (Syrup Hole Plug)	1	Seals syrup hole plug in syrup port of freezer door.	000

*Not included in X56652.

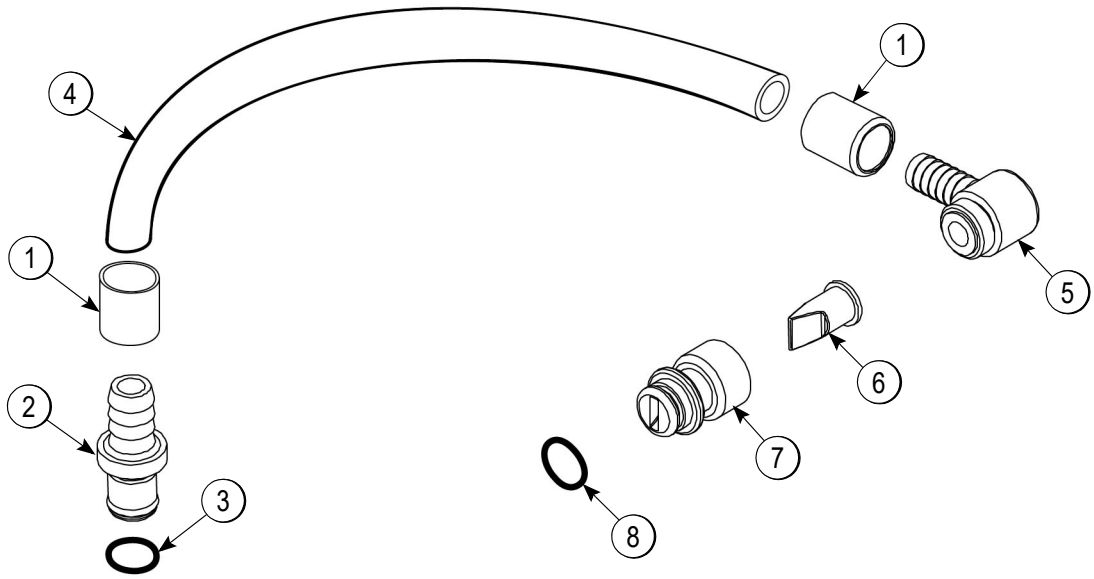


Figure-8

X59304 Syrup Line Assembly - Thin Viscosity Syrup

Item	Part No.	Description	Qty.	Function	Warr. Class
1	029834	Ferrule-.650 ID	2	Clamps syrup hose on fitting.	000
2	056675	Insert-QD-CPC-3/8 Barb Plastic	1	Connects syrup lines to front panel.	103
3	500205	O-ring	1	Provides seal for quick disconnect fitting.	000
4	500038-9	Tube-Vinyl	1	Delivers syrup to freezer door (9”).	000
5	056651	Fitting-Syrup Elbow	1	Connects valve to syrup line.	103
6	500598	Valve-Check Duckbill	1	One-way valve to direct syrup flow.	000
7	056649	Fitting-Syrup Nose (Small Slot)	1	Removable fitting allowing access to duckbill valve.	103
8	053890	O-ring-11 mm Green (Syrup Hole Plug)	1	Seals syrup hole plug in syrup port of freezer door.	000

*Not included in X59304.

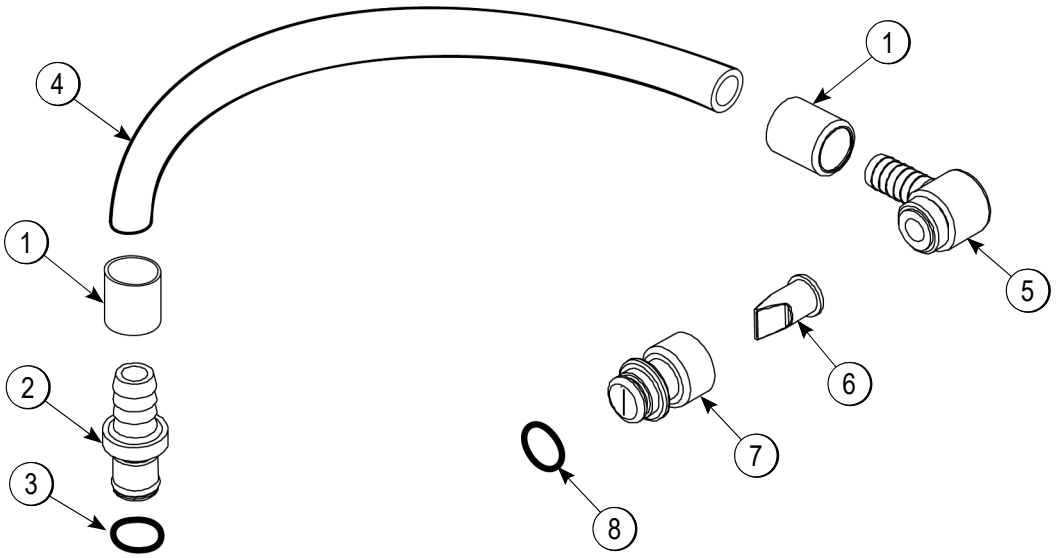


Figure-9

X58450 Syrup Line Assembly - Syrup-In-Bag Option

Item	Part No.	Description	Qty.	Function	Warr. Class
1	024278	O-ring-1/2 OD x .070	1	Provides a seal in the pump tube connection.	000
2	054526	Fitting-Male Peristaltic	1	Connects to the pump tube.	103
3	053036	Ferrule-.625 ID NP Brass	2	Secures the fitting on the hose.	000
4	058451	Coupling-QD Female 3/8 Barb	1	Quick disconnect fitting used for syrup bag removal. Press the lever to detach.	103
5	058452	Coupling-QD Male 1/4 Barb	1	Connects the hose from the syrup bag to the disconnect fitting.	103
6	R30314	Tube-Vinyl 3/16 ID x 1/16 Wall	1	Delivers syrup from the bag to the peristaltic pump.	000
7	053052-36	Hose-Beverage 3/8 ID x 5/8 OD	1	Delivers syrup from the bag to the peristaltic pump.	000

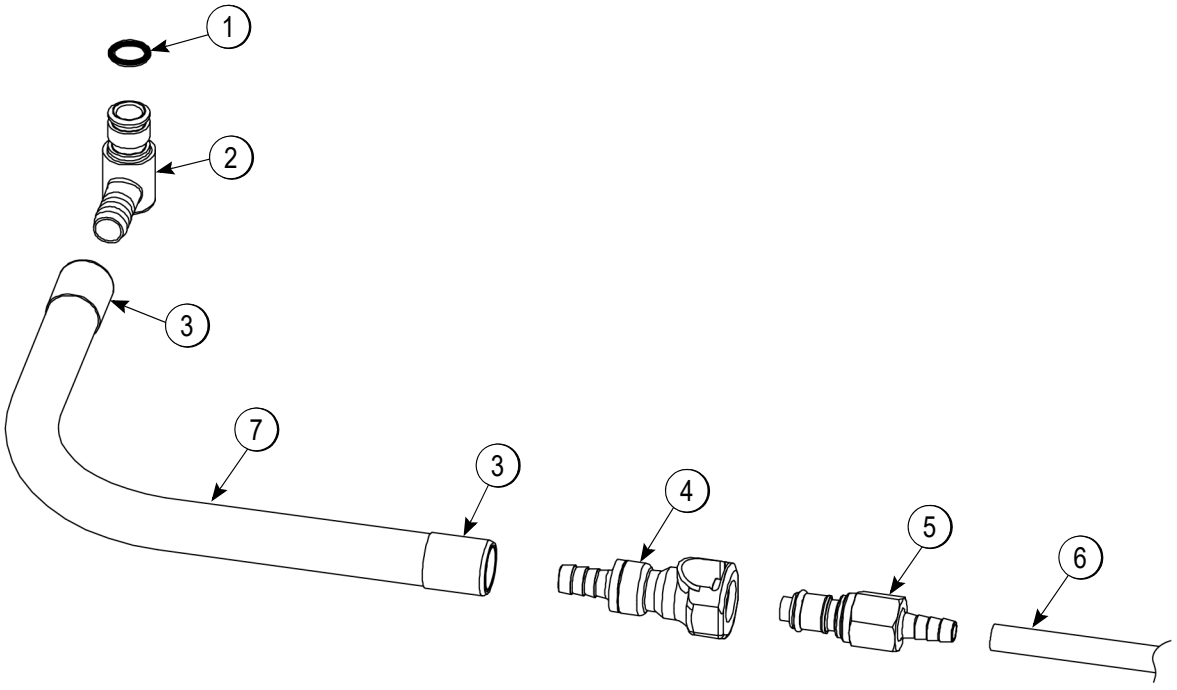


Figure-10

Beater Door Assembly - Shake Side

Item	Part No.	Description	Qty.	Function	Warr. Class
1	032560	Seal-Drive Shaft	1	Provides seal from product inside freezing cylinder to internal areas of freezer.	000
2	050985	Shaft-Beater 7 Qt. Fluted Blade	1	Connects beater assembly to gear unit.	103
3	041103	Blade-Scraper-16”	2	Scrapes frozen product off wall of freezing cylinder.	000
4	055605	Bearing-Door Front 1.390 OD	1	Allows beater assembly to turn freely in hub of freezer door.	000
5	X50958	Beater A.-7 Qt. Fluted Blade	1	Blends air and mix inside the freezing cylinder and provides force to dispense product.	103
6	033493	O-ring 6” - Freezer Door	1	Provides a seal between freezer door and freezing cylinder.	000
7	X55825SER2	Door A.-Shake	1	Covers open end of freezing cylinder and provides port for the product to be dispensed.	103
8	055989	Nut-Stud-Black	4	Tightening mechanism to secure freezer door to freezing cylinder.	103
9	053890	O-ring -Syrup Port 11mm ID x 2mm Green	4	Prevents leakage at syrup port plug.	000
10	053867	Plug-Syrup Port	4	Seals off syrup ports in the freezer door during the Heat cycle.	000
11	054554	Retainer-Syrup Valve	4	Retainer pins that secure the syrup valves.	000
12	020571	O-ring - 1-1/16 OD x .139 W (Draw Valve)	2	Provides seal for draw valve in freezer door cavity.	000
13	084696	Seal-Spinner Shaft	1	Provides a seal between draw valve and spinner shaft.	000
14	034054	Spinner-Driven Complete	1	Helps to blend mix with syrup in freezer door cavity.	103
15	X59331	Blade A.-Spinner Aluminum-HT	1	Blends mix with syrup in freezer door cavity.	103
16	033107	Cap- Restrictor	1	Snaps over door spout so blended product flows in a stream.	000
17	059000	Valve A.-Draw	1	Seals off mix in freezer door cavity. When raised, the port opens, allowing product in freezing cylinder to be dispensed.	103

Beater Door Assembly - Shake Side

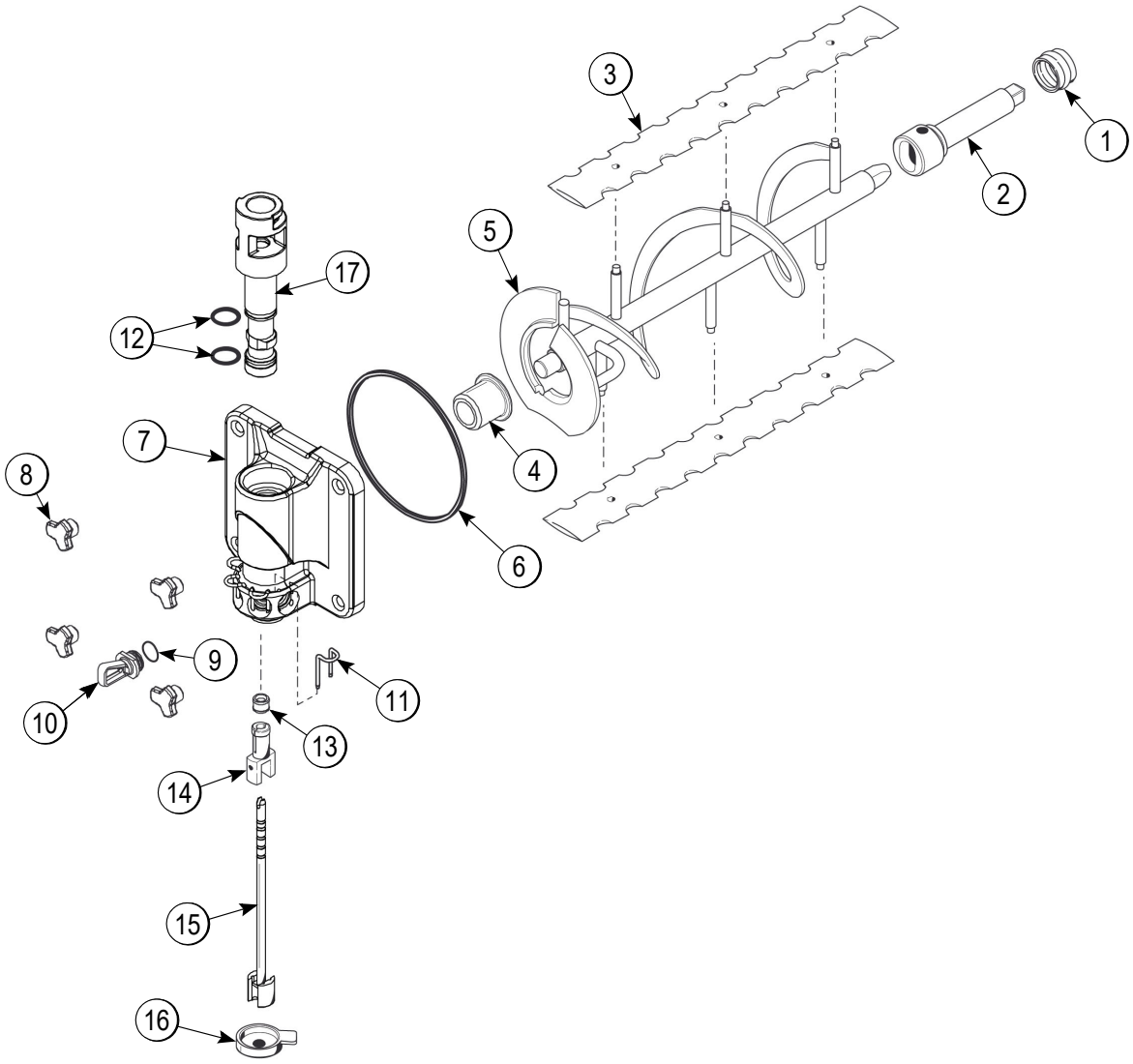


Figure-11

Beater Door Assembly - Soft Serve Side

Item	Part No.	Description	Qty.	Function	Warr. Class
1	X56421-1	Handle A.-Draw	1	Operational component of the draw valve assembly.	103
2	055989	Nut-Stud-Black	4	Tightening mechanism to secure freezer door to freezing cylinder.	103
3	X87683-1	Door A.-1SP 3.4QT Threadless	1	Covers open end of freezing cylinder and provides port for the product to be dispensed.	103
4	048926	Gasket (Freezer Door)	1	Provides a seal between freezer door and the freezing cylinder.	000
5	087708	Baffle -Threadess Molded	1	Baffle portion of door assembly.	103
6	X50350	Kit A.-Beater-Front Shoes-BRNG	1	Supports the beater assembly.	000
7	X46231	Beater Assembly	1	Blends air and mix inside the freezing cylinder and provides force to dispense product.	103
8	084350	Blade-Scraper-Plastic 8-1/8L	2	Scrapes frozen product off wall of freezing cylinder.	000
9	032560	Seal-Drive Shaft	1	Provides seal from product inside freezing cylinder to internal areas of the freezer.	000
10	032564	Drive Shaft	1	Connects beater assembly to gear unit.	103
11	055819	Pin-Handle-SS	1	Pivoting point for the draw handle to raise or lower the draw valve.	103
12	X55820	Valve A.-Draw	1	Seals off mix in freezer door cavity. When raised, port opens, allowing product in freezing cylinder to be dispensed.	103
13	014402	O-ring (Draw Valve)	3	Provides a seal for draw valve in freezer door cavity.	000
14	015872	O-ring-1/4 OD x .070	1	Holds screw in set position.	000
15	029639-BLK	Nut-5/16-24 Hex Jam	1	Secures the adjustment screw.	000
16	056332	Screw-Adjustment	1	Adjustment for product draw rate.	103

Beater Door Assembly - Soft Serve Side

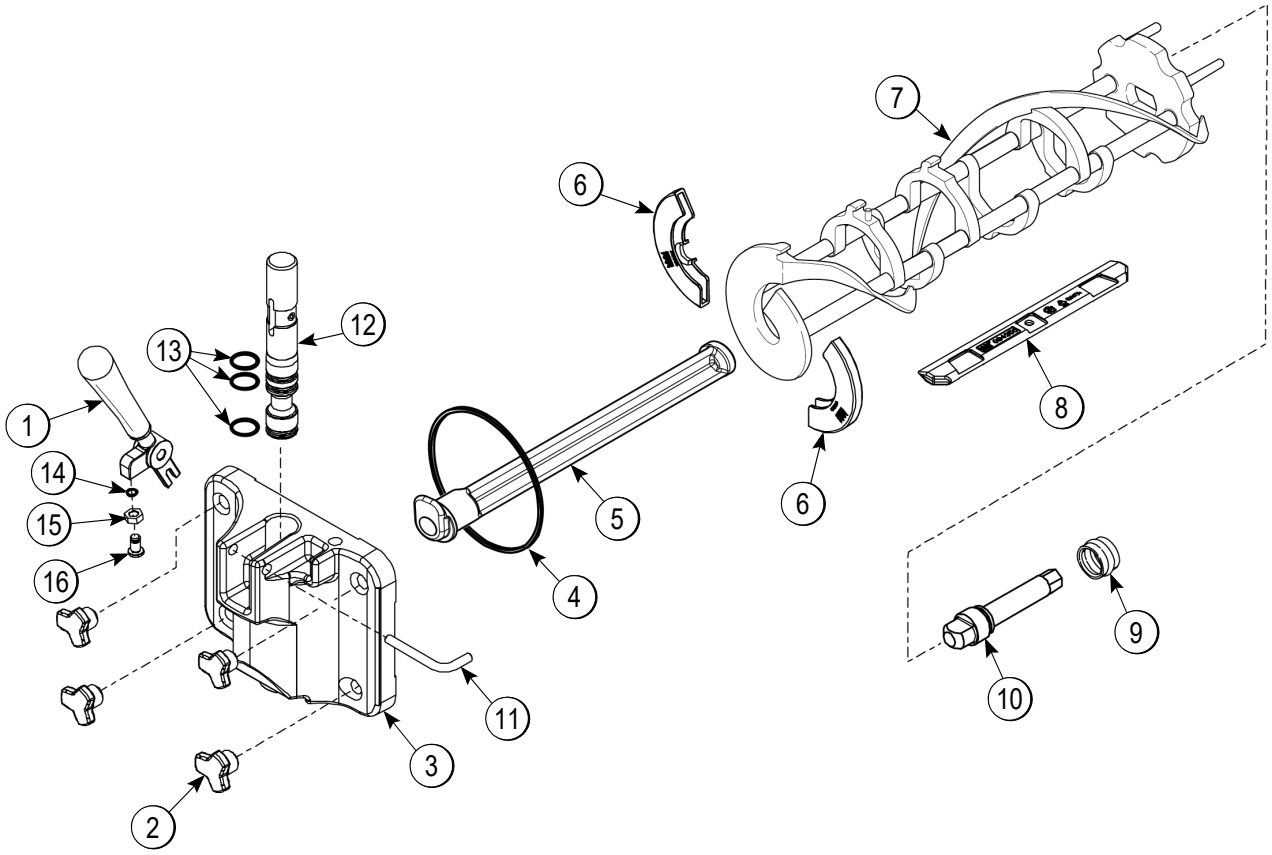


Figure-12

X53800-BRN/TAN Syrup Pump

Item	Part No.	Description	Qty.	Function	Warr. Class
1	X53800-BRN X53800-TAN	Plunger A.	1	Distributes and heats syrup toppings.	103
2	X36576-BRN X36576-TAN	Plunger A.	1	Used to dispense toppings.	103
2a	032762-TAN 032762-BRN	Knob-Plunger	1	Holds plunger assembly in place. TAN and BRN indicate the hot caramel and hot fudge toppings.	103
2b	032757	Tube-Plunger	1	Guides plunger and plunger insert in place.	103
2c	032758	Insert-Plunger	1	Determines the amount of topping dispensed. Factory precut to allow 1 fl. oz. (30 ml) of topping per stroke.	103
2d	032761	Spring-Plunger-Syrup Pump	1	Returns plunger to ready position.	000
2e	032760	Washer-Nylon	1	Rests on tapered portion of inlet cavity, creating tension on spring.	000
2f	036578	Plunger	1	Forces topping up through the outlet spout on the downstroke and fills cavity on the upstroke.	103
2g	X33057	Seal A.	1	Seals and centers the plunger.	000
2h	036577	Nut-Plunger	1	Threaded nut holds plunger assembly down on the cover.	103
3	039680	Nut-Spout	1	Secures lock in place.	103
4	X53798-SER	Pump A.-Syrup Heated	2	Distributes and heats syrup toppings.	103
5	036579	Lid-Pump	1	Covers topping container and holds topping pump body in place.	103

These items are supplied by Taylor on machines manufactured prior to serial number M1080000.

X53800-BRN/TAN Syrup Pump

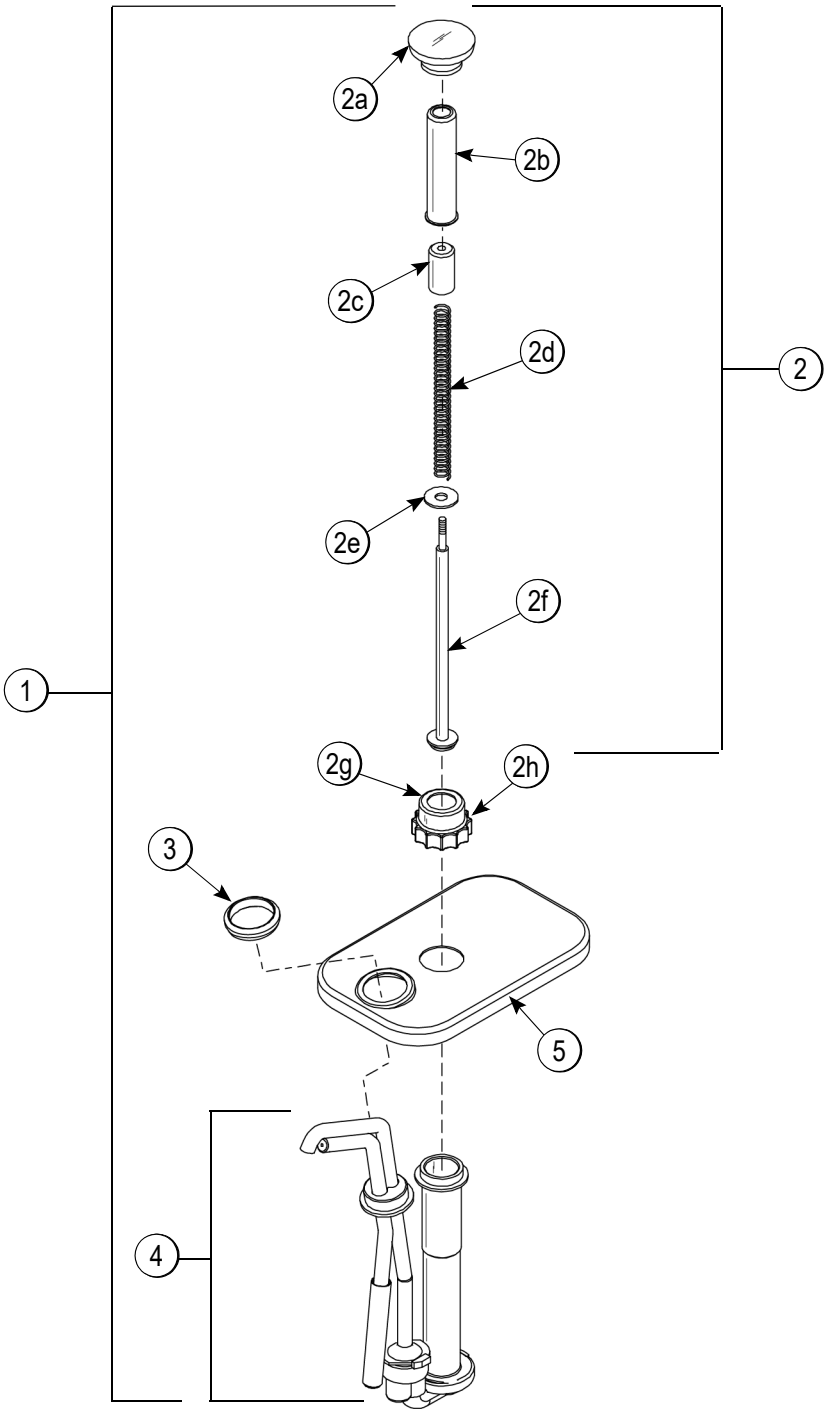


Figure-13

Accessories

Item	Part No.	Description	Qty.	Function	Warr. Class
1	X58474	Kit A.-Syrup Plug Kit	4	Seals syrup ports in the shake door when the syrup valves are not installed.	000
1a	053867	Plug-Syrup Port	4	Seals syrup ports in the shake door when the syrup valves are not installed.	000
1b	053890	O-ring-11mm Green (Syrup Hole Plug)	4	Seals syrup hole plug in syrup port of freezer door.	000
1c	035460	Tool-Seal Install-Remove	1	To install and remove the spinner shaft seal in the draw valve.	000
2	044818	Bottle-Plastic Wash	1	To clean and sanitize syrup ports in freezer door.	000
3	048260-WHT	Tool-O-ring Removal	1	Provides easy removal of O-rings.	000
4	057167	Tool-Mix Pump Shaft Removal	1	Enables easy removal of the pump driveshaft.	000
5	017203	Cup-Divided Syrup	1	To calibrate the syrups.	000
6	048232	Lubricant-Taylor Hi-Performance	1	Lubricant for moving parts and wear items.	000
7	013163	Pail-10 Qt.	1	Holds solution for cleaning and sanitizing the freezer.	000
8	041923	O-ring - 1-11/16 OD (Draw Valve Cap)	1	Provides a seal between valve cap and door spout.	000
9	X54704	Cap A.-Valve-Draw (Spout Cap)	1	Insulated cap used during the Heat Treatment cycle.	103
10	059087	Tray-Parts Soft Serve Side	1	Plastic tray used for air-drying parts when cleaning the machine.	000
11	059088	Tray-Parts Shake Side	1	Plastic tray used for air-drying parts when cleaning the machine.	000
12	056525	Tray-Parts-Pump- Simplified	2	Plastic trays used for air-drying parts when cleaning the machine.	000
*13	X59489	Dispenser A.-Cone	1	Dispenses shake and soft serve cups and cones.	103
*13a	052193	Baffle-Rubber Cone	2	Holds and dispenses soft serve cones.	000
14	X59143	Tray A.-Syrup	1	Tray used when syrup is dispensed from a bag. (Optional bag syrup system)	103
**	047912	Deflector-Blower Exhaust	1	Attached under the base of the machine to direct air-flow forward.	000

* Items supplied by Taylor on machines manufactured prior to serial number M1080000
**Not shown

Accessories

Item	Part No.	Description	Qty.	Function	Warr. Class
**	X49463-94	Kit A.-Tune Up C602 Blade	1	Tune up kit containing: 1/X56200-10 pump kit, 1/X56200-12 draw valve kit, 1/X56200-13 shake door kit, 1/X56200-14 soft serve door kit, 1/X56200-15 syrup valve kit, 1/048260 O-ring removal tool, 1/084350 blade-scraper-plastic.	000
**	X54978	Kit A.-Peristaltic Pump Tube	1	Spare pump tube with replacement instructions.	000
**	X53795	Kit A.-Topping Pump Spares	1	Spare parts for topping pump.	000
**	058669	Box-Tool 15” Plastic	1	Container for storing accessories.	000

* Items supplied by Taylor on machines manufactured prior to serial number M1080000.
**Not shown

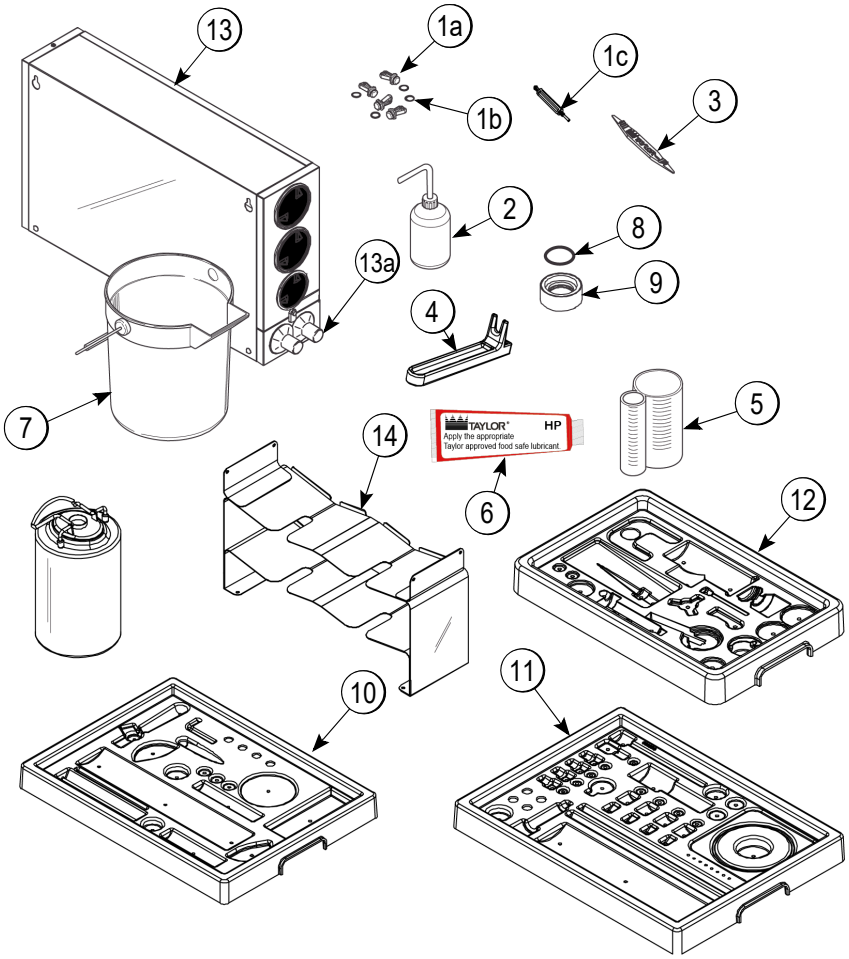


Figure-14

X44127 Brush Kit Assembly

Item	Part No.	Description	Qty.	Function	Warr. Class
1	013071	Black Bristle Brush	1	To clean rear shell bearing and mix pump drive hub.	000
2	013072	Double End Brush	1	To clean O-rings, holes in metal parts, piston grooves, mix inlet tube, mix inlet adapter, O-ring all grooves, draw valve core, valve caps, syrup line port holes in freezer door, syrup container feed tube, retaining pin, handscrew, pivot pin, and mix feed tube.	000
3	013073	White Bristle Brush (1” x 2”)	1	To clean the product entry ports in back of freezer door, scraper blade, draw handle, beater driveshaft, spinner blade, and driveshaft boot seal.	000
4	014753	White Bristle Brush (1-1/2” x 3”)	1	To clean the agitator and the draw valve core in the freezer door.	000
5	033059	White Bristle Brush (1/2” x 3”)	1	To clean the topping pump.	000
6	050103	Brush Set (3)	1	To clean the syrup port holes and syrup valve retainer port holes.	000
7	039719	Yellow Bristle Brush	1	To clean the syrup ports and door spouts.	000
8	023316	White Bristle (3” x 7”)	1	To clean the mix hopper, pump cylinder, hopper cover, parts tray, drip pans, beater, front bearing, splash shield, front drip tray, and piston.	000
9	054068	Brush-Pump Spout	1	To clean the topping pump.	000

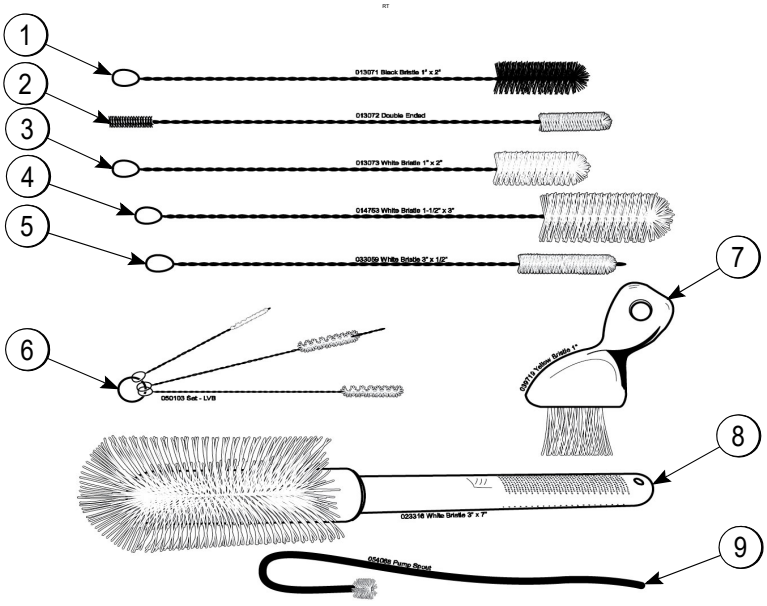


Figure-15

059088 Tray-Parts-Shake Side

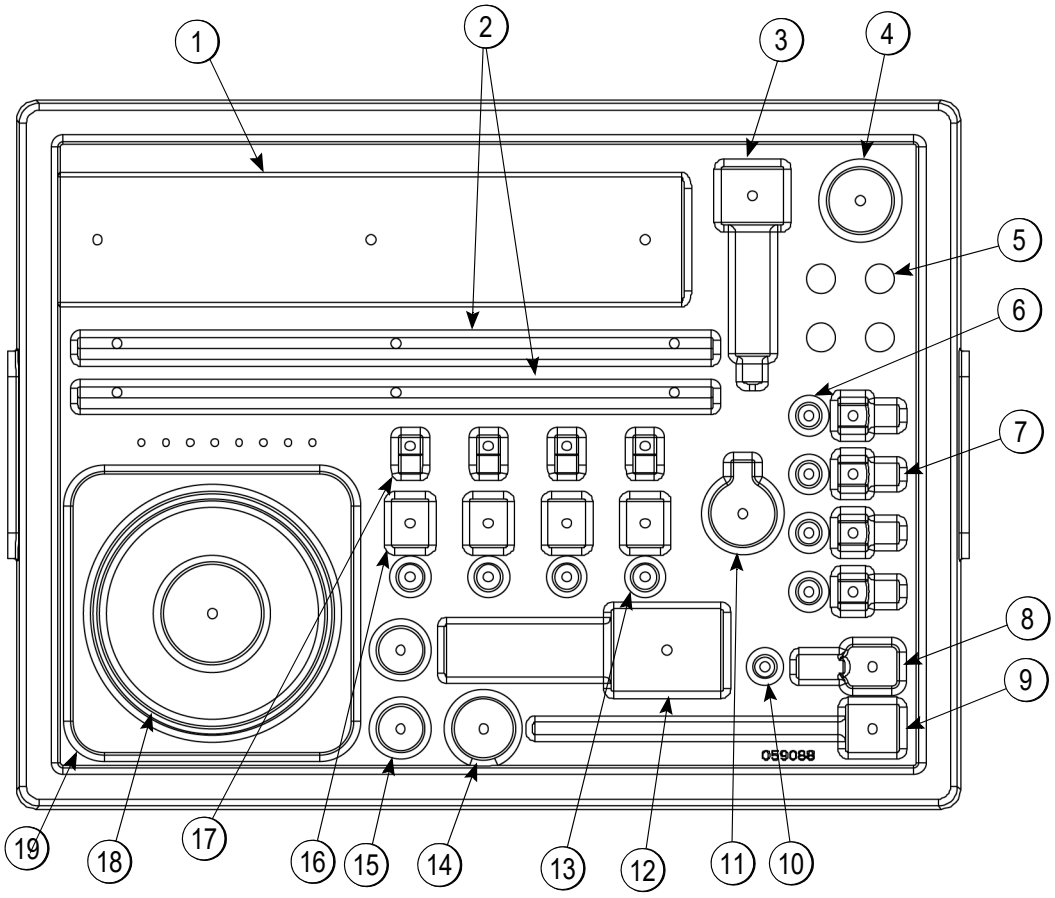


Figure-16

Item	Part No.	Description
1	X50958	Beater A.-7 Qt.
2	041103	Blade-Scraper-16”
3	050985	Shaft-Beater 7 Qt.
4	032560	Seal-Drive Shaft
5	055989	Nut-Stud
6	053890	O-ring -Syrup Port 11mm ID Green
7	053867	Plug-Syrup Port
8	034054	Spinner
9	X59331	Blade A.-Spinner
10	084696	Seal-Spinner Shaft
11	033107	Cap-Restrictor

Item	Part No.	Description
12	X55820	Valve A.-Draw
12	X55820	Valve A.-Draw
13	500598	Valve-Check Duckbill
14	055605	Bearing-Door Front
15	020571	O-ring - 1-1/16 OD (Draw Valve)
16	See pages 15 & 16	Fitting-Syrup Nose
17	054554	Retainer-Syrup Valve
18	033493	O-ring 6” - Door
19	X55825SER2	Door A.-Shake

059087 Tray-Parts-Soft Serve Side

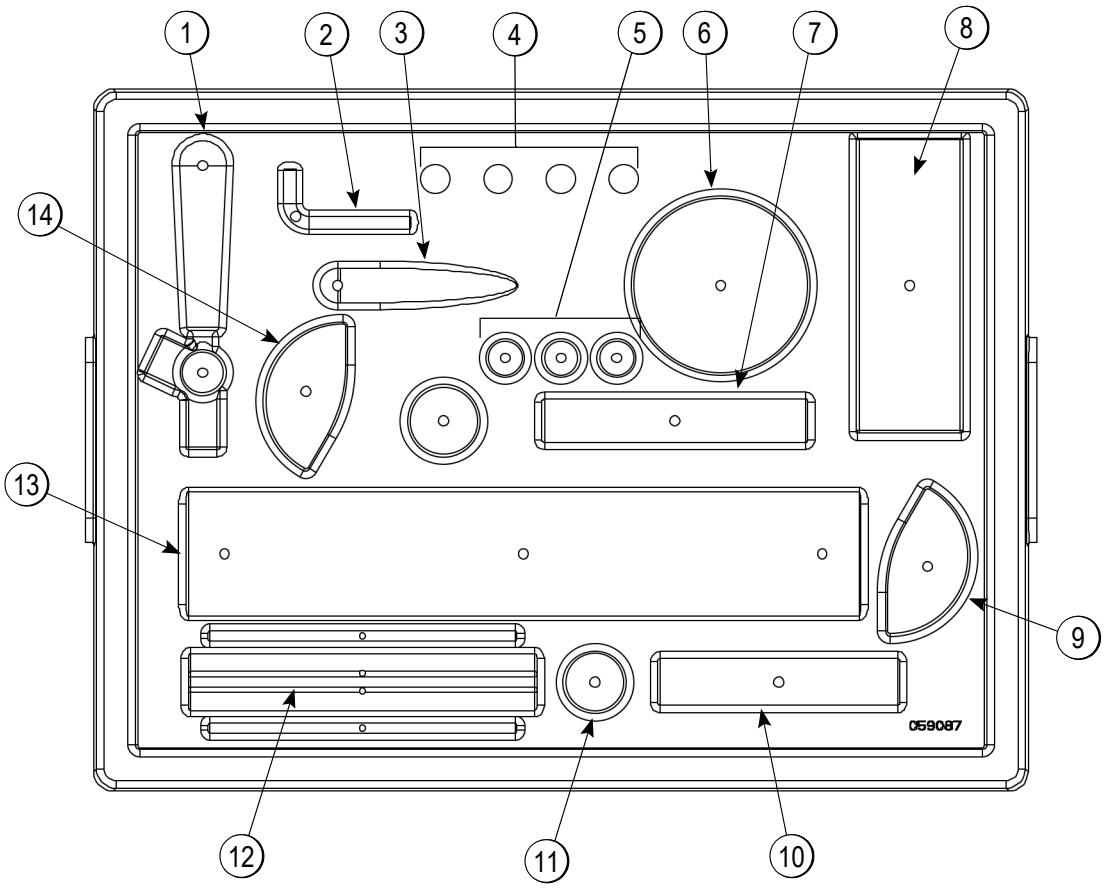


Figure-17

Item	Part No.	Description
1	X56421-1	Handle A.-Draw
2	055819	Pin-Handle-SS
3	087708	Baffle
4	055989	Nut-Stud
5	014402	O-ring (Draw Valve)
6	048926	Gasket (Freezer Door)
7	X55820	Valve A.-Draw

Item	Part No.	Description
8	X87683-1	Door Assembly
9	084108	Shoe-Front Helix- Front
10	032564	Drive Shaft
11	032560	Seal-Drive Shaft
12	084350	Blade-Scraper
13	X46231	Beater Assembly
14	084109	Shoe-Front Helix-Rear

056525 Tray-Parts-Pump-Simplified

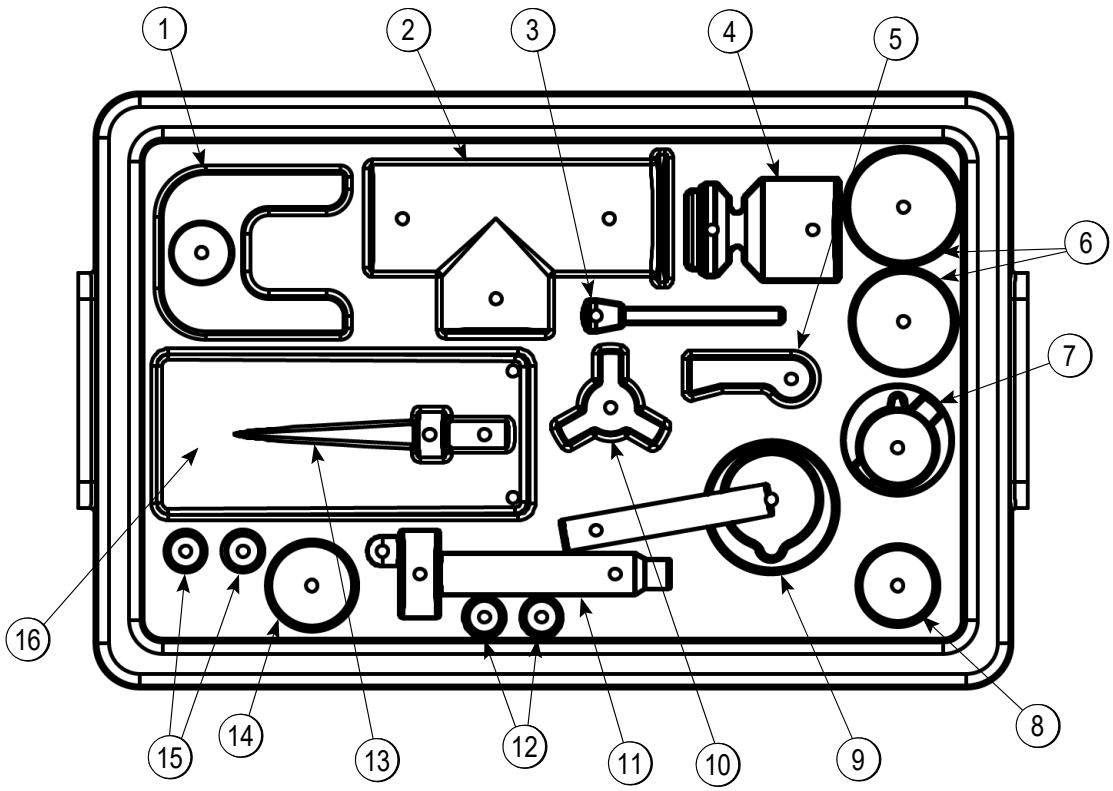


Figure-18

Shake Side

Item	Part No.	Description
1	044641	Clip-Mix Pump
2	057944	Cylinder-Pump- Hopper-Shake
3	X55450	Pin-Retaining
4	053526	Piston
5	044731	Pin-Cotter
6	020051	O-ring 2-1/8” OD- Red
7	056873-XX	Cap-Valve
8	086097	Gasket-Simp Pump

Item	Part No.	Description
9	054944	Adaptor-Mix Inlet Shake-Blue
10	056524	Ring-Check .120 OD
11	X41947	Shaft A.-Drive Mix Pump
12	048632	O-ring-Drive Shaft
13	X55973	Tube A.-Feed- Hopper Shake
14	008904	O-ring 1-3/4
15	016132	O-ring-11/16 OD - Red
16	X44797	Agitator A.-Mix Hopper

Soft Serve Side

Item	Part No.	Description
1	044641	Clip-Mix Pump
2	057943	Cylinder-Pump- Hopper-Soft Serve
3	X55450	Pin-Retaining
4	053526	Piston
5	044731	Pin-Cotter
6	020051	O-ring 2-1/8” OD-Red
7	056874-XX	Cap-Valve
8	086097	Gasket-Simp Pump

Item	Part No.	Description
9	054825	Adaptor-Mix Inlet Soft Serve-Red
10	056524	Ring-Check.120 OD
11	X41947	Shaft A.-Drive Mix Pump
12	048632	O-ring-Drive Shaft
13	X55974	Tube A.-Feed- Hopper Soft Serve
14	008904	O-ring 1-3/4
15	016132	O-ring-11/16 OD -Red
16	X44797	Agitator A.-Mix Hopper

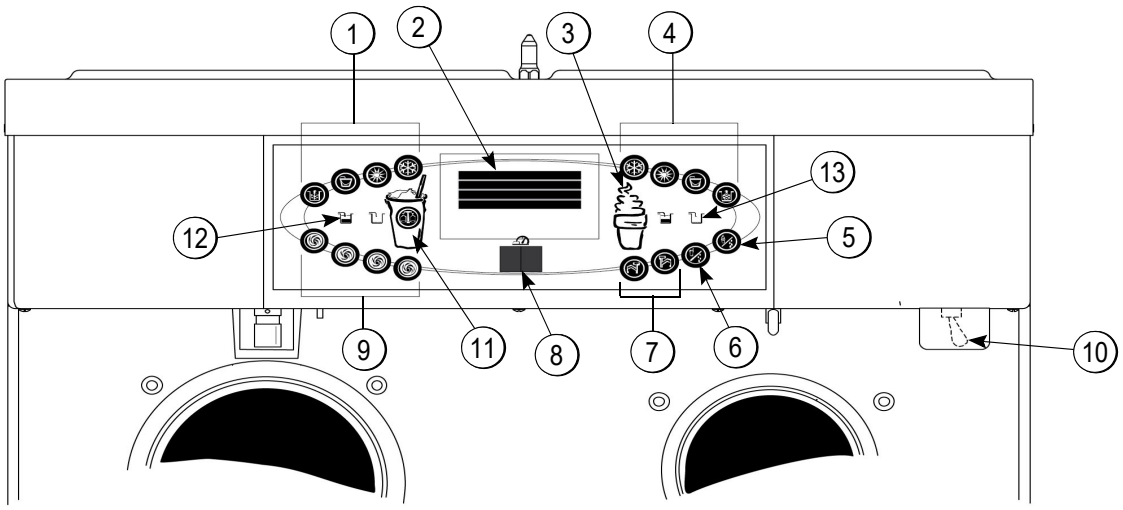


Figure-19

Item	Part No.	Description
1	Keypad-Shake	For selecting operating functions on the shake side of the machine.
2	Display-Vacuum Fluorescent Menu (VFD)	Screen that displays menu options and notifies operator if a fault is detected.
3	Keypad-Menu (Entry/Exit)	To select the Manager's Menu or to exit the Menu Display.
4	Keypad-Soft Serve	For selecting operating functions on the soft serve side of the machine.
5	Standby-Soft Serve	Indicates when the soft serve side is in the Standby mode.
6	Standby-Shake	Indicates when the shake side is in the Standby mode.
7	Keypad-Topping Heater	To activate the topping rail heaters.
8	Display-LED (Brush Clean Countdown)	Displays the number of days before brush-cleaning is required.
9	Keypad-Flavor Select	For selecting the desired shake flavor to be dispensed. Also used for opening and closing the draw valve when cleaning, sanitizing, and priming the shake side.
10	Switch-Power	When placed in the ON position, allows control panel operation.
11	Keypad-Calibrate Menu	To access the Calibrate Menu containing options for calibrating the syrup dispensing rate or priming and flushing the syrup lines.
12	Indicator Light-Mix Low	Illuminates when the mix hopper has a low supply of mix and should be refilled as soon as possible.
13	Indicator Light-Mix Out	Illuminates when the mix hopper has an insufficient supply of mix to operate the freezer. The Auto mode will be locked out and the machine will be placed in the Standby mode.

Note: *See Manager's Menu on page 1-78 for additional key functions when the Calibration or Manager's Menu is displayed.*

Symbol Definitions

To better communicate in the international arena, the words on many of the operator keys have been replaced by symbols to indicate their functions. Your Taylor machine is designed with these international symbols.

The following chart identifies the symbol definitions:

 = Auto

 = Heat Cycle

 = Wash

 = Mix Pump

 = Standby (Shake)

 = Standby (Soft Serve)

 = Flavor Selection

 = Mix Low

 = Mix Out

 = Topping Heater-Left

 = Topping Heater-Right

 = Calibrate

 = Menu Display

Power Switch

When placed in the ON position, the power switch allows control panel operation.

Vacuum Fluorescent Display

The vacuum fluorescent display (VFD) is on the front control panel. During normal operation the display is blank. The display shows menu options and notifies the operator if a fault is detected. On international models, the display will indicate the temperature of the mix in each hopper.

Indicator Lights

Mix Low—When the Mix Low symbol is illuminated, the mix hopper has a low supply of mix and should be refilled as soon as possible.

Mix Out—When the Mix Out symbol is illuminated, the mix hopper has been almost completely exhausted and has an insufficient supply of mix to operate the freezer. At this time, the Auto mode is locked out and the freezer will be placed in the Standby mode. To initiate the refrigeration system, add mix to the mix hopper and press the Auto symbol. The freezer will automatically begin operation.

Heat Mode Symbol

When the Heat mode symbol is illuminated, the freezer is in the process of a Heat cycle. The Heat mode symbol may be selected to start a Heat cycle following a freezer soft lock condition.

The heat treat key can be enabled/disabled via the service menu to allow the manual start of Heat treat at any time.

Brush-Clean Countdown - Displays the number of days before the next brush-cleaning is required. When the display has counted down to 1, the machine must be disassembled and brush-cleaned within 24 hours.

Reset Mechanism

The reset button is in the service panel at the rear of the machine. It protects the beater motor from overloading. Should an overload occur, the reset mechanism will trip. To properly reset the freezer, place the power switch in the OFF position. Press the reset button firmly. Turn the power switch to the ON position. Press the Wash symbol and observe the freezer's performance. (See Figure-20.)

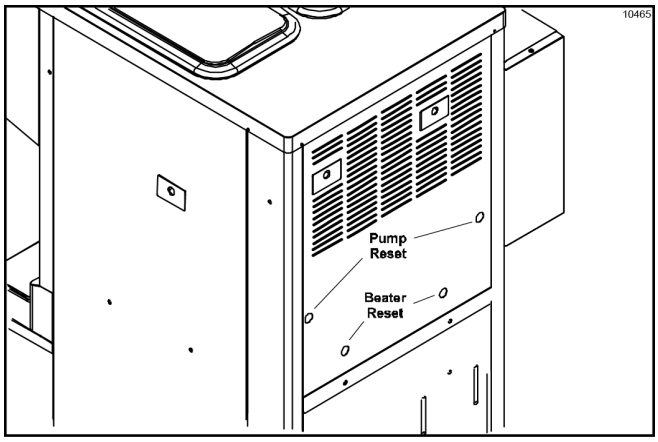


Figure-20

CAUTION! DO NOT use metal objects to press the reset button. Failure to follow this instruction may result in electrocution.

If the beater motor is turning properly, press the Wash symbol to cancel the cycle. Press the Auto symbol to resume normal operation. If the freezer shuts down again, contact your service technician.

Air/Mix Pump Reset Mechanism

The reset button for the pump is in the service panel at the rear of the machine. (See Figure-20.) The reset protects the pump from overloading. Should an overload occur, the reset mechanism will trip. To reset the pump, press the reset button firmly.

CAUTION! DO NOT use metal objects to press the reset button. Failure to follow this instruction may result in electrocution.

Adjustable Draw Handle

This machine features an adjustable draw handle to provide the best portion control, giving a better, more consistent quality to your product and controlling costs. The draw handle should be adjusted to provide a flow rate of 5 oz. to 7-1/2 oz. (142 g to 213 g) of product by weight per 10 seconds. To **increase** the flow rate, tighten the screw. To **decrease** the flow rate, loosen the screw. After setting the flow rate, tighten the jam nut to secure the adjustment screw. (See Figure-21.)

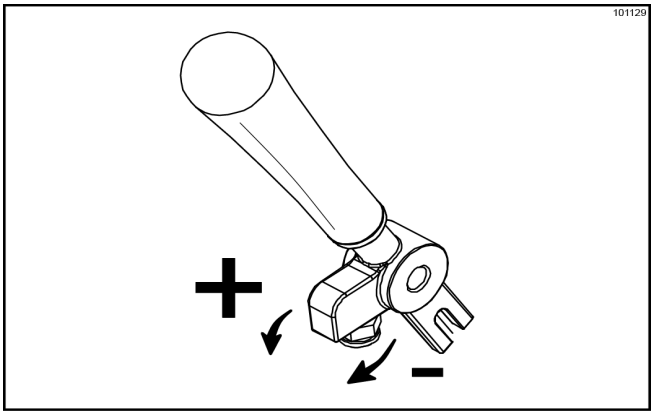


Figure-21

Shake Fill Level Adjustment

The portion control sensor is located under the cup holder. In front of the portion control sensor is the portion control sensor shield. The sensor shield must be kept clean for the sensor to perform properly.

If the shakes are not filling the cup to the desired level, clean and inspect the sensor shield. Use a clean, damp, sanitized towel to gently wipe the portion control sensor shield and remove any mix buildup. Inspect the sensor shield for damage and replace, if necessary. (See Figure-22.)

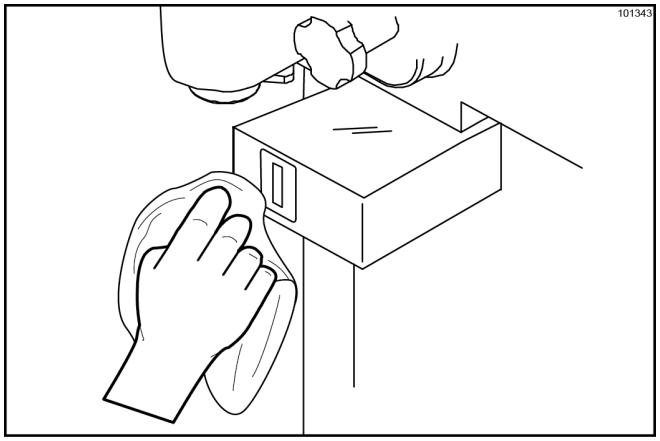


Figure-22

The portion control sensor can be adjusted to fill the cup to the desired level. If the fill level is too low or if the cup is overfilling, it may be necessary to adjust the sensor position. (See Figure-23.)

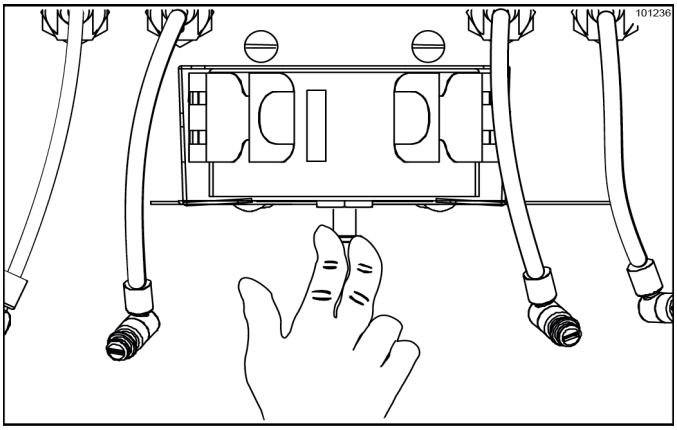


Figure-23

To adjust the sensor position, perform the following steps:

1. Using a crescent wrench, loosen the locknut on the screw adjuster below the sensor.
2. Turn the adjustment screw clockwise to raise the fill level, or counterclockwise to lower the fill level.
3. Once the desired fill level is achieved, tighten the locknut.

DAILY OPENING PROCEDURES

Before performing the opening procedures, check the display panel for any error messages. Normally the display is blank unless an operational fault has occurred. If a fault has been detected, investigate the cause and follow the instructions on the display before proceeding with the opening procedures. (See Failure Messages on pages 1-76 and 1-85.).

Setup—Complete the Following

Important! *Make sure your hands are clean and sanitized before continuing in these instructions.*

1. With the drain plugs closed, check the water level in the two heated topping wells. Fill the wells with water to the indicating mark on the bottom of the well.
2. Place the topping heaters in the ON position by pressing the Topping Heater symbols.

Note: *As soon as the heaters are turned on, the topping wells will begin heating. This heating process will take approximately 2-1/2 hours to reach temperature. The water level in the wells should be checked daily.*

3. Fill the topping containers with topping. Place the caramel and fudge topping containers in the heated wells. Place the remaining two topping containers in the unheated wells. Cover the containers.
4. Sanitize the two topping ladles and place in the cold topping containers.
5. Fill the cup dispensers, cup lid holder, and cone dispenser.
6. To fill the cone dispenser, slide the drawer up and pull out. Push the spring guide all the way back to its locking position. Place the cones in the drawer and release the spring guide.

Shake Side

1. When the Heating cycle is complete, the Heat cycle symbol ☀ will no longer be illuminated and the machine will automatically enter the Standby mode. Prepare a small amount of KAY-5® Sanitizer (HCS) solution. Use one packet in 2.5 gal. (9.5 L) of water (100 ppm).
2. Remove the syrup hole plugs, syrup valve retainers, and draw valve cap (spout cap) from the freezer door. Remove the O-rings from the syrup hole plugs and the draw valve cap.
3. Sanitize all O-rings, the restrictor cap, syrup hole plugs, syrup valve retainers, draw valve cap (spout cap), shake cup holder, front drip tray, and splash shield in this solution.
4. Return to the freezer with a small amount of sanitizing solution. With a pail below the door spout, dip the door-spout brush into the sanitizing solution. Brush-clean the door spout, bottom of the driven spinner, spinner blade, and syrup line fittings. (See Figure-24.)

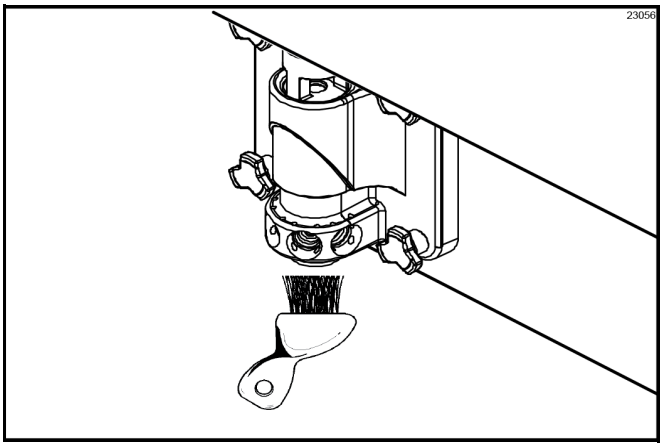


Figure-24

Note: *To ensure sanitary conditions are maintained, brush-clean each item for 60 seconds, repeatedly dipping the brush in sanitizing solution.*

5. With the syrup-port brush, brush each syrup port hole 10 to 15 times. Dip the brush in sanitizing solution before brushing each port. (See Figure-25.)

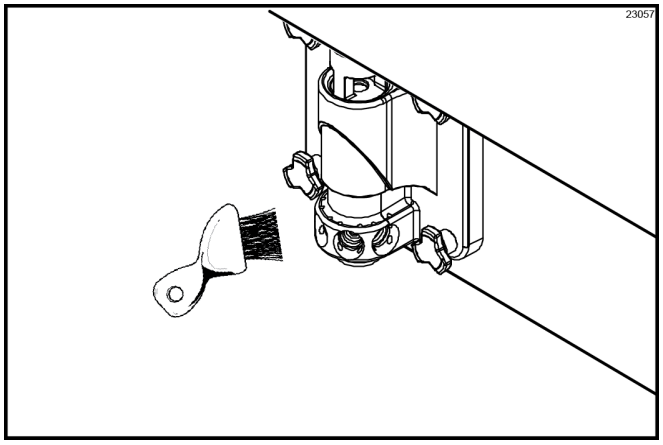


Figure-25

6. Fill the squeeze bottle with sanitizing solution. With a pail beneath the door, insert the tube end of the squeeze bottle into the syrup port and squeeze the bottle firmly. This action will force solution out of the adjacent port and down around the spinner. This procedure should be performed for at least 10 seconds per port. (See Figure-26.)

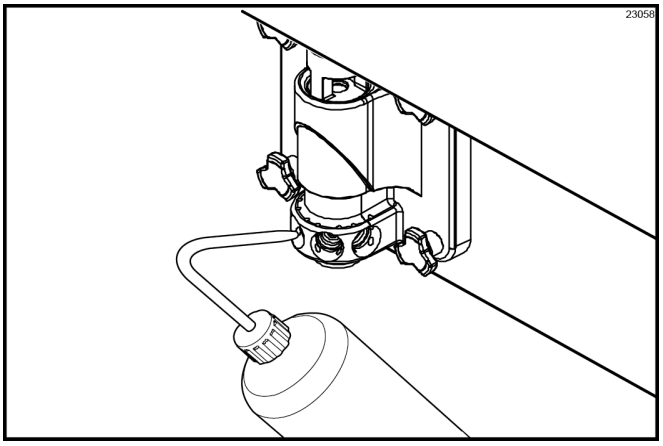


Figure-26

7. Re-install the syrup valve retainers.

8. Install the restrictor cap on the freezer door spout. (See Figure-27.)

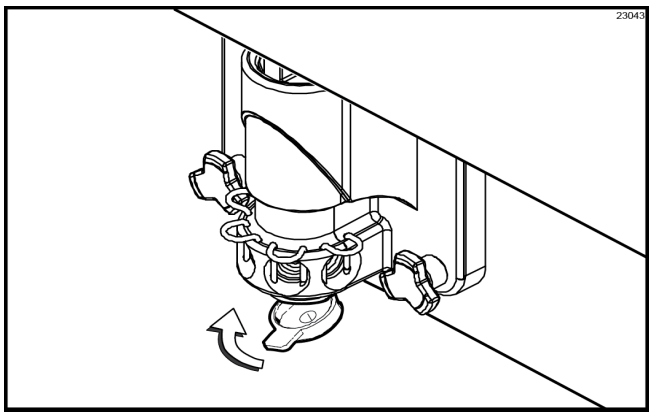


Figure-27

9. With the pail still beneath the door, remove the syrup nose fitting from the syrup line fitting by turning it counterclockwise. Hold the syrup fittings in an up position to minimize syrup loss. (See Figure-28.)

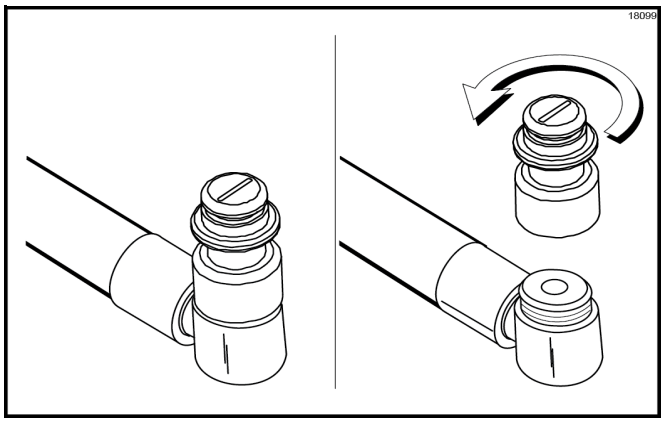


Figure-28

10. Remove the duckbill valve and O-ring from the syrup nose fitting. (See Figure-29.)

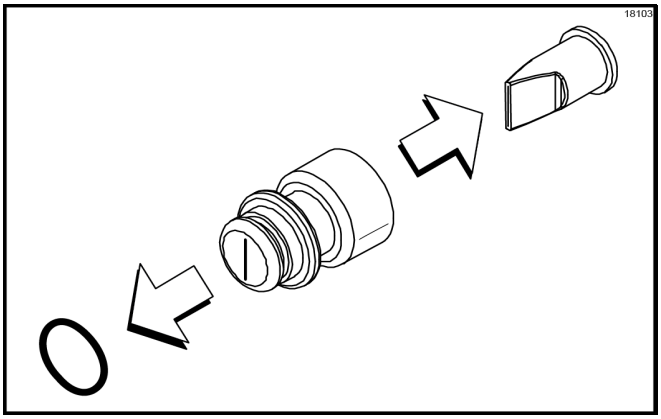


Figure-29

11. Using the white end of the double-ended brush, scrub the inside of the syrup nose fitting to remove any residual particles.
12. Using a shake cup filled with KAY-5® Sanitizer (HCS) solution, rinse the syrup nose fitting thoroughly.
13. Using a clean, sanitized towel, gently wipe any syrup from the duckbill valve.
14. Using a shake cup filled with KAY-5® Sanitizer (HCS) solution, thoroughly rinse the duckbill valve.
15. Install the duckbill valve into the syrup nose fitting with the flat end aligned with the open slot in the syrup nose fitting.

    Note: *Replace the duckbill valve if it is damaged or extends past the syrup nose fitting slot. (See Figure-30.)*

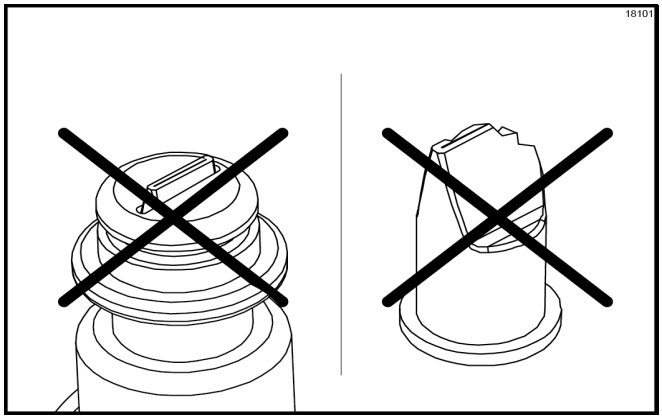


Figure-30

16. Install the syrup nose fitting onto the syrup line fitting. Tighten by hand until secure.

Note: *The duckbill valve must be* ***wet*** *when the syrup nose fitting is installed on the syrup line fitting. The sanitized water will lubricate the bottom flat surface and prevent the duckbill from twisting when tightening the syrup nose fitting.*

17. Inspect the duckbill valve for proper installation inside the syrup nose fitting. The tip of the duckbill valve **must be flat** to seal the syrup line. (See Figure-31.)

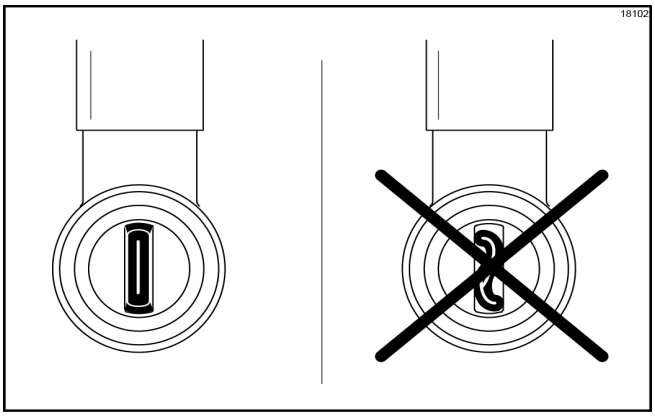


Figure-31

If the tip is not flat, remove the syrup nose fitting and remove/re-install the duckbill valve. Using a shake cup filled with KAY-5® Sanitizer (HCS), rinse the syrup nose fitting to wet the bottom of the duckbill valve. Re-install the syrup nose fitting onto the syrup line fitting. If the tip will not remain flat when the syrup fitting is assembled, replace the duckbill valve.

18. Install the O-ring on the nose fitting.
19. **Repeat steps 8 through 17** for all syrup flavors.
20. Each syrup flavor must be primed to purge the air out of the syrup lines. To prime each syrup line, hold the syrup line up, over an empty cup. (See Figure-32.)

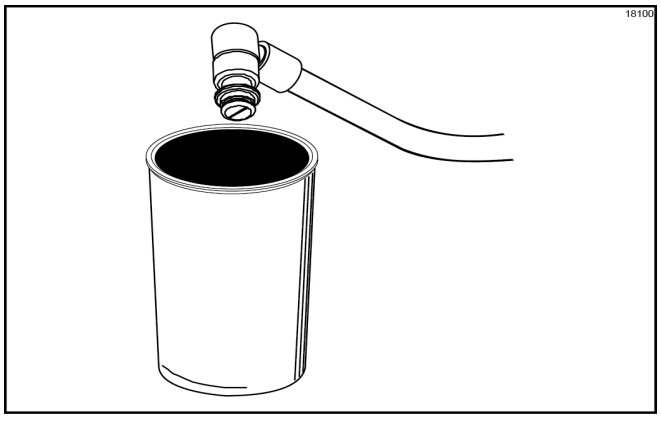


Figure-32

21. Press the Calibrate symbol to display the menu options. The Calibrate symbol, the Auto symbol on the shake side, and the optional Flavor symbol will be illuminated.

The screen will display the Calibration Menu options. (See Figure-33.)

```
        UNFLAVORED DRAW
        SYRUP CALIBRATION
        SYRUP PRIME
>       EXIT
```

Figure-33

22. Press the Auto symbol or the optional Flavor symbol to scroll the arrow to SYRUP PRIME. (See Figure-34.)

```
        UNFLAVORED DRAW
        SYRUP CALIBRATION
>       SYRUP PRIME
        EXIT
```

Figure-34

23. Press the Calibrate symbol to enter the Syrup Prime mode. (See Figure-35.)

```
        SYRUP PRIME
        Select a Flavor
<       Press to clear
```

Figure-35

24. Press the corresponding syrup Flavor symbol. The Flavor symbol should be illuminated and the syrup pump for the selected flavor will start running at the maximum speed. (See Figure-36.)

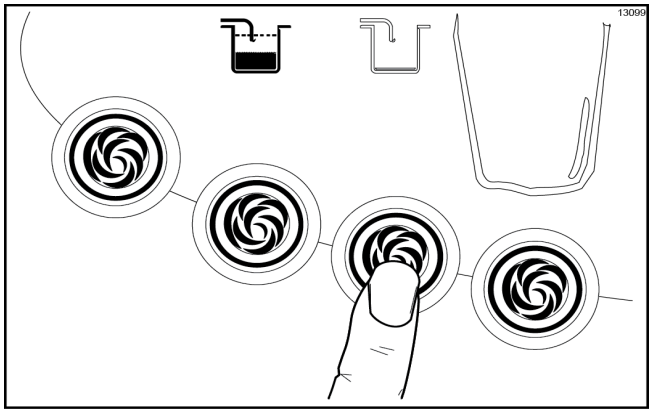


Figure-36

25. When a steady stream of syrup is flowing from the syrup valve and all air has been purged from the syrup line, press any syrup Flavor symbol to stop the pump.
26. **Repeat steps 23 and 24** to prime the rest of the syrup lines. After priming is complete, exit the Syrup Prime mode by pressing the Calibrate symbol.
27. Using the squeeze bottle filled with sanitizing solution, sanitize the syrup valve nose fittings.
28. Lubricate the O-ring. Raise the syrup valve retainer. Install the syrup valve. Push the syrup valve retainer down to hold the valve in place.

    Repeat this procedure for each syrup valve. (See Figure-37.)

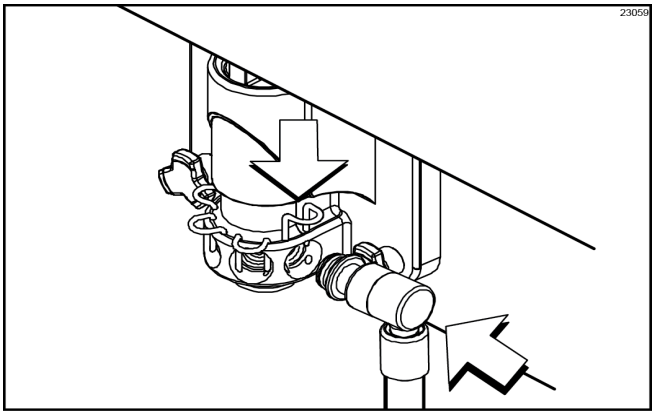


Figure-37

Note: *Do not install an empty syrup line in the freezer door. Insert a syrup port plug in the door whenever a syrup line is not in use. This will prevent an accumulation of mix inside the valve fitting and the syrup line.*

29. Using a clean, sanitized towel, wipe down the freezer door, front panel, the area around the bottom of the freezer door, and any other areas that show a buildup of either moisture or food substance.
30. Use a clean, damp, sanitized towel to gently wipe the portion control sensor shield and remove any mix buildup. Inspect the sensor shield for damage and replace if necessary. (See Figure-38.)

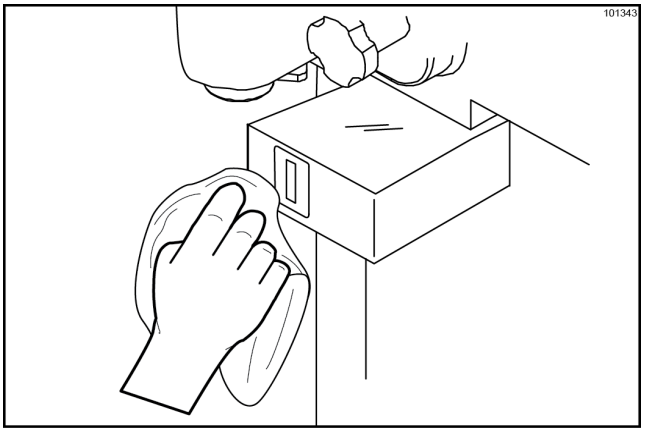


Figure-38

31. Install the shake cup holder, front drip tray, and splash shield.
32. When ready to resume normal operation, press the Auto symbol. (See Figure-39.) The control has a feature in the Manager's Menu to enable or disable the Auto Start feature. When Auto Start is enabled, the machine will automatically exit the Standby mode and start both sides in the Auto mode at a designated time each day. (see page 80.)

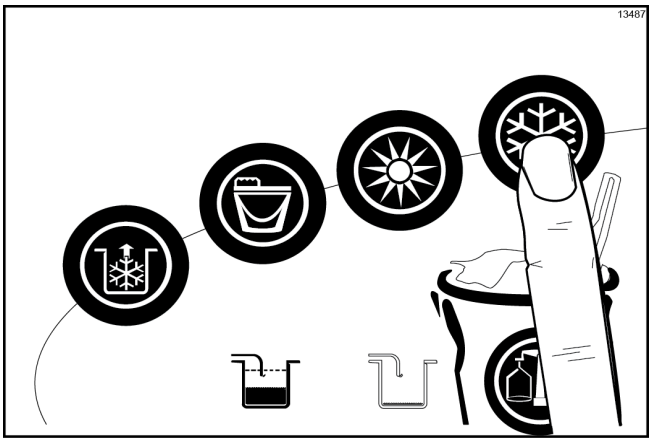


Figure-39

Note: *The machine should be placed in Auto mode approximately 15 minutes prior to serving product.*

Soft Serve Side

1. Prepare a small amount of KAY-5® Sanitizer (HCS) solution. Use one packet in 2.5 gal. (9.5 L) of water (100 ppm).
2. Return to the freezer with a small amount of sanitizing solution. Dip the door-spout brush into the sanitizing solution and brush-clean the door spout and bottom of the draw valve. (See Figure-40.)

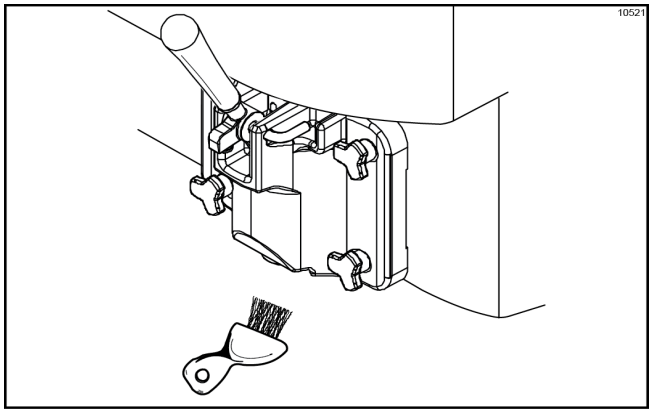


Figure-40

Note: *To ensure sanitary conditions are maintained, brush-clean each item for 60 seconds, repeatedly dipping the brush in sanitizing solution.*

3. Using a clean, sanitized towel, wipe down the freezer door, front panel, the area around the bottom of the freezer door, and any other areas that show a buildup of either moisture or food substance.
4. When ready to resume normal operation, press the Auto symbol ❄. (See Figure-41.)

   The control has a feature in the Manager's Menu to enable or disable the Auto Start feature. When Auto Start is enabled, the machine will automatically exit the Standby mode and start both sides in the Auto mode at a designated time each day. (page 1-81)

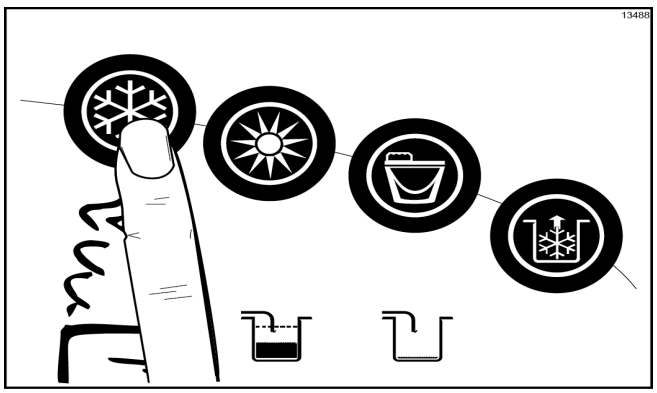


Figure-41

Note: *This procedure should be performed 15 minutes prior to serving product.*

SYRUP SYSTEM

Syrup Calibration

The syrup flow should be calibrated weekly when the syrup system is cleaned. It is vital that the correct amount of syrup be incorporated into the frozen mix to obtain a quality shake.

To determine the rate of syrup flow, you will need a calibration cup indicating fluid ounces. The proper rate of syrup flow is 1 fl. oz. (30 ml) of syrup in 5 seconds. For triple thick shake syrups, the proper syrup flow rate is 1 fl. oz. +/- 1/8 fl. oz. (30 ml +/- 4 ml) in 7 seconds. Once this rate is set, the correct amount of syrup will be blended with the shake base regardless of the size of shake served. Please note that syrup calibration is critical when changing the promotional fourth flavor syrup.

Calibration Procedure

Syrup lines must be properly primed with syrup to eliminate air in the line before the calibration procedure is performed. (See “Syrup Priming Procedure” on page 41).

1. Press the Calibrate symbol ⚖ to display the menu options. The Calibrate symbol ⚖, the Auto symbol ❄ on the Shake side, and the optional Flavor symbol ֍ will be illuminated. (See Figure-42.)

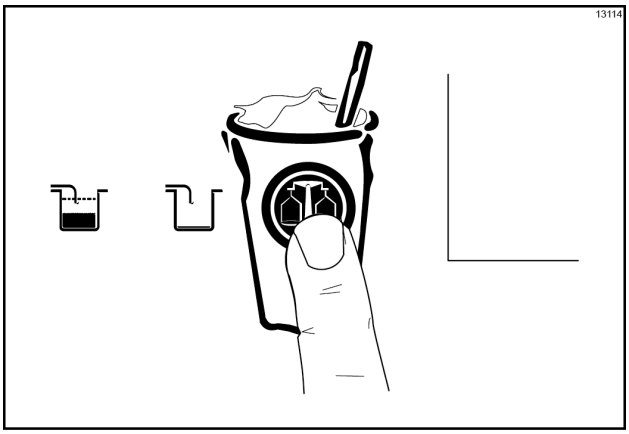


Figure-42

The screen will display the Calibration Menu options. (See Figure-43.)

```
        UNFLAVORED DRAW
        SYRUP CALIBRATION
        SYRUP PRIME
>       EXIT
```

Figure-43

Note: *When the Calibration screen is displayed, the Flavor selection symbols will not raise the draw valve to dispense shake product.*

2. Press the Auto symbol or the optional Flavor symbol to scroll the arrow to SYRUP CALIBRATION. (See Figure-44.)

```
        UNFLAVORED DRAW
>       SYRUP CALIBRATION
        SYRUP PRIME
        EXIT
```

Figure-44

3. Press the Calibrate symbol to enter the Syrup Calibration mode. (See Figure-45.)

```
        SYRUP CALIBRATION
        Select a Flavor
<       Press to clear
```

Figure-45

4. Disconnect the syrup valve from the freezer door. Raise the syrup valve retainer and pull the valve straight out. (See Figure-46.)

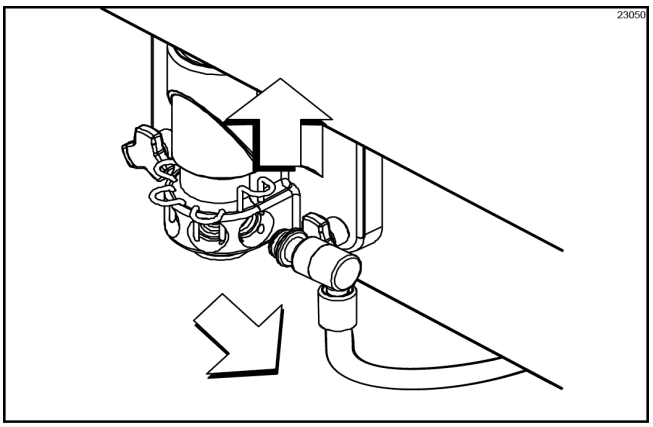


Figure-46

5. To calibrate the syrup dispensing rate, hold the small portion of the calibration cup under the valve for the flavor to be calibrated. Press the corresponding Flavor Selection symbol to activate the syrup pump and start the flow of syrup. When the syrup level measures 1 oz., press the same Flavor Selection symbol to stop the syrup flow. Verify the level of syrup in the cup. If the measurement is not within the specification, repeat step 4 for the same flavor until the correct syrup calibration is achieved. (See Figure-47.)

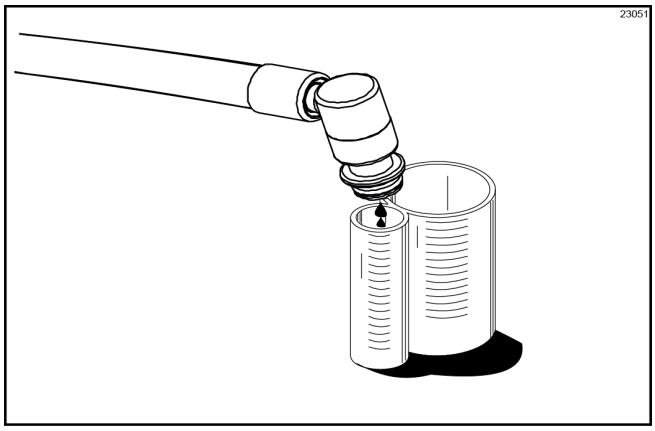


Figure-47

Note: *You can verify the syrup dispensing rate in the Manager's Menu. (See "Verify Calibration" on page 79.)*

Repeat steps 4 and 5 for the remaining syrup flavors.

6. Exit the Calibration mode by pressing the Calibrate symbol . A blank screen will appear and the Auto symbol and the optional Flavor symbol will return to their normal function.

Note: *Whenever a particular syrup line is not used, the syrup hole plug found in the spare parts kit must be installed. Place the syrup hole plug O-ring into the groove of the syrup hole plug and lubricate. Install the hole plug in the door. Lower the retaining pin to secure the plug.*

Syrup Priming Procedure

Priming the syrup line eliminates any air in the syrup delivery system. Air in the syrup line can cause irregular shake blending, flavor carryover, and syrup leaking from the door spout after the draw valve has closed. Each time a syrup container is drained or replaced, prime the syrup system until all the air has been removed and the syrup flow is uniform.

1. Retrieve a full syrup container from the dry storage area.
2. Shake the syrup container prior to opening it. Open the full syrup container.
3. Pull the feed tube from the empty syrup container and clean the outside of the feed tube with a clean, sanitized towel.

For syrup bag system: Disconnect the empty bag and clean the hose connector fitting with a clean, sanitized towel. Attach the hose connector fitting to a full bag of syrup. Place the bag on the shelf in the syrup compartment. Make sure the hose is not pinched and there are no kinks in the tubing.

4. Place the feed tube into the full syrup container and replace the syrup container in the syrup cabinet.
5. Dispose of the empty syrup container.
6. Prime the syrup line by removing the syrup valve from the freezer. Hold it over an empty cup.
7. Press the Calibrate symbol to display the menu options. The Calibrate symbol, the Auto symbol on the shake side, and the optional Flavor symbol will be illuminated.
   The screen will display the Calibration Menu options. (See Figure-48.)

```
        UNFLAVORED DRAW
        SYRUP CALIBRATION
        SYRUP PRIME
>       EXIT
```

Figure-48

8. Press the Auto symbol or the optional Flavor symbol to scroll the arrow to SYRUP PRIME. (See Figure-49.)

```
        UNFLAVORED DRAW
        SYRUP CALIBRATION
>       SYRUP PRIME
        EXIT
```

Figure-49

9. Press the Calibrate symbol to enter the Syrup Prime mode. (See Figure-50.)

```
        SYRUP PRIME
        Select a Flavor
<       Press to clear
```

Figure-50

10. Press the corresponding syrup Flavor symbol. The Flavor symbol should be illuminated and the syrup pump for the selected flavor will start running at the maximum speed. (See Figure-51.)

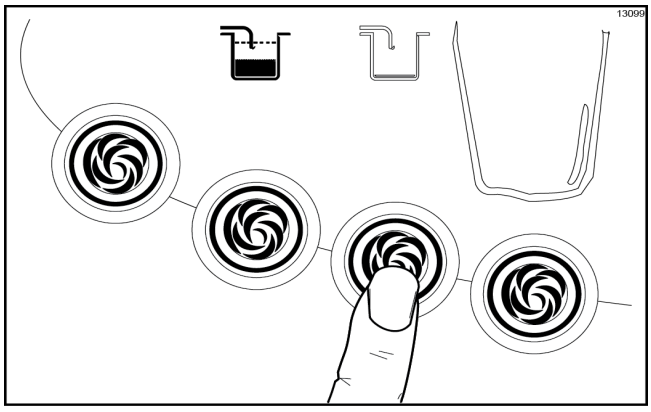


Figure-51

11. When a steady stream of syrup is flowing from the syrup valve and all air has been purged from the syrup line, press any syrup Flavor symbol to stop the pump.
12. **Repeat steps 10 and 11** for any other syrup lines to be primed, or exit the Syrup Prime mode by pressing the Calibrate symbol.

DAILY CLOSING PROCEDURES

Note: This procedure must be done at the close of business.

Shake Side

Important: Fill the mix hopper with mix up to the fill level indicator on the agitator paddle. (See Figure-52.)

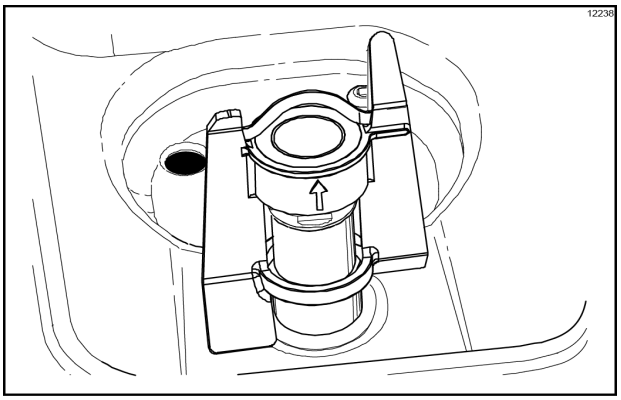


Figure-52

Both sides of the freezer must be in the Auto mode (Auto symbol ❄ is illuminated) or in the Standby mode (Standby symbols and are illuminated) before the Heat cycle may be started.

Note: *If the Brush-Clean Counter display has counted down to 1 day,* ***do not*** *add mix. The machine must be disassembled and brush-cleaned within 24 hours.*

1. Remove the hopper cover, shake cup holder, splash shield, and drip pans.

Important! *Make sure your hands are clean and sanitized before continuing in these instructions.*

Note: *Select the Calibrate symbol to stop agitator movement for 10 seconds. Select the Calibrate symbol again to exit the Calibration mode. The agitator will automatically restart after 10 seconds.*

2. Remove the agitator from the mix hopper and the restrictor cap from the shake freezer door spout.
3. Take the agitator, hopper cover, shake cup holder, drip pans, front drip tray, splash shield, and restrictor cap to the sink for further cleaning and sanitizing.

   Take the syrup hole plugs, spout cap, and spout cap O-ring to the sink for further cleaning and sanitizing.
4. Rinse these parts in cool, clean water. Draw a small amount of SolidSense™ All Purpose Super Concentrate (APSC) (HCS) cleaning solution from the sink proportioner and brush-clean the parts.
5. Place the restrictor cap, front drip tray, shake cup holder, and splash shield on a clean, dry surface to air-dry overnight or until the Heating cycle is complete.
6. Prepare a small amount of KAY-5® Sanitizer (HCS) solution. Use one packet in 2.5 gal. (9.5 L) of water (100 ppm).
7. Sanitize the syrup hole plugs, spout cap, spout cap O-ring, drip pan, agitator, and hopper cover.
8. Install the agitator back onto the agitator driveshaft housing. Replace the hopper cover. (See Figure-53.)

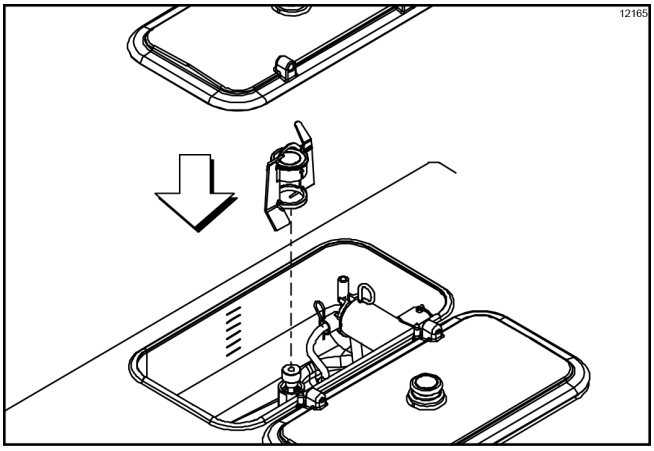


Figure-53

Important! *If you do not install the agitator correctly, the machine will fail the Heat cycle and will lock out in the morning.*

9. Remove the syrup lines from the freezer door. (See Figure-54.)

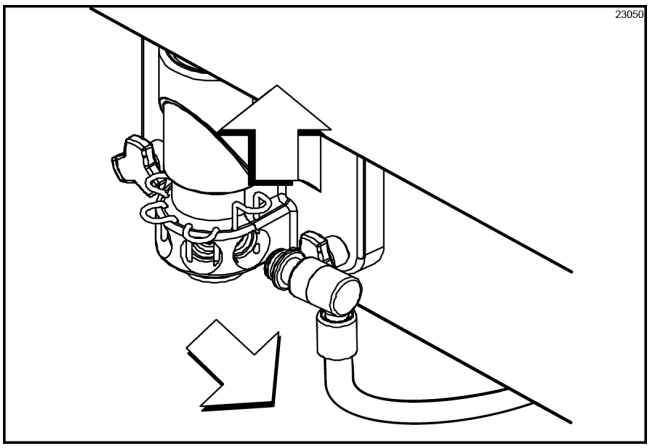


Figure-54

10. Return to the freezer with a small amount of cleaning solution. With a pail below the door spout, dip the door-spout brush into the cleaning solution and brush-clean the syrup ports in the freezer door, door spout, bottom of the driven spinner, spinner blade, and syrup line fittings. (See Figure-55.)

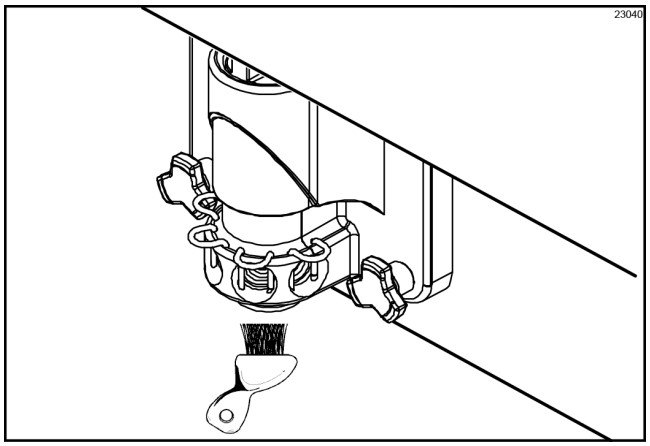


Figure-55

Note: *To ensure sanitary conditions are maintained, brush each item for a total of 60 seconds, repeatedly dipping the brush in cleaning solution.*

11. With the syrup-port brush, brush each syrup port hole 10 to 15 times. Dip the brush in the cleaning solution before brushing each port. (See Figure-56.)

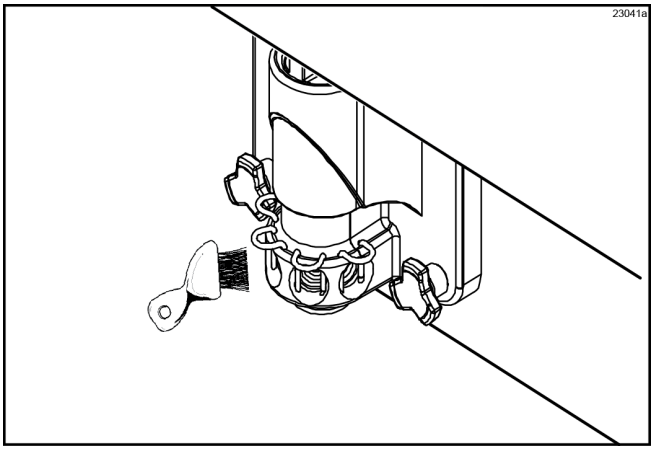


Figure-56

12. With sanitized hands, remove the syrup valve retainers. Brush-clean the retainers and retainer holes. Replace the syrup valve retainers.
13. Fill the squeeze bottle with cleaning solution. With a pail beneath the door, insert the tube end of the squeeze bottle into the syrup ports and squeeze the bottle firmly. This action will force solution out of the adjacent port and down around the spinner. This procedure should be performed for at least 10 seconds per port. (See Figure-57.)

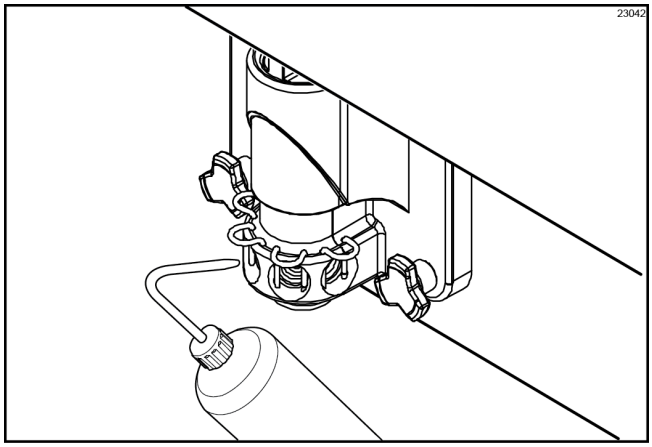


Figure-57

14. Place the spout cap O-ring in the spout cap. Fill the spout cap with sanitizing solution. Install the spout cap over the end of the door spout. (See Figure-58.)

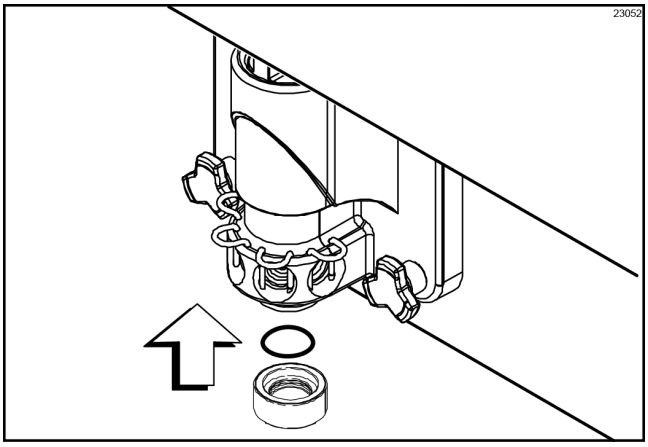


Figure-58

15. Raise each retainer pin. Install the syrup hole plugs in the syrup ports in the freezer door. Lower the retainer pins to secure the hole plugs in the door. (See Figure-59.)

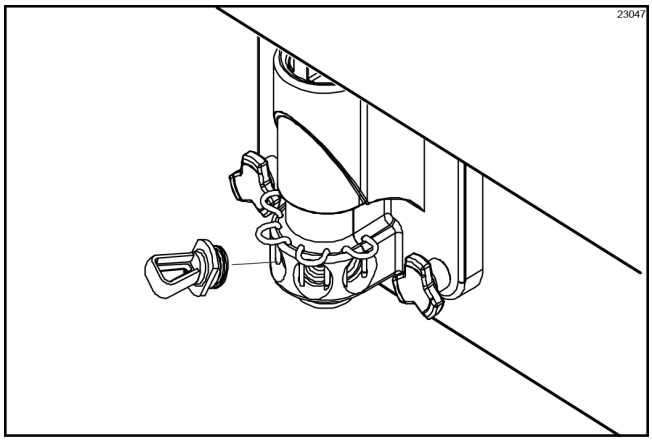


Figure-59

16. Fill the squeeze bottle with sanitizing solution. Hold the bottle over a pail. Squeeze the bottle and thoroughly rinse the slot of each syrup nose fitting. (See Figure-60.)

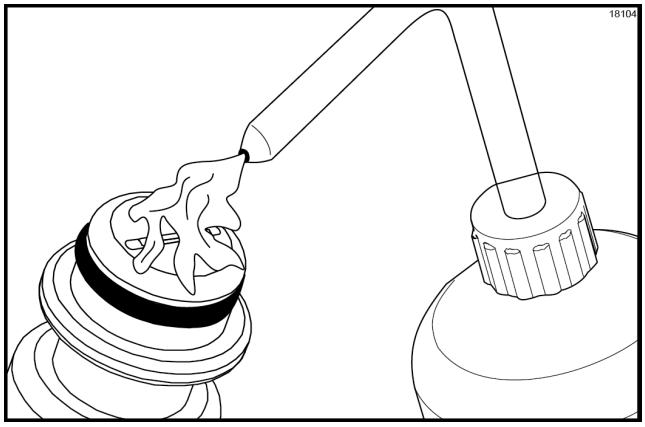


Figure-60

17. Wipe the outside of each syrup nose fitting with a sanitized towel.
18. Using a clean, sanitized towel, wipe down the freezer door, front panel, the area around the bottom of the freezer door, and any other areas that show a buildup of either moisture or food substance.
19. Use a clean, damp, sanitized towel to gently wipe the portion control sensor shield and remove any mix buildup. Inspect the sensor shield for damage and replace if necessary. (See Figure-61.)

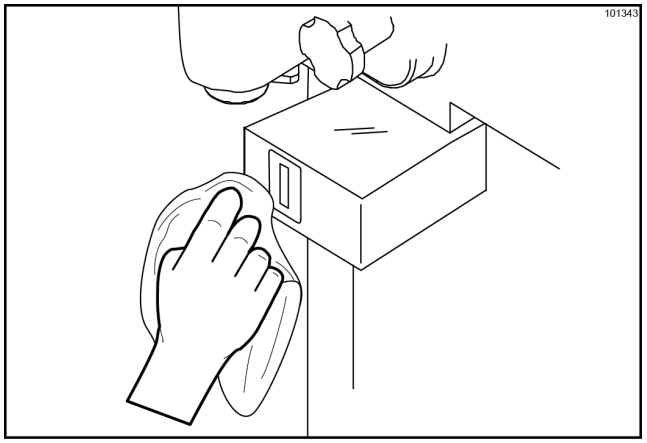


Figure-61

Soft Serve Side

Note: This procedure must be done at the close of business.

Important! *Fill the mix hopper with mix up to the fill level indicator on the agitator paddle. (See Figure-62.)*

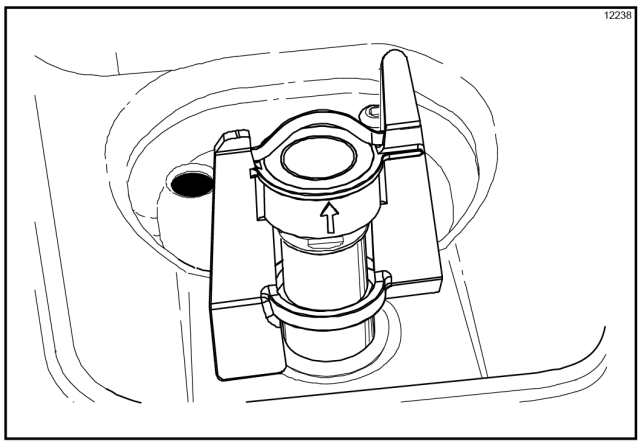


Figure-62

Both sides of the freezer must be in the Auto mode (Auto symbol ❄ is illuminated) or in the Standby mode (Standby symbols and are illuminated) before the Heat cycle can be started.

Note: *If the Brush-Clean Counter display has counted down to 1 day,* ***do not*** *add mix. The machine must be disassembled and brush-cleaned within 24 hours.*

1. Place the topping heaters in the OFF position by pressing the Heater symbols . The symbols will not be illuminated when the heaters are off. (See Figure-63.)

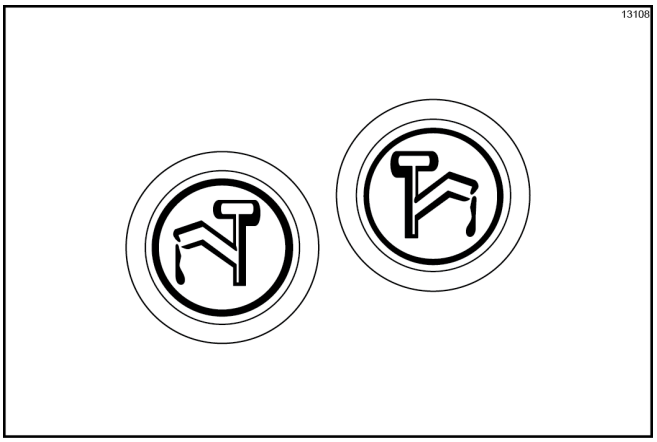


Figure-63

2. Remove the hopper cover.

Important! *Make sure your hands are clean and sanitized before continuing in these instructions.*

Note: *Select the Calibrate symbol to stop agitator movement for 10 seconds. Select the Calibrate symbol again to exit the Calibration mode. The agitator will automatically restart after 10 seconds.*

3. Remove the agitator from the mix hopper.
4. Take the agitator and hopper cover to the sink for further cleaning and sanitizing.
5. Rinse these parts in cool, clean water.
6. Draw a small amount of SolidSense™ All Purpose Super Concentrate (APSC) (HCS) cleaning solution from the sink proportioner and brush-clean the parts.
7. Prepare a small amount of KAY-5® Sanitizer (HCS) solution. Use one packet in 2.5 gal. (9.5 L) of water (100 ppm). Sanitize the agitator and hopper cover.
8. Install the agitator back onto the agitator driveshaft housing. Replace the hopper cover.

Important! *If you do not install the agitator correctly, the machine will fail the Heat cycle and will lock out in the morning.*

9. Return to the freezer with a small amount of cleaning solution. Dip the door-spout brush into the cleaning solution and brush-clean the door spout and bottom of the draw valve.

Note: *To ensure sanitary conditions are maintained, brush each item for 60 seconds, repeatedly dipping the brush in cleaning solution. (See Figure-64.)*

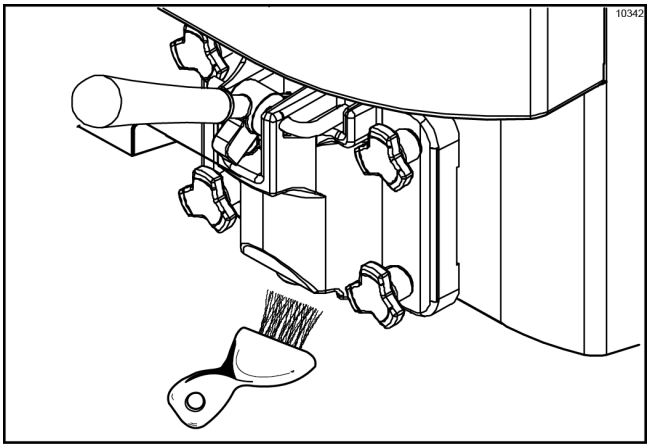


Figure-64

10. Remove, clean, and re-install the long drip pan through the front panel. (See Figure-65.)

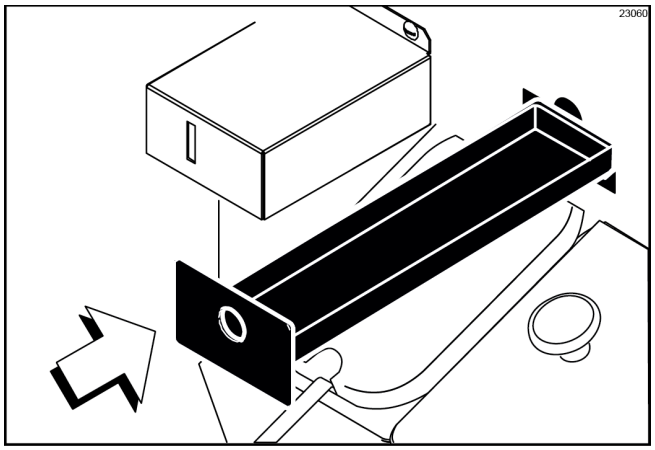


Figure-65

11. Remove, clean, and re-install the two short drip pans in the rear panel.
12. Remove, clean, and re-install the two notched drip pans in the left and right side panels. (See Figure-66.)

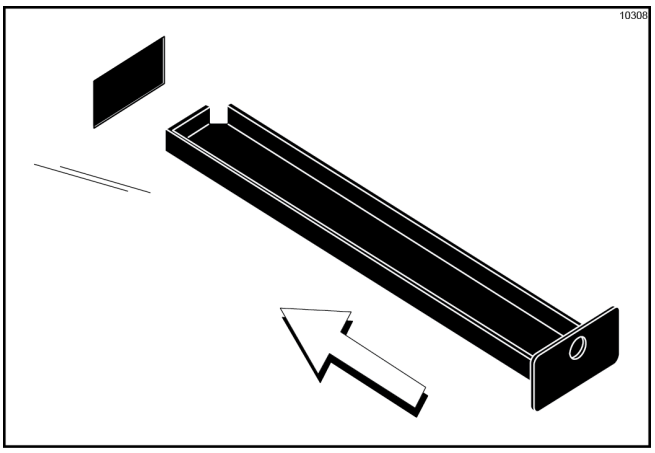


Figure-66

13. Using a clean, sanitized towel, wipe down the freezer door, front panel, the area around the bottom of the freezer door, and any other areas that shows a buildup of either moisture or food substance.

The Heat cycle will start at the AUTO HEAT TIME setting in the Manager's Menu. (See page 78).

There are three phases of the Heat cycle: Heating, Holding, and Cooling. Each phase has a time limit. If any one of the three phases fails to reach the proper temperatures within the time limit, the cycle will automatically abort and return to the Standby mode.

A failure message will appear on the vacuum fluorescent display (VFD) to inform the operator that the machine did not successfully complete the Heat Treatment cycle. The product may not be safe to serve. The freezer will be locked out (soft lock) of the Auto mode. The operator will be given the option of selecting the Heat symbol ; which will begin a new Heat cycle, or pressing the Wash symbol , which will place the side(s) into the Off mode to allow a brush-clean of the machine.

Note: *Once the Heat cycle has started, it cannot be interrupted. The Heat cycle will take a maximum of 4 hours to complete with full hoppers.*

WARNING! DO NOT attempt to draw product or disassemble the machine during the heat treatment cycle (if equipped). The product is hot and under extreme pressure. Severe burns from hot product may result if this instruction is not followed.

When the Heat cycle is complete, the control will return to the Standby mode. The Standby symbols and will be illuminated.

SCHEDULED MAINTENANCE - SYRUP SYSTEM

Syrup Pump Tube Removal

The syrup pump tubes should be replaced at least once a year, or sooner if unable to calibrate the syrups.

1. Remove the syrup feed tubes from the syrup containers. Wipe the outside of the feed tubes with a clean, sanitized towel.

   For Syrup Bag System: Disconnect the syrup bag fitting from each bag.
2. Remove the syrup containers and the pump cover tray from inside the cabinet.
3. Place the syrup feed tubes in a pail of SolidSense™ All Purpose Super Concentrate (APSC) (HCS). One packet in 2-1/2 gal. (9-1/2 L) of water = 100 ppm. To avoid contamination, cover the syrup containers with plastic wrap.

   For Syrup Bag System: Place the syrup hose with the bag connection fitting in a pail of SolidSense™ All Purpose Super Concentrate (APSC) (HCS).
4. Raise the retainer and remove the syrup valve from the freezer door. Place the valve in a pail located under the draw valve.
5. Select the Calibrate symbol on the control panel to display the menu options.
6. Press the Auto symbol to move the arrow to SYRUP PRIME. Press the Calibrate symbol again to display the SYRUP PRIME screen.
7. Select the Flavor Selection symbol for the corresponding syrup valve to start the flow of SolidSense™ All Purpose Super Concentrate (APSC) (HCS) through the syrup line.
8. Allow the cleaning solution to flow until all of the syrup is flushed from the line.
9. Once the line is free of syrup, remove the syrup feed tube from the cleaning solution and continue to run the pump until the syrup line is free from liquid. Select the Flavor Selection symbol to stop the pump.
10. **Repeat steps 3 through 9** using clean, warm water to flush the cleaning solution from the syrup line.
11. **Repeat steps 3 through 9** using KAY-5® Sanitizer (HCS). One packet in 2-1/2 gal. (9-1/2 L) of water = 100 ppm.
12. Open the pump by pushing up on the hinged cover. (See the arrow in See Figure-67.)

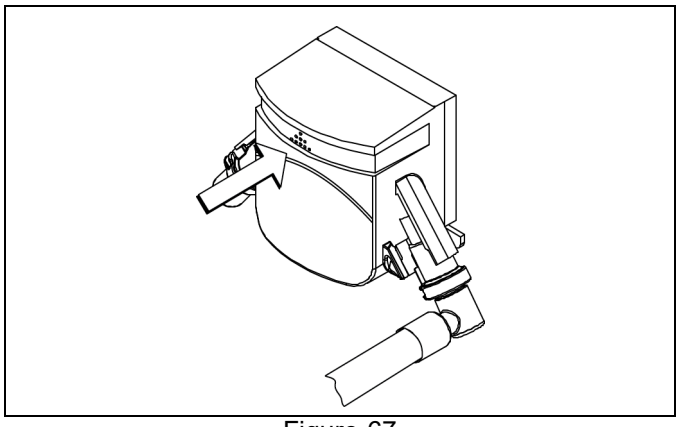


Figure-67

13. Grasp the pump tube by both ends and remove it from the pump body. (See Figure-68.)

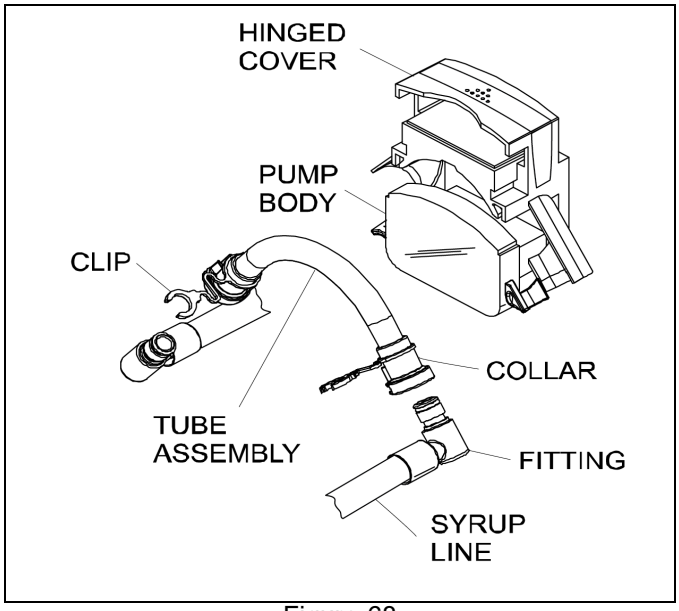


Figure-68

14. Remove the clips from their respective collars.
15. Remove the fittings from the pump tube.

Pump Tube Installation

1. Lubricate the O-rings on the syrup line fittings with Taylor Lube HP. (See Figure-69.)

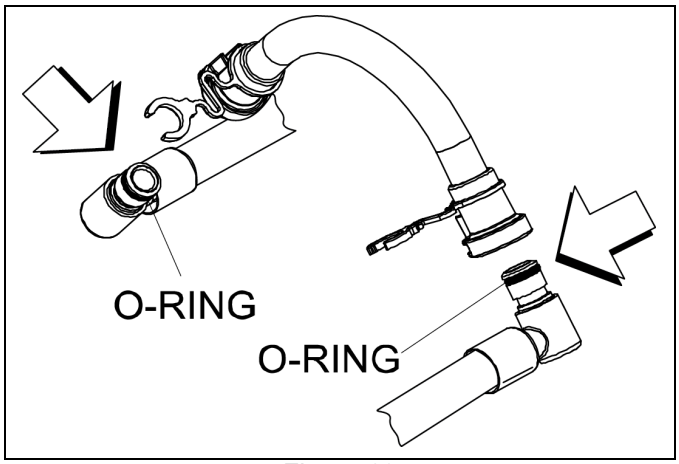


Figure-69

2. Press the fittings into the new pump tube.
3. Install the clips into their respective collars.
4. Using your hands, rotate the pump rollers so they are in the 10 o'clock and 2 o'clock position.
5. Place the tube assembly into the pump body. (Make sure the syrup lines are pushed through the rear of the cabinet.)
6. Push down on the top of the pump to close it.
7. Replace the pump cover tray and the syrup containers.
8. Prime the syrup lines.
9. Calibrate the syrup system according to the instructions on page 39.

Syrup Line Cleaning/Sanitizing - Weekly

1. Remove the syrup feed tubes from the syrup containers. Wipe the outside of the feed tubes with a clean, sanitized towel.

   For Syrup Bag System: Disconnect each syrup bag and clean the hose connector fitting with a clean, sanitized towel.
2. Draw 2 gal. of SolidSense™ All Purpose Super Concentrate (APSC) (HCS) cleaning solution from the sink proportioner into a pail. Place the syrup feed tubes in the pail.

   For Syrup Bag System: Place the syrup hose with the bag connection fitting in the pail of SolidSense™ All Purpose Super Concentrate (APSC) (HCS).
3. Raise the retainer and remove the syrup valve from the freezer door. Place the valve in a pail located under the draw valve.
4. Select the Calibrate symbol on the control panel to display the menu options.
5. Press the Auto symbol to move the arrow to SYRUP PRIME. Press the Calibrate symbol again to display the SYRUP PRIME screen.
6. Select the Flavor Selection symbol for the corresponding syrup valve to start the flow of SolidSense™ All Purpose Super Concentrate (APSC) (HCS) through the syrup line.
7. Allow the cleaning solution to flow until all the syrup is flushed from the line.
8. Press the Flavor Selection symbol to stop the flow of cleaning solution.
9. **Repeat steps 2 through 8** using clean, warm water to flush the cleaning solution from the syrup line.
10. **Repeat steps 2 through 8** using KAY-5® Sanitizer (HCS) [1 packet in 2-1/2 gal. (9-1/2 L) of water = 100 ppm.]

11. Remove the syrup nose fitting from the syrup valve by turning the cap counterclockwise.
12. Remove the duckbill valve and O-ring from the syrup nose fitting.
13. Using the white end of the double-ended brush, scrub the inside of the syrup nose fitting and the syrup line fitting to remove any residual particles.
14. Using a shake cup filled with KAY-5® Sanitizer (HCS), rinse the syrup valve fitting thoroughly.
15. Using a clean, sanitized towel, gently wipe any syrup from the duckbill valve.
16. Install the duckbill valve into the syrup nose fitting with the flat end aligned with the open slot in the syrup nose fitting.

Note: *Replace the duckbill valve if it is damaged or extends past the syrup nose fitting slot. (See Figure-70.)*

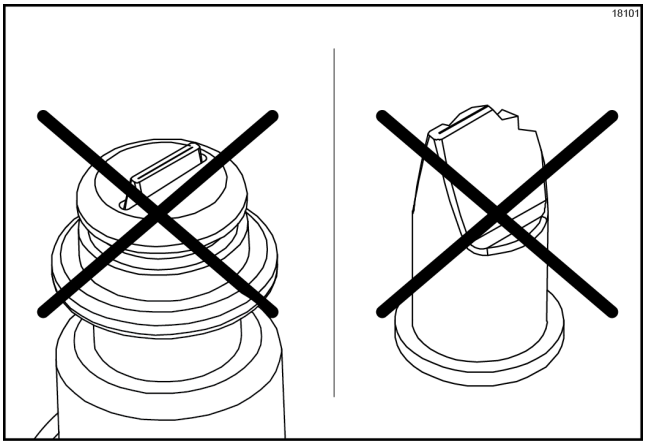


Figure-70

17. Install the syrup nose fitting onto the syrup line fitting. Tighten by hand until secured.

Note: *The* ***duckbill valve must be wet*** *when the syrup nose fitting is assembled on the syrup line fitting. The sanitized water will lubricate the bottom flat surface and prevent the duckbill from twisting when the syrup nose fitting is tightened.*

18. Inspect the duckbill valve for proper installation inside the syrup nose fitting. The tip of the duckbill valve **must be flat** to seal the syrup line. (See Figure-71.)

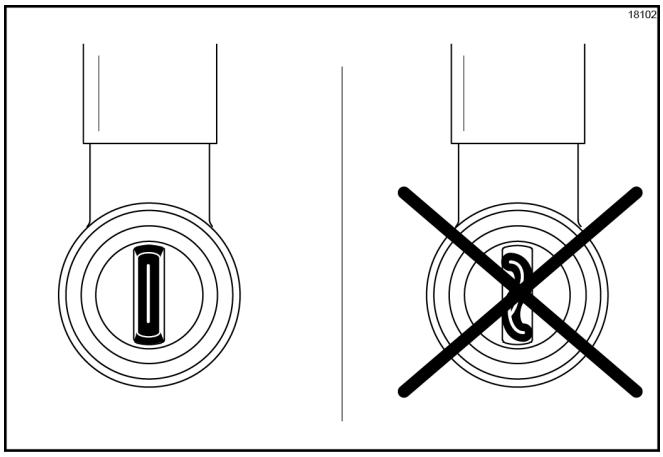


Figure-71

If the tip is not flat, remove the syrup nose fitting and remove/re-install the duckbill valve. Using a shake cup filled with sanitizing solution, rinse the syrup nose fitting to wet the bottom of the duckbill valve. Re-install the syrup nose fitting onto the syrup line fitting. If the tip will not remain flat when the syrup fitting is assembled, replace the duckbill valve.

19. Install the O-ring on the syrup nose fitting.
20. **Repeat steps 3 through 19** for all syrup flavors.
21. Remove the pickup tubes from the pail of KAY-5® Sanitizer (HCS) and allow them to drain.
22. Place all the pickup tubes into the syrup containers. Ensure the syrup lines match their respective flavors.

    For Syrup Bag System: Attach the bag connector fitting to the proper syrup flavor.
23. Select the Calibrate symbol on the control panel to display the menu options.
24. Press the Auto symbol to move the arrow to SYRUP PRIME. Press the Calibrate symbol again to display the SYRUP PRIME screen.
25. Select the Flavor Selection symbol for the corresponding syrup valve to start the flow of syrup.
26. Allow the syrup to flow until all of the KAY-5® Sanitizer (HCS) and air is purged from the line.
27. Press the Flavor Selection symbol to stop the flow of syrup.
28. Lubricate the O-ring on the syrup nose fitting. Install the syrup valve into the shake door and secure the valve by lowering the retainer.
29. **Repeat steps 21 through 28** for all syrup flavors.

30. Clean the syrup cabinet interior with a clean, sanitized towel. Spray resistant areas with KAY-5® Sanitizer (HCS).

SYRUP TOPPING PUMP

Syrup Topping Pump Disassembly

Before the first use and after use weekly, disassemble and clean the pump.

1. Flush and rinse the pump in a container of warm water. Place the lower end of the pump into the water container. Operate the pump until only warm water flows from the discharge tube.
2. Remove the pump from the container of water for disassembly.
3. Remove the plunger assembly from the pump body by turning the plunger nut counterclockwise. (See Figure-72.)

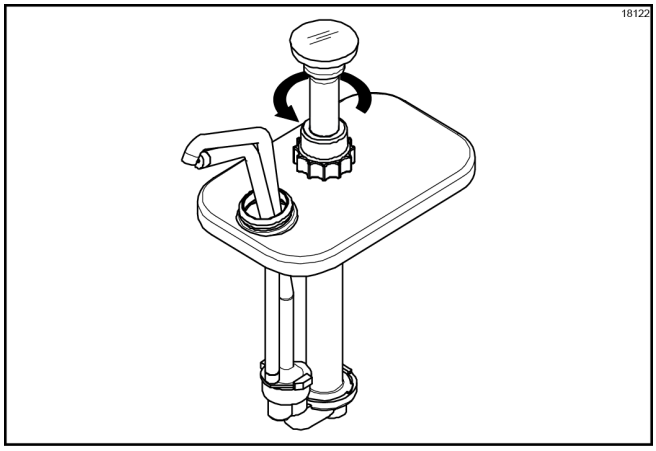


Figure-72

4. To remove the knob, compress the spring by holding the nut and pressing on the end of the plunger. Turn the knob counterclockwise. (See Figure-73.)

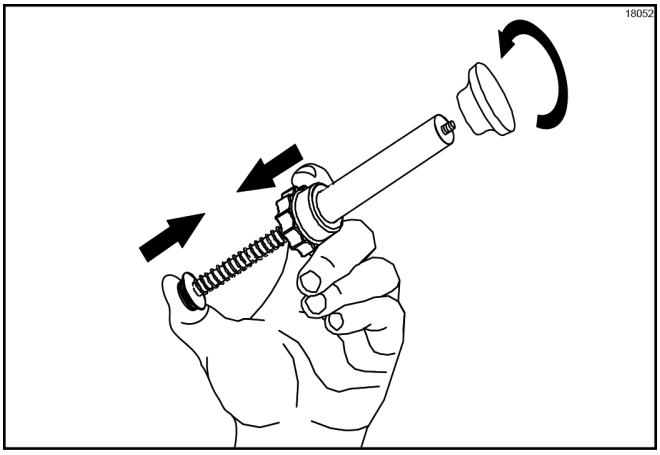


Figure-73

5. Remove the plunger nut, tube, and insert from the plunger assembly. (See Figure-74.)

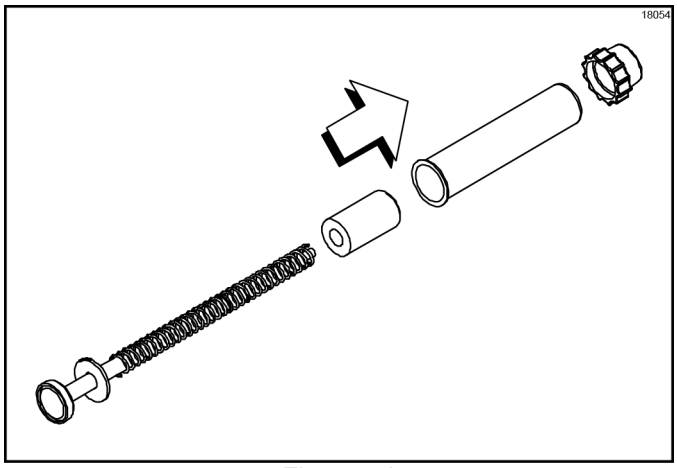


Figure-74

6. Remove the spring and washer from the plunger assembly. (See Figure-75.)

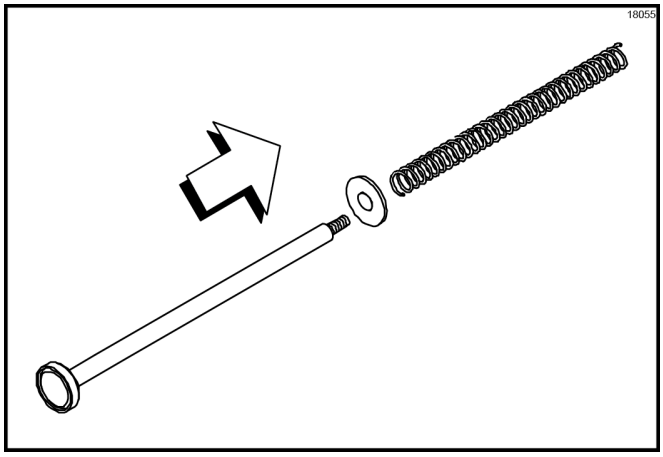


Figure-75

7. Remove the seal assembly from the plunger assembly. (See Figure-76.)

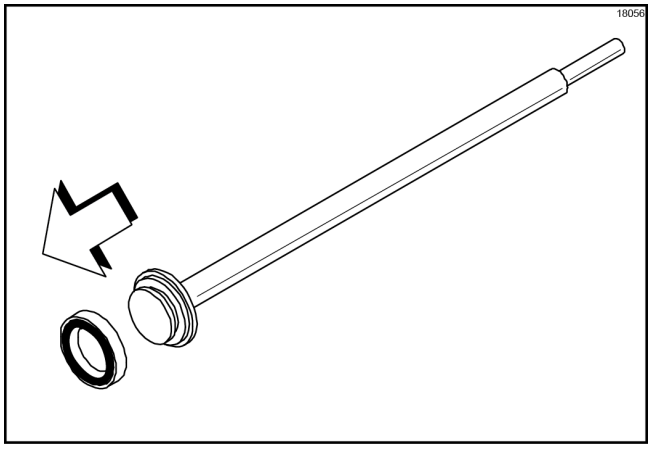


Figure-76

8. Remove the O-ring from the seal. (See Figure-77.)

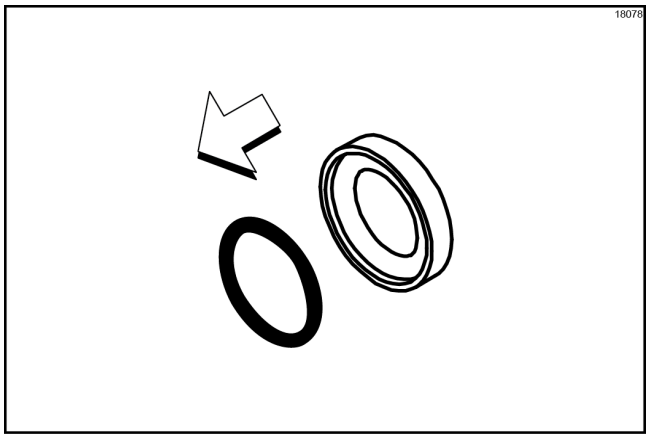


Figure-77

9. Remove the discharge tube locknut by turning it counterclockwise and sliding it off the discharge tube. (See Figure-78.)

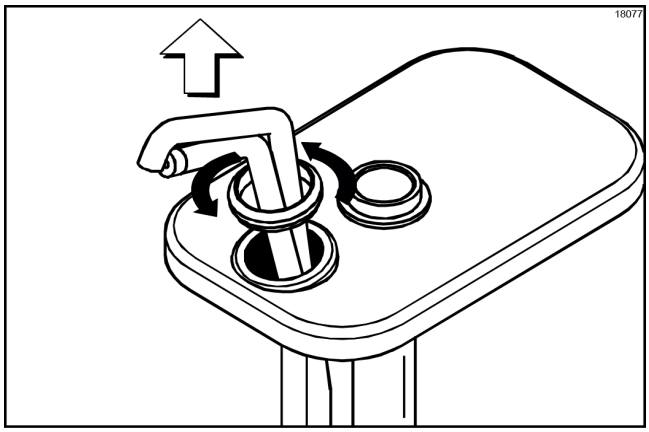


Figure-78

10. Remove the lid by sliding it off the discharge tube.
11. Remove the cylinder from the valve body by turning it counterclockwise (See Figure-79.)

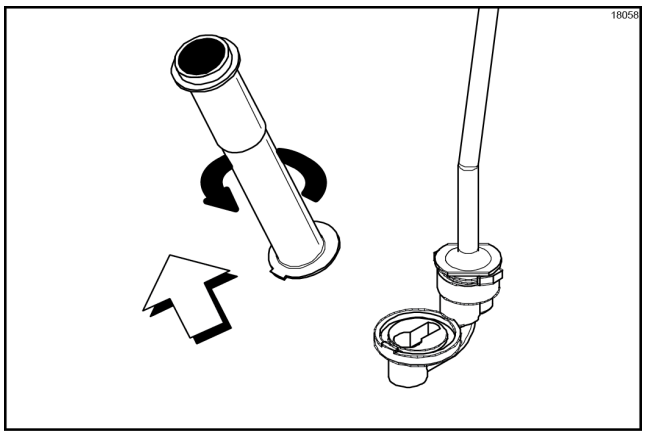


Figure-79

12. Remove the discharge tube from the valve body by turning it counterclockwise. (See Figure-80.)

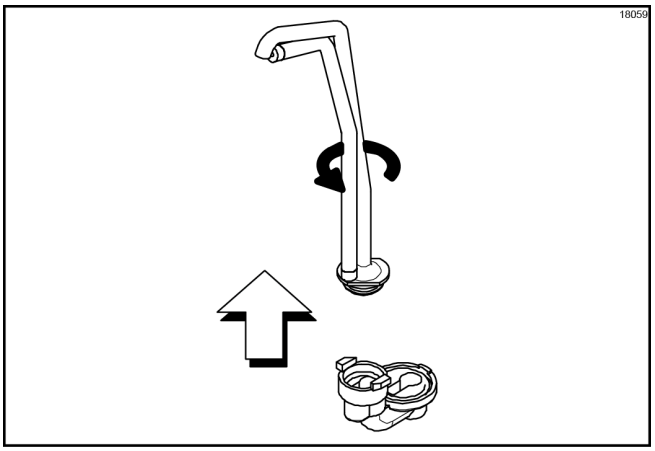


Figure-80

13. Remove the 1-5/16 in. O-ring from the valve body and remove the 1 in. O-ring from the discharge tube.

Cleaning the Syrup Pump

1. Wash and scrub all parts in SolidSense™ All Purpose Super Concentrate (APSC) (HCS).
2. Insert the black shielded brush through the tip of the discharge tube. Move the brush back and forth to scrub the tip of the discharge tube. (See Figure-81.)

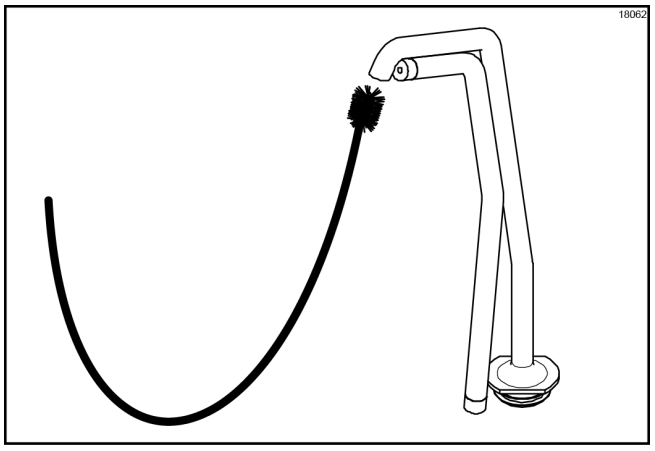


Figure-81

3. Advance the brush completely through the discharge tube and pull the brush from the bottom of the tube.

4. Insert the black shielded brush into the top side of the inlet valve. Scrub this area, specifically around the steel ball. (See Figure-82.)

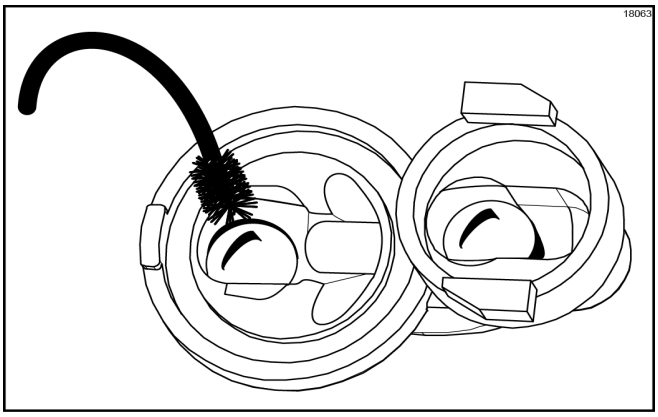


Figure-82

5. Insert the black shielded brush into the top side of the outlet valve. Scrub this area, specifically around the steel ball. (See Figure-83.)

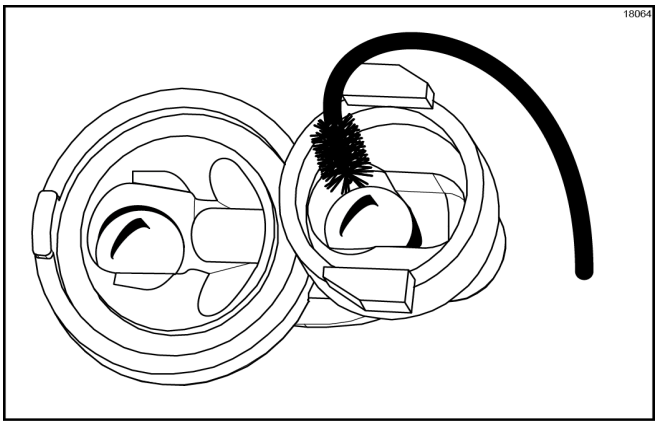


Figure-83

6. Insert the black shielded brush by the non-bristle end into the passageway between the inlet valve and the outlet valve. (See Figure-84.)

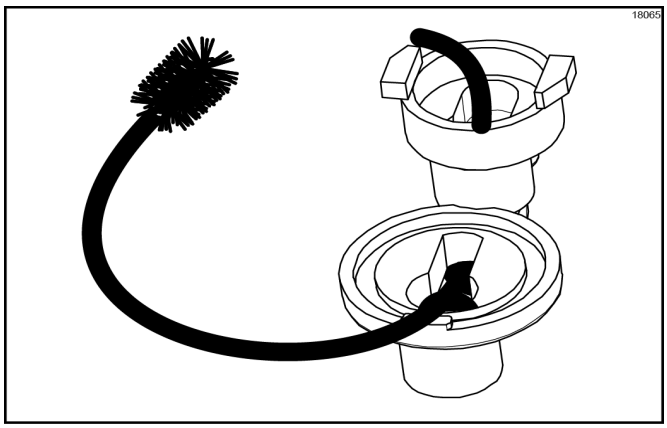


Figure-84

7. Move the brush back and forth to scrub this passageway. Advance the brush completely and pull the brush out of the valve body. (See Figure-85.)

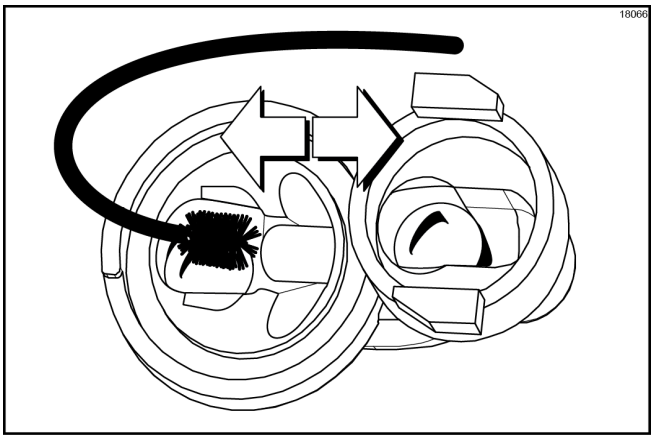


Figure-85

8. Insert the black shielded brush into the bottom side of the inlet valve. Move the brush back and forth to scrub this area, specifically around the steel ball. (See Figure-86.)

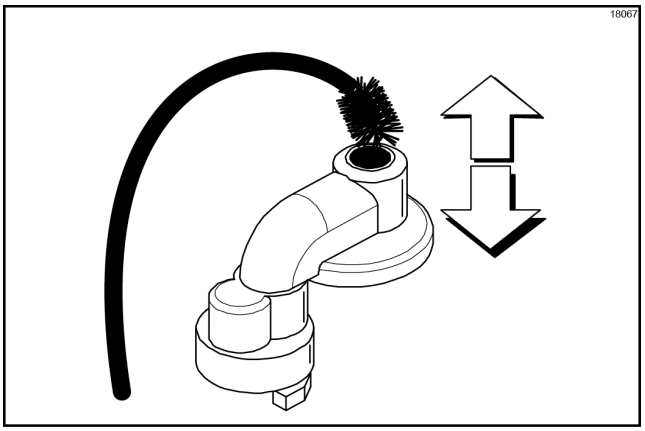


Figure-86

9. Advance the brush completely through the inlet valve and pull the brush out of the valve body.
10. Rinse all parts with clear water.
11. Sanitize the parts in KAY-5® Sanitizer (HCS). Allow the parts to air-dry after sanitization.

Syrup Topping Pump Assembly

After pump disassembly and cleaning is complete, assemble the pump.

1. Lubricate and install the seal O-ring into the seal. (See Figure-87.)

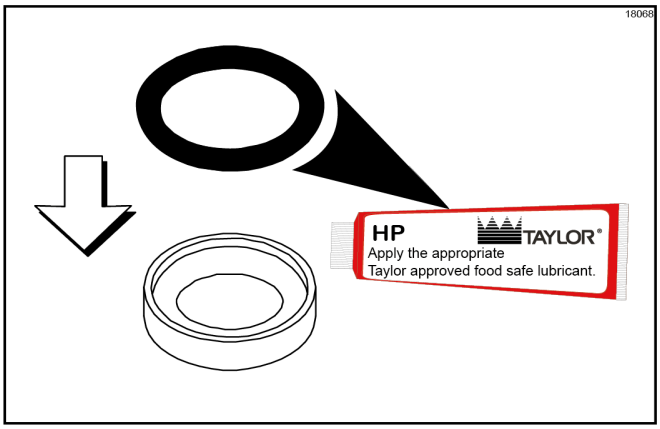


Figure-87

2. Install the seal assembly onto the piston end of the plunger assembly.
3. Install the washer and spring onto the plunger assembly. (See Figure-88.)

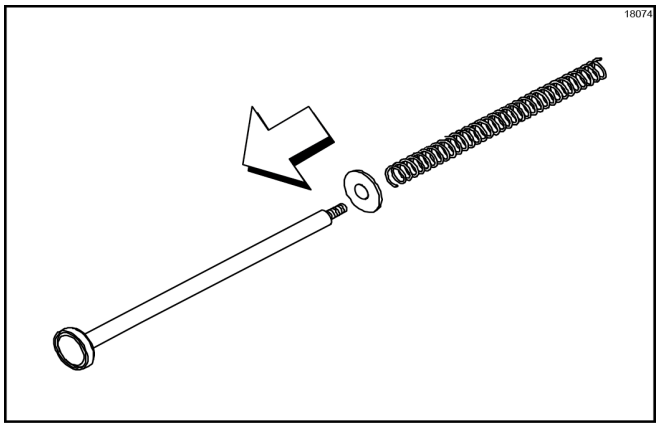


Figure-88

4. Install the plunger insert into the plunger tube by positioning the end of the insert with the small hole and beveled edge to enter the plunger tube first. (See Figure-89.)

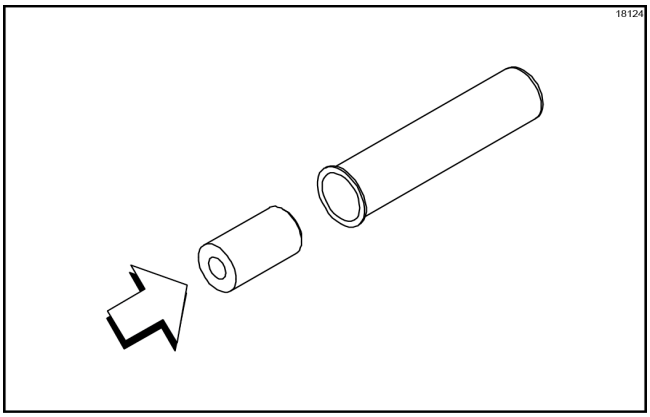


Figure-89

5. Install the plunger nut onto the plunger tube. (See Figure-90.)

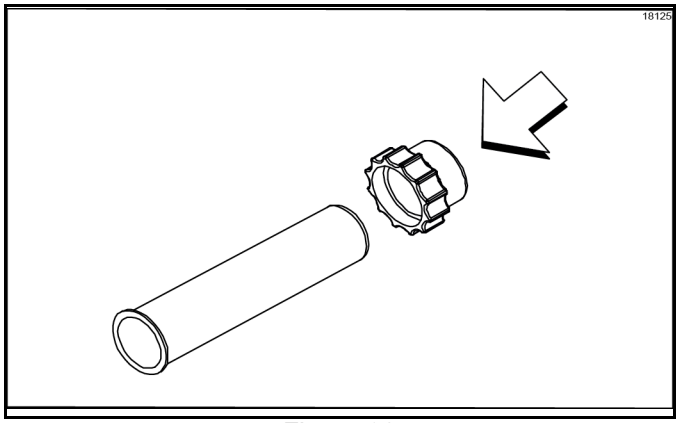


Figure-90

6. Install the flared end of the plunger tube (assembled with insert and nut) onto the plunger assembly. (See Figure-91)

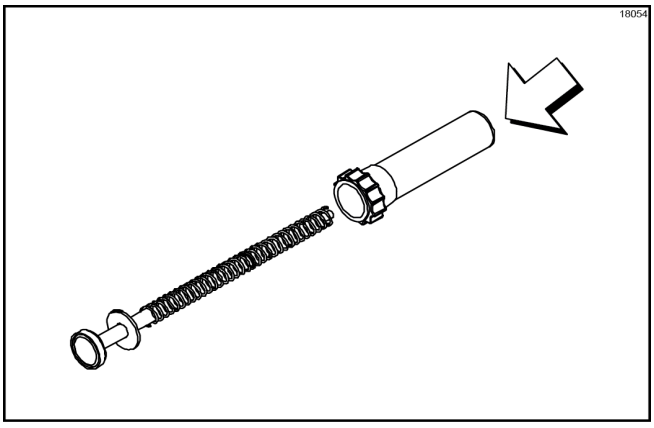


Figure-91

7. Holding the nut, press the end of the plunger to compress the spring until the threaded end of the stem projects through the opening on the plunger tube. Install the knob onto the threaded end of the

plunger assembly and tighten the knob by turning it clockwise. (See Figure-92)

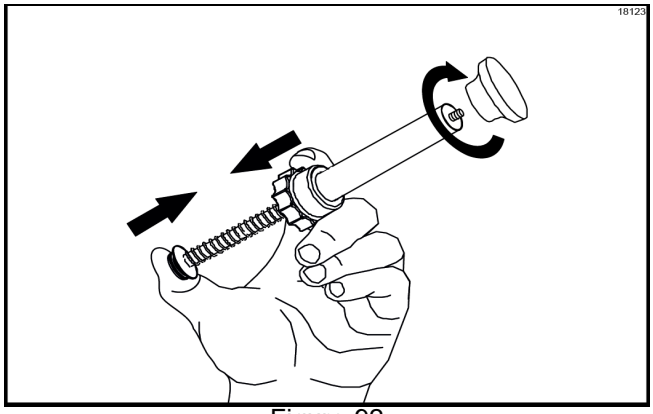


Figure-92

8. Lubricate and install the 1 in. O-ring onto the groove provided on the discharge tube. (See Figure-93)

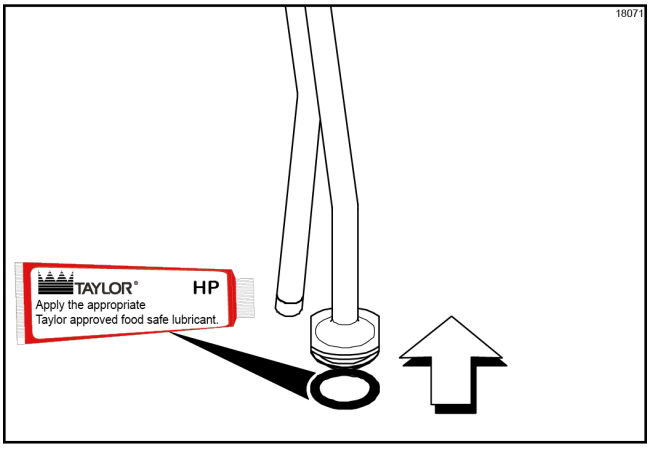


Figure-93

9. Lubricate and install the 1-5/16 in. O-ring into the valve body. (See Figure-94)

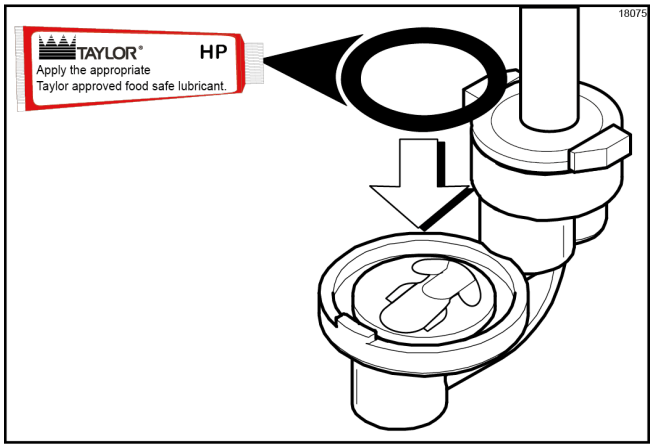


Figure-94

10. Install the discharge tube onto the smaller opening in the valve body by aligning the flats on the discharge tube with the locking grooves on the valve body. Push down the discharge tube until it is seated in the valve body opening. Turn the discharge tube clockwise to fully engage it in the locking grooves on the valve body.
11. Install the cylinder onto the larger opening in the valve body by tilting the cylinder away from the discharge tube and sliding the widest section of the flange under the center locking groove on the valve body. Align the tabs on the cylinder with the locking grooves on the valve body. Turn the cylinder clockwise until the tabs fully engage in the locking grooves on the valve body.
12. Install the lid by inserting the discharge tube through the smaller hole in the lid. Slide the lid until the larger hole fits around the top of the cylinder. The discharge tube locknut will secure the lid in position.
13. Install the discharge tube locknut and tighten by turning it clockwise.
14. Lubricate the seal assembly and install the plunger assembly into the cylinder opening in the pump body. (See Figure-95)

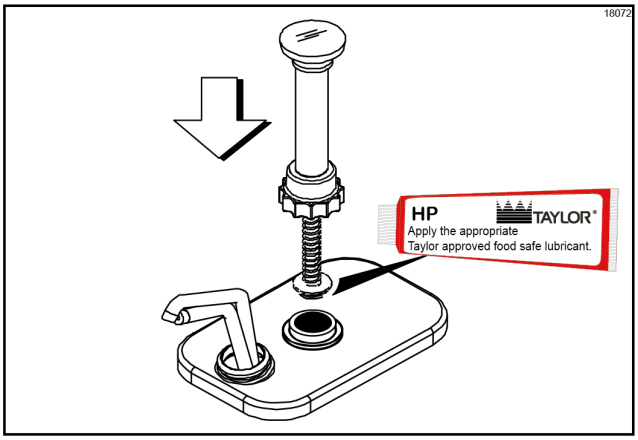


Figure-95

15. Tighten the plunger nut by turning it clockwise. (See Figure-96)

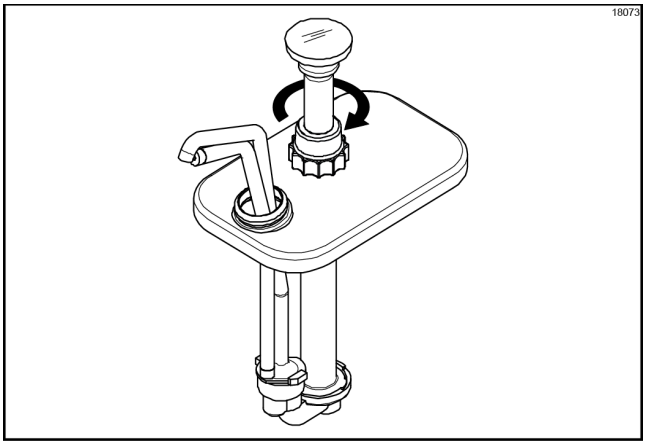


Figure-96

MANUAL BRUSH-CLEANING

Important! This procedure must be completed every 2 weeks.

ALWAYS FOLLOW LOCAL HEALTH CODES.

To disassemble the Model C602, the following items will be needed:

- Two cleaning and sanitizing pails for each side of the freezer
- Cleaning brushes (provided with freezer)
- SolidSense™ All Purpose Super Concentrate (APSC) (HCS)
- KAY-5® Sanitizer (HCS)
- Clean, sanitized towels
- Parts trays

Draining Product from the Freezing Cylinder

To drain the product from the freezing cylinders on both sides of the machine, the steps will be the same. Therefore, first drain the product from the shake side, then go back and duplicate these procedures for the soft serve side.

1. Place the Heater Topping switches in the OFF position by pressing the Heater symbols. The symbols will not be illuminated when the heaters are off.
2. Cancel automatic operation by pressing the Auto symbol. (See Figure-97.)

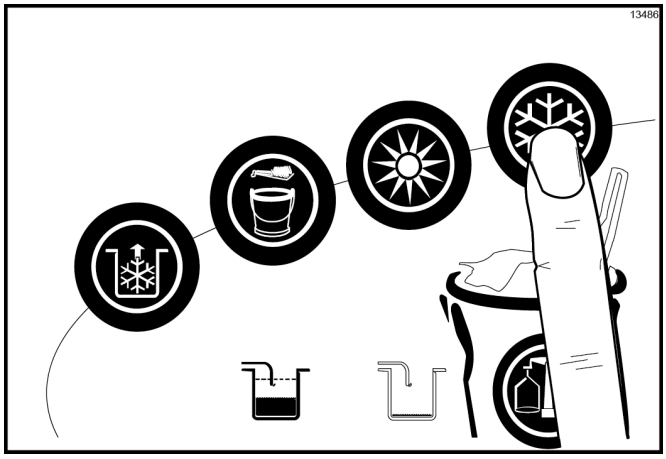


Figure-97

3. **Shake Side Only:** Remove the shake cup holder. Set it aside for cleaning later with all parts.
4. Remove the hopper cover and agitator. Take these parts to the sink to wash, rinse, and sanitize.
5. With a pail beneath the door spout, press the Wash and Mix Pump symbols and open the draw valve.

   Note: *Shake Side: Press any flavor selection symbol to open the draw valve.*
6. Drain the product from the freezing cylinder and the mix hopper. (See Figure-98)

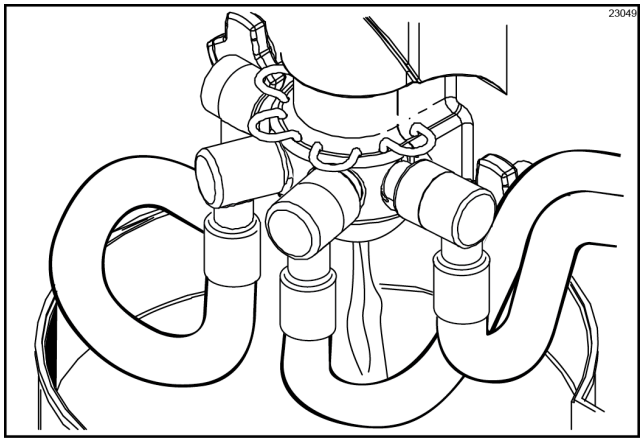


Figure-98

7. When the flow of product stops, press the Wash and Mix Pump symbols, canceling the Wash and Mix Pump modes. The shake draw valve will automatically close when the Wash operation is canceled.

8. Remove the locking clip, mix feed tube, pump clip, and the assembled air/mix pump. Place the parts in the parts tray.
9. **Shake Side Only:** Remove the syrup lines from the freezer door by raising the syrup valve retainers and pulling the valves straight out of the door. Insert the syrup hole plugs in the syrup ports. Lower the retainer pins to secure the hole plugs in the door.

Note: ***Repeat steps 2 through 7*** *for the soft serve side of the freezer.*

Rinsing

1. Pour 2 gal. (7.6 L) of cool, clean water into the shake mix hopper. With the white hopper brush, scrub the mix hopper, mix-level sensing probes, and the outside of the agitator driveshaft housing. Using the double-ended brush, brush-clean the mix inlet hole. (See Figure-99)

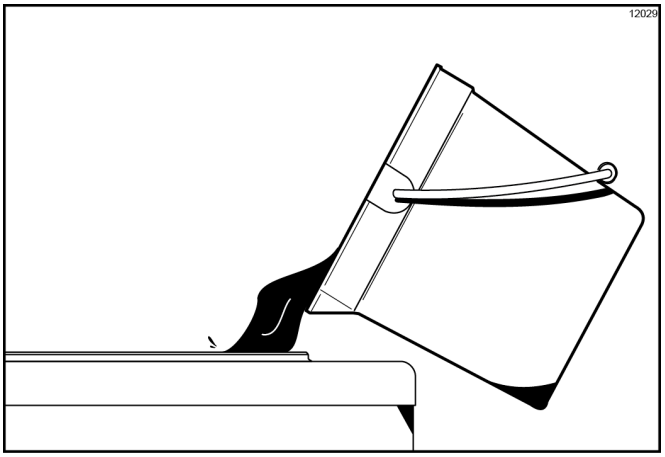


Figure-99

Note: *Do not brush-clean the mix inlet hole while the machine is in the Wash mode.*

2. With a pail beneath the door spout, press the Wash symbol . (See Figure-100.)

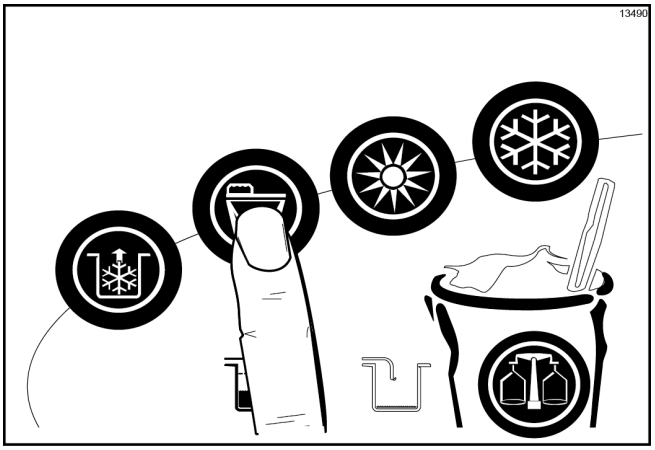


Figure-100

3. Open the draw valve on the freezer door. Drain all the rinse water from the door spout, close the draw valve and press the Wash symbol , canceling the Wash mode.

   Note: *The shake draw valve will automatically close when the Wash operation is canceled.)*
4. Repeat this procedure using clean, warm water until the water being discharged is clear.

Repeat steps 1 through 4 for the soft serve side of the freezer.

Cleaning and Sanitizing

1. Draw 2 gal. (7.6 L) of SolidSense™ All Purpose Super Concentrate (APSC) (HCS) cleaning solution from the sink proportioner.
2. Pour the 2 gal. (7.6 L) of cleaning solution into the hopper and allow it to flow into the freezing cylinder.
3. Using the white hopper brush, clean the mix hopper, mix-level sensing probe and the outside of the agitator driveshaft housing. Using the double-ended brush, clean the mix inlet hole.

Note: *Do not brush-clean the mix inlet hole while the machine is in the Wash mode.*

4. Press the Wash symbol . This will cause the cleaning solution in the freezing cylinder to come in contact with all areas of the freezing cylinder.
5. Place an empty pail beneath the door spout.
6. Open the draw valve on the freezer door and draw off all the solution.

7. Once the cleaner stops flowing from the door spout, close the draw valve and press the Wash symbol, canceling the Wash mode.

   Note: *The shake draw valve will automatically close when the Wash operation is canceled.*

8. Pour 2 gal. (7.6 L) of cool, clean water into the shake mix hopper and **repeat steps 3 through 7**.
9. Prepare 2.5 gal. (9.5 L) of KAY-5® Sanitizer (HCS) solution. Use one packet in 2.5 gal. (9.5 L) of water (100 ppm).
10. Pour the sanitizing solution into the hopper and **repeat steps 4 through 7**.
11. **Repeat steps 1 through 10** for the soft serve side of the freezer.

Disassembly—Shake Side

Note: *Failure to remove the parts specified below for brush-cleaning and lubrication will damage the machine. These parts must be removed every 14 days or the machine will lock out and will not operate.*

1. Make sure the power switch is in the OFF position. (See Figure-101.)

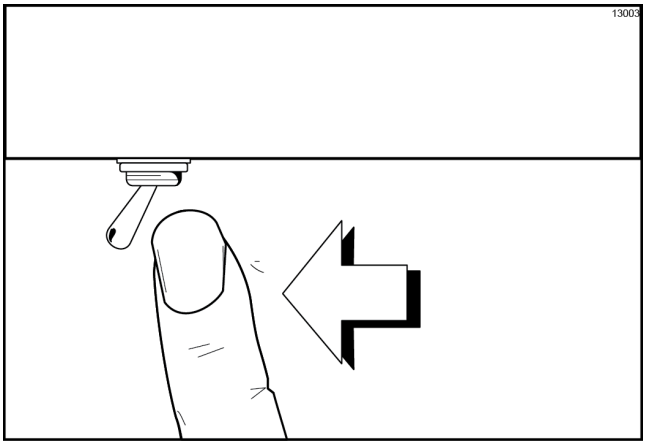


Figure-101

2. Remove the hole plugs from the syrup ports, and remove the restrictor cap from the bottom of the door spout.
3. Remove the spinner blade from the bottom of the door spout by lifting up the locking collar on the spinner coupling and pulling down the blade.
4. Remove the handscrews, freezer door, beater assembly, driveshaft, driveshaft seal, and scraper blades from the freezing cylinder.
5. Remove the driveshaft seal from the driveshaft.
6. Remove the freezer door O-ring, front bearing, retainer pins, and the draw valve spinner assembly.
7. Remove the driven spinner from the draw valve by grasping the draw valve and pulling the driven spinner out. Remove the spinner shaft seal. (See Figure-102.)

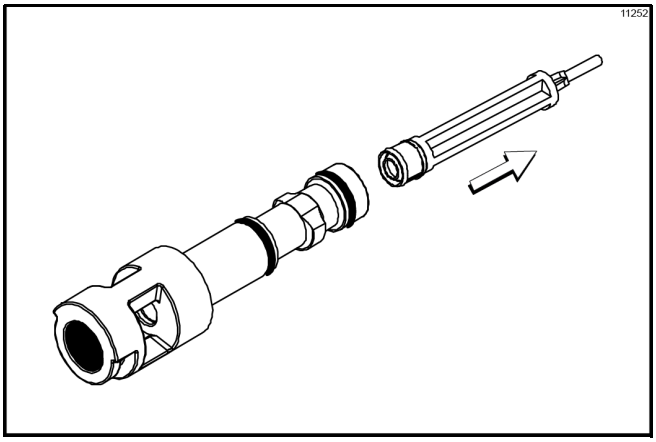


Figure-102

8. Remove the two O-rings from the draw valve.

Note: *To remove O-rings, use a clean, sanitized 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; it will roll out of the groove and can easily be 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.*

9. From the shake pump cylinder, remove the retaining pin, mix inlet adaptor, valve cap, pump gasket, and piston. Remove the O-ring from the piston and valve cap.

10. Remove the pump driveshaft from the drive hub in the rear wall of the mix hopper. (See Figure-103.)

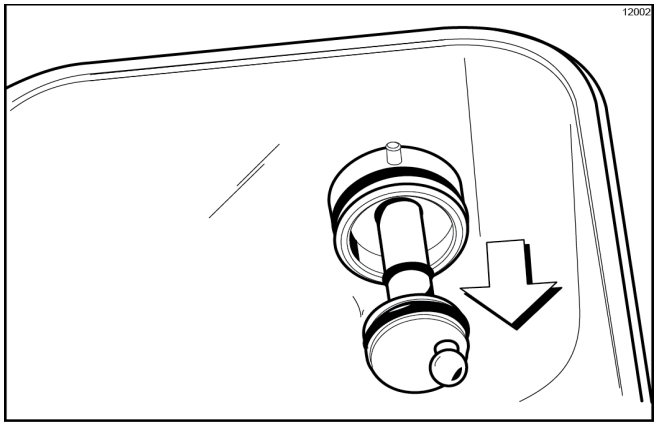


Figure-103

Remove the two small O-rings and one large O-ring from the pump driveshaft.

Disassembly—Soft Serve Side

Note: *Failure to remove the parts specified below for brush-cleaning and lubrication will damage the machine. These parts must be removed every 14 days or the machine will lock out and will not operate.*

1. Make sure the power switch is in the OFF position.
2. Remove the handscrews, freezer door, beater, scraper blades, and driveshaft with driveshaft seal from the freezing cylinder.
3. Remove the driveshaft seal from the driveshaft.
4. From the soft serve pump cylinder, remove the retaining pin, mix inlet adaptor, valve cap, pump gasket, and piston. Remove the O-ring from the piston and valve cap.
5. Remove the freezer door gasket, front bearing, pivot pin, draw handle, and draw valve. Remove the three O-rings from the draw valve.

Note: ***Do not*** *attempt to remove the star design from the door. The star design is part of the door and is* ***not*** *a removable piece. (See Figure 104.)*

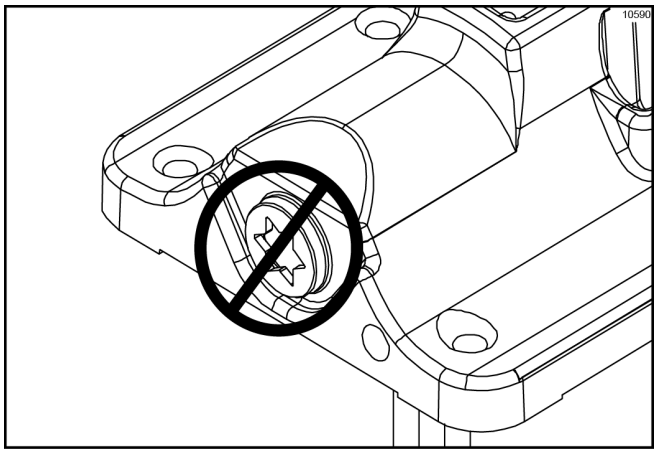


Figure-104

Note: *Remove the pump driveshaft from the drive hub in the rear wall of the mix hopper. (See Figure-105.)*

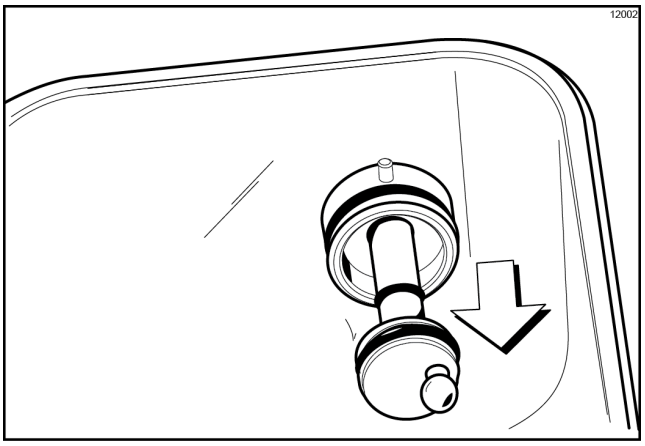


Figure-105

Remove the two small O-rings and one large O-ring from the pump driveshaft.

6. Remove the front drip tray and splash shield. Remove the ladles from the two cold topping containers.
7. Remove the long drip pan from the front panel. Take it to the sink for cleaning. (See Figure-106.)

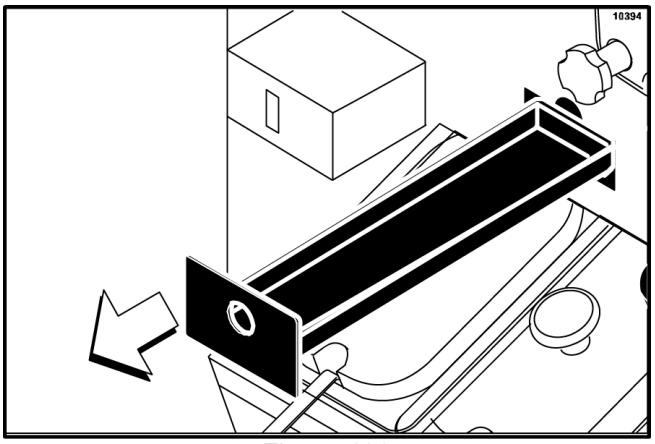


Figure-106

8. Remove the two short drip pans from the rear panel. Remove the two notched drip pans from the left and right side panels. Take them to the sink for cleaning. (See Figure-107.)

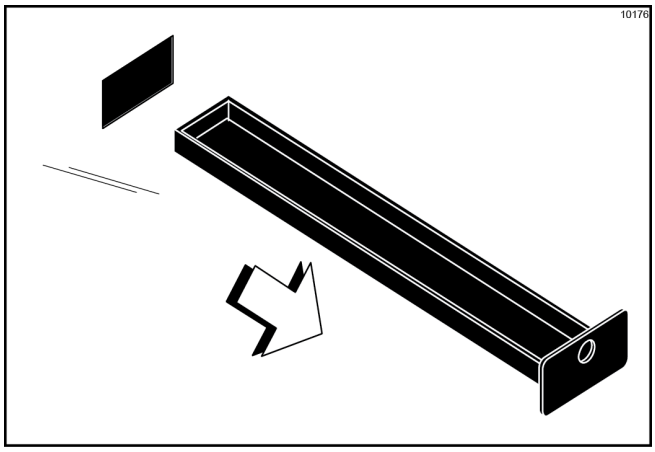


Figure-107

Note: *If the drip pans are filled with an excessive amount of mix, it is an indication that the driveshaft seal(s) or O-ring(s) should be replaced or properly lubricated.*

Brush-Cleaning

We recommend brush-cleaning all the shake parts, then going back and duplicating these steps (where they apply) for brush-cleaning all the soft serve parts. By doing so, you will not confuse or interchange these parts for assembly the next morning. Place the parts in their proper place in the parts tray.

1. From the sink proportioner, draw SolidSense™ All Purpose Super Concentrate (APSC) (HCS) solution into a sink.

   Make sure all brushes provided with the freezer are available for brush-cleaning.
2. Thoroughly brush-clean all disassembled parts and parts trays in the cleaning solution, making sure all lubricant and mix film is removed. Make sure to brush all surfaces and holes, especially the holes in the pump components and the small syrup holes in the shake freezer door.
3. Rinse all parts with clean, warm water, one tray at a time, including the tray.
4. Return to the freezer with a small amount of cleaning solution. Using the black brush, clean the rear shell bearings at the back of the freezing cylinders. (See Figure-108.)

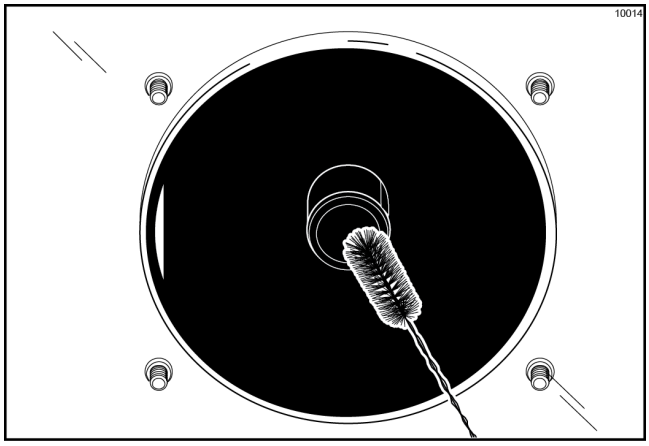


Figure-108

5. Using the black brush, clean the drive hub openings in the rear wall of the mix hoppers. (See Figure-109.)

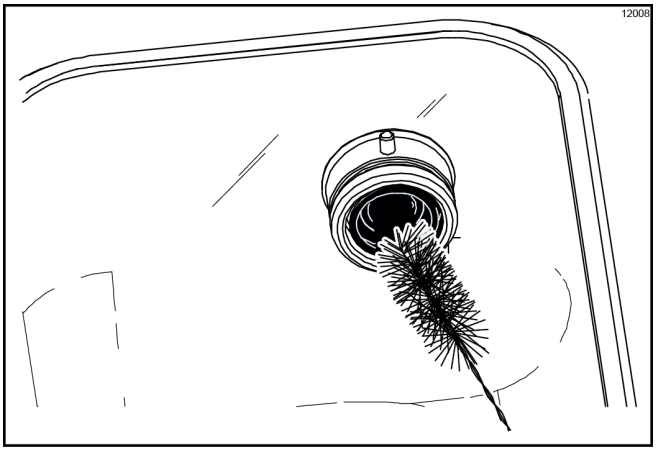


Figure-109

6. Using the double-end brush, brush-clean the syrup line fittings.
7. Prepare a sink with KAY-5® Sanitizer (HCS) solution. Use one packet in 2.5 gal. (9.5 L) of water (100 ppm).
8. **Repeat step 3** with the sanitizing solution.
9. Sanitize all parts in the KAY-5® Sanitizer (HCS) solution for a minimum of 1 minute.
10. Place disassembled parts on clean and sanitized parts trays.
11. Wipe all exterior surfaces of the freezer with a clean, sanitized towel.
12. **Repeat steps 1 through 10** for the soft serve side of the freezer.

Freezing Cylinder Assembly—Shake Side

WARNING! Make sure the power switch is in the OFF position. Failure to follow this instruction may result in severe personal injury from hazardous moving parts.

With the parts tray available for the shake side:

1. Before installing the shake beater driveshaft, lubricate the groove on the beater driveshaft. Slide the beater driveshaft boot seal over the small end of the beater driveshaft and engage into the groove on the shaft. Heavily lubricate the inside portion of the boot seal, and also lubricate the flat end of the boot seal that comes in contact with the rear shell bearing. Apply an even coat of lubricant to the shaft. **Do not** lubricate the square end. (See Figure-110.)

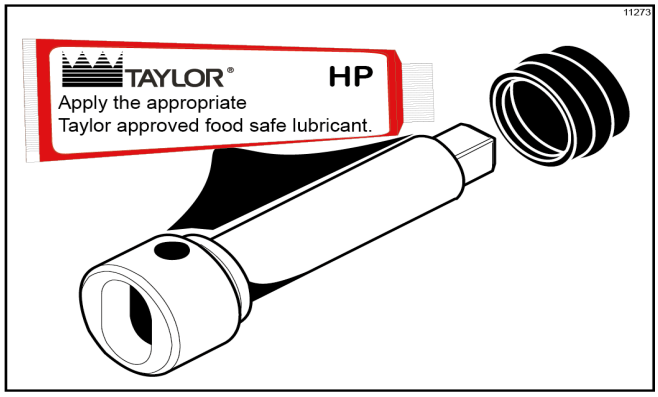


Figure-110

Note: *When lubricating parts, use an approved food-grade lubricant (example: Taylor Lube HP).*

Note: *To ensure that the mix does not leak out of the back of the freezing cylinder, the middle section of the boot seal should be convex or extend out from the seal. If the middle section of the boot seal is concave or extending into the middle of the seal, turn the seal inside out. (See Figure-111.)*

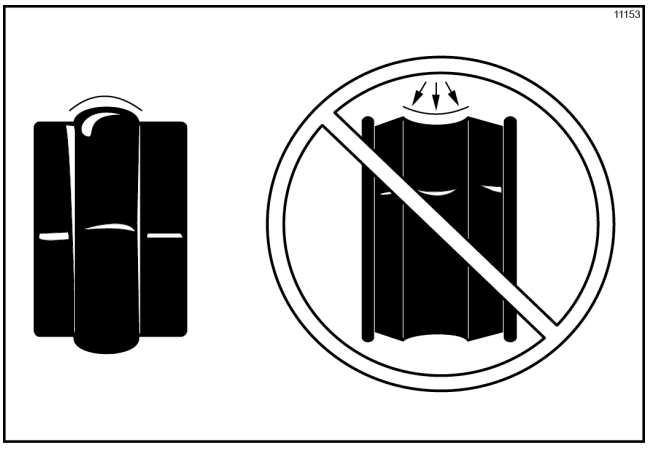


Figure-111

2. Install the shake beater driveshaft through the rear shell bearing in the freezing cylinder and engage the square end firmly into the driveshaft coupling. Make sure the driveshaft fits into the drive coupling without binding. (See Figure-112.)

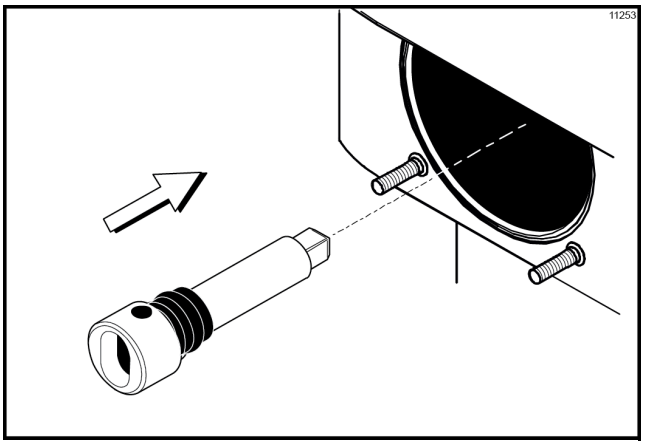


Figure-112

3. Check scraper blades for any nicks or signs of wear. If any nicks are present, replace the blades.

Note: *Shake side scraper blades should be replaced every 6 months.*

4. If the blades are in good condition, place each scraper blade over the holding pins on the beater assembly. (See Figure-113.)

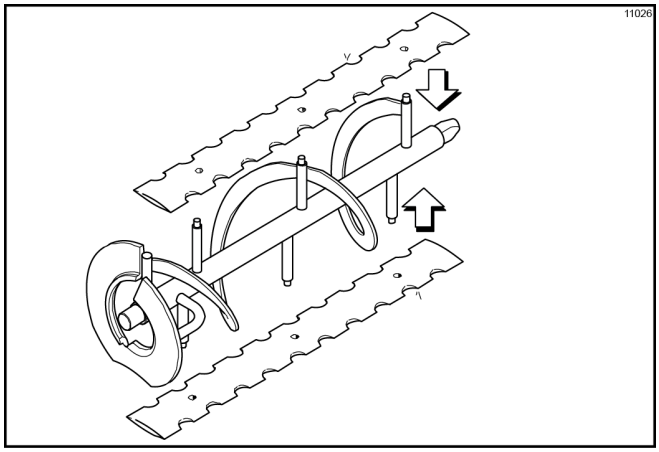


Figure-113

Note: *The holes in the scraper blade must fit over the pins to prevent damage.*

5. Holding the blades on the beater assembly, insert the beater assembly in the freezing cylinder. Engage the shaft end firmly into the driveshaft socket. (See Figure-114.)

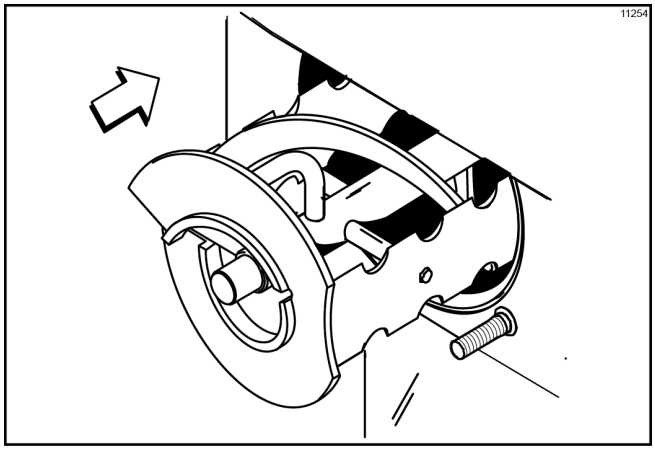


Figure-114

Note: *When properly seated, the beater will not protrude beyond the front of the freezing cylinder.*

6. Assemble the draw valve spinner assembly. Inspect draw valve O-rings for cuts or nicks. (Replace if cut or nicked.) If draw valve O-rings are in good condition, slide the two O-rings into the grooves of the draw valve and lubricate. (See Figure-115.)

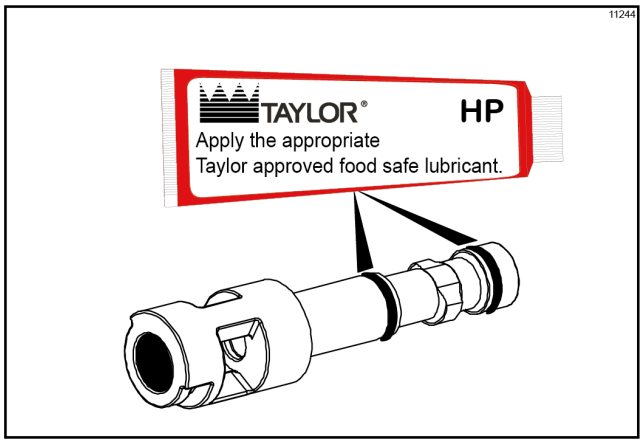


Figure-115

7. Lubricate the outer diameter of the spinner shaft seal. Fill the cups on each end of the seal with lubricant. (See Figure-116.)

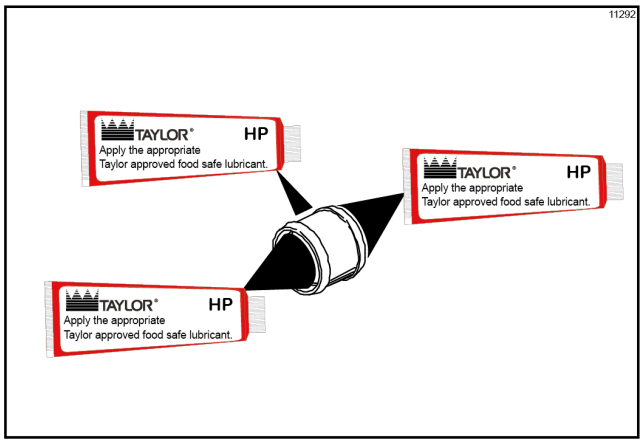


Figure-116

8. Insert the spinner shaft seal into the bottom of the draw valve as far as it will go. The spinner shaft seal should fit into the seal groove inside the draw valve cavity. (See Figure-117.)

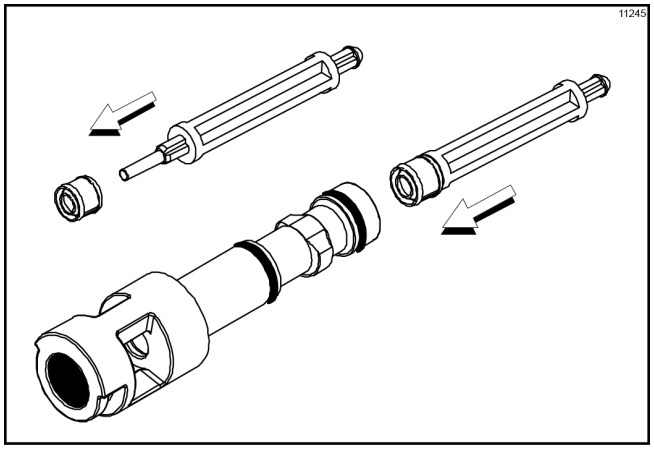


Figure-117

Important! *Inspect to see that the spinner shaft seal is correctly installed in the groove. A worn, missing, or improperly installed spinner shaft seal will cause product leakage out the top of the draw valve.*

9. Lubricate the smaller end of the driven spinner. (See Figure-118.)

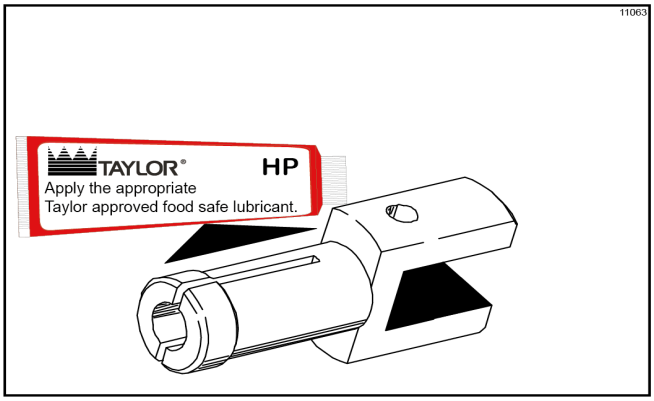


Figure-118

10. Squeezing the split end together, insert the driven spinner through the metal opening of the draw valve until it snaps into place. (See Figure-119.)

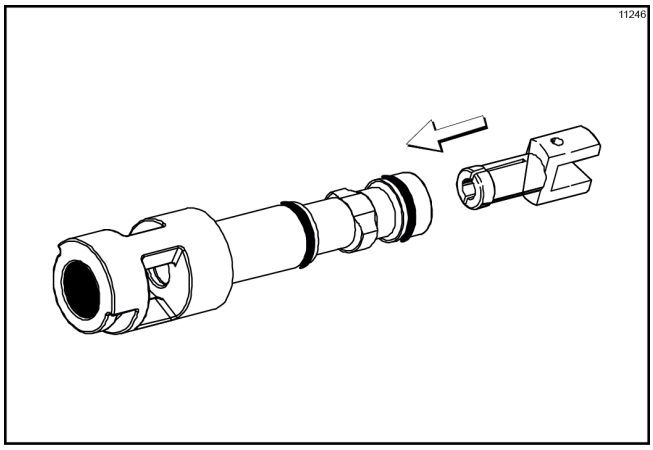


Figure-119

11. Insert and align the draw valve spinner assembly into the shake door as shown. (See Figure-120.)

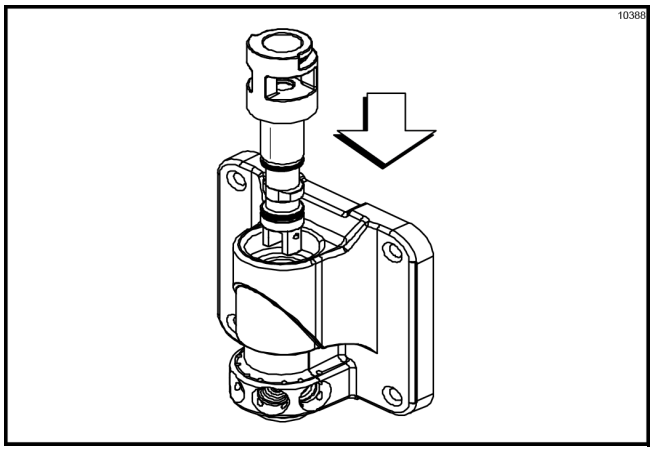


Figure-120

12. Place the freezer door O-ring into the groove on the back of the freezer door. Lubricate the outside diameter of the front bearing. Slide the front bearing into the door hub. (See Figure-121.)

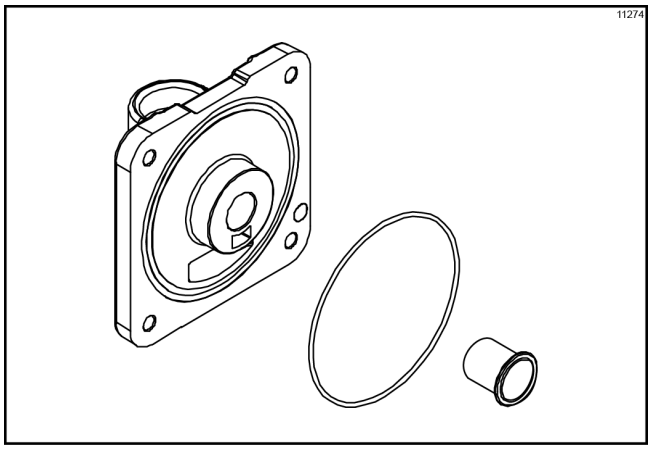


Figure-121

Note: *If necessary, put two small spots of lubricant at the 10 o'clock and 2 o'clock positions on the upper portion of the freezer door O-ring to keep it in place.*

13. Install the shake freezer door. Position the freezer door on the four studs on the front of the freezing cylinder. Align the top of the draw valve with the valve lifter bracket. Install the handscrews (short handscrews at the bottom of the door). Tighten equally in a crisscross pattern to ensure the door is secured. **Do not** overtighten. (See Figure-122.)

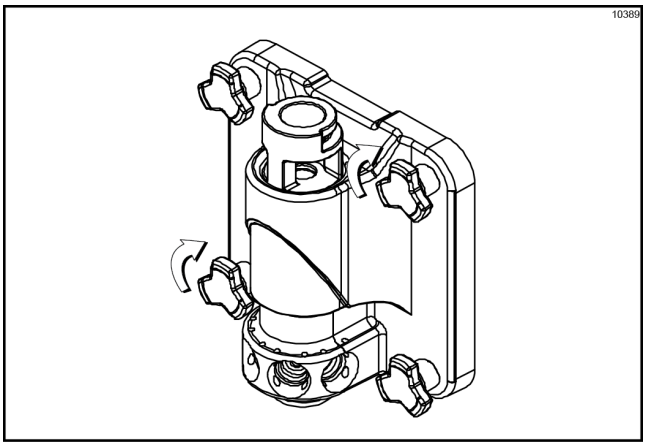


Figure-122

14. Lubricate the shaft of the spinner blade up to the groove. (See Figure-123.)

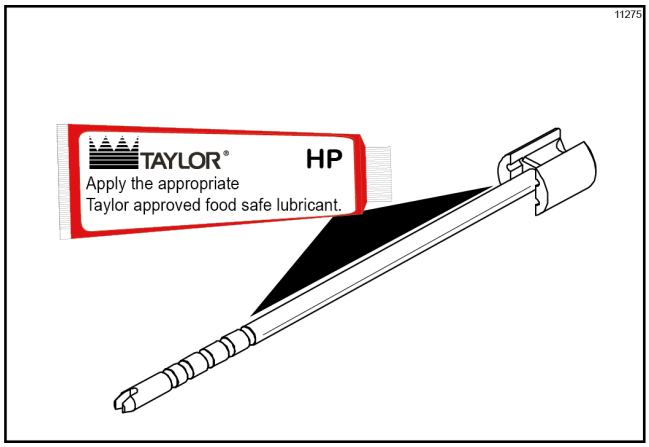


Figure-123

15. Insert the spinner blade shaft into the center of the driven spinner and through the draw valve cavity until the shaft appears at the top of the draw valve. The spinner blade must be aligned and engaged with the driven spinner at the bottom. This allows the spinner shaft to rise high enough to be engaged in the spinner coupling at the top. (See Figure-124.)

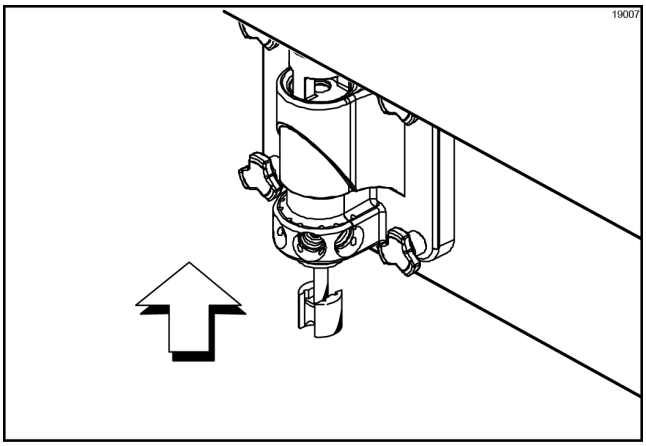


Figure-124

16. Raise the locking collar of the spinner coupling and insert the spinner shaft into the cavity of the coupling until the locking collar can drop into the locked position. (See Figure-125.)

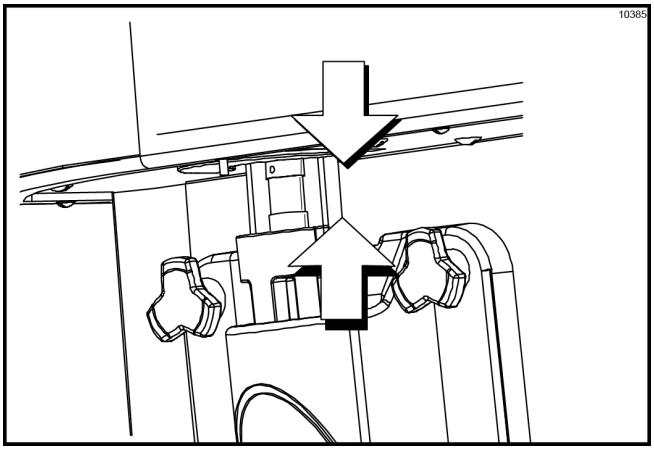


Figure-125

17. Snap the restrictor cap over the end of the door spout and install the syrup valve retainer pins. (See Figure-126.)

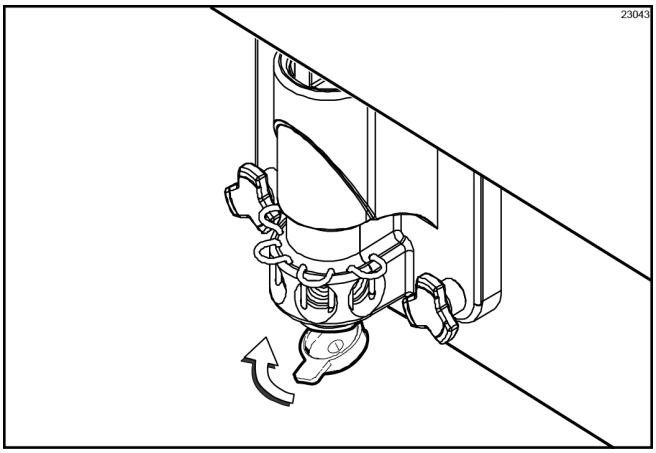


Figure-126

Freezing Cylinder Assembly—Soft Serve Side

WARNING! Make sure the power switch is in the OFF position. Failure to follow this instruction may result in severe personal injury from hazardous moving parts.

With the parts tray available for the soft serve side:

1. Before installing the soft serve beater driveshaft, lubricate the groove on the beater driveshaft. Slide the beater driveshaft boot seal over the small end of the beater driveshaft and engage into the groove on the shaft. Heavily lubricate the inside portion of the boot seal, and also lubricate the flat end of the boot seal that comes in contact with the rear shell bearing. Apply an even coat of lubricant to the shaft. **Do not** lubricate the hex end. (See Figure-127.)

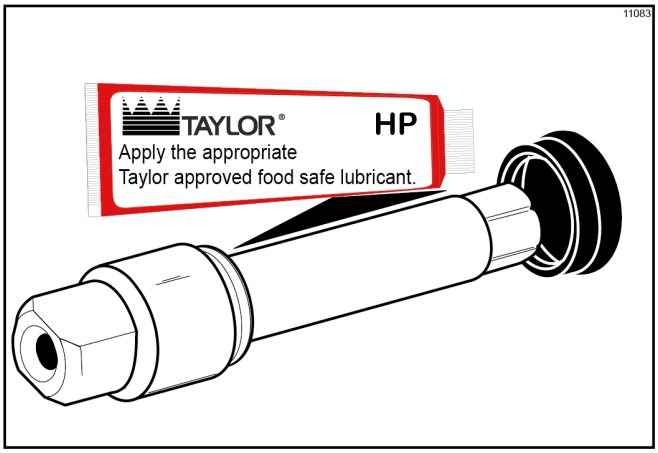


Figure-127

Note: *When lubricating parts, use an approved food-grade lubricant (example: Taylor Lube HP).*

Note: *To ensure the mix does not leak out the back of the freezing cylinder, the middle section of the boot seal should be convex or extend out from the seal. If the middle section of the boot seal is concave or extending into the middle of the seal, turn the seal inside out. (See Figure-128.)*

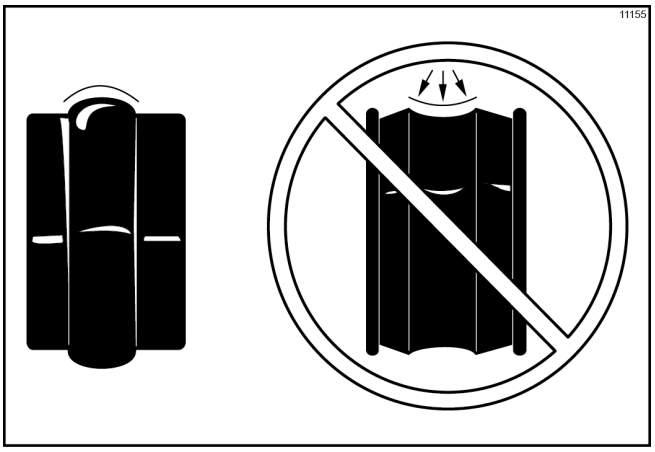


Figure-128

2. Insert the beater driveshaft through the rear shell bearing in the freezing cylinder and engage the hex end firmly in the drive coupling. (See Figure-129.)

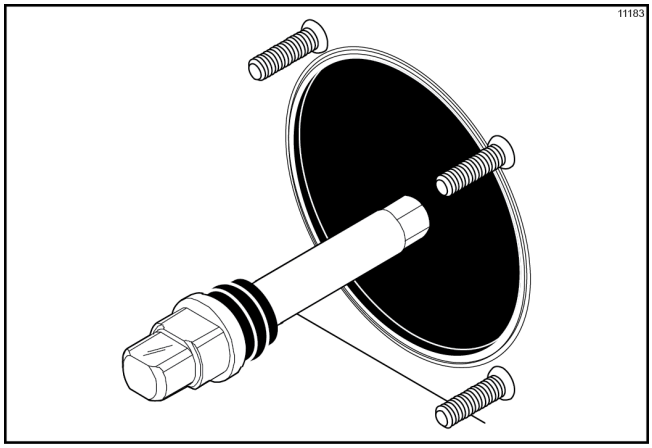


Figure-129

WARNING! Use extreme caution when handling the beater assembly. The scraper blades are very sharp and may cause injury.

3. Before installing the beater assembly, inspect the scraper blades for wear or damage. If the scraper blades are nicked or worn, replace both blades.

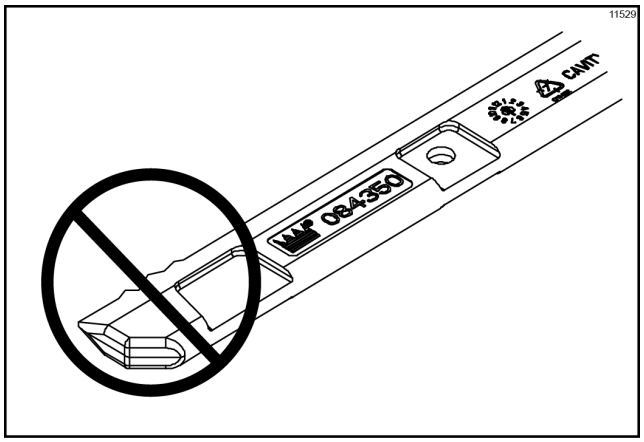


Figure-130

***Important! Do not** run the machine with a damaged blade. Failure to follow this instruction may result in damage to the freezing cylinder.*

4. If the blades are in good condition, place the rear scraper blade over the rear holding pin on the beater. (See Figure-131.)

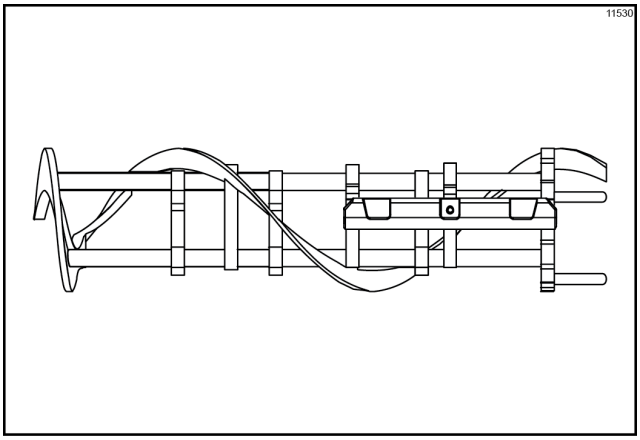


Figure-131

***Note:** Soft serve side scraper blades should be replaced every 3 months.*

***Important!** The hole on the scraper blade must fit securely over the pin to prevent damage.*

5. Holding the rear blade on the beater, slide it into the freezing cylinder halfway. Install the front scraper blade over the front holding pin. (See Figure-132.)

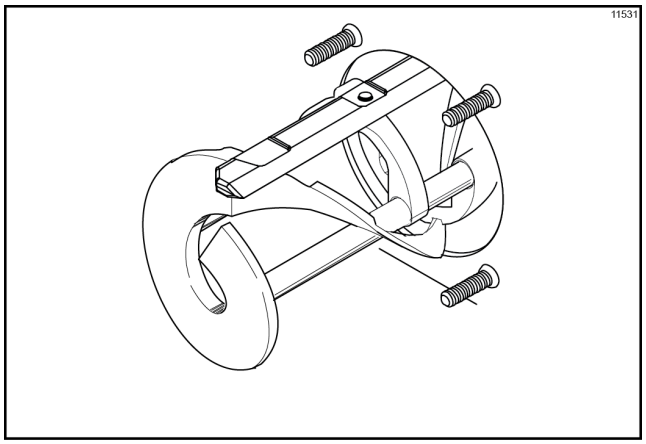


Figure-132

6. Before installing the beater shoes, check the shoes for any nicks, cracks, or signs of wear. If any defects are present, replace the beater shoes.
7. If the beater shoes are in good condition, install the beater shoes. (See Figure-133.)

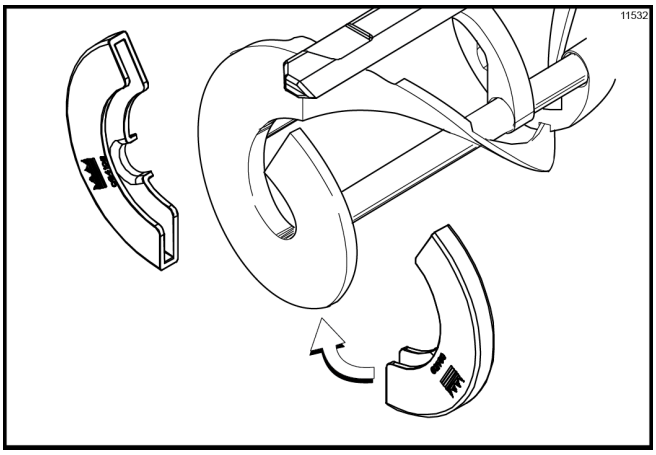


Figure-133

8. Slide the beater assembly the rest of the way into the freezing cylinder.

   Make sure the beater assembly is in position over the driveshaft by turning the beater slightly until the beater is properly seated. When in position, the beater will not protrude beyond the front of the freezing cylinder. (See Figure-134.)

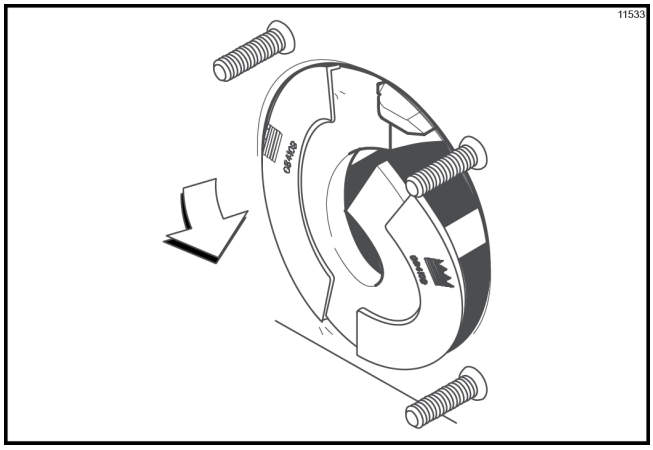


Figure-134

9. Before assembling the freezer door, check the following for any nicks, cracks, or signs of wear: door bearing, door gasket, draw valve, O-rings, and all sides of the door assembly, including the inside of the draw valve bore. Replace any damaged parts.
10. If the parts are in good condition, assemble the draw valve. Slide the three O-rings into the grooves on the draw valve and lubricate. (See Figure-135.)

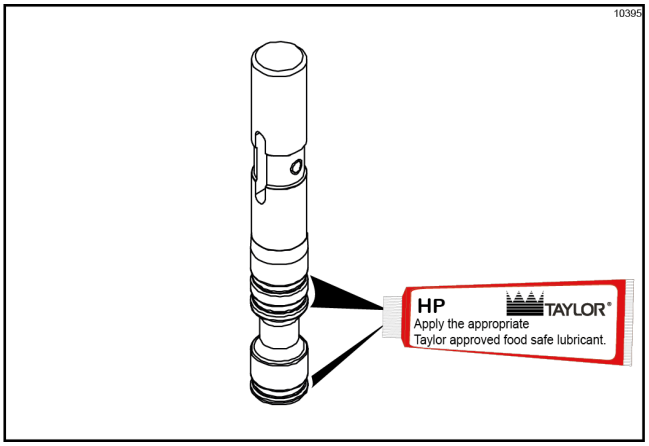


Figure-135

11. Lightly lubricate inside of the top of the freezer door valve cavity. (See Figure-136.)

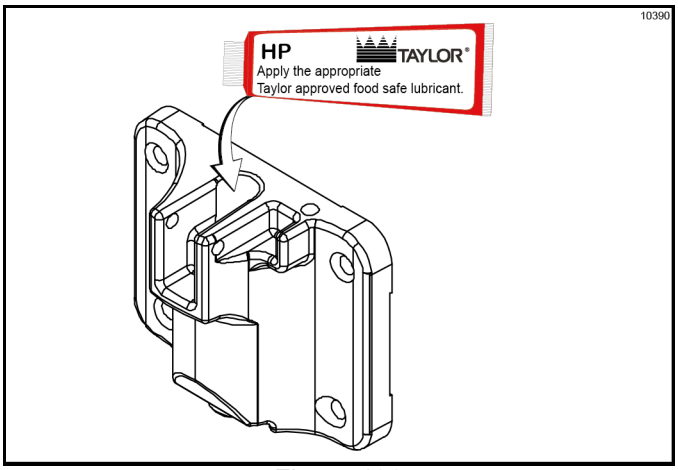


Figure-136

12. Insert the draw valve from the top, with the draw handle slot facing forward. (See Figure-137.)

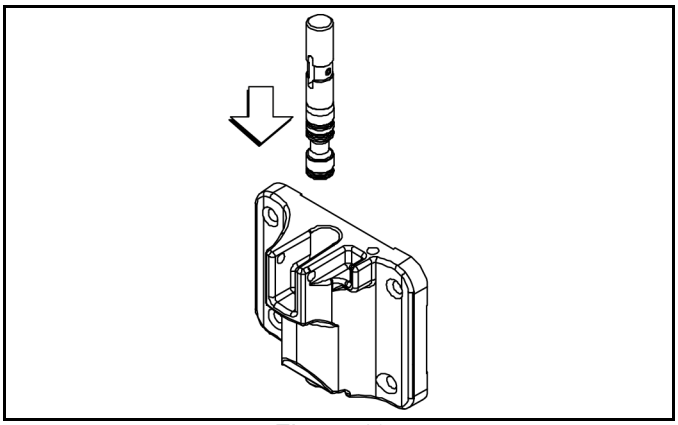


Figure-137

13. Place the door gasket into the groove on the back of the freezer door. **Do not** lubricate the gasket. Install the baffle by raising the round end while engaging the lug into the door pocket. Lower the round end to secure to the door. (See Figure-138.)

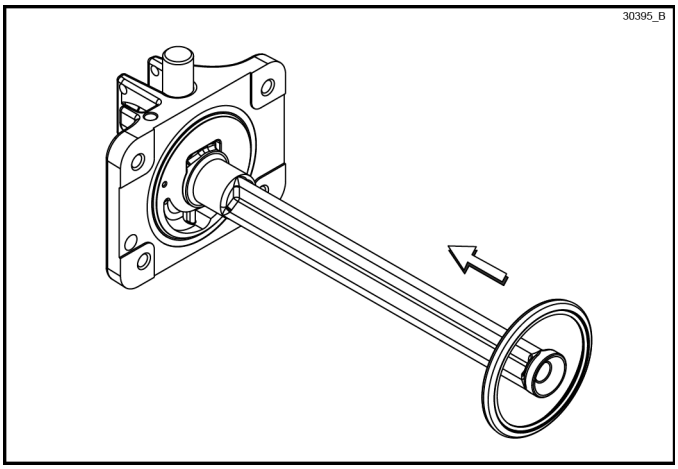


Figure-138

14. 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 crisscross pattern to ensure the door is secure. (See Figure-139.)

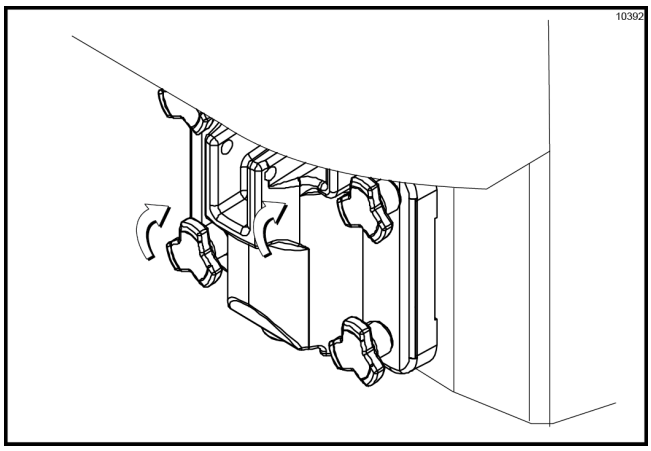


Figure-139

15. Install the draw handle. Slide the fork of the draw handle in the slot of the draw valve. Secure with pivot pin. (See Figure-140.)

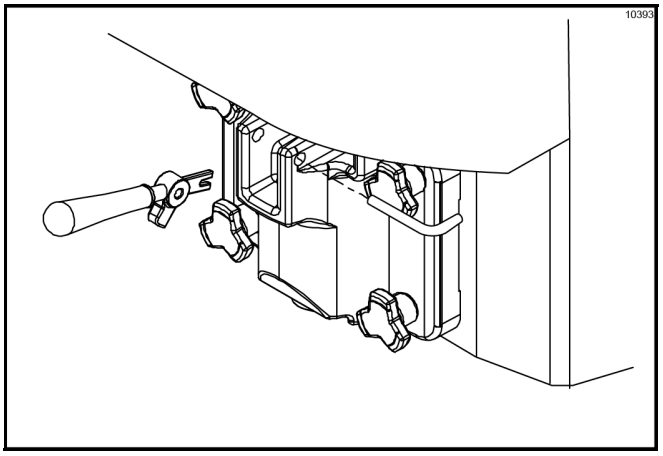


Figure-140

Note: *The soft serve side features an adjustable draw handle to provide portion control, giving a better, more consistent quality to your product and controlling costs. The draw handle should be adjusted to provide a flow rate of 5 oz. to 7-1/2 oz. (142 g to 213 g) of product by weight per 10 seconds. To* ***increase*** *the flow rate, turn the adjustment screw* ***clockwise****. Turn the adjustment screw* ***counterclockwise*** *to* ***decrease*** *the flow rate.*

16. Slide the long drip pan into the hole in the front panel above the syrup topping dispensers. (See Figure-141.)

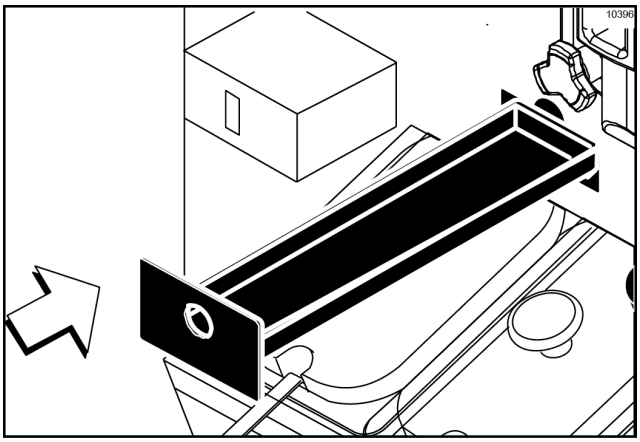


Figure-141

17. Slide the two shorter drip pans into the holes in the rear panel. Slide the two notched drip pans into the left and right side panels. (See Figure-142.)

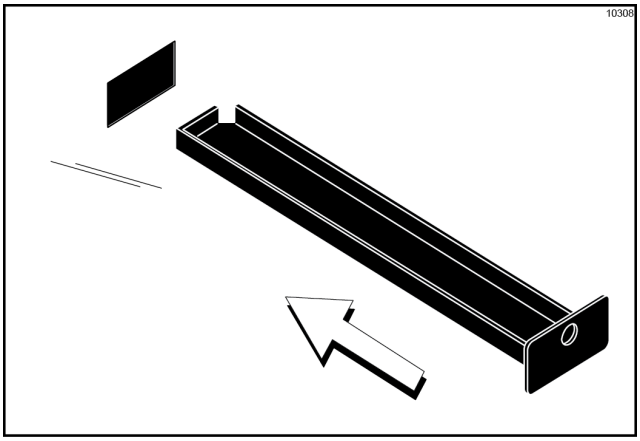


Figure-142

18. Install the front drip tray and splash shield under the door spouts. (See Figure-143.)

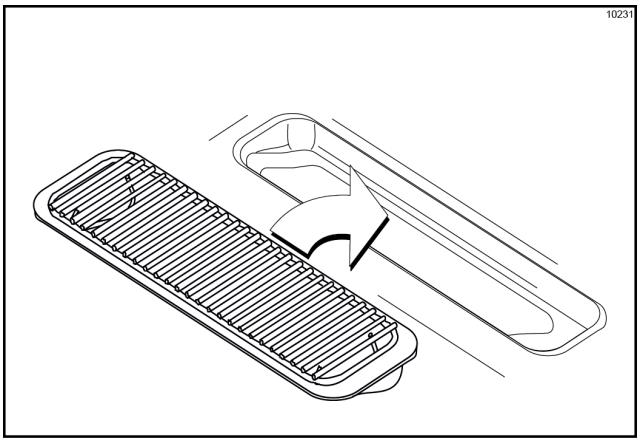


Figure-143

Mix Pump Assembly

1. Inspect the rubber and plastic pump parts. The O-rings, check rings, and gaskets must be in 100% good condition for the pump and entire machine to operate properly. They cannot properly serve their intended function if nicks, cuts, or holes in the material are present.

   Inspect the plastic pump parts for cracks, wear, and delamination of plastic. Replace any defective parts immediately and discard the old.

2. Assemble the piston. Slide the red O-ring into the groove of the piston. **Do not** lubricate the O-ring. (See Figure-144.)

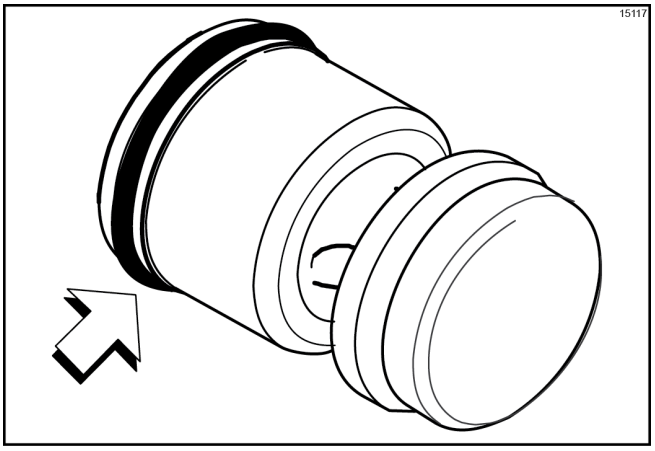


Figure-144

3. Apply a thin layer of lubricant to the inside of the pump cylinder at the retaining pin hole end. (See Figure-145.)

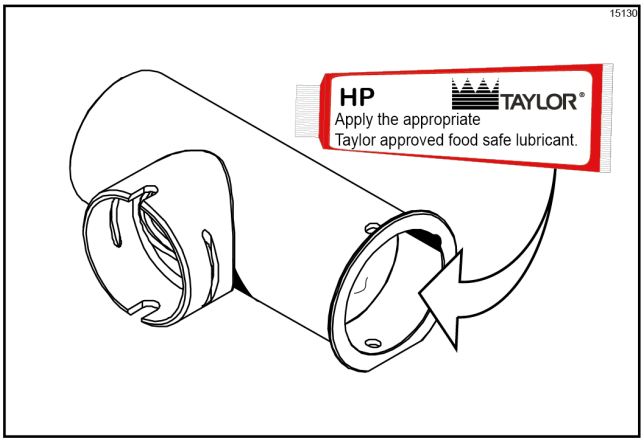


Figure-145

4. Insert the piston into the retaining pin hole end of the pump cylinder. (See Figure-146.)

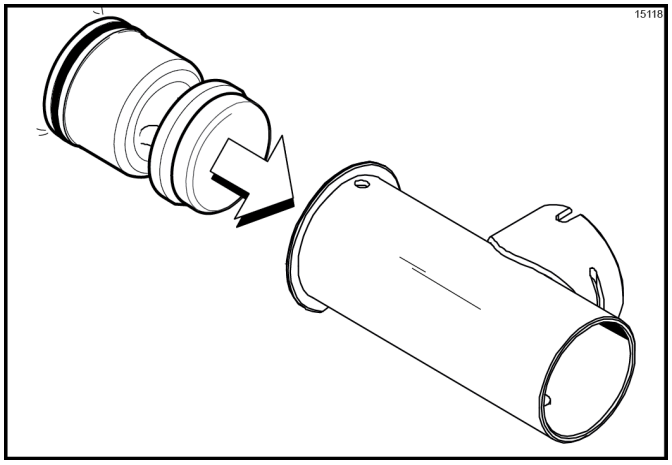


Figure-146

5. Assemble the valve cap. Slide the red O-ring into the groove of the valve cap. **Do not** lubricate the O-ring. (See Figure 147.)

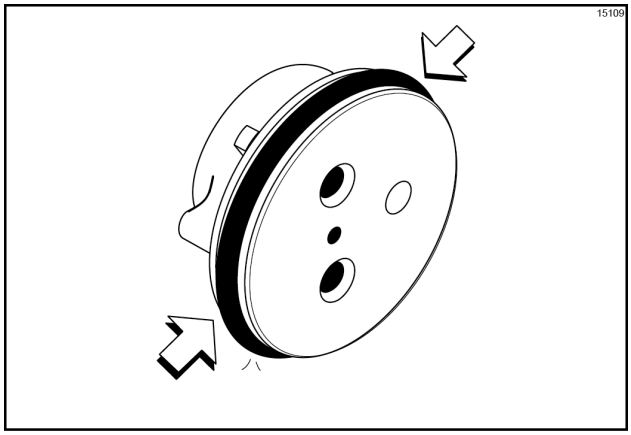


Figure-147

6. Slide the pump valve gasket into the holes on the cap. **Do not** lubricate the gasket. (See Figure-148.)

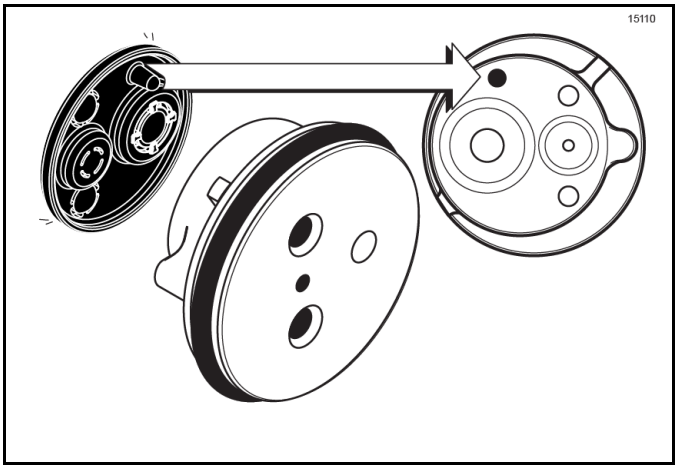


Figure-148

7. Insert the valve cap into the hole in the mix inlet adapter. (See Figure-149.)

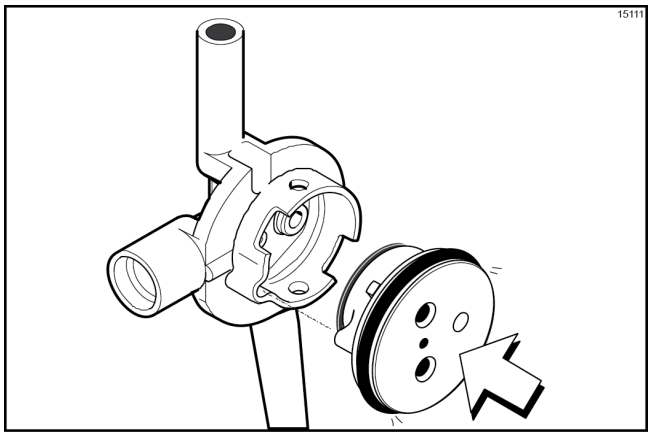


Figure-149

8. Insert the mix inlet assembly into the pump cylinder. (See Figure-150.)

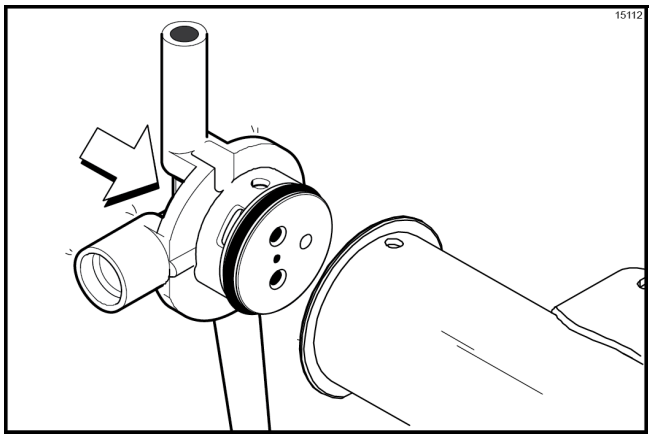


Figure-150

The adapter must be positioned into the notch located at the end of the pump cylinder.

9. Secure the pump parts in position by sliding the retaining pin through the cross holes located at one end of the pump cylinder. (See Figure-151.)

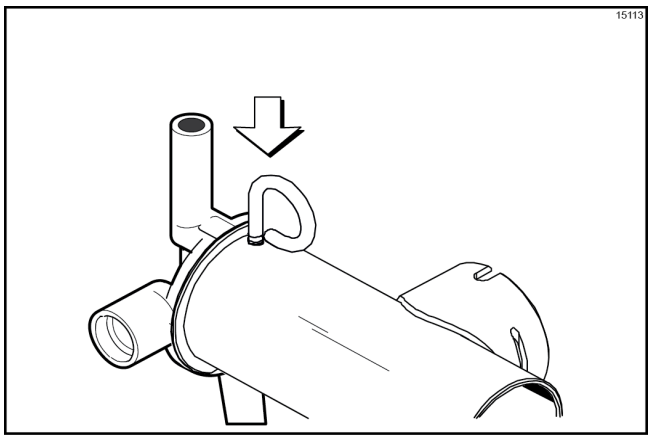


Figure-151

Note: *The head of the retaining pin should be at the top of the pump when installed.*

10. Assemble the feed tube assembly. Slide the check ring into the groove of the feed tube. (See Figure-152.)

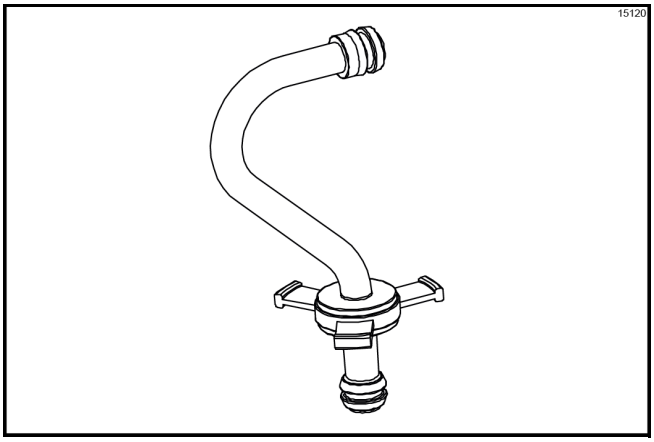


Figure-152

11. Install one red O-ring on each end of the mix feed tube and thoroughly lubricate. (See Figure-153.)

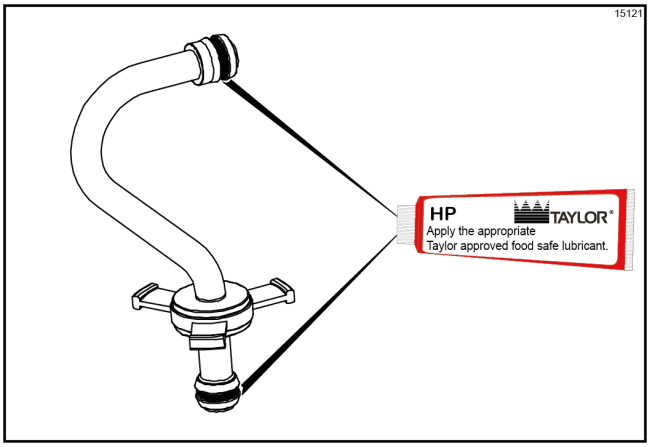


Figure-153

12. Lay the pump assembly, pump clip, cotter pin, and agitator in the bottom of the mix hopper for sanitizing. (See Figure-154.)

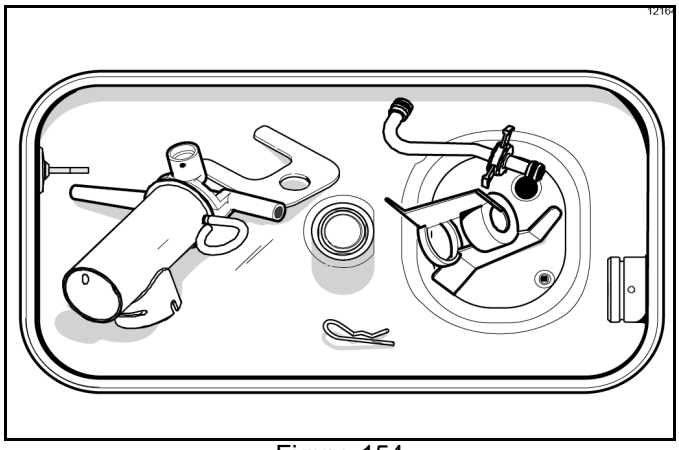


Figure-154

13. Slide the large black O-ring and the two smaller black O-rings into the grooves on the driveshaft. Thoroughly lubricate the O-rings and shaft. **Do not** lubricate the hex end of the shaft. (See Figure-155.)

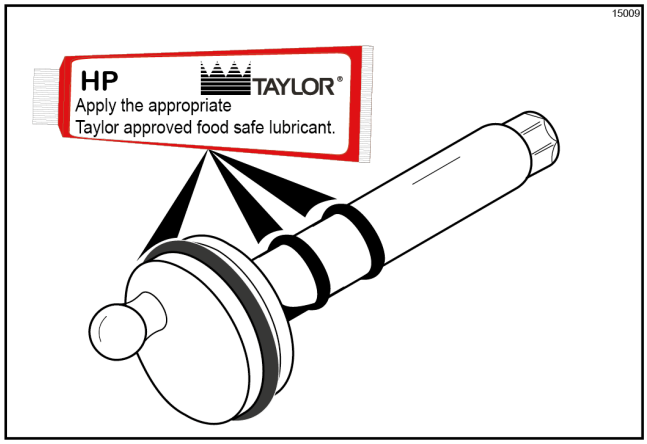


Figure-155

14. Install the hex end of the driveshaft into the drive hub at the rear wall of the mix hopper. (See Figure-156.)

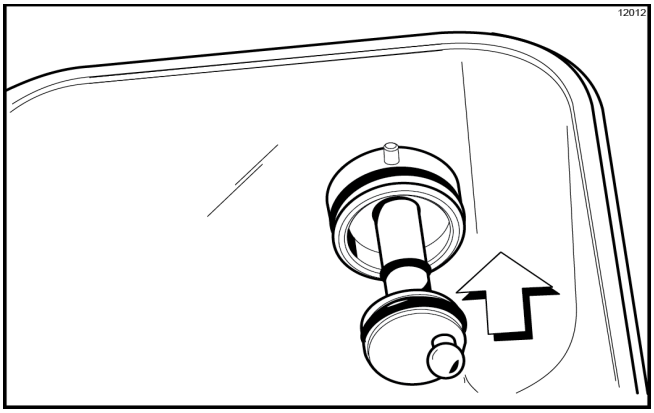


Figure-156

Note: *For ease in installing the pump, position the ball crank of the driveshaft in the 3 o'clock position.*

Sanitizing—Shake Side

1. Prepare 2.5 gal. (9.5 L) of KAY-5® Sanitizer (HCS) solution. Use one packet in 2.5 gal. (9.5 L) of water (100 ppm).
2. Install syrup hole plugs in the syrup ports in the freezer door. (See Figure-157.)

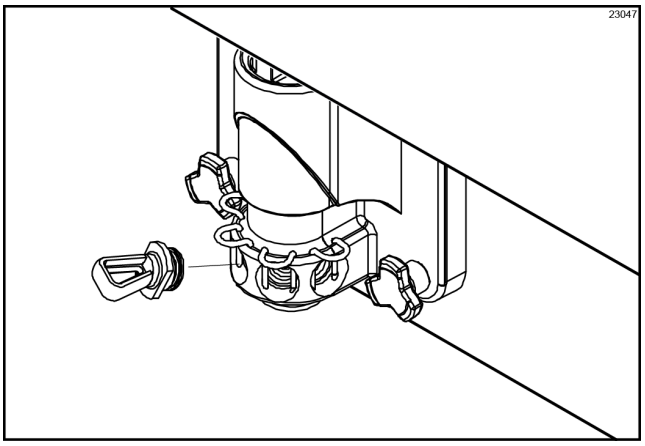


Figure-157

3. Pour the sanitizing solution over all parts in the bottom of the mix hopper and allow it to flow into the freezing cylinder.

Note: *You have just sanitized the mix hopper and parts; therefore, make sure your hands are clean and sanitized before continuing in these instructions.*

4. Prepare 4 more gal. (15.2 L) of KAY-5® Sanitizer (HCS) solution. Use one packet in 2.5 gal. (9.5 L) of water (100 ppm).

5. Install the air/mix pump assembly at the rear of the mix hopper. To position the pump on the drive hub, align the drive slot in the piston with the drive crank of the driveshaft. Secure the pump in place by slipping the pump clip over the collar of the pump, making sure the clip fits into the grooves in the collar. (See Figure-158)

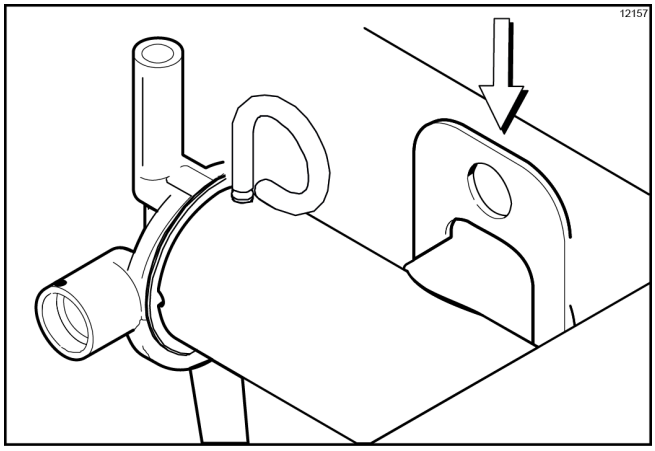


Figure-158

IMPORTANT! *Ensure the cotter pin is installed in the pump end of the mix feed tube. Failure to follow this instruction could result in sanitizer spraying on the operator*.

6. Install the pump end of the mix feed tube and secure with the cotter pin.
7. Using the white hopper brush, clean the mix-level sensing probes, mix hopper, mix inlet hole, the outside of the agitator driveshaft housing, agitator, air/mix pump, pump clip, mix feed tube, and cotter pin.
8. Pour the 4 gal. (15.2 L) of sanitizing solution into the mix hopper. The sanitizing solution should be within 1 in. (2.5 cm) of the top of the hopper.
9. Using the white hopper brush, scrub the exposed sides of the hopper. Wait at least 5 minutes before proceeding with these instructions.
10. Place the power switch in the ON position.
11. Press the Wash symbol. This will cause the sanitizing solution in the freezing cylinder to come in contact with all areas of the freezing cylinder. (See Figure-159.)

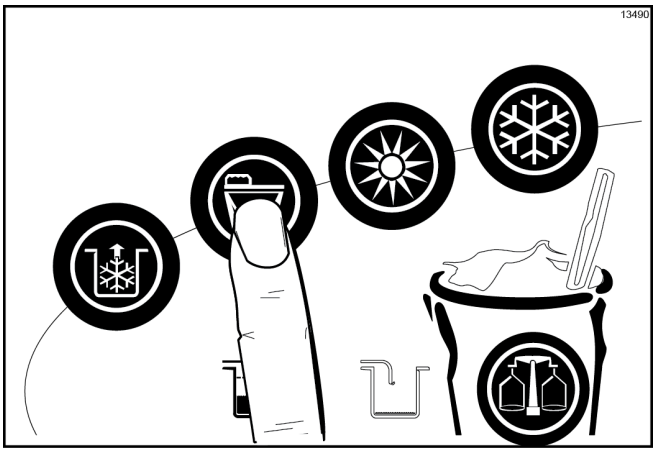


Figure-159

12. With a pail beneath the door spout, open and close the draw valve six times.
13. Press the Mix Pump symbol to sanitize the inside of the air/mix pump and the mix feed tube.
14. Open the draw valve and draw off all the remaining sanitizing solution.
15. Press the Wash and Mix Pump symbols to stop the Wash and Mix Pump modes and to close the draw valve. (See Figure-160.)

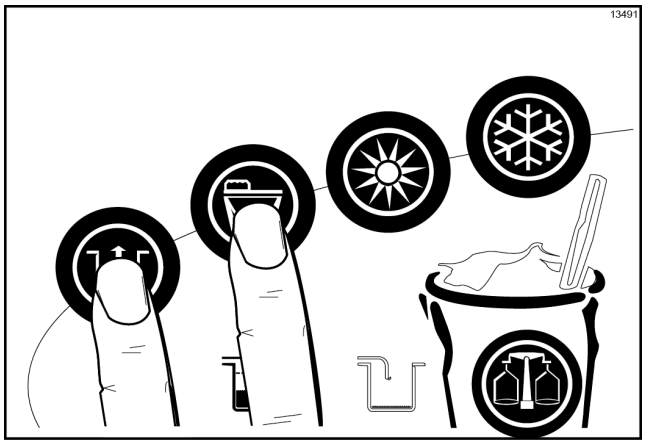


Figure-160

Important! *The machine must* ***not*** *be placed in the Auto mode until all sanitizing solution has been removed from the freezing cylinder and proper priming procedures have been completed. Failure to follow this instruction may damage the freezing cylinder.*

Note: *At the conclusion of a brush-clean the Auto and Standby buttons will be disabled until the user selects Wash mode. A message will appear on screen SEL WASH TO SANITIZE to remind the user. This is to ensure sanitizer has been removed from the machine before going to Auto or Standby modes.*

Note: *Make sure your hands are clean and sanitized before continuing in these instructions.*

16. Place the agitator on the agitator driveshaft housing. (See Figure-161.)

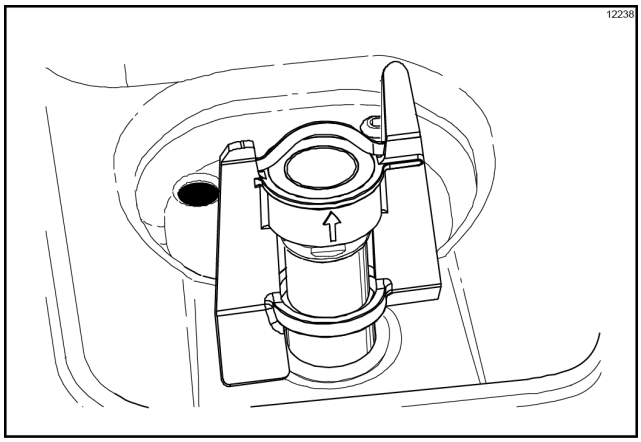


Figure-161

Note: *If the agitator paddle should stop turning during normal operation, with* ***sanitized hands****, remove the agitator from the agitator driveshaft housing and brush-clean with sanitizing solution. Install the agitator back onto the agitator driveshaft housing.*

17. Remove the cotter pin from the pump. Stand the mix feed tube in the corner of the mix hopper. Place the cotter pin in position in the outlet fitting of the pump. (See Figure-162.)

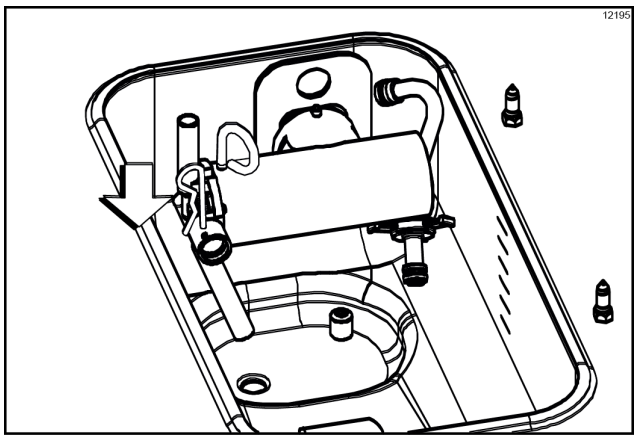


Figure-162

18. Remove the restrictor cap and the syrup hole plugs.
19. Return to the freezer with a small amount of sanitizing solution. With a pail below the door spout, dip the door-spout brush into the sanitizing solution and brush-clean the syrup ports in the freezer door, door spout, bottom of the driven spinner, spinner blade, and syrup line fittings.

Note: *To ensure sanitary conditions are maintained, brush-clean each item for 60 seconds, repeatedly dipping the brush in sanitizing solution.*

20. With the syrup-port brush, brush each syrup port hole 10 to 15 times. Dip the brush in sanitizing solution before brushing each port.
21. Fill the squeeze bottle with sanitizing solution. With a pail beneath the door, insert the tube end of the squeeze bottle into the syrup port and squeeze the bottle firmly. This action will force solution out of the adjacent port and down around the spinner. This procedure should be performed for at least 10 seconds per port.
22. Install the syrup valves and the restrictor cap.

Sanitizing—Soft Serve Side

1. Prepare 2.5 gal. (9.5 L) of KAY-5® Sanitizer (HCS) solution. Use one packet in 2.5 gal. (9.5 L) of water (100 ppm).
2. Pour the sanitizing solution over all parts in the bottom of the mix hopper and allow it to flow into the freezing cylinder.

Note: *You have just sanitized the mix hopper and parts. Therefore, make sure your hands are clean and sanitized before continuing in these instructions.*

While the solution is flowing into the freezing cylinder, take particular care to brush-clean the mix-level sensing probes, mix hopper, mix inlet hole, outside of the agitator housing, agitator, air/mix pump, pump clip, mix feed tube, and cotter pin.

3. Install the pump assembly at the rear of the mix hopper. To position the pump on the drive hub, align the drive hole in the piston with the drive crank of the driveshaft. Secure the pump in place by slipping the pump clip over the collar of the pump, making sure the clip fits into the grooves in the collar. (See Figure-163).

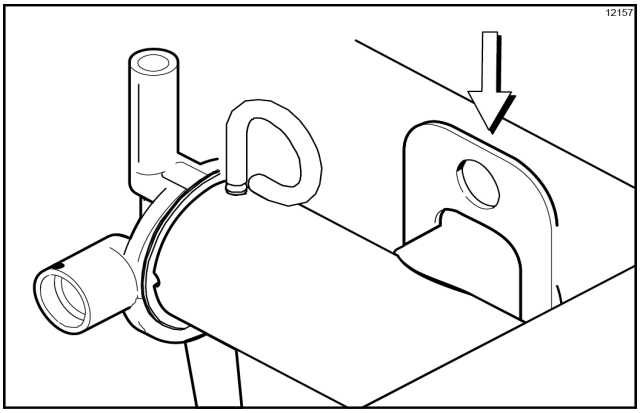


Figure-163

IMPORTANT! *Ensure the cotter pin is installed in the pump end of the mix feed tube. Failure to follow this instruction could result in sanitizer spraying on the operator*.

4. Install the pump end of the mix feed tube and secure with the cotter pin.
5. Prepare another 2.5 gal. (9.5 L) of KAY-5® Sanitizer (HCS) solution. Use one packet in 2.5 gal. (9.5 L) of water (100 ppm).
6. Pour sanitizing solution into mix hopper.
7. Brush the exposed sides of the hopper. Wait at least 5 minutes before proceeding with these instructions.
8. Press the Wash symbol. This will cause the sanitizing solution in the freezing cylinder to be agitated.
9. With a pail beneath the door spout, open the draw valve and press the Mix PUMP symbol. Open and close the draw valve six times. Open the draw valve and draw off the sanitizing solution.
10. Press the Wash and Mix Pump symbols and close the draw valve. (See Figure-164.)

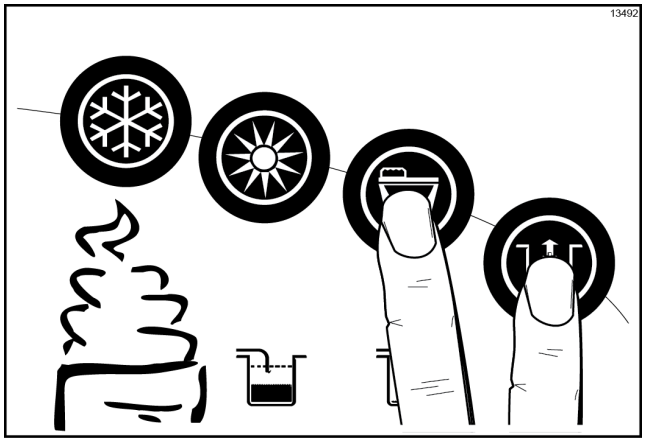


Figure-164

Important! *The machine must* ***not*** *be placed in Auto mode until all sanitizing solution has been removed from the freezing cylinder and proper priming procedures have been completed. Failure to follow this instruction may result in damage to the freezing cylinder.*

Note: *Make sure your hands are clean and sanitized before proceeding.*

11. Place the agitator on the agitator driveshaft housing. (See Figure-165.)

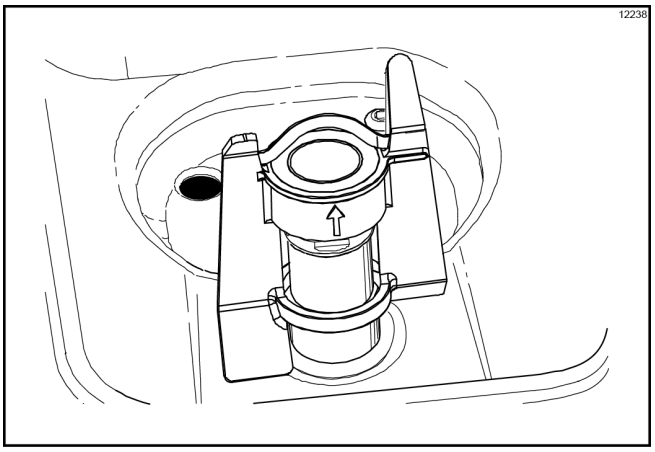


Figure-165

Note: *If agitator should stop turning during normal operation, with* ***sanitized hands****, remove agitator from agitator driveshaft housing and brush-clean with sanitizing solution. Install the agitator back onto the agitator driveshaft housing.*

12. Remove the cotter pin from the pump. Stand the mix feed tube in the corner of the mix hopper. Place the cotter pin in position in the outlet fitting of the pump. (See Figure-166.)

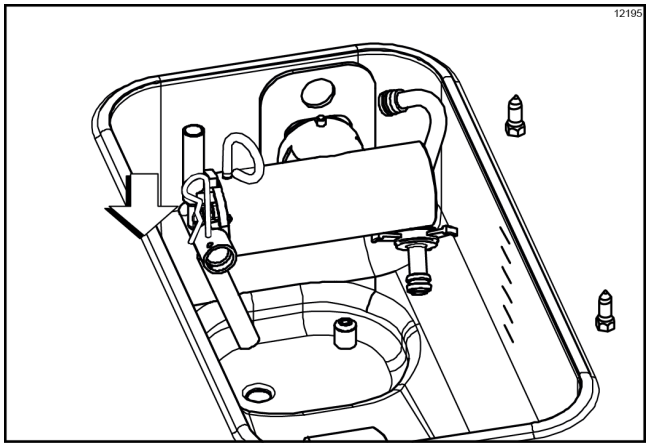


Figure-166

Note: *You have just sanitized all the food contact surfaces of the freezer.*

Priming—Shake Side

Note: *Use only **fresh** mix when priming the freezer.*

1. With a pail beneath the door spout, press any Flavor Selection symbol to open the draw valve. Pour 2-1/2 gal. (9.5 L) of **fresh** mix into the mix hopper and allow it to flow into the freezing cylinder. This will force out any remaining sanitizing solution. When full-strength mix is flowing from the door spout, press any Flavor Selection symbol to close the draw valve.

Important! *Failure to remove all sanitizing solution may damage the freezing cylinder.*

2. When the mix stops bubbling down into the freezing cylinder, remove the cotter pin from the outlet fitting of the mix pump. Insert the outlet end of the mix feed tube into the mix inlet hole in the mix hopper. Place the inlet end of the mix feed tube into the outlet fitting of the mix pump. Secure with cotter pin. (See Figure-167.)

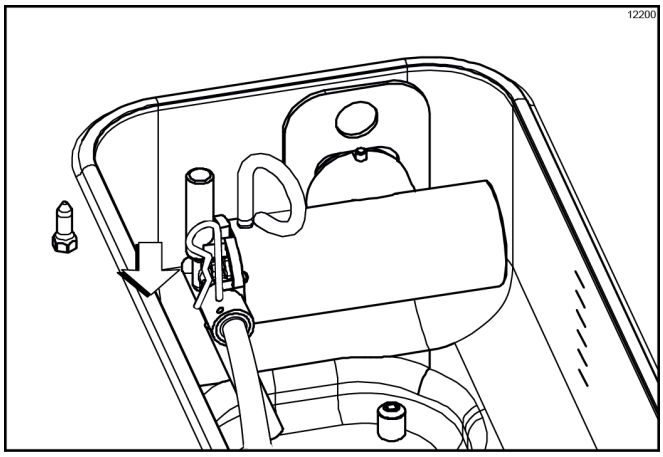


Figure-167

3. Install the shake cup holder. (See Figure-168.)

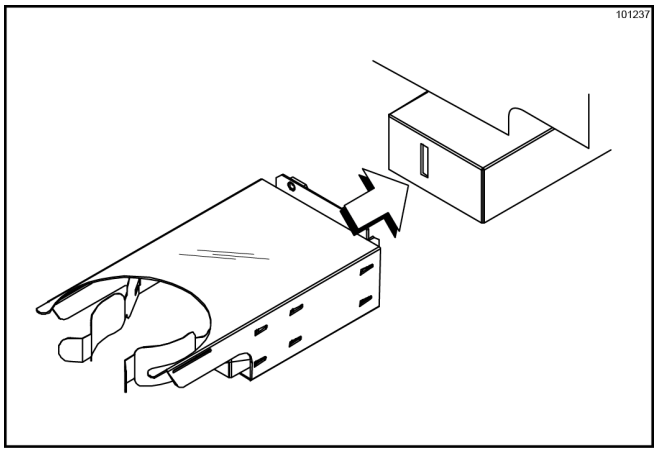


Figure-168

4. Select the Auto symbol ❄.

5. Fill the hopper with **fresh** mix and place the mix hopper cover in position.

Priming—Soft Serve Side

Note: *Use only **fresh** mix when priming the freezer.*

1. With a pail beneath the door spout, open the draw valve. Pour 2-1/2 gal. (9.5 L) of **fresh** mix into the mix hopper and allow it to flow into the freezing cylinder. This will force out any remaining sanitizing solution. When full-strength mix is flowing from the door spout, close the draw valve.

Important! *Failure to remove all sanitizing solution may damage the freezing cylinder.*

2. When the mix stops bubbling down into the freezing cylinder, remove the cotter pin from the outlet fitting of the mix pump.

   Insert the outlet end of the mix feed tube into the mix inlet hole in the mix hopper. Place the inlet end of the mix feed tube into the outlet fitting of the mix pump. Secure with cotter pin.

3. Select the Auto symbol ❄.

Note: *This procedure should be done 15 minutes before product is expected to be served.*

4. Fill the hopper with **fresh** mix and place the mix hopper cover in position.

VFD SCREENS

The vacuum fluorescent display (VFD) located in the center of the control panel is normally blank during the daily operation of the machine. The display is activated when the Calibrate symbol ⚖ or the Manager's Menu is selected. The display screen will also alert the operator of specific faults detected by the control.

Power Up

When the machine is powered, the control system will initialize to perform a system check. There will be four types of data the system will check when the control is initializing: Lamp Test, Lockout Data, Configuration Data, and System Data. (See Figure 169.)

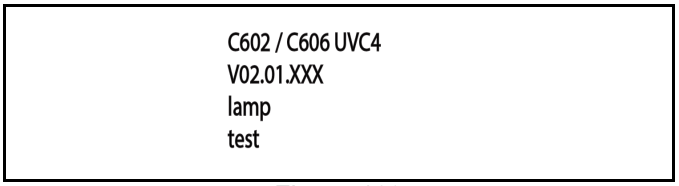


Figure-169

Lamp Test: The control and software version is displayed and all of the LEDs on the display panel are illuminated. (See Figure-170.)

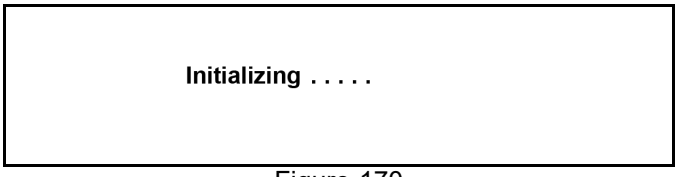


Figure-170

Following the lamp test, three separate screens will appear during initialization.

Initializing	Lockout Data
Initializing	Config Data
Initializing	System Data

During the Initializing . . . . . if the system detects corrupt data, the following display will alert the operator that the control settings have changed (see Figure-171):

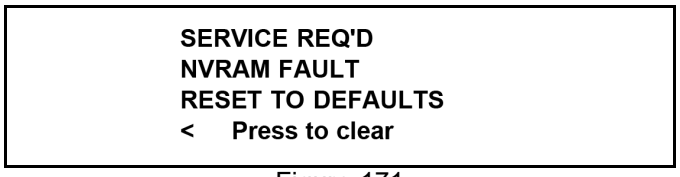


Figure-171

Once the system has initialized, the number of days remaining before the next required brush-cleaning is indicated on the control panel, and the SAFETY TIMEOUT screen is displayed with the alarm turned on. (See Figure-172.)

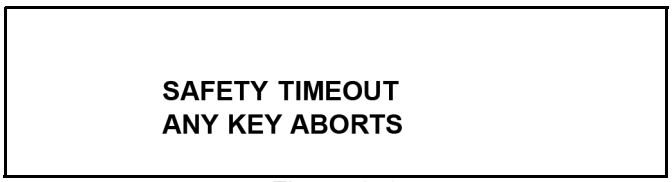


Figure-172

The SAFETY TIMEOUT screen will be displayed with the alarm on for 60 seconds or until any control symbol is selected.

After the Safety Timeout has been completed and the power switch is in the OFF position, the status screen will display. When the brush-clean requirements have been met, the following screen will display (see Figure-173):

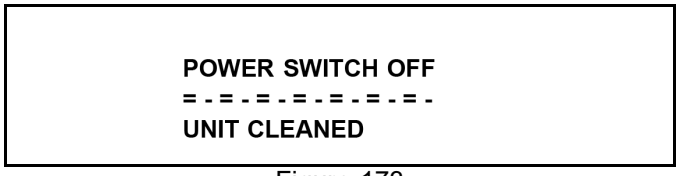


Figure-173

If a brush-cleaning was not completed, the status screen will display the current hopper temperature, barrel temperature, and the 5-minute brush-clean timer. (See Figure-174.)

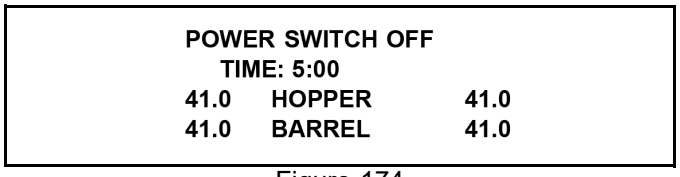


Figure-174

Power Switch ON

When the power switch is placed in the ON position, the control panel touch keys become operative. The VFD will be either blank or indicate that the machine has been cleaned. (See Figure 175.)

Figure-175

Display for International Models Only

Some international models will continuously display the temperature of each mix hopper when the power switch is in the ON position. (See Figure-176.)

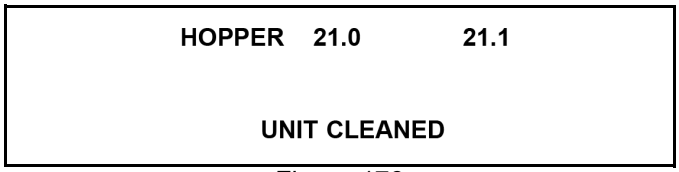


Figure-176

Heat Cycle

The Heat symbols on the control panel are illuminated throughout the Heat Treatment cycle. Two warning messages will be displayed on the screen: DO NOT DRAW will be displayed when the mix temperature is below 130°F (54.4°C). (See Figure-177.)

Figure-177

When the temperature of the mix is above 130°F (54.4°C), the screen will display a message indicating that HOT PRODUCT is in the machine.
(See Figure-178.)

Figure-178

WARNING! DO NOT attempt to draw product or disassemble the machine during the heat treatment cycle (if equipped). The product is hot and under extreme pressure. Severe burns from hot product may result if this instruction is not followed.

In the Heat cycle, the mix temperature in the hoppers and freezing cylinders must be raised to 151°F (66.1°C) within 90 minutes.

When the Heating phase is complete, the freezer goes into the Holding phase of the cycle. The Holding phase will keep the temperature above 151°F (66.1°C) for a minimum of 30 minutes.

The final phase of the Heat Treatment cycle is the Cooling phase. The freezer must cool the mix below 41°F (5°C) within 2 hours.

When the entire Heat cycle has been completed, the Heat symbols will no longer be illuminated. The machine will enter the Standby mode (Standby symbols and illuminate). The machine can be placed in Auto mode or left in Standby mode.

Heat Cycle Failure Messages

To comply with health codes, Heat Treatment system freezers **must** complete a Heat Treatment cycle daily and **must** be disassembled and brush-cleaned a minimum of every 14 days. Brush-cleaning is the normal disassembly and cleaning procedure found in this manual. Failure to follow these guidelines will cause the control to lock the freezer out of the Auto mode.

Always comply with local guidelines for the maximum number of days allowed between brush-clean cycles. (See the Manager's Menu for setting the brush-clean interval on page 78.)

If the Heat Treatment cycle fails, the VFD will display a failure message and return the freezer to the Standby mode. A **lock** is defined as a special Standby mode of operation, which does not allow the machine to operate in the Auto mode.

There are two types of freezer lock conditions that can occur: hard lock or soft lock. A hard lock requires the machine be disassembled and brush-cleaned. A soft lock can be corrected by either disassembling and brush-cleaning the machine or by starting another Heat Treatment cycle.

Hard Lock—There are two causes of a hard lock failure:

1. The brush-clean timer has elapsed (maximum setting of 14 days). (See Figure-179.)

Figure-179

Selecting the Wash symbol will display the following screen: (See Figure-180.)

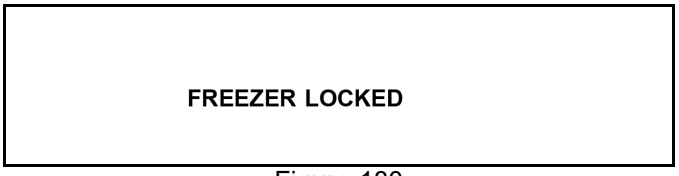


Figure-180

2. There has been a thermistor failure (freezing cylinder, hopper, or glycol) during the Heat Treatment process. (See Figure-181.)

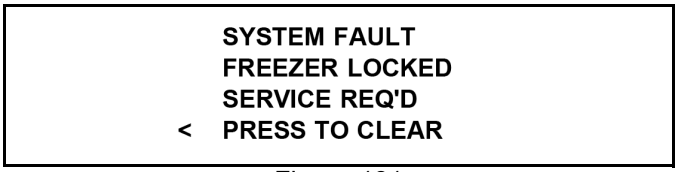


Figure-181

Selecting the Calibrate symbol will indicate which thermistor caused the hard lock. (See Figure-182.)

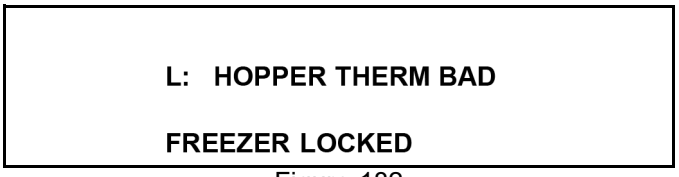


Figure-182

If the machine has hard locked and an attempt is made to enter Auto, the machine will enter the Standby mode and display the following message (see Figure-183):

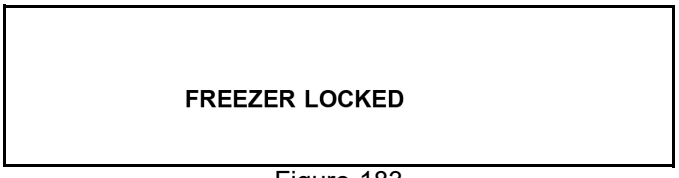


Figure-183

To restore the message that identified the reason for the hard lock, turn the power switch OFF for 5 seconds and then return the power switch to the ON position. The original message with the reason for the hard lock will be displayed. The Fault Description can also be found in the Manager's Menu (See page 85).

The FREEZER LOCKED message will remain on the display until the brush-clean requirements are fulfilled. The freezer must be disassembled in order to activate the 5-minute timer on the display screen. Once the timer counts down to zero, the lockout is cleared.

Soft Lock: If a Heat Treatment cycle has not been initiated within the last 24 hours, a soft lock failure will occur. A soft lock allows the operator to correct the cause of the soft lock. The operator has the option of either starting another Heat cycle or brush-cleaning the machine.

When a soft lock occurs, the machine will go into the Standby mode. The following message is displayed on the screen. The reason for the soft lock is indicated on the second line (see Figure-184.)

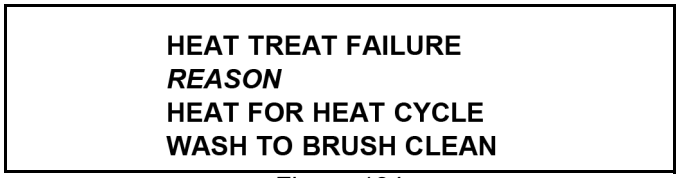


Figure-184

If the reason for the soft lock has been corrected, selecting the Heat symbol initiates a Heat cycle immediately. Selecting the Wash symbol when the above message is displayed will hard lock the machine, and brush-cleaning will be necessary.

The following are the various messages for soft lock failures that appear on the second line of the screen:

POWER SWITCH OFF	Power switch was in the OFF position.
MIX OUT PRESENT	There was a Mix Out condition present.
AUTO OR STANDBY OFF	The machine was not in the Auto or Standby mode.
NO HEAT CYCLE TRIED	A Heat Treatment cycle was not attempted in the last 24 hours. (AUTO HEAT TIME was advanced,a power loss was experienced at the time the cycle was to occur, or there was a Heat cycle failure not due to a thermistor failure.)

If the following screen appears, soft lock has occurred during the Heat Treatment cycle (see Figure-185):

HEAT TREAT FAILURE
FREEZER LOCKED
HEAT FOR HEAT CYCLE
WASH TO BRUSH CLEAN

Figure-185

A soft lock can also occur anytime during operation when the hopper or freezing cylinder temperature rises above 59°F (15°C), rises and remains above 45°F (7°C) for more than 1 hour, or rises and remains above 41°F (5°C) for more than 4 hours. If a PRODUCT OVER TEMPERATURE condition occurs during operation, the following screen will appear (see Figure-186):

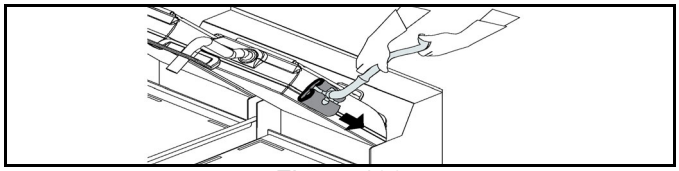


Figure-186

When one of these messages appears, automatic freezer operation cannot take place until the freezer is disassembled and brush-cleaned or has completed a Heat Treatment cycle. Select the Heat symbol to start a Heat cycle, or select the Wash symbol to disassemble and brush-clean the machine.

Once the freezer is unlocked by starting a Heat Treatment cycle, the Heat symbol will illuminate and the following message will be displayed on the screen (see Figure-187):

L: DO NOT DRAW
R: DO NOT DRAW

Figure-187

If the Wash symbol is selected to clear the lockout by brush-cleaning the machine, the FREEZER LOCKED message will remain on the display until the brush-clean requirements are fulfilled. The freezer must be disassembled to activate the 5-minute timer on the display screen. Once the timer counts down to zero, the lockout is cleared. (See Figure-188.)

FREEZER LOCKED

Figure-188

To restore the message that identified the reason for the soft lock, turn the power switch OFF for 5 seconds, and then return the power switch to the ON position. The original message with the reason for the soft lock will be displayed. (See Figure-189.)

HEAT TREAT FAILURE
REASON
HEAT FOR HEAT CYCLE
WASH TO BRUSH CLEAN

Figure-189

The Fault Description can also be found in the Manager's Menu. (See page 85.)

Note: *A record of Heat cycle data and lock out history can be found in the Manager's Menu. (See page 78.)*

MANAGER'S MENU

The Manager's Menu is used to enter the operator function displays. To access the menu, press the center of the Cone symbol on the control panel. (See Figure-190.)

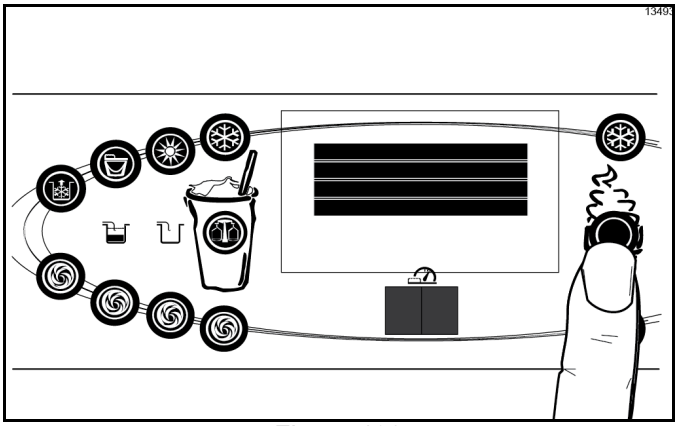


Figure-190

The shake Auto symbol, the optional Flavor symbol, and the Cone symbol will be lit when the ACCESS CODE screen is displayed.

In the Manager's Menu program, the shake side Auto symbol , optional Flavor symbol , and Calibrate symbol will function as menu keys.

Auto —increases the value above the cursor and is used to scroll upward in text displays.

Optional Flavor -—decreases the value above the cursor and is used to scroll downward in text displays.

Calibrate —advances the cursor position to the right and is used to select menu options.

Note: *You will not be able to dispense shakes while accessing the Manager's Menu options except when the CURRENT CONDITIONS screen is displayed.*

The soft serve side will continue operation in the mode it was in when the Manager's Menu was selected. However, the soft serve side control keys will not be lit and are non-functional when the Manager's Menu or Calibration Menu is displayed.

The control keys for both sides are functional in the Manager's Menu when the CURRENT CONDITIONS screen is displayed. (See Current Conditions on page 79.)

Entering Access Code

With the ACCESS CODE screen on the display use the Auto or optional Flavor symbols to set the first code number in the cursor position. When the correct number is selected, press the Calibrate symbol to move the cursor to the next number position. (See Figure-191.)

The access code for the Manager's Menu is 8309.

ENTER ACCESS CODE
8 3 0 9
–

Figure-191

Continue to enter the proper access code numbers until all four numbers are displayed. Then press the Calibrate symbol. The Manager's Menu list will display on the screen, provided the correct access code is entered.

If an incorrect number is entered for the access code, the display will exit the Manager's Menu program when the Calibrate symbol is selected. (See Figure-192.)

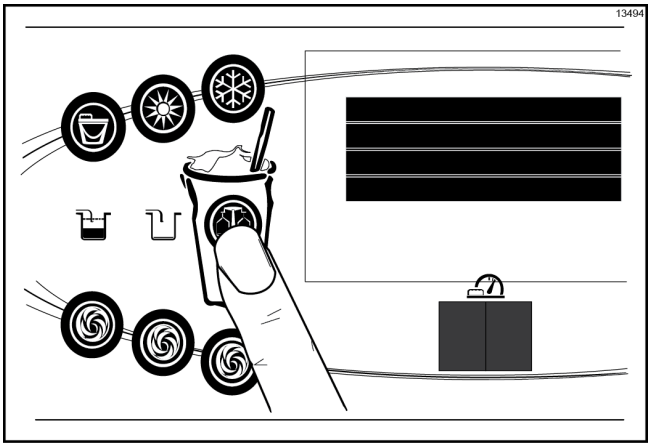


Figure-192

Menu Options

Press the Auto symbol or optional Flavor symbol to move up or down through the Menu. Select a menu option by aligning the option with the arrow on the left side of the screen, then press the Calibrate symbol. Exit the Menu program by selecting EXIT FROM MENU or press the Cone symbol .

The following options are listed in the Manager's Menu:

- EXIT FROM MENU
- SYRUP CALIBRATION
- VERIFY CALIBRATION
- SERVINGS COUNTER
- SET CLOCK
- AUTO HEAT TIME
- AUTO START TIME
- STANDBY MODE
- BRUSH CLEAN CYCLE
- MIX LEVEL AUDIBLE
- FAULT DESCRIPTION
- FAULT HISTORY
- LOCKOUT HISTORY
- HEAT CYCLE SUMMARY
- HEAT CYCLE DATA
- SYSTEM INFORMATION
- CURRENT CONDITIONS
- ENABLE WIFI

The **EXIT FROM MENU** option will exit the Manager's Menu and return the control panel symbols to normal operation.

The **SYRUP CALIBRATION** option allows the manager to access the calibration screen selections from the Manager's Menu. The same functions found in the Calibration menu are displayed on the screen when this menu option is selected. (See “Syrup System” on page 39.)

```
        UNFLAVORED DRAW
        SYRUP CALIBRATION
        SYRUP PRIME
>       EXIT
```

Figure-193

Note: *The UNFLAVORED DRAW option will only appear on the screen when the shake side is in the Auto mode.*

The **VERIFY CALIBRATION** option is used to verify that the amount of syrup dispensed is within the proper specification. (See Figure-194)

```
VERIFY CALIBRATION
Select a flavor

<- Press to clear
```

Figure-194

Remove the syrup valve from the dispensing door. With the line fully primed with syrup, position the syrup valve over the small chamber side of the divided syrup cup. Then select the corresponding flavor selection. Syrup will flow into the cup for 5 seconds (7 seconds for triple thick shake syrup), and then automatically stop flowing. Place the cup on a flat surface and check the amount of syrup dispensed. If the level is not within the correct specification, the flavor will need to be recalibrated. (See “Syrup Calibration” on page 39.)

It is recommended to verify the calibration of each syrup flavor and note any flavors that need to be recalibrated before exiting the Manager's Menu to access the Calibration Menu.

Select the Calibrate symbol to exit the VERIFY CALIBRATION screen and return to the Manager's Menu list.

The **SERVINGS COUNTER** screen is used to check or reset the number of servings dispensed from the machine. (See Figure-195.)

```
        SERVINGS COUNTER
        L = 0       R = 0
        Next
>       Exit
```

Figure-195

Reset the SERVINGS COUNTER by selecting the AUTO symbol to move the arrow to Next. The Reset Counters and Details selections will be displayed on the next screen. (See Figure-196.)

```
        SERVINGS COUNTER
        Details
>       Reset Counters
        Exit
```

Figure-196

Select the Auto symbol to move the arrow to Reset Counters. Then select the Calibrate symbol. (See Figure-197.)

```
SERVINGS COUNTERS
 Are you sure?
>   Yes
    No
```

Figure-197

The display will ask, Are you sure? To reset the counters, select the Auto symbol to move the arrow to Yes. Select the Calibrate symbol to clear the left and right counters and return to the SERVINGS COUNTER screen. If you do not want to clear the serving counter, move the arrow to No and select the Calibrate symbol to return to the SERVINGS COUNTER screen without resetting the counters to zero.

Note: *The Servings Counter will automatically reset to zero when the machine is brush-cleaned. (See Figure-198.)*

```
        SERVINGS COUNTER
        L = 0       R = 0
        Next
>       Exit
```

Figure-198

Access the Details screen by selecting Next in the SERVINGS COUNTER screen. Move the arrow to Details, and then select the Calibrate symbol. (See Figure-199.)

```
SERVINGS COUNTER
>   Details
    Reset Counters
    Exit
```

Figure-199

The Counter menu will also display details for the number of servings for each flavor (chocolate, strawberry, vanilla, option, unflavored, and soft serve) and count the method that ended the draw for each flavor (pyroelectric sensor detection, manually selecting a flavor key, draw safety timeout, and other). (See Figure-200.)

Example:

```
          CHOCOLATE
          Pyro = 0    Oper = 0
          Time = 0    Other = 0
>         Next
```

Figure-200

Pyro = Pyroelectric sensor detected and triggered the end of the draw.

Time = The Draw Safety Time setting was reached before the pyroelectric sensor detection or before a flavor key was selected.

Oper = A flavor key was selected to terminate the draw.

Other = Any draw termination that is not Pyro, Time, or Oper (example: power switch turned off while product is dispensing).

The **SET CLOCK** option allows the manager to adjust the control clock date and time. The date and time may only be changed after the freezer has been manually cleaned but before it has been placed in the Auto or Standby mode. The following message will be displayed if the SET CLOCK option is selected when the machine is not in a brush-clean state (see Figure-201):

```
SET CLOCK
08:00       04/02/2012
NO CHANGES ALLOWED
>   Press Any Key
```

Figure-201

To change the date or time, select the SET CLOCK option in the menu. Press the Auto symbol ❄ to advance the arrow from Exit to Change. Press the Calibrate symbol ⚖ to select the Change option. (See Figure-202.)

```
SET CLOCK
08:00       04/02/2012
      Change
>     Exit
```

Figure-202

Change the time by pressing the Auto ❄ or optional Flavor symbol 🌀 with the cursor under the hour position. Move the cursor to the minutes by selecting the Calibrate symbol ⚖. Once the correct minutes are entered, select the Calibrate symbol ⚖ to advance the cursor to the month. (See Figure-203.)

```
SET CLOCK
08:00       04/02/2012

_ _
> Exit
```

Figure-203

Enter the correct month, day, and year. Then select the Calibrate symbol ⚖ to advance to the DAYLIGHT SAVING TIME screen. (See Figure-204.)

```
DAYLIGHT SAVING TIME
        ENABLED
>     Enable
      Disable
```

Figure-204

To disable the Daylight Saving Time feature, select the Auto symbol ❄ to move the arrow to Disable. Press the Calibrate symbol ⚖ to save the selection.

To enable the Daylight Saving Time feature, select the Auto symbol ❄ to move the arrow to Enable. Press the Calibrate symbol ⚖ to save the selection.

The Daylight Saving Time feature, when enabled, will automatically adjust the control clock for daylight saving time. Change the month and week for daylight saving time by selecting the Auto symbol ❄ to advance the arrow from Exit to Change. Press the Calibrate symbol ⚖ to select the Change option and move to the next screen. (See Figure-205.)

```
MAR SECOND SUNDAY
NOV FIRST SUNDAY
      Change
>     Exit
```

Figure-205

Use the arrow keys to scroll to the appropriate month.

Press the Calibrate symbol to accept the selection. (See Figure-206.)

```
DST START MONTH
  JAN
  FEB
> MAR
```

Figure-206

Once the appropriate month has been entered, scroll to the appropriate week. Press the Calibrate symbol to accept the selection. (See Figure-207.)

```
DST START WEEK
  FIRST SUNDAY
> SECOND SUNDAY
  THIRD SUNDAY
```

Figure-207

Note: *Scroll down to see selections FOURTH SUNDAY and LAST SUNDAY.*

Select the month that daylight saving time will end. Press the Calibrate symbol to accept the selection. (See Figure-208.)

```
DST END MONTH
> NOV
  DEC
  JAN
```

Figure-208

Select the appropriate week that daylight saving time will end. Press the Calibrate symbol to accept the selection. (See Figure-209.)

```
DST END WEEK
>  FIRST SUNDAY
   SECOND SUNDAY
   THIRD SUNDAY
```

Figure-209

Select the Calibrate symbol to exit the screen and return to the Menu.

The **AUTO HEAT TIME** screen allows the manager to set the time of day in which the Heat Treatment cycle will start. (See Figure-210.)

```
AUTO HEAT TIME
     0 0 : 0 0
   Change
>  Exit
```

Figure-210

Note: *Do not advance the AUTO HEAT TIME setting except on the day the machine is brush-cleaned. Increasing the time between Heat cycles will cause the machine to soft lock if the start of the cycle does not begin within 24 hours from the start of the previous Heat Treatment cycle.*

To set the AUTO HEAT TIME, select the Auto symbol to move the arrow to Change. Then select the Calibrate symbol. The screen will display the time with the cursor under the hour position. (See Figure-211.)

```
AUTO HEAT TIME
     0 0 : 0 0

     _ _
```

Figure-211

Select the Auto symbol or the optional Flavor symbol to increase or decrease the hour to the desired setting. Then move the cursor to the minutes position by selecting the Calibrate symbol. Adjust the setting for minutes, then select the Calibrate symbol to save the setting and return to the AUTO HEAT TIME screen.

Select the Calibrate symbol to exit the screen and return to the Manager's Menu.

The **AUTO START TIME** option allows the manager to set the time of day at which the machine automatically enters the Auto mode from the Standby mode. The machine must be in the Standby mode without a freezer lock condition in order to Auto start at the programmable time. The AUTO START TIME can also be disabled to require starting the Auto mode manually. (See Figure-212.)

```
AUTO START TIME
    DISABLED
    Enable
>   Disable
```

Figure-212

Enable AUTO START TIME by selecting the Auto symbol to move the arrow up to Enable. Select the Calibrate symbol to advance to the next screen. (See Figure-213)

```
AUTO START TIME
     0 0 : 0 0
   Change
>  Exit
```

Figure-213

Program the AUTO START TIME by selecting the Auto symbol ❄ to move the arrow to Change. Select the Calibrate symbol ⚖ to advance to the next screen. (See Figure-214.)

```
AUTO START TIME
     0 0 : 0 0
     – –
```

Figure-214

Program the AUTO START TIME by increasing (Auto symbol ❄) or decreasing (optional Flavor symbol 🌀) the hour setting above the cursor. Select the Calibrate symbol ⚖ to advance the cursor and program the minutes setting.

Select the Calibrate symbol ⚖ to return to the previous screen with the new time setting displayed. Select the Calibrate symbol ⚖ to exit the screen and return to the Manager's Menu.

STANDBY MODE is used only on models which have the control panel Standby keys disabled.

The STANDBY MODE option is used to manually place the left or right side in the Standby mode during long, no draw periods. Select the STANDBY screen from the Manager's Menu. Select the Auto symbol ❄ to move the arrow up to the left (shake) or right (soft serve) side.

Select the Calibrate symbol ⚖ to activate Standby for the selected side.

Repeat the steps to activate Standby on the remaining side. (See Figure-215)

```
STANDBY MODE
    LEFT
    RIGHT
>   Exit
```

Figure-215

Discontinue Standby operation for either side by exiting the Manager's Menu and selecting the Auto mode.

The **BRUSH CLEAN CYCLE** option allows the manager to select the maximum number of days between brush-cleaning the machine. The brush-clean cycle may only be changed after the freezer has been manually cleaned but before it has been placed in the Auto or Standby mode.

The following message will be displayed if the BRUSH CLEAN CYCLE option is selected when the machine is not in a brush-clean state. (See Figure-216)

```
BRUSH CLEAN CYCLE
TIME   14  DAYS
NO CHANGES ALLOWED
    Press Any Key
```

Figure-216

Change the number of days between brush-clean intervals by selecting the Auto symbol ❄ to decrease the days, or the optional Flavor symbol 🌀 to increase the number of days. Select the Calibrate symbol ⚖ to save the setting and return to the Manager's Menu. The number of days displayed on the BRUSH CLEAN COUNTER will change to the new setting. (See Figure-217)

```
BRUSH CLEAN CYCLE
TIME   14  DAYS
```

Figure-217

Always comply with local guidelines on the number of days allowed between brush-clean cycles.

The **MIX LEVEL AUDIBLE** option, when enabled, will alert the operator with an audible tone when there is a Mix Low or Mix Out condition. The following screen is displayed upon selecting this option (see page 83):

```
MIX LEVEL AUDIBLE
    ENABLED
>   Enable
    Disable
```

Figure-218

Disable the audible tone feature by selecting the Auto symbol ❄ to move the arrow to Disable. Select the Calibrate symbol ⚖ to save the new setting and return to the Manager's Menu. The control panel icons for Mix Low and Mix Out will light as the mix level drops in the hopper, but the audible tone will be disabled.

The **FAULT DESCRIPTION** display will indicate a fault with the freezer and the side of freezer where the fault occurred. When no faults are detected, the following screen will be displayed (see Figure-219):

```
FAULT DESCRIPTION
NO FAULT FOUND
```

Figure-219

Select the Calibrate symbol to display the next fault found, or return to the Manager's Menu if no other faults exist. Selecting the Calibrate symbol anytime faults are displayed will clear the faults, if corrected, upon returning to the Manager's Menu screen.

Listed below are the various messages which will appear, along with an explanation for the corrective action:

NO FAULT FOUND—There was no fault found in the freezer. Nothing will appear on the screen after this variable message appears.

BEATER OVERLOAD—Press the beater reset button firmly for the side of the freezer with the fault. (See page 1-31.)

HPCO COMPRESSOR—Place the power switch in the OFF position. Wait 5 minutes for the machine to cool. Place the power switch in the ON position and restart each side in Auto.

HOPPER THERMISTOR BAD—Place the power switch in the OFF position. Call your service technician.

HOPPER OVER TEMP—Place the power switch in the ON position and verify that the Auto or Standby symbol is illuminated.

BARREL OVER TEMP—Place the power switch in the ON position and verify that the Auto or Standby symbol is illuminated.

BARREL THERMISTOR BAD—Place the power switch in the OFF position. Call your service technician.

GLYCOL THERMISTOR BAD—Place the power switch in the OFF position. Call your service technician.

PRODUCT DOOR OFF—Place the power switch in the OFF position. Check for proper installation of the dispensing door and that the handscrews are secured.

COMP ON TOO LONG—Compressor ran more than 11 consecutive minutes without the product reaching set point temperature. Clean the condenser filter, replace the scraper blades, and reprime the machine using **fresh** mix. If the fault appears again, call your service technician.

The **LOCKOUT HISTORY** screen displays a history of the last 100 soft locks, hard locks, brush-clean dates, or aborted Heat cycles. Page numbers are indicated in the upper right-hand corner. Page 1 always contains the most recent failure. (See Figure-220)

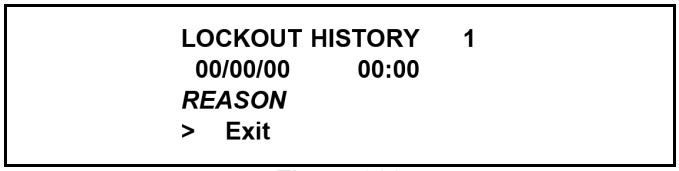


Figure-220

The second line of the screen displays the date and time a failure occurs. The third line indicates the reason for a failure, or if a successful brush-cleaning has occurred. Some failures occur for multiple reasons. When this occurs, a page will be generated for each reason.

Select the Auto symbol or optional Flavor symbol to move forward or backward to view each screen.

Listed below are the various messages that may appear:

Faults Occurring Entering a Heat Treatment Cycle:

POWER SWITCH OFF—The power switch is in the OFF position.

AUTO OR STBY OFF—The control was not in Auto or Standby.

MIX OUT FAILURE—A Mix Out condition was present.

NO HEAT CYCLE TRIED—The Auto Heat Time was set to attempt a Heat cycle more than 24 hours after the last successful Heat cycle.

Faults Occurring While in Heat Mode:

HEAT MODE FAILURE—The maximum allowable Heat mode time exceeded 90 minutes.

COOL MODE FAILURE—The maximum allowable Cool mode time exceeded 120 minutes.

HOLD PHASE RESTART—The temperature fell below 150°F (65.6°C).

TOTAL TIME FAILURE—The maximum allowable total Heat Treatment time exceeded 6 hours.

BRUSH CLEAN TIMEOUT—The total days in operation exceeded the Brush-Clean cycle setting.

POWER SWITCH OFF—The power switch was turned OFF during the Heat cycle.

POWER FAIL IN H/C—A power failure occurred during the Heat Treatment cycle.

(L/R) MIX LOW FAILURE—The mix level in the (left/right) hopper is too low for a successful Heat cycle.

(L/R) BEATER OVLD H/C—The overload tripped for the (left/right) side beater motor.

(L/R) BRL THERM FAIL—The thermistor sensor for the (left/right) side barrel failed.

(L/R) HOPPER THERM FAIL—The thermistor sensor for the (left/right) side hopper failed.

(L/R) HPCO H/C—The (left/right) side high-pressure switch opened during the Heat Treatment cycle.

Faults Occurring While in Auto Mode:

(L/R) HPR>41F (5C) AFTER 4 HR—The mix temperature in the left or right hopper was above 41°F (5°C) more than 4 hours.

(L/R) BRL>41F (5C) AFTER 4 HR—The mix temperature in the left or right barrel was above 41°F (5°C) more than 4 hours.

(L/R) HPR>45F (7C) AFTER 1 HR—The mix temperature in the left or right hopper was above 45°F (7°C) more than 1 hour.

(L/R) BRL>45F (7C) AFTER 1 HR—The mix temperature in the left or right barrel was above 45°F (7°C) more than 1 hour.

(L/R) HPR>41F (5C) AFTER PF—The mix temperature in the left or right hopper was above 41°F (5°C) more than 4 hours following a power failure.

(L/R) BRL>41°F (5°C) AFTER PF—The mix temperature in the left or right barrel was above 41°F (5°C) more than 4 hours following a power failure.

(L/R) HPR>59°F (15°C)—The mix temperature in the left or right hopper exceeded 59°F (15°C).

(L/R) BRL>59°F (15°C)—The mix temperature in the left or right barrel exceeded 59°F (15°C).

(L/R) TOO COLD—The mix temperature in the freezing cylinder (barrel) has dropped below 10°F (-12°C).

The **FAULT HISTORY** screen will display up to 100 faults that have occurred. The most recent fault is displayed on screen 1. The date, time, and fault description is displayed on each screen. (See Figure-221)

FAULT HISTORY 1
04/23/12 08:00
FAULT DESCRIPTION
> Exit

Figure-221

Advance to the next most recent occurring fault by selecting the Auto symbol ❄. Scroll the screens in the opposite direction by selecting the optional Flavor symbol . Exit the FAULT HISTORY screen and return to the Manager's Menu by selecting the Calibrate symbol .

Fault Descriptions

(L/R) Comp On Too Long—The left or right main compressor has run for more than 11 consecutive minutes without dispensing product.

(L/R) Product Door Off—The left or right freezer door is not completely installed or the safety interlock circuit has opened.

(L/R) Hopper Therm Bad—The left or right hopper thermistor probe is shorted or open.

(L/R) Hopper Over Temp—The left or right hopper thermistor probe is reading over 200°F (93°C).

(L/R) Barrel Over Temp—The left or right barrel thermistor probe is reading over 200°F (93°C).

(L/R) Beater Overload—The left or right reset mechanism has tripped.

(L/R) HPCO Compressor—The left or right high-pressure switch contacts have opened.

(L/R) Glycol Therm Bad—The left or right glycol thermistor probe is reading over 200°F (93°C).

The **HEAT CYCLE SUMMARY** screen displays the hours since the last Heat cycle, the hours since the product temperature was above 150°F (65.6°C), and the number of Heat cycles completed since the last brush-clean date. (See Figure-222)

HEAT CYCLE SUMMARY
HRS SINCE HC 0
HRS SINCE 150.0 0
HC SINCE BC 0

Figure-222

The **HEAT CYCLE DATA** screen contains a record of up to 366 Heat Treatment cycles. The most recent Heat cycle data will be shown first. The Standard records have each Heat cycle recorded in three screens. Select the Auto symbol ❄ to move the arrow to Standard records and select the Calibrate symbol . (See Figure-223)

HEAT TREAT CYCLE
> Standard records
Details
Exit

Figure-223

The first screen displays the month and day of the Heat cycle, the start time and end time, and the fault description. The bottom line displays the record number and indicates if a power failure occurred during the Heat cycle (POWER FAILURE IN HC). (See Figure-224)

```
HEAT TREAT CYCLE
01/01   02:00  05:14
NO FAULT FOUND
                    1
```

Figure-224

Select the Auto symbol ❄ to advance forward through the data pages. Select the optional Flavor symbol to reverse the page direction.

Hopper and barrel temperature records for each side of the freezer are displayed in the second and third screens. The second screen shows the left side (L) side of the freezer. (See Figure-225) The third screen shows the right side (R) of the freezer. (See Figure-226).

The top line of these screens shows the hopper (H) and barrel (B) temperatures recorded at the end of the Heat Treat cycle and indicates the side (L or R) of the freezer.

The remaining lines indicate the following:

HEAT = Total time for the hopper (h) and barrel (b) to reach 150.9°F (66.1°C).

OVER = Total time the hopper (h) and barrel (b) temperature was above 150°F (65.6°C).

COOL = Total time the hopper (h) and barrel (b) temperature was above 41°F (5°C) during the Cool phase.

PEAK = Highest temperature reading for the hopper (h) and barrel (b) during the Heat Treatment cycle.

```
H: 40.9      B:26.3          L
HEAT OVER    COOL  PEAK
1:12  0:49   h 1:19   161.0
0:46  1.11   b 0:15   169.7
```

Figure-225

```
H: 38.0      B:23.7          R
HEAT OVER    COOL  PEAK
1:09  0:52   h 1:11   161.2
0:66  1.00   b 0:15   169.9
```

Figure-226

The Heat time indicates the amount of time taken in each zone to reach 150.9°F (66.1°C). Each zone must remain above 150°F (65.6°C) for a minimum of 35 minutes. In addition, each zone must be heated for a minimum of 115 minutes.

Select the Auto symbol ❄ to advance to the next page, or the optional Flavor symbol to view the previous page.

A Heat cycle failure message will display on the first screen if a failure occurred.

Listed below are variable failure code messages which could appear on line 2:

HT **HEAT TIME FAILURE**
Mix temperature did not rise above 151°F (66.1°C) in less than 90 minutes.

CL **COOL MODE FAILURE**
Mix temperature in the hopper and freezing cylinder did not fall below 41°F (5°C) in less than 120 minutes.

TT **TOTAL TIME FAILURE**
The Heat Treatment cycle must be completed in no more than 6 hours.

MO **MIX OUT FAILURE**
A Mix Out condition was detected at the start or during the Heat cycle.

ML **MIX LOW FAILURE**
The Heat phase or Cool phase time was exceeded and a Mix Low condition was present.

BO **BEATER OLVD IN HC**
A beater overload occurred during the Heat cycle.

HO **HPCO IN HEAT CYCLE**
A high-pressure cut-out condition occurred during the Heat cycle.

PF **POWER FAILURE IN HC**
A power failure caused the Heat phase, Cool phase, or Total Cycle Time to exceed the maximum allowed time. If a power failure occurs but the Heat Treatment cycle does not fail, an asterisk(*) will appear on the third line of the display.

PS **POWER SWITCH OFF**
The power switch was placed into the OFF position during the Heat cycle.

TH **THERMISTOR FAILURE**
A thermistor probe has failed.

OP **OPERATOR INTERRUPT**
Indicates the Heat cycle was aborted by the OPERATOR INTERRUPT option in the Service Menu.

PD **PRODUCT DOOR OFF**
A product door is not in place or is loose.

The HEAT CYCLE DATA Details record the temperature in the freezing cylinders and mix hoppers every 5 minutes during the Heat Treatment cycle. Up to 366 Heat Treatment cycles are recorded. The time and temperature are displayed for the left hopper, left barrel, right hopper, and right barrel for each phase during the Heat Treatment cycle. An individual phase or a complete Heat Treatment cycle containing all four phases can be viewed.

Heat Treatment Phases

HEAT	The phase that heats the mix in the barrels and hoppers to 151°F (66.1°C).
HOLD	The phase that maintains the mix temperature above 151°F (66.1°C) for a minimum of 30 consecutive minutes.
SOAK	The additional heating time that may follow the Hold phase to ensure the total Heat, Hold, and Soak time is not less than 115 minutes.
COOL	The phase that refrigerates the mix until all four temperature zones are cooled below 41°F (5°C).

In the HEAT CYCLE DATA screen, select the Auto symbol ❄ to move the arrow up to Details, and then select the Calibrate symbol ⚖. (See Figure-227.)

HEAT CYCLE DATA
Standard records
> Details
Exit

Figure-227

The most recent Heat Treat Cycle record (Recd 1) is displayed with the date and time. Access a different Heat Treatment cycle record by selecting the optional Flavor symbol ◎ to move the arrow to Next record, and select the Calibrate symbol ⚖. Repeat this step until the desired record with the date and time is displayed. (See Figure-228.)

Recd 1 03/26 00:00
> Display record
Next record
Exit

Figure-228

With the arrow on the **Display record** line, select the Calibrate symbol ⚖. (See Figure-229.)

HEAT TREAT CYCLE
> HEAT phase temps
HOLD phase temps
SOAK phase temps

Figure-229

Select the optional Flavor symbol ◎ to scroll down to the phase to be reviewed. Selecting **ALL phase temps** will display all four phases of the Heat Treat Cycle record in sequential order. (See Figure-230.)

HEAT TREAT CYCLE
SOAK phase temps
COOL phase temps
> ALL phase temps

Figure-230

The four temperature readings are recorded at the same time on individual screens. Align the arrow with the phase to be reviewed and select the Calibrate symbol ⚖. (See Figure-231 and Figure-232.)

HEAT TREAT CYCLE
> HEAT phase temps
HOLD phase temps
SOAK phase temps

Figure-231

HEAT LH r 1 s 1
40.0 03/26 02:05
> Next zone
Exit

Figure-232

Line 1	Displays the Phase	HEAT / HOLD / SOAK / COOL
	LH	Left Hopper
	r 1	Record Number
	s 1	Sample Number
Line 2	Zone Temperature	
	Date and Time Temperature was recorded	

Note: *An L or an H displayed to the left of the temperature reading indicates the temperature was the lowest or highest recorded during the phase.*

Selecting the Calibrate symbol will advance the screen to the next zone. The second temperature zone displayed is the left barrel (LB). (See Figure-233.)

```
HEAT LB    r 1    s 1
     25.4     03/26       02:05
>    Next zone
     Exit
```

Figure-233

Select the Calibrate symbol to advance to the next temperature zone, the right hopper (RH).
(See Figure-234.)

```
HEAT RH    r 1    s 1
     39.5     03/26       02:05
>    Next zone
     Exit
```

Figure-234

Select the Calibrate symbol to advance to the last temperature zone in the recorded sample, the right barrel (RB). (See Figure-235.)

```
HEAT RB    r 1    s 1
     26.5     03/26       02:05
>    Next sample
     Exit
```

Figure-235

Select the Calibrate symbol again to advance to the next sample. Each sample is displayed in 5-minute increments. (See Figure-236.)

```
HEAT LH    r 1    s 2
     46.4     03/26       02:10
>    Next zone
     Exit
```

Figure-236

When the final sample in the phase is displayed, the Heat cycle results screen can be selected. (See Figure-237.)

```
     HEAT RB    r 1   s 14
     H   169.0   03/26
>    Result
     Exit
```

Figure-237

If the **Cool phase temps** or **All phase temps** were reviewed, the final temperature zone sample in the record will be displayed with the selection for the result screen. (See Figure-238.)

```
COOL RB    r 14        s 42
     20.0     03/26       05:15
>    Result
     Exit
```

Figure-238

Select the Calibrate symbol to view the Heat cycle results screen. (See Figure-239.)

```
     PASS       r 1        s43
     Heat Cycle results
>    Next record
     Exit
```

Figure-239

To view the details for the same phase in the preceding record (**Next record**), select the Calibrate symbol. If **All phase temps** was selected, the record number will remain the same and the next phase sample will be displayed. (See Figure-240.)

```
     HOLD  LH r 1     s 16
     158.7   03/26       03:15
>    Next zone
     Exit
```

Figure-240

Exit the record screens by moving the arrow to Exit and select the Calibrate symbol.

The average Heat Treatment cycle will contain approximately 40 samples of the four temperature zone screens.

The **System Information** is displayed on four separate screens. The first screen contains the control and software version installed in the machine.
(See Figure-241.)

```
     SOFTWARE VERSION
     C602 / C606 UVC
     VERSION V2.01.XXX
>    Next
```

Figure-241

Select the Calibrate symbol to advance to the next system information screen containing the software language version. (See Figure-242.)

```
     LANGUAGE
     V3.00
     English
>    Next
```

Figure-242

For UVC4 models only, select the Calibrate symbol to advance to the third system information screen containing the Boot loader version. (See Figure-243.)

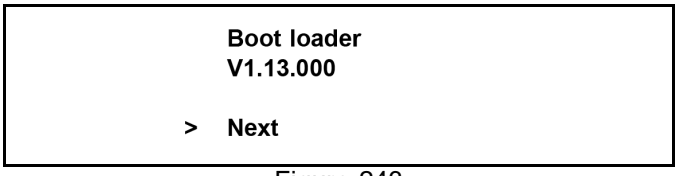


Figure-243

Select the Calibrate symbol to advance to the last system information screen containing the model bill of material and machine serial number. (See Figure-244.)

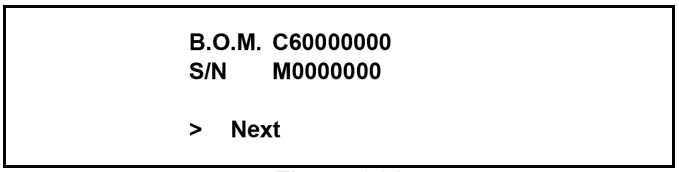


Figure-244

Selecting the Calibrate symbol again will return to the Menu list.

Note: *In order to display the machine details in the system information screen, the model and serial number information must have been previously entered into the EDIT UNIT ID screens in the Service Menu.*

The **CURRENT CONDITIONS** screen provides the product viscosity readings and the hopper and barrel temperatures. The left column displays the readings for the shake side, and the right column displays the readings for the soft serve side. (See Figure-245.)

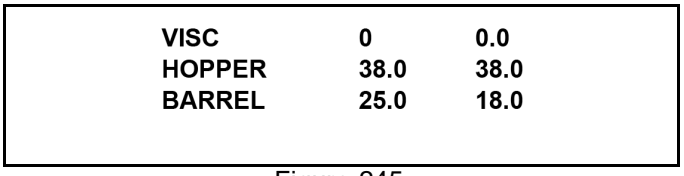


Figure-245

The CURRENT CONDITIONS screen is the only menu screen that will return the left and right side control panel keys to normal operation. The menu keys will not be lit when this option is selected, so shakes can be dispensed and all panel touch keys are fully functional. Use this screen when you wish to remain in the Manager's Menu and dispense a shake.

Exit the CURRENT CONDITIONS screen and return to the Manager's Menu by selecting the Calibrate symbol.

The **ENABLE WIFI** screen provides the ability to enable/disable the WIFI gateway (if the machine has the optional WIFI equipment installed).

Press the Up or Down key to move the arrow to the appropriate selection.

Pressing the SEL key with the arrow by the appropriate selection will select that setting and return to the Manager’s Menu.

Once enabled, the gateway will start broadcasting it's Access Point. This will remain broadcasting until the machine is paired with an internet connection or after a 10-minute timeout.

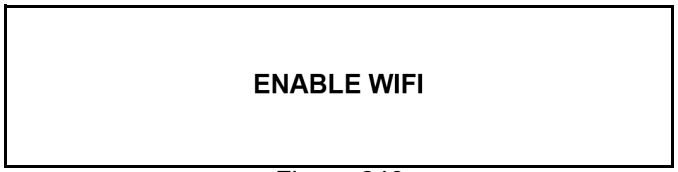


Figure-246

For Machines Equipped with Taylor's Remote Monitoring System

FCC/IC ID Label Placement:

- This hardware installation package includes a label that must be placed on the machine immediately after the installation of the hardware device has been completed.
- The label indicates the FCC ID and Industry Canada ID for the wireless communication device. The label must be placed on the outside surface of the machine, in a manner that is visible and unobstructed.
- It is recommended that this label be placed directly adjacent to the product nameplate of this device.

FCC Compliance Statement:

- This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules.
- These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.
- This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.
- Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Industry Canada Statement:

- This device complies with Industry Canada license-exempt RSS standard(s).
- Operation is subject to the following two conditions:
  a. This device may not cause interference.
  b. This device must accept any interference, including interference that may cause undesired operation of this device.

Dispensing Shake Without Syrup

Beginning with software version 1.04, shakes can be dispensed without flavoring by selecting the left-side Mix Pump symbol . (See Figure-247.)

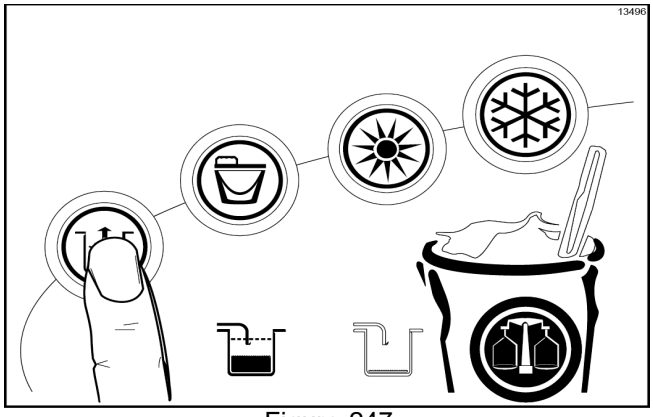


Figure-247

The following screen will display. (See Figure-248.)

```
      UNFLAVORED DRAW
>     YES
      NO
```

Figure-248

Select the Calibrate symbol . The left-side Mix Pump symbol illuminates and unflavored product immediately starts to dispense. The unflavored draw ends and the Mix Pump light extinguishes when the pyroelectric sensor detects the cup is full. The unflavored draw can also be terminated by selecting the Mix Pump symbol a second time.

Note: *To cancel the UNFLAVORED DRAW screen, press the optional Flavor symbol to move the arrow to NO and select the Calibrate symbol .*

TROUBLESHOOTING GUIDE

Problem	Shake Side Probable Cause	Soft Serve Side Probable Cause.	Either Side Probable Cause	Corrective Action
Soft lock message appears on display.			a. A machine fault has occurred.	a. Determine the reason the failure occurred. Correct the cause for failure, then select the Heat symbol to start a Heat cycle, or Wash to disassemble and brush-clean the machine.
			b. More than 24 hours since the last Heat cycle.	b. The freezer must go through a Heat cycle every 24 hours. The freezer must now be disassembled and brush-cleaned or placed in a Heat cycle.
			c. The power switch is in the OFF position.	c. The power switch must be in the ON position. The freezer must now be disassembled and brush-cleaned or placed in a Heat cycle.
			d. The freezer is not in the Auto or Standby mode when the Heat cycle was programmed to start.	d. The freezer must be in the Auto or Standby mode. The freezer must now be disassembled and brush-cleaned or placed in a Heat cycle.
			e. Mix out condition.	e. The level of mix in the mix hopper must be up to the fill level indicator on the agitator paddle. The freezer must now be disassembled and brush-cleaned or placed in a Heat cycle.
			f. The agitator is not installed.	f. The agitator must be cleaned and installed before starting the Heat cycle. The freezer must now be disassembled and brush-cleaned or placed in a Heat cycle.
Hard lock message appears on display.			a. Brush-clean interval exceeded.	a. The freezer must be disassembled and brush-cleaned within 24 hours when the counter indicates 1 day remaining.
			b. A barrel or hopper thermistor is faulty.	b. Call a service technician.

Problem	Shake Side Probable Cause	Soft Serve Side Probable Cause.	Either Side Probable Cause	Corrective Action
No product is being dispensed.			a. Low on mix, the Mix Out light is on.	a. Add mix to the mix hopper. Return to Auto mode.
			b. The power switch is in the OFF position.	b. Place the power switch to the ON position and select Auto mode.
			c. Machine not in Auto mode.	c. Select Auto and allow the machine to cycle off before drawing product.
			d. The pump motor is not running in Auto mode.	d. Push the pump reset button. Check pump motor is operating when the draw valve is raised.
			e. The feed tube or the check ring are not properly installed.	e. Make sure the feed tube and the rubber check ring are properly installed.
	f. Menu is displayed making flavor select keys inoperative.			f. Exit the menu to restore control keys to normal function.
	g. Draw valve not opening.			g. Draw valve not aligned with actuator bracket when freezer door installed. Reassemble with correct alignment.
			h. Freeze-up in mix inlet hole.	h. Call a service technician.
			i. The mix pump ball crank is broken.	i. Call a service technician.
			j. Beater motor is out on reset, BEATER OVERLOAD message displayed.	j. Call a service technician.

Problem	Shake Side Probable Cause	Soft Serve Side Probable Cause.	Either Side Probable Cause	Corrective Action
The product is too soft.	a. Too much syrup. Non-TTS: 1 fl. oz. (30 ml) in 5 seconds. For triple thick shake syrup: 1 oz. (30 ml) ±1/8 oz. (4 ml) in 7 seconds.			a. Calibrate the syrups.
		b. Draw rate is set too fast.		b. Adjust draw rate of 5 oz. to 7-1/2 oz. (142 g to 213 g) of product by weight in 10 seconds.
			c. Outdrawing capacity of the freezing cylinder.	c. Allow the machine to recover and cycle off before drawing more product.
			d. Air passage blocked in pump.	d. Brush-clean pump components and reassemble.
			e. Inadequate airspace.	e. Minimum of 3 in. (76 mm) airspace on all sides, with the deflector installed to prevent recirculation of warm air.
			f. Dirty condenser or air filters on air-cooled machines.	f. Check/replace filters regularly.
			g. Inadequate water supply on water-cooled machines.	g. Check the water supply. Check the water lines for leaks or kinks.
			h. Worn or damaged scraper blades.	h. Replace the scraper blades.
			i. The viscosity control is set too warm.	i. Call a service technician.

Problem	Shake Side Probable Cause	Soft Serve Side Probable Cause.	Either Side Probable Cause	Corrective Action
The product is too thick.	a. Not enough syrup. Non-TTS: 1 fl. oz. (30 ml) in 5 seconds. For triple thick shake syrup: 1 oz. (30 ml) ± 1/8 oz. (4 ml) in 7 seconds.			a. Calibrate the syrups. Check that the syrup containers are not empty.
			b. Freezing cylinder not primed correctly.	b. Drain the freezing cylinder and reprime the machine.
			c. Air/mix pump incorrectly assembled.	c. Follow assembly procedures carefully.
			d. The viscosity control is set too cold.	d. Call a service technician.
			e. Freeze-up in mix inlet hole.	e. Call a service technician.
The mix in the hopper is too warm.			a. The Hopper cover is not in position.	a. Clean and sanitize hopper cover and place in position.
			b. The agitator is not installed.	b. Clean and sanitize the agitator and install.
			c. The hopper temperature is out of adjustment.	c. Call a service technician.
The mix in the hopper is too cold.			a. The hopper temperature is out of adjustment.	a. Call a service technician.
Mix Low and Mix Out probes are not functioning.			a. Milkstone buildup in the hopper.	a. Clean hoppers thoroughly.
Product is collecting on top of the freezer door.			a. The top O-ring on the draw valve is improperly lubricated or worn.	a. Lubricate properly or replace the O-ring.

Problem	Shake Side Probable Cause	Soft Serve Side Probable Cause.	Either Side Probable Cause	Corrective Action
Excessive mix leakage from the bottom of door spout.			a. Bottom O-ring on the draw valve is improperly lubricated or worn.	a. Lubricate properly or replace the O-ring.
Excessive mix leakage into the long drip pan.			a. The seal on the driveshaft is improperly lubricated or worn. b. The seal is installed inside-out on the driveshaft. c. Inadequate lubrication of the driveshaft. d. The driveshaft and beater assembly work forward. e. Worn rear shell bearing. f. Gearbox out of alignment.	b. Lubricate properly or replace the seal. c. Install correctly. d. Lubricate properly. e. Call a service technician. f. Call a service technician. g. Call a service technician.
The driveshaft is stuck in the drive coupling.			a. Mix and lubricant collected in drive coupling. b. Rounded corners of the driveshaft, drive coupling, or both. c. Gearbox is out of alignment.	a. Brush-clean the rear shell bearing area regularly. b. Call a service technician. c. Call a service technician.

Problem	Shake Side Probable Cause	Soft Serve Side Probable Cause.	Either Side Probable Cause	Corrective Action
The freezing cylinder walls are scored.	a. Missing or worn front bearing.			a. Install or replace the front bearing.
		b. Missing or worn front bearing and/or beater shoes.		b. Install or replace the front bearing and/or beater shoes.
		c. Damaged scraper blades		c. Replace the scraper blades.
		d. Broken freezer door baffle rod.		d. Replace freezer door.
			e. Sanitizing solution was still in the freezing cylinder when the machine was placed in Auto.	e. Follow correct sanitizing and priming procedures. The machine must **not** be placed in Auto during sanitizing. Place the machine in Auto **only** after it has been primed and all sanitizing solution has been removed.
			f. Broken beater pins.	f. Replace the beater assembly.
			g. Beater assembly is bent.	g. Replace the beater assembly.
			h. Gearbox is out of alignment.	h. Call a service technician.
The product makes a popping sound when drawn.		a. Draw rate is set too fast.		a. Adjust draw rate of 5 oz. to 7-1/2 oz. (142 g to 213 g) of product by weight in 10 seconds.
			b. Pump assembled incorrectly.	b. Assemble and lubricate according to instructions in this manual.
			c. Freezing cylinder not primed correctly.	c. Drain the freezing cylinder and reprime the machine.
No control panel functions with power switch in ON position.			a. Machine is unplugged.	a. Plug into wall receptacle.
			b. Circuit breaker OFF or blown fuse.	b. Turn the breaker on or replace the fuse.

Problem	Shake Side Probable Cause	Soft Serve Side Probable Cause.	Either Side Probable Cause	Corrective Action
Syrup toppings are not hot.		a. Topping heaters are not on. b. No water in topping well. c. Water is not hot enough.		a. Select topping heater symbols. Symbols will be lit when the heaters are on. b. Fill to indicating mark. c. Using a thermometer, check the water temperature in the topping well. It should be 140°F (60°C).
The mix pump will not operate in the Pump mode.			a. Pump motor is not running.	a. Push the pump reset button.
The mix pump runs constantly in the Auto mode.		a. The Draw valve is not fully closed.		a. Raise the draw handle so the draw valve is closed all the way.
Shake product is collecting on top of draw valve.	a. Inadequate lubrication of spinner shaft or seal. b. Spinner shaft seal is missing or worn.			a. Lubricate properly. b. Install or replace the spinner shaft seal.

Problem	Shake Side Probable Cause	Soft Serve Side Probable Cause.	Either Side Probable Cause	Corrective Action
Shake draw valve is not opening.	a. The power switch is OFF. b. The shake side is in the Standby mode. c. A Heat cycle is in progress. d. The menu is displayed, making the flavor select keys inoperative. e. The draw valve wasn't aligned with the actuator bracket when the freezer door was installed. f. The draw valve was not lubricated. g. The shake actuator assembly is out of alignment or is malfunctioning.			a. Place the power switch in the ON position. b. Cancel the Standby mode. c. Wait for the completion of the Heat Treatment cycle. d. Exit the menu to restore the control keys to their normal function. e. Reassemble with the correct alignment. Tighten the handscrews in a crisscross pattern when installing the freezer door. f. Lubricate the draw valve and O-rings. g. Call a service technician.

Problem	Shake Side Probable Cause	Soft Serve Side Probable Cause.	Either Side Probable Cause	Corrective Action
Shake draw valve is not closing.	a. The draw valve was not aligned with the actuator bracket when the freezer door was installed.			a. Re-assemble with the correct alignment. Tighten the handscrews in a crisscross pattern when installing the freezer door.
	b. The draw valve was not lubricated.			b. Lubricate the draw valve and O-rings.
	c. The spinner shaft was not lubricated.			c. Lubricate the spinner shaft.
	d. The product is too thick.			d. Check that the product temperature is within specification. (See problem “Product Too Thick” on page 94.)
	e. The spinner blade became disengaged from the driven spinner when the draw valve was raised.			e. Call a service technician to check the spinner coupling position on the motor.
	f. The shake actuator assembly is out of alignment or is malfunctioning.			f. Call a service technician.

Problem	Shake Side Probable Cause	Soft Serve Side Probable Cause.	Either Side Probable Cause	Corrective Action
Syrup cannot be calibrated or has inconsistent calibration readings.	a. The pump tube has collapsed.			a. Replace the pump tube.
	b. Syrup temperature is too cold.			b. Allow the syrup to warm up before using. **Note:** Never refrigerate the syrup. Keep a replacement container near the shake machine location so the syrup temperature can stabilize before use.
	c. Thick syrup in bottom of container.			c. Shake well before use.
	d. Syrup leak.			d. Inspect the syrup system for leaks.
	e. Syrup lines are not matched with the syrup flavor or are not properly connected.			e. Match the color of the syrup pickup tube and cap with the correct syrup container. Make sure the tube is properly connected.
	f. Plugged syrup line fitting at freezer door connection.			f. Clean the syrup line fitting.
	g. The pickup tube is pinched or kinked.			g. Adjust the line routing so it is not pinched or kinked.
	h. The syrup line is plugged or restricted.			h. Flush and sanitize the syrup lines. Clean the syrup system weekly. Do not attach the short syrup line to the door when the line is not primed with syrup.
	i. Air in syrup line.			i. Follow syrup line priming procedure to remove air from line.
	j. Air intake line to pump will not hold syrup prime.			j. Lubricate the pump tube fitting O-rings. Inspect the intake line for leaks.
Syrup continues to flow after drawing a shake.	a. Air in syrup line.			a. Follow syrup priming procedures.
	b. Duckbill valve is damaged.			b. Remove the syrup nose fitting and clean. Replace the duckbill valve.

Problem	Shake Side Probable Cause	Soft Serve Side Probable Cause.	Either Side Probable Cause	Corrective Action
Spinner shaft will not rotate to blend mix and syrup.	a. Spinner motor is out on thermal overload. b. Pin is missing in quick disconnect of spinner coupling. c. Flexible coupling is broken.			a. Allow the spinner motor to cool. Check lubrication on the spinner shaft. b. Call a service technician. c. Call a service technician.
Finished shake improperly blended; has blotchy/striped appearance.	a. Driven spinner is worn, white spinner not secured in bottom of draw valve. b. Spinner shaft coupling defective or not adjusted to correct height. c. Shake is too cold/ thick. d. Viscosity setting is too high.			a. Replace the spinner. b. Adjust or replace the coupling. c. Recalibrate syrup. d. Call a service technician.

Problem	Shake Side Probable Cause	Soft Serve Side Probable Cause.	Either Side Probable Cause	Corrective Action
Syrup flavor cross-over from previous shake.	a. Draw handle was closed manually. b. Syrup line is restricted, pressure in line. c. Syrup jug is empty, air in line is pushing syrup out of the syrup valve. d. Air in syrup line, syrup line improperly primed. e. Driven spinner is worn, resulting in flavored product remaining in door spout.			a. Allow the sensor to close the draw valve. Do not manually close the draw handle. b. Clean and sanitize the syrup line. c. Install a full syrup jug and prime the syrup line. d. Prime the syrup line. e. Replace the driven spinner.

Problem	Shake Side Probable Cause	Soft Serve Side Probable Cause.	Either Side Probable Cause	Corrective Action
Shake not filling completely to top line in cup.	a. Cup improperly placed in holder, causing fill sensor to activate at lower level in cup.			a. Place the cup in the holder with the lip resting on the clips.
	b. Cup holder clips improperly installed.			b. Properly install the clips in the cup holder.
	c. Fill level adjustment screw is set low.			c. Adjust to a higher position by turning the screw counterclockwise.
	d. Shake is stacking in center of cup.			d. Check the syrup calibration and shake temperature.
	e. Wrong cup was used.			e. Use McCafe Shake cups only.
	f. Sensor shield is damaged.			f. Replace the sensor shield.
	g. Draw valve closes before reaching fill sensor; defective fill sensor.			g. Call a service technician.

Problem	Shake Side Probable Cause	Soft Serve Side Probable Cause.	Either Side Probable Cause	Corrective Action
Shake is filling too high in cup.	a. Sensor shield is obstructed, unable to detect temperature change.			a. Clean the sensor shield.
	b. Cup holder not installed all the way; cup too far away from sensor.			b. Install the cup holder all the way to the panel.
	c. Shake is too cold/ thick, caused by improper syrup calibration.			c. Properly calibrate the syrup.
	d. Shake is too cold/ thick, caused by improper priming.			d. Reprime the freezing cylinder.
	e. Syrup is too cold/ thick, caused by mix pump malfunction.			e. Clean the mix pump. Inspect and replace wear items.
	f. Syrup is too cold/ thick, caused by incorrect viscosity setting.			f. Call a service technician.
	g. Defective fill sensor.			g. Call a service technician.

Problem	Shake Side Probable Cause	Soft Serve Side Probable Cause.	Either Side Probable Cause	Corrective Action
Too much syrup flavoring in shake.	a. Improper syrup calibration caused by using incorrect syrup calibration cup.			a. Use correct calibration cup (Taylor part no. 017203) and use the small chamber of the cup.
	b. Incorrect syrup dispensing rate caused by not calibrating syrup flavor.			b. Calibrate weekly or as needed. Non-TTS syrup calibration is: 1 oz. (30 ml) ± 1/4 oz. (7 ml) in 5 seconds. Triple thick shake syrup calibration is: 1 oz. (30 ml) ± 1/8 oz. (4 ml) in 7 seconds.
	c. Incorrect shake dispensing rate.			c. A 16 oz. triple thick shake should dispense in 7 to 8 seconds. If draw time is longer, inspect the mix pump for blockage or worn seals.

PARTS REPLACEMENT SCHEDULE

Part Description	Every 3 Months	Every 6 Months	Annually	Every 4 Years
Door Assembly-Shake and Soft Serve				X
Scraper Blade-Shake		X		
Scraper Blade-Soft Serve	X			
Driveshaft Seal	X			
Freezer Door O-ring-Shake	X			
Freezer Door Gasket-Soft Serve	X			
Front Bearing	X			
Front Beater Shoes-Soft Serve	X			
Draw Valve O-ring	X			
Spinner Shaft Seal-Shake	X			
Restrictor Cap-Shake	X			
Mix Feed Tube O-ring	X			
Pump O-ring	X			
Pump Valve Gasket	X			
Mix Feed Tube Check Ring	X			
Pump Driveshaft O-ring	X			
Syrup Valve-Duckbill	X			
Topping Pump O-ring	X			
Peristaltic Pump Tubes		Inspect and replace if necessary.	Minimum	
White Bristle Brush, 3” x 7”		Inspect and replace if necessary.	Minimum	
White Bristle Brush, 3” x 1/2”		Inspect and replace if necessary.	Minimum	
White Bristle Brush, 1-1/2” x 3”		Inspect and replace if necessary.	Minimum	
White Bristle Brush, 1” x 2”		Inspect and replace if necessary.	Minimum	
Black Bristle Brush, 1” x 2”		Inspect and replace if necessary.	Minimum	
Double-Ended Brush		Inspect and replace if necessary.	Minimum	
Yellow Bristle Brush		Inspect and replace if necessary.	Minimum	
Brush Set (3)		Inspect and replace if necessary.	Minimum	
Baffle-Threadless Molded		Inspect and replace if necessary.		

LIMITED WARRANTY ON EQUIPMENT

TAYLOR COMPANY LIMITED WARRANTY ON FREEZERS FOR MCDONALD'S

Taylor Company is pleased to provide this limited warranty on new Taylor-branded freezer equipment available from Taylor (the "Product") to the original McDonald's purchaser only.

LIMITED WARRANTY

Taylor warrants the Product against failure due to defect in materials or workmanship under normal use and service as follows. All warranty periods begin on the date of original Product installation. If a part fails due to defect during the applicable warranty period Taylor, through an authorized Taylor distributor or service agency, will provide a new or remanufactured part, at Taylor's option, to replace the failed defective part at no charge for the part.

Product	Part	Limited Warranty Period
C602	Insulated shell assembly	Five (5) years
	Refrigeration compressor (except service valve)	Five (5) years
	Parts not otherwise listed in this table or excluded below	Two (2) years

In addition, during the two (2) year period commencing on the date of original installation of the Product, Taylor will also provide, through an authorized Taylor distributor or service agency, all service needed to replace the failed defective part at no charge for the service. This no-charge service shall not be available for service performed by authorized McDonald's service technicians. Local sales and use taxes may still apply and will be charged accordingly.

Except as otherwise stated herein, these are Taylor's exclusive obligations under this limited warranty for a Product failure. This limited warranty is subject to all provisions, conditions, limitations, and exclusions listed below and on the reverse (if any) of this document.

LIMITED WARRANTY CONDITIONS

1. If the date of original installation of the Product cannot be verified, then the limited warranty period begins ninety (90) days from the date of Product manufacture (as indicated by the Product serial number). Proof of purchase may be required at time of service.
2. This limited warranty is valid only if the Product is installed and all required service work on the Product is performed by an authorized Taylor distributor or service agency, and only if genuine, new Taylor parts are used.
3. Installation, use, care, and maintenance must be normal and in accordance with all instructions contained in the Equipment Manual.
4. Defective parts must be returned to the authorized Taylor distributor or service agency for credit.
5. The use of any refrigerant other than that specified on the Product's data label will void this limited warranty.

LIMITED WARRANTY EXCEPTIONS

This limited warranty does **not** cover:

1. Except as otherwise specifically set forth in this limited warranty, labor or other costs incurred for diagnosing, repairing, removing, installing, shipping, servicing, or handling of defective parts, replacement parts, or new Products.
2. Normal maintenance, cleaning, and lubrication as outlined in the Equipment Manual, including cleaning of condensers.
3. Replacement of wear items designated as Class "000" parts in the Equipment Manual.
4. External hoses, electrical power supplies, and machine grounding.
5. Parts not supplied or designated by Taylor, or damages resulting from their use.
6. Return trips or waiting time required because a service technician is prevented from beginning warranty service work promptly upon arrival.

7. Failure, damage, or repairs due to faulty installation, misapplication, abuse, no or improper servicing, unauthorized alteration, or improper operation or use as indicated in the Equipment Manual, including but not limited to the failure to use proper assembly and cleaning techniques, tools, or approved cleaning supplies.
8. Failure, damage, or repairs due to theft, vandalism, wind, rain, flood, high water, water, lightning, earthquake, or any other natural disaster, fire, corrosive environments, insect or rodent infestation, or other casualty, accident or condition beyond the reasonable control of Taylor; operation above or below the electrical or water supply specification of the Product; or components repaired or altered in any way so as, in the judgment of the Manufacturer, to adversely affect performance, or normal wear or deterioration.
9. Any Product purchased over the Internet.
10. Failure to start due to voltage conditions, blown fuses, open circuit breakers, or damages due to the inadequacy or interruption of electrical service.
11. Electricity or fuel costs, or increases in electricity or fuel costs from any reason whatsoever.
12. Damages resulting from the use of any refrigerant other than that specified on the Product's data label will void this limited warranty.
13. **ANY SPECIAL, INDIRECT, OR CONSEQUENTIAL PROPERTY OR COMMERCIAL DAMAGE OF ANY NATURE WHATSOEVER.** Some jurisdictions do not allow the exclusion of incidental or consequential damages, so this limitation may not apply to you.

This limited warranty gives you specific legal rights, and you may also have other rights which vary from jurisdiction to jurisdiction.

LIMITATION OF WARRANTY

THIS LIMITED WARRANTY IS EXCLUSIVE AND IS IN LIEU OF ALL OTHER WARRANTIES, CONDITIONS, AND/OR REMEDIES UNDER THE LAW, INCLUDING ANY IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THE ORIGINAL OWNER'S SOLE REMEDY WITH RESPECT TO ANY PRODUCTS SHALL BE REPAIR OR REPLACEMENT OF DEFECTIVE COMPONENTS UNDER THE TERMS OF THIS LIMITED WARRANTY. ALL RIGHTS TO CONSEQUENTIAL OR INCIDENTAL DAMAGES (INCLUDING CLAIMS FOR LOST SALES, LOST PROFITS, PRODUCT LOSS, PROPERTY DAMAGES, OR SERVICE EXPENSES) ARE EXPRESSLY EXCLUDED. THE EXPRESS WARRANTIES MADE IN THIS LIMITED WARRANTY MAY NOT BE ALTERED, ENLARGED, OR CHANGED BY ANY DISTRIBUTOR, DEALER, OR OTHER PERSON, WHATSOEVER.

LEGAL REMEDIES

The owner **must** notify Taylor in writing, by certified or registered letter to the following address, of any defect or complaint with the Product, stating the defect or complaint and a specific request for repair, replacement, or other correction of the Product under warranty, mailed at least thirty (30) days before pursuing any legal rights or remedies.

Taylor Company
750 N. Blackhawk Blvd.
Rockton, IL 61072, U.S.A.

LIMITED WARRANTY ON PARTS

TAYLOR COMPANY LIMITED WARRANTY ON TAYLOR GENUINE PARTS

Taylor Company is pleased to provide this limited warranty on new Taylor genuine replacement components and parts available from Taylor to the market generally (the “Parts”) to the original purchaser only.

LIMITED WARRANTY

Taylor warrants the Parts against failure due to defect in materials or workmanship under normal use and service as follows. All warranty periods begin on the date of original installation of the Part in the Taylor unit. If a Part fails due to defect during the applicable warranty period, Taylor, through an authorized Taylor distributor or service agency, will provide a new or remanufactured Part, at Taylor’s option, to replace the failed defective Part at no charge for the Part. Except as otherwise stated herein, these are Taylor’s exclusive obligations under this limited warranty for a Part failure. This limited warranty is subject to all provisions, conditions, limitations, and exclusions listed below and on the reverse (if any) of this document.

Parts Warranty Class Code or Part	Limited Warranty Period
Class 103 Parts[1]	Three (3) months
Class 212 Parts[2]	Twelve (12) months
Class 512 Parts	Twelve (12) months
Class 000 Parts	No warranty
Taylor Part #072454 (Motor-24VDC *C832/C842*)	Four (4) years

LIMITED WARRANTY CONDITIONS

1. If the date of original installation of the Part cannot be otherwise verified, proof of purchase may be required at time of service.
2. This limited warranty is valid only if the Part is installed and all required service work in connection with the Part is performed by an authorized Taylor distributor or service agency.
3. The limited warranty applies only to Parts remaining in use by their original owner at their original installation location in the unit of original installation.
4. Installation, use, care, and maintenance must be normal and in accordance with all instructions contained in the Taylor Operator’s Manual.
5. Defective Parts must be returned to the authorized Taylor distributor or service agency for credit.
6. This warranty is not intended to shorten the length of any warranty coverage provided pursuant to a separate Taylor Limited Warranty on freezer or grill equipment.
7. The use of any refrigerant other than that specified for the unit in which the Part is installed will void this limited warranty.

[1, 2] Except that Taylor Part #032129SER2 (Compressor-Air-230V SERV) and Taylor Part #075506SER1 (Compressor-Air-115V 60HZ) shall have a limited warranty period of twelve (12) months when used in Taylor freezer equipment and a limited warranty period of two (2) years when used in Taylor grill equipment.

LIMITED WARRANTY EXCEPTIONS

This limited warranty does **not** cover:

1. Labor or other costs incurred for diagnosing, repairing, removing, installing, shipping, servicing, or handling of defective Parts, replacement Parts, or new Parts.
2. Normal maintenance, cleaning, and lubrication as outlined in the Taylor Operator's Manual, including cleaning of condensers or carbon and grease buildup.
3. Required service, whether cleaning or general repairs, to return the cooking surface assemblies, including the upper platen and lower plate, to an operational condition to achieve proper cooking or allow proper assembly of release sheets and clips as a result of grease buildup on the cooking surfaces, including but not limited to the platen and plate, sides of the shroud or top of the shroud.
4. Replacement of cooking surfaces, including the upper platen and lower plate, due to pitting or corrosion (or in the case of the upper platen, due to loss of plating) as a result of damage due to the impact of spatulas or other small wares used during the cooking process or as a result of the use of cleaners, cleaning materials, or cleaning processes not approved for use by Taylor.
5. Replacement of wear items designated as Class "000" Parts in the Taylor Operator's Manual, as well as any release sheets and clips for the Product's upper platen assembly.
6. External hoses, electrical power supplies, and machine grounding.
7. Parts not supplied or designated by Taylor, or damages resulting from their use.
8. Return trips or waiting time required because a service technician is prevented from beginning warranty service work promptly upon arrival.
9. Failure, damage, or repairs due to faulty installation, misapplication, abuse, no or improper servicing, unauthorized alteration, or improper operation or use as indicated in the Taylor Operator's Manual, including but not limited to the failure to use proper assembly and cleaning techniques, tools, or approved cleaning supplies.
10. Failure, damage, or repairs due to theft, vandalism, wind, rain, flood, high water, water, lightning, earthquake, or any other natural disaster, fire, corrosive environments, insect or rodent infestation, or other casualty, accident or condition beyond the reasonable control of Taylor; operation above or below the gas, electrical, or water supply specification of the unit in which a part is installed; or Parts or the units in which they are installed repaired or altered in any way so as, in the judgment of Taylor, to adversely affect performance, or normal wear or deterioration.
11. Any Part purchased over the Internet.
12. Failure to start due to voltage conditions, blown fuses, open circuit breakers, or damages due to the inadequacy or interruption of electrical service.
13. Electricity, gas, or other fuel costs, or increases in electricity or fuel costs from any reason whatsoever.
14. Damages resulting from the use of any refrigerant other than that specified for the unit in which the Part is installed will void this limited warranty.
15. Any cost to replace, refill, or dispose of refrigerant, including the cost of refrigerant.
16. **ANY SPECIAL, INDIRECT, OR CONSEQUENTIAL PROPERTY OR COMMERCIAL DAMAGE OF ANY NATURE WHATSOEVER.** Some jurisdictions do not allow the exclusion of incidental or consequential damages, so this limitation may not apply to you.

This limited warranty gives you specific legal rights, and you may also have other rights which vary from jurisdiction to jurisdiction.

LIMITATION OF WARRANTY

THIS LIMITED WARRANTY IS EXCLUSIVE AND IS IN LIEU OF ALL OTHER WARRANTIES, CONDITIONS, AND/OR REMEDIES UNDER THE LAW, INCLUDING ANY IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THE ORIGINAL OWNER'S SOLE REMEDY WITH RESPECT TO ANY PRODUCTS SHALL BE REPAIR OR REPLACEMENT OF DEFECTIVE PARTS UNDER THE TERMS OF THIS LIMITED WARRANTY. ALL RIGHTS TO CONSEQUENTIAL OR INCIDENTAL DAMAGES (INCLUDING CLAIMS FOR LOST SALES, LOST PROFITS, PRODUCT LOSS, PROPERTY DAMAGES, OR SERVICE EXPENSES) ARE EXPRESSLY EXCLUDED. THE EXPRESS WARRANTIES MADE IN THIS LIMITED WARRANTY MAY NOT BE ALTERED, ENLARGED, OR CHANGED BY ANY DISTRIBUTOR, DEALER, OR OTHER PERSON, WHATSOEVER.

LEGAL REMEDIES

The owner **must** notify Taylor in writing, by certified or registered letter to the following address, of any defect or complaint with the Part, stating the defect or complaint and a specific request for repair, replacement, or other correction of the Part under warranty, mailed at least thirty (30) days before pursuing any legal rights or remedies.

Taylor Company
750 N. Blackhawk Blvd.
Rockton, IL 61072, U.S.A.

Taylor distributor:_____

Address:_____

Phone:_____

Date of installation:_____

Data Label

The data label provides necessary information that the operator should record and refer to when calling for parts or service. The data label is located on the rear or left side panel of the freezer.

Complete for quick reference when this information is requested.

1. Model Number: C602-HT
2. Serial Number_____
3. Electrical Specs:
   Voltage_____ Cycle_____ Phase_____
4. Maximum Fuse Size: _____Amps
5. Minimum Wire Ampacity:_____Amps
6. Part Number:_____

Parts Warranty

See the “Limited Warranty on Parts” section starting on page 109.

Note: *Constant research results in steady improvements; therefore, information in this manual is subject to change without notice.*

Compressor Warranty Disclaimer

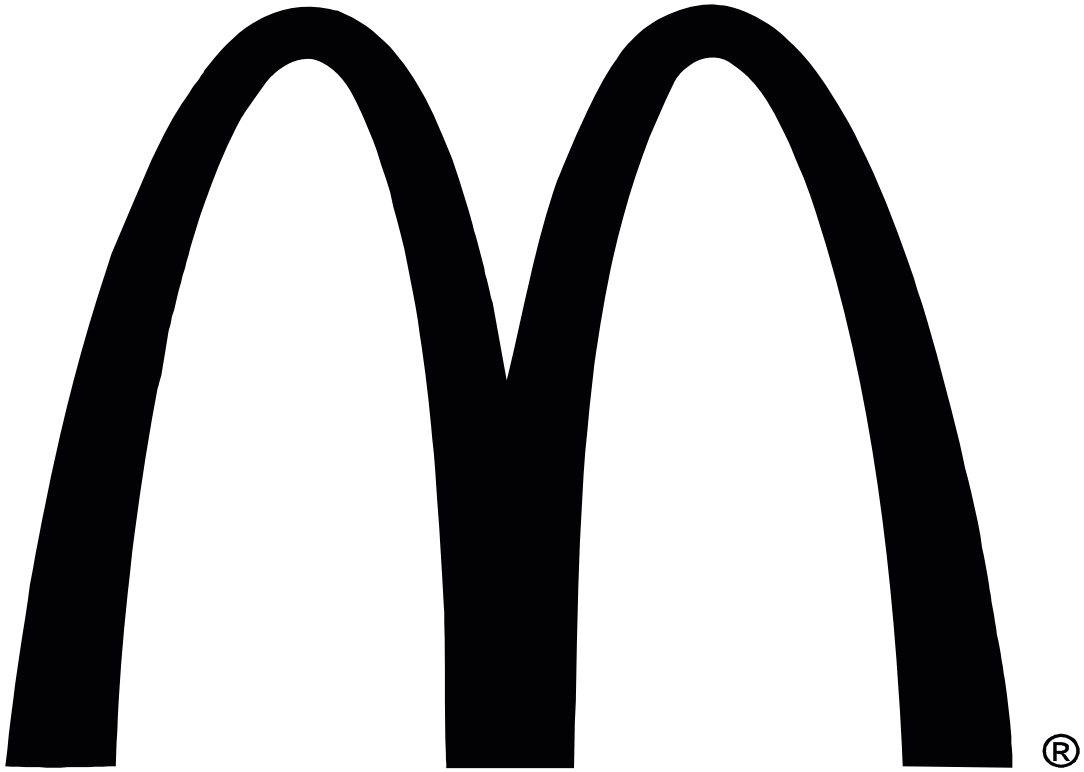
The refrigeration compressor(s) on this unit are warranted for the term stated in the Limited Warranty section in this manual. However, due to the Montreal Protocol and the U.S. Clean Air Act Amendments of 1990, many new refrigerants are being tested and developed, thus seeking their way into the service industry. Some of these new refrigerants are being advertised as drop-in replacements for numerous applications. It should be noted that in the event of ordinary service to this unit's refrigeration system, **only the refrigerant specified on the affixed data label should be used.** The unauthorized use of alternate refrigerants will void your Taylor compressor warranty. It is the unit owner's responsibility to make this fact known to any technician he/she employs.

It should also be noted that Taylor does not warrant the refrigerant used in its equipment. For example, if the refrigerant is lost during the course of ordinary service to this unit, Taylor has no obligation to either supply or provide replacement refrigerant either at billable or unbillable terms. Taylor will recommend a suitable replacement if the original refrigerant is banned, obsoleted, or no longer available during the 5-year Taylor warranty of the compressor.

From time-to-time Taylor may test new refrigerant alternates. Should a new refrigerant alternate prove, through Taylor's testing, that it would be accepted as a drop-in replacement for this unit, then the disclaimer in this “Compressor Warranty Disclaimer” section will not apply to the use of the alternate refrigerant approved by Taylor.

To find out the current status of an alternate refrigerant as it relates to your compressor warranty, call Taylor or your local authorized Taylor distributor. Be prepared to provide the model/serial number of the unit in question.

Note: *Continuing research results in steady improvements; therefore, information in this Operator’s Manual is subject to change without notice.*



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